UNIVERSITY OF VAASA

SCHOOL OF MARKETING AND COMMUNICATION

Verneri Hellstén

PRODUCTIZATION AND INTERNATIONAL PRODUCT STRATEGY OF K-12 EDUCATION-RELATED SERVICES

A Case Study

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UNIVERSITY OF VAASA
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Author:	Verneri Hellstén
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ABSTRACT:

Service business has been fast-growing industry during the past decades. Recently, scholars and executives have realized the service industry's dominance in growth of the global economy. However, service development has received remarkably less attention compared to manufacturing.

Finnish government officials have newly perceived the opportunity to exploit high appreciation of Finnish education in growing, international education market. The case company aims at increasing its international presence with K-12 education-related services. Therefore, the objective of this thesis is to theoretically and empirically analyze the combination of productization and international product strategy with strong focus on K-12 education-related services.

The author built the theoretical framework based on literature review that analyses different stages of productization of Knowledge-Intensive Business Services (KIBS) and the characteristics of the international product strategy. The productization process includes three main phases: service offering standardization, service offering tangibilization and concretization, and service process standardization and systematization. In international product strategy, high importance is given to standardization-adaptation dichotomy. The empirical data for this thesis was collected through interviewing the case company professionals and external experts in the field.

The results show that K-12 education-related services can be productized to some extent through applying the named methods. Standardization has multiple benefits that can be achieved by developing a core product and supplementing it with more customized or preferably standardized parts and modules. However, flexibility is required in order to match the specific requirements of the target country in terms of culture, legislation and regulations.

1. INTRODUCTION

In this chapter, the author presents the introduction and background of this research. Furthermore, justification for the study, research question and objectives will be discussed. Finally, limitations, definitions of the key terms and structure of the thesis are elaborated.

Service development has historically received remarkably less attention than manufacturing development from both, managerial and academic perspectives. (Edvarsson, Meiren, Schäfer & Witell 2013). However, the importance of the service industry is constantly growing its share of total value-added GDP being 67% and employment being 48% of the world total (World bank1, World bank2). In the US, services represent approximately 80 per cent of the total GDP. Universities, companies and governments around the world have recently awakened to the realization of the service industry dominance in global, economic growth. Still, in practice, innovation in services is less disciplined and creative than in the manufacturing sector (Bitner, Ostrom & Brown, 2007).

Starting from the mid-1980s, knowledge-intensive business services (KIBS) have hit the fastest growth of the economic sectors of all developed countries (Simmie & Strambach, 2006; OECD, 2006). However, it is disputed whether this increase in internationalization is an indication of globalization or rather an expression of regionalization (Dunning, Fujita & Yokova, 2007; Rugman & Verbeke, 2004). Moreover, it remains unclear whether, in long run, convergence or divergence, especially in economic and societal domains, turns out to be the dominant future orientation (Baddeley, 2006; de Mooij, 2003). Given these unanswered questions, international companies face increasingly severe challenge of searching optimal balance between standardizing and adapting their international marketing strategies in order to succeed in global competition.

1.1. Background of the study

Development and production of demanded products can be a challenge for companies and their manufacturing systems. When it comes to describing the necessary elements

and requirements, obscurities and difficulties are likely to appear within the company and externally with the customers. These challenges are not only faced by companies providing complex products with tangible and intangible features (Härkönen, Haapasalo & Hänninen, 2015). Lately, the effective production of services has gained increasing interest amongst scholars. The general issue is the nature of the service process that tends to have unique characteristics in the single delivery situation (Valminen & Toivonen, 2012). Furthermore, in the service business, customers are likely to actively participate in the production process, which further complicates the delivery. Service companies producing software, technologies, professional services such as school and education-related products present fast-growing industry that would benefit from increased clarity internally within an organization and externally in order to push products into the market (Härkönen et al. 2015).

Manufacturing companies have realized the essential role of innovation long ago from which the magnitude of related research indicates. Innovation has played a significantly smaller role in service companies, thus, the development of literature in service innovation is far behind from product innovation (Edvarsson et al. 2013). The failure rate of new services has remained steady for 14 years, counting 43% (Stevens & Burley, 2003; Edvarsson et al. 2013). The underlying reasons for such a high number are related to lack of research in new service development and the key influencing factors. Furthermore, the understanding of the strategies, methods and activities related to service development remain inadequate (Edvarsson et al. 2013).

Through productization knowledge-intensive business service (KIBS) companies and manufacturing companies aim at providing services in a more efficient way, differentiating from competitors, communicating properly and assuring that the company's offering matches the constantly changing customer needs (Valminen & Toivonen, 2015). In an industrial context, service production is usually standardized for cost-reduction. The achievement of efficiency is particularly challenging in KIBS companies, that are known for their characteristic of the high level of customisation and co-production with the customer (Valminen, 2010). Therefore, the challenge of KIBS company is to find a balance between standardization and adequate customization. (Valminen & Toivonen, 2015). In addition, interactive learning between the service

provider and the customer plays a central role in KIBS transactions (Miles, Kastrinos, Flanagan, Bilderbeek, den Hertog, Huntik & Bouman 1995) as well as supports the transfer of knowledge and the emergence of new insights. (Muller & Doloreux, 2009)

Globally, Finland is known for high-level of know-how and education. Finland, as modern, Scandinavian society has much to offer especially in the education sector. The qualified and equal education system forms a solid reference for taking the expertise abroad. The educational expertise only accumulates through sharing it with as many as possible and the demand for education-related products and services is constantly growing. Successful education exporting highly benefits all the stakeholders (Opetus- ja kulttuuriministeriö). The productization of education-related services is a challenging task for companies. When the international dimension is added, the equation becomes even more complex.

1.2. Justification and purpose of the research

The need for this research derives from two primary sources. From the theoretical perspective, despite the extant research of the subject and the never-ending debate of adaptation versus standardization dichotomy in international product strategy, the outcomes and recommendations remain contradictory. Moreover, research considering international product strategy of knowledge-intensive business services (KIBS) is non-existent. Accordingly, productization of KIBS has not been widely studied as previous research lies heavily on shoulders of few Finnish scholars (Jaakkola, 2011; Aarikka-Stenroos & Jaakkola, 2012; Valminen & Toivonen, 2012; Valtakoski & Järvi, 2016). However, it is important to keep in mind that the concept of productization is not developed in academic but managerial literature. Productization and its subprocesses have been researched using other terms than "productization" focusing on more detailed approaches (Härkönen et al. 2015). The lack of research investigating KIBS companies and their processes is surprising as their role as innovation cultivators has been recognized long ago (Miles et al. 1995). Moreover, research on relationship between productization and knowledge management strategies in KIBS companies market extension is non-

existent. All in all, this study investigating international product strategy as a part of productization in KIBS provides a fresh perspective to the topic

The second purpose of this study is to provide applicable conclusions for managerial purposes. This thesis is conducted as a case-type of assignment for a consulting firm that operates mainly in Finland but also has international operations. The company provides various consulting, engineering, designing and training services inside and outside of Finland's borders but yet, the education-related services are only delivered to the public sector in Finland. The necessity of this thesis is initiated by the question of how these services and their processes need to be modified and communicated in order to capture international customers. Therefore, the managerial purpose of this thesis is to produce comprehensive and justified information of "international productization" based on theoretical and empirical findings for facilitation of decision-making.

The potential of commercializing and selling Finnish schools and education is only recently noticed by politicians and governmental officials, leading to two separate growth-aiming programs: Education Export Finland (former Future Learning Finland) and Gulf-program targeted to enhance business presence in the area of Persian Gulf. The advantage of Finland in this sector is the functional and solid cooperation between the public and private sector. Also, the linkage of education and research with the real-life working environment and product development are regarded as advantages of Finland education system. In these collaborating networks, big and small, old and young companies, NGOs, universities and academies collaborate effectively in multiple levels (Opetus- ja kulttuuriministeriö, 2016). The case company actively participates in these networks. The common challenge is to develop an education-related business that maintains Finnish standards, meets the needs of international clients, builds a solid base for the target market's sustainable growth and respects joint values.

In order to sell Finnish schools and education-related services abroad, it is vital to develop a service offering that has international demand. However, only responding to the existing demand is not enough in this global and highly competitive business area. Despite the acknowledged prestige of Finnish education, it is essential for a company pursuing service exporting to effectively productize accumulated expertise and experience in order

to succeed in the global market. Education-related services are highly abstract and intangible in nature, which makes them difficult to communicate. The extent to which education-related services can be standardized needs to be answered. To conclude, determining internationally desired and sellable education-related services and their efficient production is the fundamental purpose of this research.

1.3.   Research question and objectives

This thesis has two main objective levels, academic and managerial. The author's point of view is to contribute to the assigned task, and particularly, to deliver a fresh academic perspective to the productization of KIBS operating in the education sector. Additionally, the international perspective is addressed by investigating the international product strategy in relation to productization. Intrinsically, the author has carefully taken into account academic and managerial interests. The main research question is:

How can primary education-related services be productized for international market?

The following objectives are presented in order to give guidelines to this study and help at answering the main research question, pointing out the research gap:

- To analyse the productization of Finnish K-12 education-related services in international context

- To give managerial recommendations to companies that are working in a field of traditional education export in K-12 level

1.4.   Related Literature and Limitations of the Study

Productization as a process can be applied to virtually any company. As the purpose of this study is to investigate the productization process of education-related products in international context, some delimitations exist. Firstly, as this thesis focuses on K-12 education-related services, all the other levels of education are excluded from this study.

The set of services investigated is unique and based on offering of the case company. To be able to combine those services under one hypernym, knowledge-intensive business service (KIBS) is primarily used as the basis of the literature review. Therefore, all the other types of services are excluded from this study.

Another limitation is related to international marketing strategy. International marketing strategy is a broad topic and mostly irrelevant in terms of productization, which is the main concept of this thesis. Therefore, only international product strategy is under investigation leaving out international pricing, promotion and international distribution strategy.

As this thesis is conducted as a single case study, it is not in author's intentions to develop a new theory that could be applicable in other situations. All other organizations and companies are left out of investigation. Therefore, the results of this thesis are not likely to be useful for most companies, due to the uniqueness of the particular case.

In this study, the focus of productization is on the product level of developing the existing services. Therefore, new product development and more comprehensive business development are excluded from this research.

1.5. Definitions of the key concepts

For clarification, the key terms used in this thesis are briefly explained at this point.

K-12 education-related service	In this thesis, education-related services include following, traditional services: architectural and mechanical design, master plan, curriculum, recruitment of Finnish teachers. K-12 is a global expression that is used when addressing primary and secondary levels of education together (grades 1-12).
Productization	Productization refers to "a process of analysing the needs of current and potential customers in order to design products,

or services that satisfy their needs. The productization process includes the design of a product, including services, and the ability to produce it". (Flamholtz, 1995)

Tangibilization

Selling services, especially KIBS is challenging   due to the customer perceived risk that is involved when buying something intangible, abstract with no physical evidence. Tangibilization is a process of making a service more concrete in the eyes of a customer i.e. giving it product alike attributes. (Jaakkola, 2011)

Modularization

Modularization refers to a process in which standardization and customization are both pursued by dividing service entity into standardized service modules from which unique combinations can be made. (Pekkarinen & Ulkuniemi 2008)

Knowledge-intensive Business service

KIBS is a service that relies heavily upon professional expertise that facilitates the creation, accumulation or dissemination of knowledge and technology. KIBS are primarily sold to other companies and organizations and they are likely to have a significant role as facilitators in the customer organization's innovation. (Miles et al. 1995)

1.6.   Structure of the Study

Excluding the references and appendices, this thesis includes five following chapters:

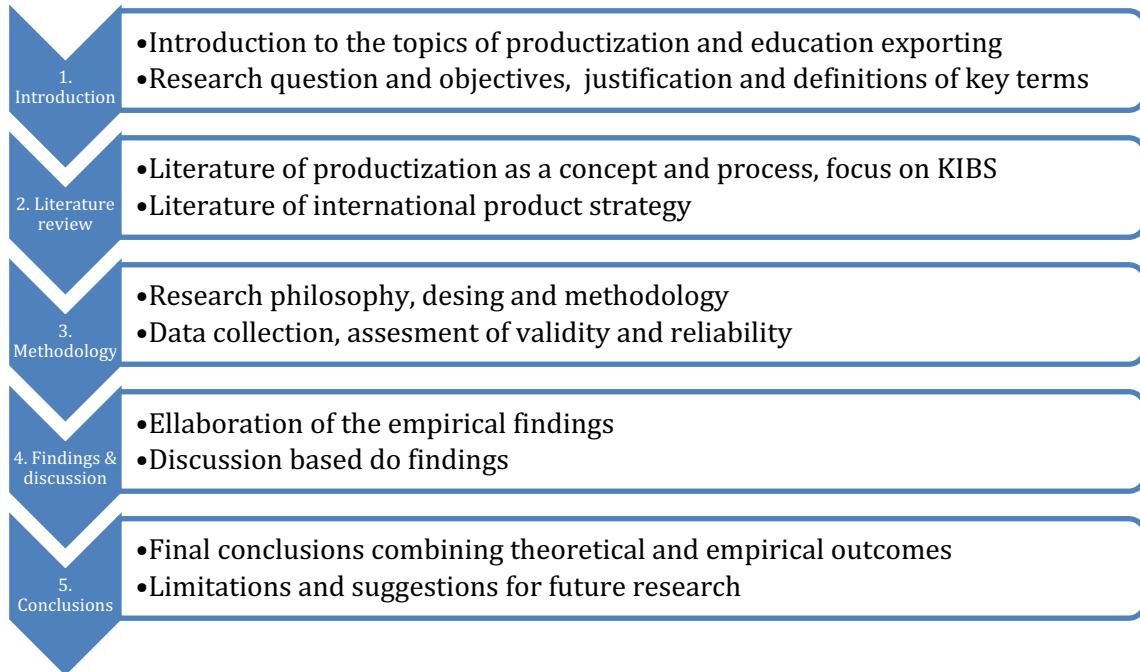| 1. Introduction	•Introduction to the topics of productization and education exporting •Research question and objectives, justification and definitions of key terms
2. Literature review	•Literature of productization as a concept and process, focus on KIBS •Literature of international product strategy
3. Methodology	•Research philosophy, desing and methodology •Data collection, assesment of validity and reliability
4. Findings & discussion	•Ellaboration of the empirical findings •Discussion based do findings
5. Conclusions	•Final conclusions combining theoretical and empirical outcomes •Limitations and suggestions for future research

Figure 1. Structure of the thesis

2. PRODUCTIZATION OF KNOWLEDGE-INTENSIVE BUSINESS SERVICES AND INTERNATIONAL PRODUCT STRATEGY

This chapter starts with the elaboration of the nature of services followed by the conception of KIBS, and determination of their characteristics and roles. Secondly, the development of productization concept and its multidimensional meanings in the academic literature are discussed. Furthermore, the characteristics and processes of productization are revised with a strong focus on KIBS. Finally, the linkage between productization and marketing is presented followed by theories of knowledge management and international product strategy.

2.1.   Nature and characteristics of services

During the last 40 years, the service economy has increased steadily (IMF). The attention to services has simultaneously increased in both, business and research. Since the very beginning of the service research, the scholars have identified several meanings for the concept of service: It can refer to service *activities* as well as to the *end results* of the activities. Furthermore, service is also used to mean *industries* and services *occupations* (Illeris, 1989). Recently, additional ambiguity originates from the separation of singular service from plural services in the stream of service-dominant logic. In this stream of research, service is defined in terms of value-creation between the provider and the beneficiary, while services are referred to as immaterial goods (Vargo & Lusch, 2008).

The most common solution for the definition problem has been a discussion of the characteristics that distinguish services from manufactured products. In general, the immaterial nature and the indispensability of the product from the process are recognized as key characteristics (Sundbo & Gallouj, 2000). However, servitization of manufacturing (Howells et al., 2004) and the advancing digitalisation (Leminen et al., 2014) have raised a justifiable question of whether the separation between goods and services is purposeful anymore.

Despite the novel questioning the separation of services and products, there are various differences between them. Within the "school" of service marketing and management,

the traditional way of defining services is the application of IHIP (inseparability, heterogeneity, intangibility and perishability) category (Zeithaml, Parasuraman & Berry, 1985). Figure 2. visualizes the distinction between manufactured goods and services. In addition, traditional services are separated from knowledge-intensive business services.

Knowledge-intensity of the offering

		Low	High
Nature of the offering	Physical	Traditional manufacturing industry	High-tech companies
	Service	Tradition service industry	Knowledge-intensive business services

Figure 2. Separation of services and products (Sipilä, 1999; 26)

Stated by Zeithaml et al. (1985), intangibility refers to services as performances, not objects, which do not possess physical existence. Intangibility is arguably recognized as a single most important character that distinguishes service from physical goods (Zeithaml & Bitner, 2003). Heterogeneity has a dual-meaning in services. Firstly, the service providers and services processes are heterogeneous in most of the cases. Secondly, the actual service process varies due to differences in employees and customers in terms of their abilities, needs and expectations. Therefore, the outcomes and their quality are dependent on particular service context and persons involved (Edvarsson et al., 2005). Unlike the manufactured products, services are perishable in their nature, which means they cannot be stored, saved, resold or returned in most of the cases (Zeithaml & Bitner, 2003). This causes a managerial challenge of production capacity optimization as unused services are lost forever (Fitzsimmons & Fitzsimmons, 2011).

The inseparability of production and consumption refers to three main issues: physical contact of the service provider and the service to be delivered, client's participation in the service production process and other customers participation in the service process (Fitzsimmons & Fitzsimmons, 2011; Zeithaml & Bitner, 2003)

2.2.   Knowledge-intensive business service

The concept of "knowledge-intensive business services" (KIBS) has been used for more than 20 years, originally presented by Miles et al. (1995) for referring to consultancy- and design-type services. Within the framework of the increasing knowledge intensity of our economies high-tech and -innovation companies are growing their share in the service sector. In general, KIBS companies are concerned about providing knowledge-intensive inputs to the other organizations in the public and private sector.

Miles et al. (1995) initially presented four characteristics of KIBS:

- They rely heavily upon professional knowledge;

- They either are themselves primary sources of information and knowledge (reports, training consultancy etc.);

- or use their knowledge to produce intermediary services for their clients' production processes (e.g. communication and computer services);

- They are of competitive importance and supplied primarily to business.

More accurately, KIBS can be defined as "services that involve economic activities which are intended to result in the creation, accumulation or dissemination of knowledge" (Miles et al., 1995). Den Hertog (2000) presented a more precise definition of KIBS: Private companies or organizations that rely heavily on professional knowledge, i.e., knowledge or expertise related to a specific (technical) discipline or technical function-domain to supply intermediate products and services that are knowledge-based. High concentration of expert labour and central role in the clients' knowledge formation process are also emphasized by Consoli & Elche-Hortelano, (2010) as characteristics of

KIBS companies. KIBS firms as part of a larger group of business services are defined by Toivonen (2004) as:

> *"business service companies, i.e. private service companies which sell their services on markets and direct their service activities to other companies or to the public sector. They are specialized in knowledge-intensive services, which means that the core of their service is a contribution to the knowledge processes of their clients, and which is reflected in the exceptionally high proportion of experts from different scientific branches in their personnel.".*

In this study, this definition will be further used due to its comprehensiveness that suits the purpose of this research.

Despite the increasing amount of research on KIBS, no standard approach with a generally accepted definition has been presented. However, a certain consensus of the branches and firms that comprise the KIBS sector is achieved through NACE (a European classification of economic activities) nomenclature. NACE provides increasingly popular guidelines for identifying KIBS in Europe. Each category is further divided into sub-categories. In this case, the interest is towards business and management consultancy activities and architectural and engineering activities and related technical consultancy, that are all sub-categories of other business activities as presented in table 2. (Muller & Doloreux 2008)

Table 1. KIBS sectors and sub-sectors (adapted from Muller & Doloreux, 2008)

NACE code	Description
72	Computer and related activities
721	Hardware consultancy
722	Software consultancy
723	Data processing
724	Database activities
725	Maintenance and repairs of office, accounting and computing machinery
726	Other computer-related activities
73	Research and development
7310	Research and experimental development in natural sciences and engineering
7320	Research and experimental development in social sciences and humanities
74	Other business activities
741	Legal, accounting, book-keeping, and auditing activities; tax consultancy market research and public opinion polling; business and management consultancy; holdings
7411	Legal activities

7412	Accounting, book-keeping and auditing activities; tax consultancy
7413	Market research and public opinion polling
7414	Business and management consultancy activities
742	Architectural and engineering activities and related technical consultancy
743	Technical testing and analysis
744	Advertising
7484	Other business activities

KIBS companies are highly specialized in expert areas and they provide high-level know-how for customer's special needs. Repeating similar service processes means a continuous accumulation of experience and improvement of solutions provided to the customers (Zhang & Li, 2010). Furthermore, services, especially KIBS, have a remarkable role in developing the manufacturing sector. Today, manufacturers offer a range of additional services aiming at supporting the use of their goods in a broader sense (Valminen & Toivonen, 2009). KIBS can offer knowledge needed by the manufacturers for successfully improving the service offerings along with their goods, ensuring the continued success of the manufacturing companies. As the services become more and more complex, companies no longer possess all the necessary knowledge within their organizations. Therefore, external knowledge sources are increasingly important in order to stay innovative and competitive (Caloghirou et al., 2004).

Recently, KIBS have become a subject of increasing interest of analysis and empirical investigation (Muller & Doloreux, 2008). KIBS have aroused interest as a vital factor of knowledge building and innovation infrastructure nationally and regionally (Gallouj, 2002; Miles 2005). Moreover, KIBS companies play a significant role in the development of today's knowledge economy as knowledge is both, their main input and output (Gallouj, 2002). The core idea of knowledge-intensity is the development of new knowledge in a joint learning process between KIBS firms and their customers (Miles et al., 1995). The role as a source of innovation and knowledge requires continuous improvement and development from the KIBS company itself in order to maintain competitiveness (den Hertog, 2000). KIBS companies contribute to innovation in two ways: innovations emerge in them or through the use of their services. KIBS are active innovators and facilitators of innovation activities. Thus, innovative solutions are disseminated in the economy (Miles et al., 1995; Miles, 2005). Finally, since the mid-1980s, KIBS have hit

the fastest growth of economic sectors of all developed countries (Simmie & Strambach, 2006; OECD, 2006), which makes them highly important research area when connected into productization for further development.

Co-production with a customer is a typical characteristic of KIBS. The idea was initially presented by Lovelock and Young (1979) who emphasized the importance of co-production with customer in services, arguing that the clients are important contributors to the firm's productivity. Bettencourt et al. (2002) suggested that "the significance of co-production is especially pronounced for knowledge-intensive business services". Accordingly, Valminen and Toivonen (2012) emphasized the collaborative role of KIBS company, jointly tackling customer's challenges instead of providing solutions on behalf of them.

2.3.   Definition of Productization

Even though the term of productization has not been widely used in academic literature, the idea has been under investigation and actively debated for decades. Furthermore, there is not one correct definition for productization as the focus and viewpoint are likely to reflect the area of expertise and interest of the particular user of the term (Parantainen 2011:11). Attention is needed, as the concept is not established in the academic literature (Harkonen et al., (2015). The initial definition for the term was presented by Flamholtz (1995) as:

> *"a process of analysing the needs of current and potential customers in order to design products, or services to satisfy their needs. The productization process includes the design of a product, including services, and the ability to produce it".*

A product can be tangible or intangible or it may include both elements. Thus, productization can be understood as "the process of defining products" (Danson, Helinska-Hughes, Hughes & Whittam 2005), "the packaging of a service offering as a predefined series of modules, or a unified offering to the clients" (Leon et al., 2008) or the "development of systemic, scalable and replicable service offerings" (Chattopadhyay,

2012). Similarly, Djellal, Gallouj & Miles (2013) determined productization as "standardisation of services", so essentially the same service product can be replicated many times over with minimal variations". Härkönen et al. (2015) state that the traditional way of understanding a product consists manufacturing process while the delivery of service product is attempting to fill customer needs without transferring the ownership of a tangible object.

Valminen & Toivonen (2012) present that the productization is to contribute to the competitiveness and efficiency, as well as facilitate the development of customer understanding. According to Parantainen (2007:9) productization aims at transforming know-how and expertise marketable and easily deliverable to the customer. It is a strategic decision of listening to customers, systemising services and their development in order to succeed in highly competitive international markets (Jaakola et al. 2009). In professional service business productization can be seen as a set of activities targeting to convert an abstract service and its creation into exchangeable objects and strategic, controllable process (Jaakola, 2011). Furthermore, in education, the concept of productization can be defined as a process of transforming knowledge and research into products, parts of customer's value creation (Floricel & Miller, 2003) and/or development of new services from R&D outcomes (Sharif, 2012). In their research Härkönen et al. (2015) concluded that: "Productization is a process of analysing a need, defining and combining suitable elements, tangible and intangible, into a product-like object, which is standardized, repeatable and comprehensible."

2.4.   Characteristics of Productization of services

The managerial aim of productization has generally been an improvement of efficiency and effectiveness of service operations, simplification of customer interaction and improvement of the marketability of the services. Moreover, seeking a balance between systematization (efficiency) and customization (customer-orientation) has recently been the primary question of service productization. (Jaakkola, 2011)

The focus of productization varies as it can be defined in three different ways depending on the object and form of application. More accurate defining of productization is used when the objective is to develop already existing product i.e. making it more tangible and marketable. Secondly, the focus can be shifted from service offering to business development in a more general sense. This managerial viewpoint of productization aims at supporting product development and innovation of new products. Thirdly, the most comprehensive conception analyses an individual service within a framework of the total service portfolio in connection to the strategy of a company. In this sense, both project-type actions and continuous development in a big picture are under investigation. (Chattopadhyay, 2012; Valminen & Toivonen, 2012)

As mentioned, service companies apply productization of service primarily for improving competitiveness, efficiency, profitability (Bitner et al., 2008) and performance. By defining, systematizing and concretizing the service production it becomes more efficient and stable in terms of quality. An important achievable benefit of productization is the facilitation of systematic accumulation and transfer of knowledge. In the situation, where service delivery is based on ad hoc reactions to customer needs, the service experience actualizes as intuitive, unstructured and dispersed in eyes of employees. Conversely, a company that consciously uses productized services as "learning platforms" by exploiting the new ideas stemmed from interaction with the customer, is in a significantly better position in customer-oriented product development. (Valiminen & Toivonen, 2012)

Some studies have shown that problem-solving behalf of the customer is only one type of KIBS transactions. Some others are benchmarking, experience sharing, diagnosing problems and functioning as a change agent (Nikolova, Reihlen, & Schlapfner, 2009). For succeeding in these tasks, KIBS provider needs to fully understand customer's processes and the role of the delivered service in order to maximize the benefits of the service (Heusinkveld & Benders, 2005). KIBS often apply the full-customization approach in which every service process starts from scratch. Therefore, reaching efficiency is challenging in KIBS. (Valminen & Toivonen, 2012). Very often the KIBS transactions are collaborative, which means that a co-production relationship has to be recognized in the productization (Heusinkveld & Benders, 2005). This might also cause

challenges as productization is primarily an internal process (Heusinkveld & Benders, 2005).

2.5.   Productization process of KIBS

Productization process of service starts by defining the central attributes: What is the content and usage and how is the service executed? It is highly important to know what tangible and intangible benefits the customers pursue, in order to design the contents and implementation mechanism that maximise the customer value (Jaakola et al. 2007: 11). In the service industry, the deliverables are abstract and intangible, thus, there is a clear distinction between tangible products and services (Härkönen et al. 2015). Generally accepted service characteristics (IHIP: intangibility, heterogeneity, inseparability and perishability) and specific characteristics of KIBS (heavy reliance on expertise and knowledge, collaboration with the customers and customized service offering) cause challenges for KIBS company in various operations. Management, marketing and sales of knowledge-intensive business services especially in terms of operational management (Verma, 2000), pricing, promotion and communication are seemingly more complex compared to manufactured products (Clemes, Mollenkopf & Burn, 2000). In this chapter, the productization process will be discussed with a strong focus on KIBS.

Every productization process is unique as there are significant differences in aims, approaches and strategies that companies pursue. According to Jaakkola et al. (2007:48-49), the productization of service includes seven different stages. 1) Analyse and asses the customer's needs and the way in which they are liked to be satisfied; 2) Qualify the structure, contents and process of the service; 3) Define the optimal level of standardization; 4) Concretize the service (description, brochures etc.); 5) Develop a model for pricing; 6) Monitor and measure the success of the service; 7) Map the needs for continuous development. Sipilä (1999:39) has underlined marketing and piloting as additional stages to be included in the productization process.

Chattopadhyay (2012) emphasizes the repeatability as one of the key measures in order to achieve scalable financial performance in the professional services firm. Increased

service delivery consistency by repeatability is likely to increase customer satisfaction, project economics (learning curve, better evaluability etc.) and practice economics (higher predictability across the portfolio of projects). Standardized methodologies, predetermined templates for work products and deliverables, fixed pricing and staffing models are examples of standardized product attributes that can be adjusted to service offerings (Radford, 2004).

In her study of productization in professional service firms, Jaakola (2011) presents the constitution of three productizing practices: "(1) specifying and standardizing the service offering, (2) tangibilizing and concretizing the service offering and professional expertise, and (3) systemizing and standardizing processes and methods". Jaakkola's conception of productization is further explained and utilized as a basis for this research as it has a very concrete focus on the service aspect of productization by concentrating solely in KIBS companies.

2.5.1. Standardizing and specifying the service offering

The first step of productizing of KIBS is to carefully specify and standardize the service offering (Jaakkola 2011). Projecting the service package is particularly beneficial for companies selling intangible and abstract services such as KIBS. Selling large entities becomes easier when the customer is able to identify different parts of the service and potentially choose additional services. A company that aims at international markets needs to be particularly clear with defining what the service includes and what are the benefits of it. This pace is an act in responding to the common perception amongst KIBS managers that the customers lack a clear understanding of their own needs and what the supplier company could offer them. (Jaakkola 2011)

Jaakkola (2011) argues that especially complex KIBS can be brought into more clarified and defined form by dividing the service into smaller parts. This view is supported by Kaitovaara, (2004), Sipilä, (1999:74); Torkkeli, Salmi, Ojanen, Länkinen, Laaksolahti, Hänninen & Hallikas (2005). The customers are likely to expect clear and well-defined offering with little variability and ambiguity (Jaakkola 2011), although, flexibility is

needed in order to respond to their needs (Brax, 2013; Sundbo, 2002). Jaakkola (2011) concludes that the content of the service needs to be standardized at least to some extent in order to facilitate the selling and marketing of the service. The aim is not to completely standardize the service offering, but rather develop basic structures and processes that are further complemented with specific requirements of the particular case (Edvardsson, 1997; Sundbo, 2002). Combining efficiency with customer-orientation presents a notable challenge in productization process (Gallouj & Savona, 2009; Johnston & Jones, 2004).

Classically, customization and standardization have been seen as contradictory variables, that cannot be achieved simultaneously (Edvardsson & Olsson, 1996; Sundbo, 2002). However, recent studies (Lampel & Minzberg, 1996; Rahikka, Ulkuniemi and Pekkarinen, 2011; Simula, Lehtimäki and Salo, 2008) argue that standardized service can have a high degree of customization. Jaakkola's (2011) findings support this stance as standardization can be pursued still leaving space for customization. She highlights the service modules as a tool of combining the benefits of both, standardization and customization: "Despite the specified content and process, the actual service is customized and unique for every customer. Service modularization is further discussed in chapter 2.7.

2.5.2. Tangibilizing and concretizing the service offering

When a customer is searching or evaluating a product, the tangible elements are under primary consideration. This is not the case with services due to the fact that they often fall short with tangible elements. Thus, with services, the buying decision needs to be made based on the company's reputation and the intangible evidence explained by the service provider (Junarsin, 2010). As a solution for the trust issue, Jaakkola (2011) presents tangibilizing and concretizing the service offering as a way to better communicate the benefits of the service. This refers to a process in which the service and its production are made more tangible and concrete in the eyes of a customer (e.g. service descriptions and other marketing material, brand names, visual identities, physical packaging). As effective communication is one of the major marketing challenges of KIBS, tangibilization is a potential tool of improvement, differentiation from competitors being an additional benefit (Valtakoski & Järvi, 2016). KIBS that lack clear content, date

of delivery and price tag are seen as difficult to sell. Due to their abstract nature and intangible evidence, professional services carry a great risk perceived by customers. In order to reduce that risk, tangible features need to be given to "service packages" or "service products". The impression of physical and tangible products helps the customer at assessing and evaluating the product (Jaakkola 2011). Sipilä (1999) argues that concretization is the last phase of the productization as it aims at collecting various, visible evidence and clues and adding them to the defined service offering. The underlying reason is to aid the clients in their decision-making processes.

Some researchers (Monroe, 1973; Hoffman, Turley & Kelly, 2002) have discovered the informational value of pricing of services. However, the informational value of price decreases as the number of other informational clues increase (Monroe, 1973). Due to the intangible nature of services, and especially KIBS, price plays a significant role in service consumer decision-making process (Hoffman et al., 2002). For the service provider, intangibility and pricing create a conflict: even though the informational value of price is significant, the outcomes may vary in terms of cost, which the pricing challenging (Docters et al., 2004). This problem can be tackled by standardizing and modularization. Successful productization might even lead to a situation in which a company is able to sell value propositions with a fixed fee instead of selling expert's time (Sipilä, 1999; Valminen & Toivonen, 2012).

2.5.3. Systemizing and standardizing process and methods

KIBS managers highlight the systematization and standardizing processes and methods as productization practices. The concept of industrialization, which is relatively close in meaning was firstly presented by Levitt (1972) as a mean to standardize the production process of services. He also suggested that technocratic thinking should be applied to service. In other words, move towards mass production. His concrete suggestions for the improvement of service production emphasized careful planning, the use of automation, auditing for quality control, and consistent reviewing for performance improvement and customer reaction. Analysing the nature and composition of the tasks, redesigning these tasks by creating new processes, tools and organizations is highly important. Levitt

(1972). Further development of the Levitt's ideas can be found in almost all systematisation efforts of services.

Lovelock (1996) defines industrialized service as one with only one permissible process, manner and order with automated parts. This view gives no possibility for the employee to change or modify the process. Sundbo (1994) states that this level of standardization is lethal for customer orientation, which is especially important for KIBS companies. It can be argued that the industrialization of service is applicable in companies that operate in more straightforward industry e.g. fast-food sector. However, other tools and methods such as service blueprinting can be used for standardizing the service process (Lovelock, 1996).

Later research conducted by Jaakkola (2011) presents that targeting towards more controllable service production requires development of more systematic, unified processes, tools and methods. Systemization is motivated by intentions to improve efficiency that further increases the profitability of the services. For example, customer encounters can be modelled and systematized by applying ready-made sales and support material or offer and contract templates (Jaakkola, 2011). The service company cannot actually produce the service without the customer, However, the best and right prerequisites for well-functioning customer processes and attractive customer outcomes can be developed (Valminen & Toivonen (2012). Through pre-defining of processes and methods, the service process becomes more professional and fluently progressive with reduced risk of surprising situations. Systemizing the service process is also beneficial for managing and organizing the company as careful defining and planning aids at resource allocation and measurement. Furthermore, fluctuation in quality is reduced by systematic and standardized service processes (Jaakkola, 2011; Jaakkola, 2007:24).

In addition to tangibilizing and concretizing, systematizing and standardizing of processes play a significant role in turning tacit knowledge and expertise into an organizational asset. Thus, a customer is likely to buy a professional service from the company instead of investing in experts time (Jaakkola, 2011). Pre-defined and planned routines and methods also help individual employee as the time spent on unproductive and repeated tasks is reduced. As more time can be spent to the substance work, the

excitement, value and engagement that employees attach to their work are increased (Jaakkola, 2011).

2.6.   Internal and external productization

According to some scholars, it is reasonable to distinct inbound and outbound (also referred to as internal and external) productization. Understanding the division makes it easier to compartmentalize different actions and objectives, which is beneficial for a successful productization process. Simula, et al. (2008) present that:

> *"Identification of external and internal productization task[s] is a novel way for a firm to better understand their internal processes and to create an unambiguous offering that serves customers better."*

The main purpose of inbound (internal) productization is to harmonize and systemize the service offering, delivery process and its outcomes within an organization. Simula et al. (2008) refer to inbound productization as a set of actions that aim at transforming technologies or knowledge into a core product or service. In their conception, inbound productization practices can be e.g. product or service design specifications, data management or seeking certifications and accreditations. However, the actions required for successful inbound productization vary between projects, thus, a firm needs to find a balance between standardization and customization. (Simula et al. 2008)

The underlying purpose of outbound (external) productization is to make the service offering more visible and concrete in the eyes of a customer – increasing the saleability. Furthermore, outbound productization can simultaneously be aimed at increasing the value perceived by customers. The value can be added through service extension. In their study, Simula, et al. (2008) present guiding and documentation, advertisement material and white paper, customer references and technical support as outbound productization tasks. In practice, they are closely related to marketing activities. Obviously, the final outcome of outbound productization is dependent on the knowledge of the customer's needs. (Simula et al. 2008)

Simula, et al. (2008) state that inbound and outbound productization should be pursued in chronological order. This seems logical as the outbound productization activities need to be based on an internal consensus of the core product. The core product is the realization of the main utilization of the product, whereas the extended product is required in order to successfully communicate the value, performance and worthiness of the service. Then, the customer is able to comprehensively understand what is being offered and effectively compare competitive products. The key notice of a successful overall productization process is to create a balance between the ability to produce and the ability to sell. (Simula et al. 2008)

The model of inbound and outbound productization presented by Simula et al. (2008) is convergent to the Jaakola's (2011) constitution of three productization practices. The first phase in Jaakola's model is to standardize and specify the service offering, which is likely equivalent to the inbound productization. The objective is to harmonize and systemize the service offering. The second step is to concretize and tangibilize the service offering aiming at developing a more saleable product. This pace is comparable to the outbound productization. The third step in Jaakola's constitution, systemizing and standardizing processes and methods can be seen as equal to inbound productization as they both have the same objective of standardized, efficient service delivery process. Furthermore, both studies recognize the fundamental task of balancing between standardization and customization, although, Simula et al. (2008) verbalise the confrontation as abilities to produce and sell.

2.7.   Modularization

The first step in productizing knowledge-intensive business service is to standardize the service offering, which can be a challenging task for two prime reasons. Firstly, co-production of service with a customer is likely to lead to notably different and customized services and service processes between individual clients. Secondly, the heterogeneous nature of service causes variation in employee performance and in the needs and expectations tend to lead customized service outcomes, whose quality is dependent on specific customer and service context. This leads to a dilemma in which the client seeks

for customized service, while the company aims at the efficient and homogenous outcome. In the other words, the challenge is to develop a service and process that maintains flexibility and openness for tailoring, but same time achieves efficiency through standardized processes. (Rahikka et al., 2011)

The concept of modularization refers to the practice of dividing a service entity into separate parts or modules (Cabigiosu et al., 2015). Although the idea of modularisation is fairly new in services business (Bask et al., 2010) the benefits of modularisation have long been recognized by companies in manufacturing industries (Bask et al., 2010; Cabigiosu et al., 2015). According to Pekkarinen and Ulkuniemi (2008), modularisation has three dimensions: the modularity of services, processes and organization. They claim that in order to maximize the benefits of modularization in service development, all three dimensions need to be considered. Modularity of services is beneficial for the possibility to combine different service elements to meet customer's needs (Cabigiosu et al., 2015). Service modules can be sold as stand-alone entities or mixed and matched with others. Modularity in processes addresses the standardization of the process steps that can be combined into various or individual service entities. Bask et al. (2010) characterize process modularity as: *the usage of reusable process steps that can be combined to accomplish flexibility and customisation for different customers or situations in service implementation*. Modularity in organizations refers to the structure in which a company uses its own and other companies' resources exploiting internal or external organizational units to share knowledge and information with a low level of coordination. This form of modularity can be achieved through various supplier network configurations or internal organizational structures. (Pekkarinen & Ulkuniemi, 2008)

To conclude, Paranatainen (2008:53) encapsulates the service modularization as standardizing for customization. Similarly, Sundbo (2002) who uses the form "modulisation", describes it as a way to combine standardization and customization in services: modules are fixed but their combinations are unique. It can be argued that modularization is an important concept from the view of productization as it focuses on the systematisation of the service content and processes. Thus, modularization can be seen as one phase or an optional choice in productization processes when the company

pursues to deliver more efficient but still effective service. Successful modularization has little to zero effect to service customization in the eyes of a customer. (Sundbo, 2002)

2.8.   Productization and Marketing

As earlier stated, the aim of productization is to become more efficient, effective, innovative and saleable. Therefore, productization is involved in many different fields such as product development and management, manufacturing, operations management, commercialisation, organization, communication, customers and particularly marketing. In their study, Moorman & Rust (1999) discussed the role of marketing in relation to various processes in different stages of marketing evolution. They concluded that the primary role of marketing is to manage the connections between the organization and the customer.
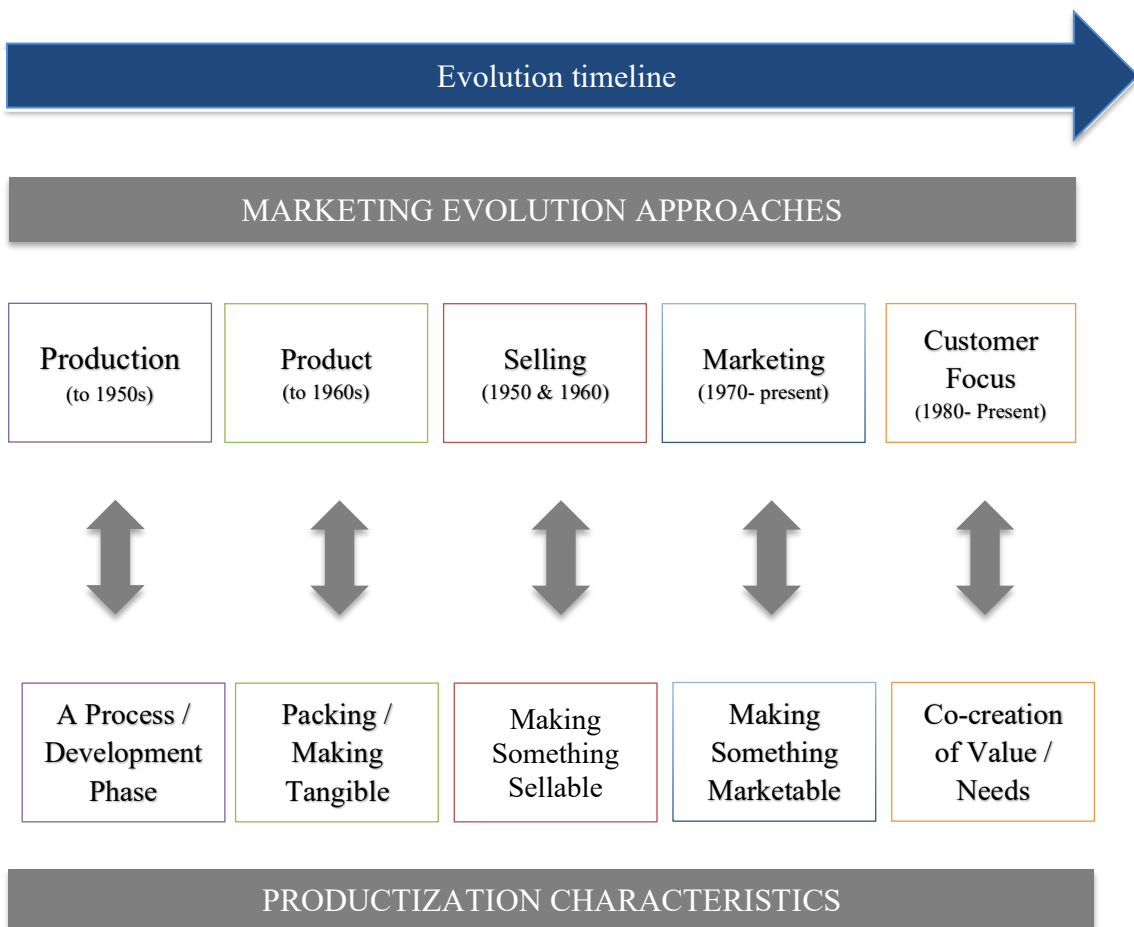

Figure 3. The link between marketing evolution and characteristics of productization.

The marketing function can improve its contribution by overcoming the traditional product-customer setting to enhance service delivery and financial accountability (Moorman & Rust, 1999). An interesting fact is that the concept of productization was initially presented in managerial literature of marketing field. It has gone a long way to present a sense of inclusion of activities ranging from the product idea to customer-centred commercialisation (Nagy, 2013)

Figure 3. illustrates the resemblance between different marketing orientations in history and various characteristics of productization. As it can be seen, all main marketing approaches have equivalent actions also recognized as subprocesses of productization. This observation highlights the comprehensiveness of the productization concept.

2.9. Knowledge management

The literature identifies different approaches to knowledge management by emphasizing the process of knowledge creation, protection and exploitation of its value in order to spread it across organizations and individuals through codification and personalization (Leonard-Barton, 1995; Pfeffer & Sutton, 2000; Apostolou, Abecker & Mentzas, 2007). Hansen et al. (1999) identified two opposite strategies that a company may adopt in order to manage and share the knowledge created within the organization. On the other hand, the authors tend to favour codification strategy (people-to-document), in which the knowledge is codified not only to make it more easily accessible but also transferable independently from the persons that the knowledge is embodied in. On the other hand, companies can choose the personalization (people-to-people), that is shown to be convenient when transferring complex knowledge. However, this requires overcoming the problem of stickiness (Szulanski, 2000; Hansen et al., 1999). Each of these strategies has advantages and disadvantages. The main issue is to run efficient exploitation of the knowledge available – within and beyond the company's boundaries – without compromising the quality of the knowledge to be transferred. (Bettiol, Di Maria & Grandinetti, 2012)

The presented tradeoff is crucial for KIBS due to their role as facilitators and co-producers of innovation, based on an intense knowledge-sharing with customers. Proximity with the customers supports KIBS company's capability to transfer and share knowledge with them but also with other key external actors, such as suppliers and other stakeholders. As earlier mentioned, KIBS are often highly customized, which calls for knowledge exchange through personalization (Bettiol et al. 2012). However, some studies consider the knowledge codification as a pursuit to maximize the profits with the cost of negative effect in service delivery and the relationships with close customers (Antonelli, 1999; Grandinetti, 2012). In the study conducted by Ajith Kumar and Ganesh (2011) in India, show that codification and personalization in KIBS are two integrated strategies that mutually reinforce. They concluded that KIBS companies invested in codification through technological solutions (i.e. databases and software), but the same time, employees shared additional knowledge that sustained their creativity and service development processes through face-to-face interaction. Other studies of differing approaches to codification and personalization and their intersection imply that knowledge codification can be obtained without nullifying the role of humans in the process of service provision, specifically in professional KIBS (Morris, 2001; Apostolou et al, 2007). All in all, so far, no consensus of whether a KIBS company should primarily favor codification or personalization has been reached between the scholars.

2.10. International product strategy

The core of the company's international operations is a product or service. International success is dependent on a firm's ability to produce a product that is differentiated from competitors. (Delene, Meloche & Hodskins, 1997). Products can be differentiated by e.g. their composition, quality, country of origin or positioning in the customers' minds (Czinkota, 2007: 327-328). Essential task that an internationalizing company has to undertake, is to determine a product strategy i.e. find a balance between standardization and adaptation in order to answer international customers' needs. Competitive advantage is likely to be accomplished through differing degrees of standardization and customization of a product. Executives and scholars agree that there is no single, best method for determining various international product strategy alternatives (Delene et al.,

1997). A company has four strategical alternatives in approaching international markets: (1) selling the same product domestically and internationally, (2) customizing products for different markets, (3) designing new products for international markets and (4) composing all the differences into a one flexible product design into one global product. However, different approaches for implementation of these alternatives exist and the company may, or even should apply different options for different products. (Czinkota, 2007: 327-328)

Both standardization and adaptation have their own benefits and drawbacks in the company's competitiveness. The main benefits of standardization are cost-related. Economies of scale can be exploited in purchasing, production and R&D, as well as in marketing in order to achieve competitive advantage (Delene et al., 1997). Economic integration has been presented as a major force making international markets more unified (Czinkota, 2007: 328). Homogenisation of world markets and the emergence of global market segments pose an increasing opportunity for standardized product strategies (Delene et al., 1997). Moreover, competing with the same competitors around the world adds more pressure for a global approach in international marketing (Czinkota, 2007: 329). However, in most of the cases, the usage conditions and culture cause inevitable changes in the product or service itself. Standardized product may not completely satisfy the customer's needs in international markets. None the less, the standardization strategy dependent on price positioning remains vulnerable in a situation in which the product specifications exceed those necessary or understood in the foreign market (Delene et al. 1997). The argument of the world becoming more homogenized can be criticized to be true for only a limited number of products that usually have universal brand recognition and minimal knowledge requirements for use. Although product standardization is generally popular starting point, substantial differences between companies exist in regard to what and where they market. (Czinkota, 2007: 328-329)

As standardization is a strategy for global competition, adaptation is a tool of local competition. There are multiple arguments supporting modification or customization as the strategy of choice. The prime object of adaptation is to increase sales and revenue (Douglas & Wind, 1987; Walters & Toyne, 1989). Consumer products to be taken abroad generally require adaptation because of the high level of cultural grounding and context

that cause certain behavior patterns. The extent to which customization is needed is dependent not only on cultural differences but also on economic conditions in the foreign target market. Product strategy has to be defined accordingly to the income level of the market in order to sell affordable goods. In certain countries, for certain products, political institutions and regulators might remarkable influence the level of adaptation needed. Possible restrictions and requirements have to be carefully considered in every target market (Czinkota, 2007: 329-330). In deciding the extent of adaptation, the firm should consider the targeted market, product and its characteristics and the company's own characteristics, such as resources and policy. Adaptation demands additional resources and effort i.e. in marketing, sales, packaging and distribution activities from multiple product lines, along with different labels and directions for in different markets. Moreover, additional costs occur in IT-management and manufacturing systems. The key task is to investigate whether it is worth the costs involved (Delene et al. 1997).

2.10.1.   International product strategy factors

According to Delene et al. (1997), the first product strategy selection factor is consideration of the firm's heritage, meaning culture, values including the prevalence of innovation and change patterns such as historic traditions of the market and product orientation and concentration on quality. Company heritage is a key product strategy selection factor that reflects the business scope necessary for international strategy decisions (Delene et al. 1997). Since the strategy execution is increasingly dependent on the company's value chain, company heritage is a central determiner of product strategy. Experienced trade company is better capable of responding to individual and market idiosyncrasies and has higher market flexibility. The same experience factor is the foundation of innovation for adaptation which allows a company to establish its own competitive advantage based on existing core competencies (Cavusgil et al., 1993).

The second international product strategy factor concerns market and product characteristics, meaning nature of the market itself and whether the products involved are perceived as manufactured goods, services or commodities in the market (Delene et al. 1997). Cavusgil et al. (1993) computer-based production technology increase the

possibility of adaptation. However, Jain (1989) argued that high-tech products are most suitable for standardization while services remain most difficult to standardize. The undeniable need for service adaptation is seen in business service industries where the demand for complete, unique service packages is increasing.

The third named factor in the international product strategy decision framework reflects the characteristics of the target market to selected target market's profile. The profile should include information of segmentation and market size, knowledge of buying criteria, along with specific market knowledge of cultural, economic and legal issues (Delene et al. 1997). There is also evidence (Baalbaki & Malhotra, 1993) supporting the use of environmental variables as segmentation criteria when investigating the characteristics and potential revenue of the target market.

Service in the business-to-business market differs from customer markets in many ways. There are fewer but more professional buyers, the significance of the supplier-client relationship is emphasized. Also, the absence of intermediaries and a derived, fluctuating and relatively inelastic demand is typical for B2B business. Professional service companies, such as consulting engineering firms have similarities with typical B2B service companies, but they distinguish with a high degree of customization and strong involvement of face-to-face interaction. Moreover, when professional service company (whether it is architect, engineer or management consultant) sells to its customers, it is more likely to sell service of a specific individual instead of service of the firm (Hollensen, 2014: 486).

Product standardization or adaptation do not present an uncomplicated choice when determining this aspect of international marketing. As mentioned, it is clear that no single right approach exists when determining which strategy to use. However, wrong decisions can be made leading serious difficulties in international business activities. (Delene et al. 1997)

2.11.   Standardization versus adaptation dichotomy in KIBS

Hollensen (2014: 483) presents that services can be divided into three categories in regard to their core functions: the level of tangibility and extent to which customer needs to be physically present in the production process. These categories are explained in table 2. through their characteristics by providing examples and further elaborating the opportunity for standardization. Information-based services present high chances for worldwide standardization when the two other types of services (possession processing and people processing) remain the opposite due to their inability to transfer competitive advantage overseas. (Hollensen, 2014: 483)

Table 2. Three categories of service (adapted from Hollensen, 2014: 483)

Categories of service	**Characteristics**	**Examples**	**Possibility for standardization**
People processing	Customers become part of the process. Need for local presence.	Education Passenger transport Health care	No good possibilities because customer's involvement makes this type of service very difficult to operate globally
Possession processing	Involves tangible actions An object needs to be involved in the production process, but the client not. A local presence is required	Car repair Freight transport Equipment installation	Better possibilities because this involves a lower degree of contact. This type of service is not so culture-sensitive
Information-based services	Collecting, manipulating, interpreting and transmitting data to create value Minimal tangibility Minimal customer involvement in the production process	Telecommunication services Banking Market analysis Internet services	Remarkable possibilities for global standardization, because of the "virtual" nature of these services

Existing research on the internationalization of KIBS has shown that KIBS can internationalize either through direct foreign direct investment or exporting through personal travelling (Blomstermo et al., 2006). Bryson & Rusten (2005) present market relationship development in other countries as another form to overcome the spatial (local) proximity.

Andersson and Hellerstedt (2009) present geographical contiguity between KIBS companies and their customers as distance sensitive due to the fact that the KIBS usually demand customization and personal interaction. The interaction with the customer is an incomparable learning process that KIBS company uses in order to further develop existing services and inventing new ones (Di Maria, Bettiol, De Marchi & Grandinetti, 2012). However, Antonelli (1999) emphasize the role of network technologies in reducing the need for proximity which is also dependent on the level of codification.

Tether, Hipp and Miles (2000) have conducted research on standardization and particularization in business services in Germany. They concluded that different sectors have different potential for standardization. When reflected, the education-related services provided by the case company are not likely to be wholly-standardized, but largely standardized or customized. Highly educated professionals form a large proportion of the total employment amongst largely standardized and customized services providers, but not among wholly-standardized (Tether et al. 2000).

Bettiol, De Marchi and Grandinetti (2011) have studied determinants of market extension in KIBS supplying design or communication services. They concluded that service standardization has not a positive correlation with market extension. However, this can be explained by the homogeneity of the KIBS companies that were observed in the study: customers demand creative outputs that need tailoring. While the output remains strongly customized, Bettiol et al. (2011) argue that processes and methods can and should be standardized.

3. METHODOLOGY

This chapter presents the philosophical approach, research methodology, research design. Furthermore, the case selection and data collection are discussed, and assessment of reliability and validity is conducted.

The case company has funded this thesis, which has been supervised and guided by the practicalities, timetables of the company's representative. The main research question – as well as the study objective presented in this thesis – are recognized by the managerial level. Organizational support is given from the highest level with the expectation of applicable results. Although the initial idea of the research topic was given, the research questions were developed by the author aiming at maximising the managerial value but still filling the theoretical requirements of a master's thesis (Gummesson, 2000). The questions, structure, research approach and design were jointly agreed with case company representative, even though, the author had primary freedom of choice.

3.1.   Philosophical Approach

In this research, the data was collected, gathered and analysed with a clear aim at fulfilling the objectives and providing multiple viewpoints to the research question, which is to develop an understanding of how to productize K-12 education-related services for the international market. The research question is answered via opinions and experience of three employees of the case company, closely working with these services. In addition, three potential customers and other individuals with appropriate background and expertise were interviewed in order to add an objective viewpoint to the research.

Using the empirical inquiry to test theoretical foundation about the application and activities of productization can be considered as a social activity. Social science-based research cannot be separated from reality. Therefore, natural/positivist approaches are irrelevant to this study. In this thesis, social phenomena are outcomes of perceptions and consequent actions of social actors and research is not separable from reality, the ontological assumption in this thesis is subjectivist. (Saunders, Lewis & Thornhill 2007:108)

Philosophical choices of this study

Starting point: *Social scientist* in social science	Ontological assumption: *Subjectivism*, as the research takes place in reality	Epistemological assumption: The author interprets his own set of meanings – *interpretivism*	Approach: *Abductive*, with respect to the movement between the empirical world and the model world

Table 3: Choices of the philosophical approach

In regard to five major research philosophies, pragmatism is used in this research as the aim of the study is to provide managerial support. Pragmatic research starts with a problem and it aims at providing practical solutions that inform future practice (Saunders et al. 2007:139). Objectivism and subjectivism, facts and values, knowledge and contextualized experiences are reconciled. The reflexive process of inquiry is driven by researcher's values and it is initiated by doubt and a sense that something needs improvement, which re-creates belief when the problem has been resolved (Elkjaer & Simpson, 2011). Design and strategy of this thesis are determined to respect the research questions, which in turn are developed considering pragmatist emphasis of practical outcomes.

The abductive approach derives from an insight that the greatest advances in science neither followed the pattern of pure induction nor of pure deduction. Different streams of abductive research are widely used in the social sciences. Abductive research starts with developing a solid theoretical base and preunderstanding of the topic. Then real-life observations are deviated and matched with the theory. Finally, the new theory suggests is presented and followed by application of conclusions (Kovacs & Spens 2005). In this thesis, the abductive approach is adopted as the objective is to discover new things in one unique setup with no further predictions and hypotheses that are included in deductive research or "grounded theory", which is typical for inductive research (Glaser & Strauss 1967:178).

The research process is modelled in figure 4. This thesis began with an exploration of the literature, followed by formulating the interview questions. The second pace was real-life

observation i.e. conducting the interviews, which took place simultaneously with the revision process of the theory. Following pace was a part of the creative process of systematic revision, in which the empirical phenomenon (productization) is interpreted by using the existing theory, leading to justified suggestions to case company. Later, the outcomes were combined into a new contextual theory presentation based on final conclusions. Finally, gaps for future research are presented.
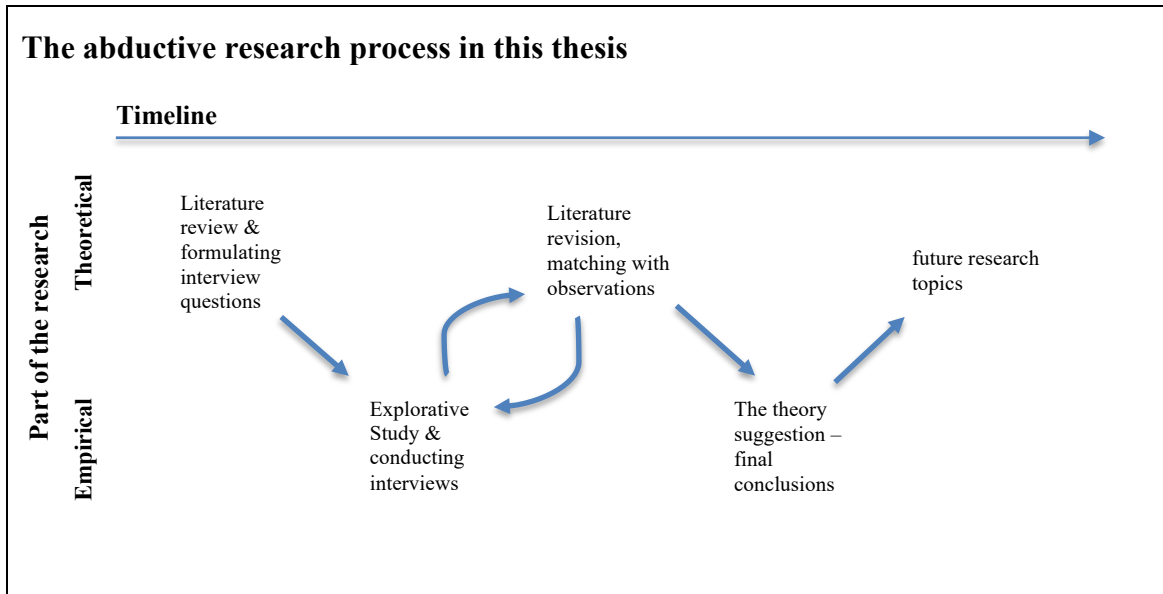
The abductive research process in this thesis

Timeline

Literature review & formulating interview questions

Literature revision, matching with observations

future research topics

Explorative Study & conducting interviews

The theory suggestion – final conclusions

Part of the research

Theoretical

Empirical

Figure 4. Abductive research in this thesis (Based on Kovacs & Spens, 2005)

3.2.   Research method and methodology

The empirical part of the thesis is a qualitative, interview-based single case study. This methodology is useful for generating context driven answers to research questions that are complex and holistic. Qualitative is predominantly used as a synonym for any data collection technique or data analysis procedure that generates or uses non-numerical data.

In this thesis, the research objectives and questions do not require multiple methods to be used. Therefore, a single data collection technique and analysis procedures are used in this qualitative, mono-method research. (Saunders et al. 2007: 145)

Saunders et al. (2007: 234) defines a case study as a strategical research approach that involves an empirical investigation of a specific contemporary phenomenon within its

real-life context using multiple sources of evidence. In this thesis, particular interest is given to a rich understanding of the context of the research and the process in order to maximise the managerial value of the research. This is typical in case studies. As this thesis is conducted as an assignment to the case company, it is handled as a single-case study. Moreover, even thought, multiple branches of the case company are involved in this research, in the empirical part they are treated as a one source of data which is not further elaborated. Therefore, this thesis is regarded as a holistic case study. (Saunders et al. 2007: 139-140)

The time horizon of this thesis is cross-sectional due to the fact that it investigates a particular phenomenon (productization) at a particular time instead of studying change and development taking place during long period of time (longitudinal study). The interviews were conducted during couple of subsequent weeks.

3.3.   Data collection

The data collection technique employed in this case study is a semi-structured interview. Qualitative interviews are suggested by many academics as a source of a better understanding of a phenomenon (Eriksson and Kovalainen 2008:154). The author interviewed 6 professionals of which 3 are working for the case company. 3 other interviewees include an expert in public organization encouraging Finnish companies to education export, Georgian professional working as advisor through his own company and investor/CEO from Russia. All the interviews were conducted online via Skype. The language used has been Finnish when interviewing the employees of the case company, and English when interviewing the external professionals.

Different questions were posed to different professionals in order to get comprehensive data from different perspectives. Some additional questions were posed for managerial purposes, and those are not included in the empirical part of the research.

An interview guide, information statement for the questions are presented in Appedix 1. The interviewees were informed of the topics and concepts covered in this study. Focus

and limitations were also included in the letter sent to the participants and revisited in the beginning of the interviews.

Table 4. List of interviews

Interviewee's role	Date of the interview	Duration
Head of Sector	15.4.2019	45min
Project Manager	16.4.2019	45min
Project Director	9.5.2019	30min
Senior Advisor	16.4.2019	40min
CEO	20.5.2019	40min
Investor/CEO	26.5.2019	30min

3.4. Validity and reliability

The quality of the research can be tested with assessing validity and reliability (Newman and Benz 1998: 238). These concepts determine the credibility of the research conducted and prove the value of the outcomes that are received.

Several methods are used to improve the quality of the research. Firstly, the research is based on a theoretical, conceptual framework that follows a clear structure. The findings are based on previous studies discussed in the literature review part of the thesis. Regarding the empirical part of the thesis, all interviews were recorded and transcript preserving main ideas of the interviewees in a way that no information is missed in the

whole process and the interpretation is delivered correctly by the author. Finally, many straight quotes from the interviews are included and further analyzed in a way that tracing the development in the outcomes is possible.

Use of semi-structured interviews as the main source of information in this thesis is connected with several issues considering the quality of the data, such as various forms of bias, reliability, validity and generalizability. The changes in the current situation do not allow qualitative research repeated in the same circumstances in which it has been conducted for the first time (Marshall and Rossmann, 1999: 129). Despite this fact, avoiding the biases in the research process is likely to increase the reliability. Two different types of biases can be identified: interviewer and interviewee bias.

The interviewee bias is connected with perception of the interviewer and his behavior as well as the perception of the research goals (Saunders et al., 2009: 326). Furthermore, there is also bias related to the choice of sampling and the willingness of participants to interact due to time constraints (Saunders et al. 2009: 327). The interviewees were all chosen based on their knowledge of the education-related services from various perspectives.

Additionally, the credibility of the data can be increased by familiarizing the respondent with the main concepts and giving some time to reflect them in their personal experience. As mentioned, the main topics and concepts were explained in the letter, sent to the interviewee before-hand and revised at the beginning of the interviews. In addition, the interview did not consist of any topics, considered as sensitive or inappropriate in order to avoid biases. These methods help at making sure that the questions were understood in the correct way and the collected data remains credible and free from external influence.

4. EMPIRICAL FINDINGS AND DISCUSSION

4.1. Case company background

The case company is a conglomerate that provides all-around support and consultancy services for public and private sector primarily in Finland. The company focuses on municipalities and publicly owned organizations. The competitive advantage comes from its size and spectrum of services. The company also has an international branch with a specific business model in which it does not hold extent in-house expertise, but participates in international bidding competitions of primarily publicly financed projects and works as a coordinator.

Time to time foreign individual investors and organizations approach the company with curiosity towards Finnish schools and education simultaneously pointing out their potential intentions to buy primary education-related services such as school design, master plan, curriculum and Finnish expertise in teaching. The company has prepared to this sort of contacts by no means, so the responses remain reactive, slow and non-strategic. The general problem is that there has not been a group-level strategy of how to react to incoming inquiries. The product portfolio is neither productized for the international market and the services have not been marketed internationally.

The managerial purpose of this thesis is to lay foundations for the productization process of the existing education-related services aimed at the international market. Standardization-adaptation dichotomy is revisited in this specific context in order to identify the best practices. Recommendations are provided for the different stages of the productization process in order to facilitate decision making in the corporate level.

4.2. Special characteristics of education-related services

The interviewees identified a few different characteristics that belong to education-related service business. The public-private connection was mentioned by many as a specific element that brings in an additional dimension.

"Education-related services is not a pure service business, there is that special element of public-private relationship, so education is normally regulated by the public institution, so that brings in an additional element that separates education export from pure service business."

The element of public-private relationship is likely to increase requirements and restrictions in terms of legislation and policies. This leads to a situation in which the service provider and the buyer has to be familiar of how they affect to the services that are discussed in the first place.

"Somehow unique characteristic is that these services are usually provided by public sector. Also, this business has often restrictions set by officials and these restrictions and requirements differ from country to country. Extensive knowledge about the target country is needed in order to understand the customer, especially if he does not hold the knowledge himself. These type of service projects are very complex, and they often include many different parts that need to be fitted".

The internal professionals highlighted the complexity of these type of service projects that are reflected in the buyers' limited knowledge of the field and their own country specifics. This goes back to the process of investigation of the necessary knowledge that is required to make offering possible. Without appropriate knowledge, the whole process becomes slow and challenging for both, the buyer as well as the service provider.

"When talking about these services, and especially the sales point of view, very often the inquiries that we have received have come from individual investors. Often these investors are not very familiar with their own needs, as they are more kind of interested in what could be offered. This causes a challenge to us as we are then in a situation where we should know so much about the target country specifics to be able to offer something".

The investor also mentioned the complexity of these service projects and the long process from inquiry to the initialization of the service as typical characteristic in this field of business. The more people are involved in the process and the more complex is the service entity, the longer and more complicated is the process likely to be.

"The services and projects are very complicated entities and usually there are many people, and organizations involved in the process. It usually takes years before these services are in the action."

4.3.   Standardization of service offering

The standardization of service offering is presented the first pace of productization in Jaakola's (2011) model. Simula et al. (2008) refer to the similar process of systemizing the service offering as inbound productization that aims at developing design specifications and seeking certifications and accreditations through standardization. According to interviewees, standardization was approved to be a central mean of productization when preparing education-related services for exporting. However, the interviewees disagree of how and what means, the standardization of the service offering is applicable in the context of education-related services

The interviewed CEO and Delene et al., 1997, both identified the cost-saving opportunities achievable through standardization of service offering. Customers are likely to desire well-defined offering with little variability and ambiguity in quality perspective (Jaakola, 2011). This view is confirmed by the CEO, Furthermore, he argues that the standardization of the service input can be standardized, leaving more customized approach to the production process:

> *"Standardization offers numerous possibilities for reaching cost reductions and quality control. The services themselves, specific inputs of the process are all fairly standard. Curriculum, training, there is quite a bit of standardization, repeating the same modules in different client's projects, that's definitely very good. The input can be standardized".*

Accordingly, one of the external professionals interviewed undermined that the standardization becomes more challenging when it comes to the execution of the standardized service. Following statements presents that surprises are likely to be inevitable and this should be considered by the service provider when developing the service offering. Standardized product is the target, but in the way that no serious damage takes place if the service needs unexpected customization. The need for flexibility was

also highlighted by Brax (2013) and Sundbo (2002) as crucial if the customer needs are wanted to be satisfied.

> *"...all projects need a lot of adjustments, for example, you plan to have x number of students (in newly built school) in year one but you discover that okay actually you only have half of the number. You are planning to have a principal with this kind of qualification, but you are not able to find one like that in the market. You might expect to be able to charge X amount of money as tuition fee, but you realize that actually, the market is not ready for that. Lots of things that need careful individual, non-standard approach because of there's nothing standard at about adjusting the business model if you have to adjust it.*

Furthermore, the space for flexibility is also highlighted by Senior advisor by using an example of British-American education-service providers. The pitfall of over-standardization can be fatal. This statement reminds of the uniqueness of these type of services.

> *"In teaching technology services, standardization is vital, just for sake of the functionality and compatibility. The evaluation and monitoring related services that I mentioned to be large and booming area, the challenges lie in the content, which is often standardized. This is the original sin that is present in British-American service providers, assumption that the education as they have it, is standardized so that it would serve everyone. This leads to a situation in which it doesn't actually serve anyone, and it becomes very inflexible."*

KIBS should be standardized to some at least to some extent in order to make it more marketable and sellable. However, the aim is not to fully standardize the service offering but rather develop basic structures and processes that are further complemented with parts that meet the specific requirements necessary of a specific case (Edvardsson, 1997; Sundbo, 2002). This theory is in line with the view of internal Head of Sector:

> *"I think we need to come up with standardized service body, kind of very basic service and around that we build customized entities that respond to the particular needs".*

Findings of Rahikka et al. (2011) and Simula et al. (2008) argue that standardized service can still have a high degree of customization. This is supported by Jaakola (2011) stating that standardization can be pursued still leaving space for customization for example with the assistance of service modules.

The importance of standardization was highlighted by the Senior Advisor interviewed but simultaneously he emphasized that it cannot be taken too far. Accordingly, combining efficiency with customer-orientation presents the central challenge in the productization process (Gallouj & Savona, 2009; Johnston & Jones, 2004):

> *"Standardization is a process that blocks customization, which means that, when we talk about education exporting, the service becomes unwanted in developed education systems. However, in rudimentary school systems of a developing country, there is more room for standardization, when the service is tried to be fitted in one primary mould.*

The previous statement is due to the fact there are not as firm structures in developing countries in comparison to developed countries with more advanced school and education systems. Thus, not so many adaptations are likely to need thanks to more flexible policies and limited regulation.

Some statements were given against the standardization based on the complex nature of these services and different requirements in different countries. This view is supported by Hollensen who states that in education business the opportunities for standardization are very limited or non-existent (2014: 428):

> *"I don't see it (standardization) relevant in this type of services, we are talking about large entirety, not a customer-service type of services. I understand that it can mean other things as well but, we are not talking about a service in which masses go through a certain process but a huge sequence of different processes that form a large project. The service is very specific, and it has to be customized for specific cultural context and market, but if highly similar project in same country follows the first, then there is better chance for standardization in larger scale. However, if the service is taken to country A, it doesn't mean that the same standard can be taken to country B."*

4.4.   Tangibilization and concretization of the service offering

In Jaakola's model (2011) tangibilization and concretization of the service offering were suggested as a second step in productization process of KIBS. Simula et al. (2008) refer to this process as outbound productization with the same objective of increased tangibility and concreteness. Often times, the lack of tangible elements forces the buyer to evaluate the service based on the company's reputation and intangible evidence (Junarsin, 2010). According to the interviewees, tangible elements were seen as challenging to attach in education-related services, but some applications were suggested for further improvement visuality being mentioned multiple times. However, the interviewees had multiple viewpoints on question of how to make the service more concrete.

Preparing comprehensive marketing materials that explain the service in detail, preferably in the form of menu that is delivered with great visualization. For example informative video is a potential way to reduce the trust issue and hesitation of the outcome aiding the customer in the purchasing process. Showing the outcome of the service is, even more, impressing and convincing from the customer perspective, although, it is only possible when presenting a school design. Clear projecting of the benefits and the pricing are essential in this stage in order to separate the actually potential customers from the ones with unrealistic expectations and misconceptions. The meaning of portfolio with related, successful projects as references was also highlighted as an essential creator of a trust. These

According to Jaakola (2011), KIBS sometimes lack clear content which makes them difficult to sell. Furthermore, as mentioned, the common problem of KIBS managers face is the customers' lack of a clear understanding of their own needs. This can be tackled by providing comprehensive information about the service package and the loosely related services that the customer might not even realize he needs. One of the external specialists suggested the following solution:

> *"...sometimes additional parts that are closely tied to the service need to be available and offered. They can be ones that customer does not even know he needs before using the service. The service has to be productized into a form that client can use it, by this I mean consulting, supportive*

service, arrangements, training, sparring, coaching... with many variations, but in the way that the beginning and the end are clearly defined. These additions could make the entirety more concrete in context of highly complex education-related services".

The additional parts are service extensions that can be seen as a value-increasing factor in a big picture as is suggested by Simula et al. (2008). The extended service is required in order to successfully communicate the value, performance and worthiness of the service. By then, the customer is able to comprehensively understand the offer and compare it to other services available in the market (Simula et al. 2008)

The challenge of assisting the customer at defining the needs is also mentioned by internal Head of Sector: *"...we can revise the curriculums, we can offer new, differing curriculums, teaching modules and teacher education modules that help the buyer at defining what the needs and what are accessible regarding the financial constraints".* The provider has to have a clear knowledge of the entity, which means that the factors affecting the particular customer's inquiry need to be revisited in reflection to the service offering.

"Finnish education is globally well-known and acknowledged, but common misconceptions exist, meaning how it is actually produced and delivered". Furthermore, *"...correcting the delusions by truthful communication of the services plays a important part in some of the cases...".* According to this statement by internal Head of Sector, it is clear that the marketing of these services needs to be carefully planned to be as exact and informative as possible in order to correct false assumptions with a realistic picture. Again, visual, explanatory material of the services would be certain options to achieve that goal. Videos, photographs and models could also be used as tools of effective and informative communication that increases the concreteness of the service.

Service descriptions and visualizations are suggested as meaningful ways of making the service more concrete. Furthermore, projecting the service offering is also highlighted by Jaakola (2011) as a central tool for a company that sells complicated, intangible and abstract services. The identification of different parts that of the service becomes

remarkably easier as the entirety is clearly communicated. This view was supported by the interviewed investor:

> *"If I use a school as an example, a good way would be to create a visual path that projects the whole journey. For example, starting from primary planning stage of the school, ending to fully functioning school building. Between the start and the end there are numerous parts and modules that together form the Finnish school. The whole process could be presented in the "roadmap" that could be print or video including all the possible services that are even just loosely connected to the journey. It doesn't matter if they are produced in house our through supplier. The main thing is that the possibilities are offered in way that the investor or buyer understands them."*

The visuality and projection of the services are also highlighted by internal professional stating:

> *"Tangibilization could be improved by producing a video that is easy to send online. A print is still needed when visiting foreign countries. The main thing is that serves multi-purposely. Fact-based, informative material that projects that how we really produce these Finnish school and education solutions and then connect it to the long international experience. We genuinely do the planning of Finnish schooling, we have long, spread and stable business that manages international context."*

A company that aims at international markets has even higher pressure of being particularly clear of what can be offered and what are the benefits of the service. Mapping the customer needs is always important and in outbound productization process, the successfulness is dependent on finding them out (Simula et al. 2008)

One of the internal experts suggested that visiting one of the sights where the service can be seen delivered is a very concrete way of communicating the service:

> *"...concretizing Finnish school design and master plan could mean an expert visiting the possible site and develop a concrete, primary plan of what could be done. Modelling the work is essential while clearly presenting what parts we can deliver, master plan, design,*

> *supervision…some references from other projects that have been done could also be included."*

Same time, references were pinpointed as an important way of tackling the trust issue that is related to services with intangible nature. Furthermore, another interviewee emphasized the importance of references crucial when selling this kind of complex and abstract services, especially on the international scale:

> *"I'm not sure if this is concretizing but I cannot highlight enough the meaning of references. They are essential in this business. There is close to no chance to reach a deal if there are nothing to be shown as what has been done earlier…it doesn't matter where the earlier services or projects are delivered to but the trust is nearly impossible to reach without references, there are many choices in global market.*

The meaning of references as part of making the service more visible and concrete are highlighted as outbound productization practices by Simula et al. (2008).

4.5. Standardizing and systemizing the service processes and methods

Standardization and systemization of the service processes and methods are presented as the third phase in Jaakola's (2011) model. Technocratic thinking posed by Levitt (1972) is difficult in the context as Sundbo (1994) determines standardization of processes lethal for customer orientation in KIBS companies. It works for example in fast-food business but application in highly complex education and school services is unseen. Jaakola (2011) presents systemization motivated by efficiency in processes. Best possible prerequisites for well-functioning customer processes could be developed. (Valminen & Toivonen (2012). Through pre-defining the processes and methods, the service becomes more professional and fluently progressive with reduced risk of surprising situations. For example, preparing the sales process by creating ready-made sales and supporting material is an example of service process systemization (Jaakola, 2011). It could also be clear process of how to react to customer inquiries consistent way that it maps the potential of the inquirer:

"When I think about the sales process, I usually come across with leads that are in extremely long funnel and in a stage at whether it goes any further or not, there are so many factors affecting the process from which price is likely to be central. Another might be that situation of the customer changes or the circumstances in the country etc. In general, the financing tends to be the severest challenge, in addition to ability and willingness to pay. The inquirers are highly interested of Finnish education, but it is very challenging to say whether it is "no matter of the price" or what is the price they are willing to pay for the services."

When we talk about actual processes of producing this type of services, it is clear that standardization is limited as their production is mostly based human capital and brainwork of individual experts (Sundbo, 1994). However, the processes could be developed to take the most efficient form possible by creating for example pathway of how the service is produced based on earlier projects and services delivered. This type of planning help to great extent in international market as it should show the parts that have previously demanded adaption and which parts could be more standardized. Jaakola (2011) highlights planning the process necessary in standardizing and systemizing the service processes as it helps at measurement and resource allocation. Furthermore, unproductive and repetitive tasks are reduced in the process. Similar ideas were suggested by one of the internal interviewees:

"I think one possible thing is to produce a kind of a "master map". In that map, the different services that are in-house produced should be projected. By this, I mean that it could include the resources, who is likely to be responsible in what part. Kind of an action plan that answers who and how we should react in case when someone makes an inquiry but also how the resources are allocated when doing these projects. However, I do think that the processes are fairly standardized what comes to the work our professionals do. But new processes should be developed paying attention to the requirements that come from the buyer being foreign."

4.6.   Modularization

The concept of modularization refers to the practice of dividing a service entity into separate modules (Cabigiosu et al., 2015). Paranatainen (2008:53) presents

modularization as a tool that combines adaptation and standardization. The aim is to offer a product that is customized for a particular customer's need by providing a selection of standardized modules (Rahikka et al. 2011). The differing needs and expectations tend to demand customized service outcomes (Rahikka et al., 2011). The interviewees mostly agreed that modularization is an effective way to standardize the different parts of the service offering in order to reach the benefits but still maintaining the required flexibility. The modularization is also about increasing the possibilities in the eyes of a customer:

> "…in good restaurant, customer can choose from menu that includes various options. This could be applied to curriculum. Different compositions of curriculums could be offered based on various modules that emphasize different subjects. School design and master plan could be modularized by giving limited number of options from which the customer can choose from. This would also assist the buyer at purchasing decision as many interviewees emphasized that potential buyers are often not familiar of what they actually want".

This allegory encapsulates the idea of modularization adapted in education-related services. Modules used in this sense allows standardization to a certain extent but maintains the flexibility and openness for tailoring (Rahikka et al., 2011).

One of the CEOs interviewed highlighted the more clarified form of the offering that provides a better choice for the buyer. Accordingly, Torkkeli et al. (2005) state that dividing the service into smaller modules increases the clarity in the eyes of a customer:

> "Modules are good way of breaking larger service projects into smaller units, and I definitely see space for modularization in this kind of services. You asked about standardization, this is one way to standardize smaller parts that can be combined in way that it serves the best the particular customer".

The senior adviser interviewed undermined that the modularization is already widely used in some of the services and it should be applied in a larger scale:

> "Definitely, our school system is modularized, so that there are prepared parts of the service. For example, secondary level education, especially

vocational education is produced based on modules that can be customized into different entireties."

The ongoing modularization in education-related services is also mentioned by another interviewee, who highlights the process as central in productization:

"We are already doing this is in Finland, in some cases the buyer orders one module and later, he comes back for more. Various type customers can be served with this type of modules and I find this central in the whole productization concept."

Furthermore:

"The services themselves, specific inputs of the process are all fairly standard curriculum, training, modules, there is quite a bit of standardization, repeating same modules in different client's projects, that's definitely very good. The input can be standardized".

The external interviewee supports the applicability of the modularization but limits the possibilities to input of the service. This means that the modularized processes can be standardized but the output remains customized as the needs differ between buyers.

Differing from the others, one of the internal professionals mostly discarded the possibility for modularization based on assumption that expertise of Finnish teachers cannot be divided into modules:

I see it (modularization) as challenging in this education export context, because only possibility for application could be the school design in my point of view. Then we are speaking about something that becomes tangible and concrete, but from those other type of services that are immaterial, and mostly are based on the expertise of Finnish teacher. Therefore, it is very hard for me to see how the teaching expertise could be modularized because this taking the expertise abroad most of times means taking the teacher him/herself to foreign country in order to execute the Finnish curriculum that is based on high-level on education of teachers. Nationality does not affect but the expertise does, and sufficient level cannot be found in many places in the world."

4.7.   Codification

The literature identifies different approaches to knowledge management with an emphasis of different processes such as creation, exploitation and storing of knowledge across the organization (Leonard-Barton, 1995; Pfeffer & Sutton, 2000; Apostolou et al, 2007). Codification-personalization dichotomy plays important role in this field (Hansen et al. 1999). However, scholars haven't reached mutual understanding of which strategy should be favored as both of them have pros and cons (Apostolou et al, 2007; Hansen et al., 1999). The main issue is to run efficient exploitation of the knowledge – internally and externally – without compromising the quality of the knowledge that is being transferred. (Bettiol, Di Maria & Grandinetti, 2011) Tangibilizing and concretizing the service as well as systematizing and standardizing the processes are tools of turning tacit knowledge and expertise into an organizational asset that can be better accessed other employees as well (Jaakola, 2011). The benefits of higher codification were identified by multiple interviewees. One of them states:

> *"I think it (codification) is needed in a larger extent, even though it is already somewhat done in form of case documentation. But is it comprehensive enough? I doubt that.. I think that one form of codification would be clear and comprehensive marketing material etc. of all the products that are offered, focus on international buyers".*

> *"When we talk about this kind of growing of human capital, in the end it is always tied to a person; knowledge, expertise, attribute. In this type of services, the information can be partly standardized and codified but what comes to the human side of the knowledge, I can't see it possible to model the service so far that anyone could grab the case in order to continue from where another central professional has left it".*

This challenge codifying the professional knowledge and expertise is also identified by Bettiol et al. (2011), as they high light the KIBS role as active co-producers that requires intense knowledge-sharing and interaction with the customer. The more customized the service is, the more limited is the possibility to codify the related expertise and information.

The benefits of codification are identified by internal professional who emphasizes that the codification should be performed by better documentation and developing the comprehensive sales material.

> *"In our company, the knowledge and expertise are highly personised. It should not be so, and the productization is one tool that we could use to extract the information. This would spread the knowledge by giving more people access to it. I would go back to better documentation and filing of the cases and the sales material.*

4.8.   International product strategy

International success is dependent on a firm's ability to produce a product that is differentiated from competitors. (Delene et al., 1997). Products can be differentiated by e.g. their composition, quality, country of origin or positioning in the customers' minds (Czinkota, 2007: 327-328). Finnish education exporters have many possibilities to differentiate from their competitors and the main factors mentioned, were country of origin effect, quality and composition.

> *"We can differentiate successfully from the Finnish competitors by the size of our company and the international experience that we have since decades ago in other industries. Large international projects that include everything that is connected to this type of business. We have architecture, multi-talent house, with extent experience and expertise that separates us from the Finnish competitors, but in global scale, the competition is extremely hard as we are competing against global education export companies that have been in the market for decades. Those are usually strong support of local governments and they often originate from English speaking nations, which is certainly an advantage. Furthermore, we speak about a recruitment pool that on next level."*

In international markets, the competition is fierce. Therefore, competitive advantages have exploited best possible ways. A company that has been internationally active for decades has to make most out the experience. Furthermore, Large company is in significantly better position compared to smaller players in terms of stability, trust and perceived capability.

Despite the conglomerate nature, Internal interviewee raised an issue related to being certified, education-related service provider.

> *"I think that one central problem is that we are not a direct education service provider like university or other certified player, we cannot say that we are a certified producer of Finnish school, if that's what is wanted. That's why we need a Finnish partner, who has that role if the customer demands."*

However, this issue is only present when the customer actually demands the certification. This is not the case most of the times. These services do not require a stamp of "official provider", as the experience in this business is the key demand.

Delene et al. (1997) suggest that the firm heritage is the key strategy selection factor of product strategy. It reflects the business scope necessary for international strategy decisions. Experienced trade company is better capable of responding to individual and market idiosyncrasies maintaining higher flexibility.

> *"Even though we have done this type of projects, especially in Finland, the type of business we are aiming at is somehow different to want we have done in international scale. However, we have experience of decades in international projects which we can benefit of when selling these services straight to the buyer".*

4.8.1. Standardization vs. adaptation

Standardization-adaptation dichotomy has been controversial topic in international product strategy for decades (Delene et al., 1997) and the interviews conducted for this research do not make a difference. Generally, standardization is seen as desirable objective, but all of the interviewees highlight the need for adaptations, that should be made in regard to the cultural differences.

> *"...cultural things, even in terms of content, cultural adaptations are required, even though you have national Finnish curriculum, you have to listen very carefully what people say in local context. Even in terms of content you have to make many decisions of what is actually taught, what*

examples are used, have religious issues are handled. Religions in plural and ethics, how would that be accepted in the local context, how are the gender issues addressed?"

Internal Head of Sector states that the legislation causes constraints that need to be considered when international product strategy is created. In general, standardization is seen as difficult. This view is supported by Hollensen (2014: 438) who states that education has no or very little possibility for standardization.

"Standardization is challenging in this type of services, when we think that we sell to different countries. In the end, the service has to be adjusted to the host country's legislation, no matter which service product we talk about. Contents, development of curriculum, far-reaching standardization is impossible because the legislation and national requirements and guidelines cause constrains."

Even though the children are the central users of these services, parents are likely to be the ones who pay for studying in international schools. Therefore, serving the parents needs is central and it has to be taken into account when adjusting the services. One interviewee even raised an example from Georgia, in which the parents clearly indicated that they want a male teacher based on assumption they are more capable for the job.

"Anglo-American education is highly standardized which causes difficulties if Finnish school is brought into that type of environment as the earlier, standardized model does not allow the flexibility that comes along with Finnish service package."

The external Senior Advisor interviewed, raised an interesting fact about the school business. In the countries where Anglo-American schools have long been present, their handprint might be left to the country's whole education system. This raises another issue of even if the foreign schools were not present, the education system might be inflexible to an extent that Finnish school can be very challenging, even impossible to create in a way that it could be called a Finnish school.

Some of the interviewees have argued that the buyer is not always familiar with restrictions in relation to schools, so appropriate research is one of the first tasks that need

to be conducted when discussing this type of service project. The CEO interviewed states that every country is different, therefore, adaptations should be based on careful identification of the country-specific requirements:

> *"...even though, there are many external as well as internal reasons for standardization, the need of adaptation is crucial in international market. It is likely to be different thing to build a school in Finland or for example in Middle-East. Climate and ground are different. The master plan and the curriculums need to be adapted to meet local requirements. It is all about conducting necessary groundwork in which the individual country's specifications are identified. This planning should be done in cooperation between the buyer and supplier."*

4.9. Consortiums and networks

All the interviewed professionals highlighted the meaning of networks in this type of business. Synergies are available if the right partnerships are found. One interviewee explained a case in which the network was the driver of fantastic customer experience:

> *"In this particular case, the concept is fantastic. It relies on very lean structure, very small organization and what they do, is that they do the sales and project management, but they rely on very large network of suppliers, with whom I have already been in contact, number of suppliers: teacher training, architecture, curriculum design, furniture supplier. Having a network of suppliers puts you into a position in which you can provide the best quality of service without increasing the costs if you handle the coordination."*

This is an example of how small companies can compete against big ones if they have this type of concept that enables providing all needed services under one roof. As earlier mentioned, experience of the coordination and extensive network offer different kind of opportunities in a market, where the contracts are often larger in terms of value but uncertain. Horizontal cooperation should be considered as the synergies are available especially in international markets. No research nor empirical data presents justification for discarding partnerships or other ways of collaboration.

"We have done a lot of cooperation, there are numerous possibilities, especially with certain learning institutions in Finland. I think also in international scale, and surely the international division works with international partners continuously. That is definitely the norm, and I see no reason why it could not be used in education exporting as well."

"Broad shoulders are central when building trust with potential buyers, the partnership network is essential, because hardly any provider can operate alone. As long as someone tries to cope on its own, the access is mostly limited to small deals that are not part of larger entirety. When bigger concept is taken to practice, many types of expertise is needed in different stages. It doesn't make sense for one company to try to fully serve the customer but leave some parts to best professionals which allows specializing. Problem is that many of these companies in this industry are not used to share the cake and pay for others to extent that is needed. Everyone wants to invoice as much as possible. In long run this doesn't work, the partnerships are key to long-term success."

"...it doesn't make sense to re-invent the wheel. We don't have to do something that someone does already. Cooperation can offer new possibilities in field of edtech, as there are numerous promising start-ups. It is not an absolute value to work on one's own, but we have to remember that this kind of business is already run through suppliers, not necessarily with in-house expertise. This is highlighted when talking about content creation, curriculums and teacher training etc. then we need partnerships because we are not a university that educates teachers."

All the interviewees highlighted the meaning of partnerships with Finnish companies which is natural as we talk about Finnish education. New business opportunities should also be looked at through cooperation with smaller operators providing totally different services in the same field. This could lead to a better position in the market.

5. CONCLUSIONS

This chapter presents a summary of the key findings in the productization of education-related services in international context based on theoretical (literature review) and empirical (interviews) parts of the study. The research question and objectives are reviewed and evaluated according to the findings. In the summary, author combines the results in the form of managerial implications as they were another central purpose of this research. Finally, in the last part of the chapter, limitations and propositions for future studies are defined.

5.1. Summary

The main objective of this research was to understand the different stages of productization process and how they are affected by specific characteristics of K-12 education-related services that are aimed at international markets. In-depth analysis of knowledge-intensive business services in which these education-related services belong was conducted. KIBS companies are defined by their reliance upon professional knowledge and expertise, intense co-production with the customers and highly customized nature in the delivery process. The productization as concept is developed in managerial literature and therefore, it is used with varying meanings. Jaakola's model (2011) was identified as the best suitable framework of productization process that due to the strong focus on KIBS. The model is successfully applied by Finnish companies. The model serves as base for the theoretical framework providing the three central stages of the productization process. This framework was supplemented with an additional theory of modularization as a tool of standardization.

The first phase of the productization process is standardization, also referred as systemizing of the service offering that aims at developing standardized design specifications that response to the specific customer needs. The customers buying education-related services expect well-defined offering that profits quality control, functionality and compatibility. In this sense, the services can be standardized, as it also makes them more marketable and sellable. However, when it comes to execution,

adaptation is requisite. The original sin in this area is to think that the same model fits everyone, which makes the service model inflexible. In education-related services, surprises are likely to occur and even though the input and the service model can be standardized, same time they have to be flexible to able to react when something does not go as expected. Developing countries offer better possibility for standardization as the school and education systems are not as well-structured and regulated as in developed countries.

As a conclusion, the education-related service needs a standardized body, the basic structure that can be supplemented with more customized parts that together form a service entity that responses the customer needs. However, the large service entities cannot be standardized in a way that they would satisfy the client.

Tangibilization and concretization of the service offering responses to the challenge of abstractness and lack of invisibility. Tangible elements are difficult to attach to education-related services but if some sort of preliminary model, projection or site visit can be arranged, the buying decision becomes significantly easier. Concreteness can fairly easily be improved by preparing comprehensive marketing material in the form of menu that is provided with great visualization. For example, video is a great way to project complex and abstract entities in concrete way to tackle the trust issue. The appropriate references that show the extensive international experience could be used as they are essential creator of trust and a prove of successful performance.

Sometimes the buyer is not fully familiar with all the parts that could be necessary for the service entity. In this case, loosely related, additional services should be offered in form of consulting, arrangements, training, sparring, coaching… The service extensions are value-increasing elements that communicate capability and worthiness of the service in a big picture. By then, the customer is also able to compare the services available in the market. (Simula et al. 2008)

As Finnish education is acknowledged worldwide, some clients have an unrealistic or false perception of it. Therefore, marketing content plays an important part in correcting these assumptions. This can be aided by comprehensive visualisation and modelling that

clearly presents the reality. Visual road mapping of the whole process and all offered services, in-house produced or sourced from primary planning to the functioning school or initialized service.

Standardizing a systemizing the service process and methods is the final step in Jaakola (2011) model. Efficiency could be achieved by developing the best possible prerequisites and well-functioning customer processes. Service becomes more professional and fluently progressive with reduced risk of surprising situations by pre-defining processes and methods. Preparing to the sales process by creating ready-made sales and supporting material as well as standardized customer need identification are effective ways to productize KIBS processes by reducing unproductive and repetitive. However, extent technocratic thinking originating from industrial manufacturing is lethal in KIBS according to Sundbo (1994).

Concept of modularization refers to a practice in which service entity is divided into smaller modules in order to standardize the for customized combinations. In education-related services, flexibility is needed, and it can be provided for example by offering different compositions of curriculums. Modularization is beneficial at helping the customer to get a better understanding of the possibilities and it allows the customer easy way to extend the previous purchase. What comes to modularization of the educational expertise such as teaching, the possibilities are very limited.

Common issues occurring in companies providing education-related services is highly personised nature of knowledge and expertise. To some extent, more efficient exploitation of information can be achieved without compromising its quality. Productization process aids the organizations at codifying their knowledge. Comprehensive documentation of the service projects and creation of inclusive marketing material are ways to codify the knowledge. However, as this type of services requires intense knowledge sharing and interaction with the customer, the codification of the expertise and knowledge is not seen possible to extend that the experts could easily continue one another's work.

The international product strategy of education-related service should be developed based on differentiation with the country of origin effect, composition and quality. International experience as firm heritage plays a significant part in the strategy. Being a conglomerate that provides various service packages for various purposes is a competitive advantage over most of the other Finnish players in the field. Furthermore, international experience should be communicated and exploited in order to reduce the trust issue.

Standardization from international strategy perspective is desirable objective but highly challenging to achieve in education-related services. Adaptations need to be done in order to meet the target country's legislation and regulations. Some countries may have inflexible education systems which has to be identified in the primary groundwork, if the buyer does not hold the information. Furthermore, cultural adjustments are also required in terms of content. Religions, ethics, gender issues and linguistic factors, all affect on education-related services in different stages. The preliminary planning should be based on earlier experience and joint discussion with the buyer.

The meaning of networks and partnerships cannot be dismissed. The international business possibilities are very limited without partnerships. Most of the times, it is not efficient nor necessary to try to provide all services alone. The best outcome is likely to be delivered when specialised companies work together. Horizontal collaboration provides new business opportunities and synergies are achievable especially in collaboration with very different operators. Official education producers such as universities are valuable, in some cases, even required partners in international markets.

5.2.   Limitations and future research prospects

The first limitation in this thesis is the English language, which was used in two of the interviews as it is not the native tongue of the interviewer or the interviewees. It presented some challenge for the interviewees to express themselves and for the interviewer when analysing the audio recordings. In addition, the external interviewees were really strict about the time that they invested in this research. Therefore, some of the questions were not posed in all of the interviews

This study examines productization of already existing services that are aimed at international markets. Because of the delimitations of this thesis, some interesting aspects were left out. Different tools of service productization such as service blueprinting were left out of this research as this thesis is focused more on base information of the possibilities and different stages of the process. The ongoing and cyclical nature of service productization was also ignored

The empirical results of this research are based on one specific case company and the interviews are conducted with a focus on this particular case company. Therefore, the opinions expressed in the empirical part are not likely to be applicable to other companies working with the same services due to specific circumstances. Other interviewees have provided more objective perspective by talking in general level. It would be interesting to see if the results were similar from a fully objective perspective and what were the results if this framework would be applied in other fields of business. Furthermore, the education-related services could be defined differently, for example restricting them to edtech services, in order to achieve fresh and interesting results from the booming industry.

All in all, productization of KIBS have received interest amongst scholars but the international strategy of KIBS remains more unrevealed. More information is needed about the process in the international context as they have currently been studied as separate topics.

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APPENDIX

Appendix 1. Questions & Interview information statement

Interview information statement (given when permission asked and before interview)

I will record the interview in order to make a transcript. All information is confidential, and the anonymity is secured. Your name is only revealed to the supervising professor if asked. Some of the questions might be overlapping because I try provoke ideas by posing the questions from different angles. With productization I primarily mean a process of making the product more efficient, desired and sellable. The focus of this thesis is in traditional school and education-related services being school design, master plan, curriculum in primary and secondary school level and companies providing this type of services.

Questions:

Common questions:

1. Full name and title
2. Role in company
3. Years of experience
    a. Current position
    b. Education export

Case company professionals:

1. Why the company's reactions to incoming proposals and inquiries remain slow and inflexible?
    a. How could be the process developed?
        i. Do the inquiries find the right person immediately?
    b. How could we be better prepared?
    c. Is the service offering clearly defined?
    d. Does appropriate sales material exist?
        i. What kind of material is needed?
2. Why the customer's needs have remained unclear?
3. How could customer service be further developed?
4. What are the biggest challenges related to sales?
    a. How can they be tackled?

5. Is the company's network exploited in order to identify potential customers and generate leads?
    a. How could it be further exploited?
6. How would you productize company's service offering?
    a. How do you see standardization and specification of a service offering in the education-related services?
    b. Tangibilization and concretization of the service offering?
    c. Standardization and systematization of the processes?
    d. What about modularization?
7. What is needed to be considered when productizing for international markets?
8. How could our company differentiate from the competitors?
9. How do see standardization-adaptation dilemma in that context
10. What are the biggest weaknesses of current service offering in terms of exporting?
    a. How could they be tackled?
11. How could knowledge be sharing improved?
    a. Do you see codification of knowledge desirable or achievable?
12. How do you see partnerships and collaboration with other operators in the field?
13. What disabling factors prevent our company from acquiring foreign customers?
14. Can you explain one case in which you were involved? What went wrong and how to improve?

Senior Advisor:

1. What are the unique characteristics of education-related services?
2. What kind of Finnish education export services could be leading to steady rise of volume and scalability?
3. What characteristics are typical for well productized service in education sector?
    a. How do you see standardization and specification of a service offering in the education-related services?
    b. Tangibilization and concretization?
    c. Systematization of the processes?
    d. What about modularization?
4. What is needed to be considered when productizing for international markets?
5. How do see standardization-adaptation dilemma in that context
6. Do you see codification of knowledge desirable or achievable?
7. How do you see partnerships and collaboration with other operators in the field?
8. What kind of customers/investors are active in this field? (individual investors, equity funds, private school-chains, Ministries of Education, District level authorities…)
9. How can an education-related service provider improve its attractiveness in eyes of education buyer/investor?

10. What kind of mistakes education service providers make in various stages of the process?
11. What are the major challenges that Finnish education exporters are facing in general?
    a. How can be these challenges tackled?
12. Can you mention some successful case examples from Finnish education service export?
13. Do you have any other recommendations worth of mentioning?

Client/CEO/Investors:

1. Investor/CEO
2. Do you invest primarily into a company or product?
3. Do you develop a list of expectations and demands of the provider before searching?
    a. if yes, what kind of?
4. From where do you search for potential providers?
5. What are the unique characteristics of education-related services?
6. What kind of Finnish education export services could be leading to steady rise of volume and scalability?
7. How do you expect the provider to react when you contact for first time?
    a. In preliminary stage, what is the most valued information you are expecting from service provider and in which kind of format you would like to have it?
8. What characteristics are typical for well productized service in education sector?
    a. How do you see standardization and specification of a service offering in the education-related services?
    b. Tangibilization and concretization?
    c. Systematization of the processes?
    d. What about modularization?
9. What is needed to be considered when productizing for international markets?
10. How do see standardization-adaptation dilemma in that context
    a. What type of adaptation is needed?
11. Do you see codification of knowledge desirable or achievable?
12. How do you see partnerships and collaboration with other operators in the field?
13. What kind of customers/investors are active in this field? (individual investors, equity funds, private school-chains, Ministries of Education, District level authorities…)
14. How can an education-related service provider improve its attractiveness in eyes of education buyer/investor?
15. What kind of mistakes education service providers make in various stages of the process?

16. What are the major challenges that Finnish education exporters are facing in general?
    a. How can be these challenges tackled?
17. Can you mention some successful case examples from Finnish education service export?
18. Do you have any other recommendations worth of mentioning?