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Productization of education

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LIST OF ABBREVIATIONS

AMK	Ammattikorkeakoulu
EU	The European Union
EEA	The European Economic Area
i.e.	“id est”, that is
€	Euro sign

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ABSTRACT

In 2015, Finnish government has amended the law concerning higher education in Finland, seriously effecting international degree programmes and institutions organizing them. Since the fall term 2017, all students with citizenship based outside of the European Union countries or the European Economic Area are obliged to pay tuition fees for studying any higher education programme in Finland. This modification caused decline in number of foreign applicants and universities are forced to take actions in order to be able to mitigate the impact and consequences of the legislative change.

This study focuses on analyzing the current situation of international programmes at Finnish higher educational institutions and exploring possible ways of improving their competitiveness through service productization. Recently, service productization has been gaining increased attention since it has the potential to improve business results as well as competitiveness. By transforming solely intangible services into more product-like sets of deliverables, which are standardized enough to be repeatable and easily comprehensible by the customers, results can be improved while costs, time needed and afford spent decrease.

The theory describing productization of education is very limited. This study assumes existing connections between service productization and the success of international programmes. It proposes a unique approach of implementing extensive service productization which results in increased performance. By productizing, universities could regain the number of applicants back and even exceed it in the future.

To be able to confirm these assumptions and obtain necessary data, an in-depth single-case qualitative study was conducted. As a case company, Centria University of Applied Sciences was selected and four principals of its four international programmes were interviewed. Semi-structured interviews were the chosen technique for data collection.

KEYWORDS: Productization, service productization, education, international programme, university, competitiveness.

1. INTRODUCTION

1.1. Motivation for the study

Manufacturers have been striving for higher returns and searching for additional growth opportunities by shifting their focus from creating products to offering customer solutions (Matthyssens & Vandenbempt 2008; Sawhney 2006), through a process called servitization (Vandermerwe & Rada 1988). Conversely, service-oriented businesses have tendencies to search for more product-like defined sets of deliverables, which are standardized enough to be repeatable and comprehensible (Harkonen et al. 2015). This shift, typically described as productization, can be challenging for service companies and their systems, although if understood and applied appropriately, it can be highly beneficial. Software, services and technologies, as well as companies themselves, can benefit from an increased clarity and uniformity which productization brings (Harkonen et al. 2015).

The term “service productization” has been referred to for the last 20 years and recently there has been an increasing number of articles discussing it (Harkonen et al. 2015). Previous studies have discussed productization from many different angles, for example Harkonen, Tolonen and Haapasalo (2017) have tried to systematize the service productization and define the term “offering”; or Lehtonen, Järvi, & Tuominen (2015) have focused on reflexivity in the productization of services. From a field of education, Aapaoja, Kujala and Pesonen (2012) discuss the productization of services in the context of university-industry co-operation. However, none of the existing studies analyzes how productization of services can be used to enhance university performance and competitiveness.

The lack of research concerning the productization of education or educational services represents a potential research gap. Especially, this topic could be interesting and potentially beneficial for Finnish higher education institutions, since they went through a major legislative change in 2015. The tuition fees, for both international Bachelor’s and Master’s

degree programmes, were introduced and made compulsory for Finnish universities to adopt (The Ministry of Education and Culture 2015). The introduction of fees became a barrier for non-European residents to study in Finland which caused a serious decline in number of applicants, therefore problems for many universities and their international programmes (Kuronen & Mansikkamäki 2017).

This thesis aims to fill in the literature and research gap concerning the productization in the field of education and offers answer to the following research question: How can service productization enhance competitiveness of international programmes at Finnish universities? The thesis analyzes appropriate literature and reviews existing research of productization and productization in the field of education. Combined with a case study, it describes and suggests how could international programmes taught in English at Finnish universities utilize productization and profit from it.

1.2. Justification of the study

There has been a change of the legislation in Finland and since the fall term 2017 all students with citizenships based outside of the European Union countries or the European Economic Area must pay a tuition fee for studying any higher education in Finland. The law has been amended in 2015, stating that from the beginning of 2016 Finnish universities could collect tuition fees, and are obliged to do so from the fall term 2017. (The Ministry of Education and Culture 2015.)

Due to this change, many Finnish universities find themselves struggling. On one hand universities see this change as an advantage which is going to bring additional revenues, although on the other hand, the amount of non-EU/EEA applicants (the main segment among international students for most Finnish universities) has decreased after the implementation. The decrease of the applicants causes many universities serious trouble and jeopardize their internationalization or even existence. (Kuronen & Mansikkamäki 2017.)

As the education cannot be marketed anymore as free of charge, which was one of the most attractive features and the main source of competitive advantage, Finnish universities need to find other ways of differentiating and creating additional value to be able to attract international students. This study focuses on finding new innovative ways of improving the competitiveness of international programmes taught in English via productization of services.

1.3. Research gap

The literature discussing the productization of services is mostly published in managerial magazines and discussed at seminars among practitioners, yet it is not widely discussed in the academic literature. Based on the review on productization, current journal articles referring to the productization of services are limited and are lacking depth and terminological unambiguity. For those reasons, there is an obvious need for more detailed future research. (Harkonen et al. 2015.) Concretely, only one previous study analyzes the productization within a university environment. In their work, Aapaoja et al. (2012) focus on the productization of university services, although the research question specifically aims to analyze how productization of services can be used to enhance university-industry cooperation. No further literature investigating the productization in connection to international education has not been found.

Due to the recent changes of the Finnish legislation, number of international degree students coming from outside the EU/EEA area has decreased (Kuronen & Mansikkamäki 2017) and there is a lack of academic literature discussing how to palliate this problem. Managerial recommendations or future marketing strategies and techniques, which could guide universities in absence of applicants in this specific situation, are completely missing.

This thesis tries to find ways of using service productization to mitigate the impact and consequences of the legislative change to international study programmes. The focus is given on discovering connections between service productization and programmes' prosperity. By using proposed centrally organized and guided service productization and overall standardization, like for example excessive detailed planning stage, where product-like sets of deliverables are developed, implementation stage, marketing, feedback collection, etc., this thesis assumes improvements of the competitiveness and increase number of applicants.

The present thesis aims to fill in an apparent research gap, considering productization of education and its impact on higher-education international programmes in Finland. It aims at illuminating the interdependencies between the service productization and improvement of programme positioning and competitiveness. It also tries to discover ways and practices by which international programmes could be transformed into more product-like packages which would be easier for the organization to create, upscale, package and market; and which would be at the same time easier for the potential applicants to recognize, identify, select and apply.

1.4. Objectives of the study

The main objective of the study is discovering, how could service productization help universities to become more competitive and attract more applicants since there has been a decline after the legislative change which came into practice in 2017. The purpose is not only to confirm the connections exist, but also to propose valuable means of using them to benefit the organization. To be able to do so, single case qualitative study was conducted, when suitable individuals from higher education institution in Finland were interviewed. Major goals of the semi-structured research interviews were to determine in which situation international programmes are after the tuition fees were introduced, if the programmes are somewhere utilizing service productization and its impacts, and finally if further service productization could enhance future competitiveness of the programme.

Based on above-mentioned research objectives, following research question was defined:

How can service productization enhance competitiveness of international programmes at Finnish universities?

To be able to answer the main research question, one more supporting question was formulated:

How is service productization of international programmes used now by Finnish universities?

1.5. Delimitation of the study

The main topic of interest behind this thesis is productization of services. Concretely, this study focuses on one segment of service productization – the productization of education. Thus, the thesis tries to understand whether productization of educational services could enhance the performance of higher educational institutions and hence improve their competitive positioning and, in turn, their competitiveness.

Since educational systems vary from country to country, this study focuses only on education in Finland. As mentioned earlier, there has been a change of education legislative concerning tuition fees at Finnish universities. Many universities are facing existential problems. Due to the existing need of prompt and rapid improvement, this study focuses specifically on international Bachelor's and Master's degree programmes, which are seriously influenced by the recent change of the regulations. This thesis analyzes the current situation and tries to offer innovative solutions via further productization, aiming at restoring the high and sufficient number of applicants like those that universities used to have before the tuition fees came into practice.

The following table presents the process of narrowing down the topic and specifying the research question.

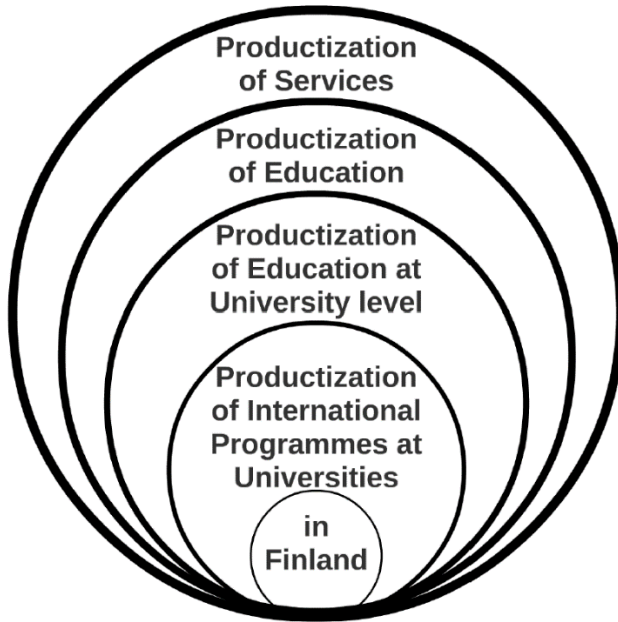


Figure 1. Process of defining the research question.

1.6. Thesis structure

The thesis consists of two parts, which can be described as follows: (1) the theoretical background, and (2) the empirical case study. The first theoretical section sets a foundation for the study by presenting the theoretical underpinnings and forming the assumptions about interdependence between productization of education and an increased competitiveness. It also explains the major concepts related to the study which help the readers to follow the text.

Based on the collected empirical data, the second part presents the findings about the use of service productization in practice. It studies the connections between the productization of education and university's competitiveness. This part also examines, whether the

assumptions were correct and whether the inputs from existing theories can be applied to the case of higher education. It also provides productization ideas for further competitiveness enhancement.

Finally, the conclusion part is based on the comparison of the results to the theory. The last section consists of key findings, theoretical and managerial implications, as well as ideas for future research and the limitations of the present study.

2. LITERATURE REVIEW

Literature review is an approach of identifying, assessing and interpreting relevant texts apropos to a desired research question, topic or phenomena (Kitchenham 2014). This chapter introduces the conceptual basis of productization while contextualizing the topic through a discussion on the application to the higher-education context, two necessary steps to construct and interpret the empirical part of this work.

2.1. Productization

The term “*productization*” derives from the term “*product*” which plays a central role in this process. Product can be of a tangible or an intangible nature, or sometimes even a mixture of both. For example, services which are naturally intangible and abstract, can be understood as products, satisfying and fulfilling customer needs without any obvious exchanges of tangible products. Also, software and other computer programs, which are of an intangible origin, can be considered as product. (Harkonen et. al 2015.) Product is simply a mixture or combination of assets, both tangible and intangible, which establish a value proposition which can be offered to customers to fulfill their needs.

Productization can be explained as a process of combining these tangibles and intangible elements into a product (Harkonen et. al 2015). According to Pyron et al. (1998): “*Productization simply covers all activities required before a product is ready commercially.*” Similarly, productization can be described as a transformation of research and knowledge into products (Florice & Miller 2003). For the purposes of this work, productization can be understood as a complex process of identifying and analyzing customer need, defining and merging appropriate tangible and/or intangible assets, into intelligible, standardized and repeatable product-like sets of deliverables which can be commercially marketed.

Harkonen et. al (2015) divide productization into four categories; productization of products, services, software and technology. Productization of products is slightly complicated to describe. The set of deliverables here consists of the tangible product and intangible supporting activities, which are necessary in research and development, engineering or manufacturing. The productization process concerns mainly the intangible part needed for developing marketable offering. Ma and Fuh (2008) mention product productization as a part of development part, alongside with designing, process planning, manufacturing, assembly, selling, maintenance, recycle and destroy. Productization of products can be simplified as a process of standardization which enables wider utilization (Ruohonen et al. 2006).

Software productization recently gains its popularity due to the increased world-wide digitalization, although the literature discussing this field appears to be very limited. Electro-mechanical products are more and more substituted by the software-based ones. (Harkonen et. al 2015.) When talking about a software product, Fricker (2012) defines it as a set of deliverables containing the computer program itself, but also associated procedures, connected documentation and the delivery techniques. The process of productization of software is to some extent similar to service productization due to the intangibility and abstraction of the software industry. Alajoutsijärvi et. al (2000) sees it as a shift from completely intangible entities towards tangible standardized products. It can be described as a set of processes seeking for ways of how to interface computer programs, data and procedures through the process of standardization into the sets of deliverables which are easy to be commercialized and marketed. Productization also brings increased level of comprehensibility, repeatability, tangibility and scalability.

Productization of technology comprises processes at the frontiers of technological knowledge (Harkonen et. al 2015). It is described as a link between the development and technological innovations (Mathur 2007) or a stage between the development period and commercialization and market launch (Xiuli 2011; Sahlman & Haapasalo 2011). For a technology to be able to fill a specific market need, it needs to be transformed into a product.

The transformation is important due to the intangibility of technology. It allows customers to appreciate the innovation the technology brings. Although the productization is not only transforming the technology into a product. It is about the shift from engineering-oriented to commercial-oriented thinking and the process that allow, support and enhance that.

Finally, productization of services can be described as a bundle of activities which bring more tangibility, comprehensibility, scalability, repeatability, uniformity, etc. to ordinarily solely intangible services (Harkonen et. al 2015). This thesis specifically focuses on this type of productization and therefore this field is given a separate chapter which follows.

2.1.1. Service productization definitions

Productization of services is different to productization of products. As already mentioned earlier, products are of a tangible origin and by selling them, an actual exchange takes place. On contrary, when offering services, no tangible exchange happens, and the trade does not result into ownership. (Kotler 1997.) So far, it is not usual to perceive services as products and selling of services is not seen the same way as selling of products (Sipilä 1996). Although, if services tend to be sold more efficiently, in a bigger scale, to a wider customer-base, they should be transformed into more product-like.

Productized services are just like products; packaged, easy to be recognized or identified, selected and purchased. Productization of services comprises ways of implementing and utilizing features which are usually common for tangible products to abstract impalpable merchandise. By productizing a service, more leverage is added to the service company. If service productization is implemented well, it allows the company to earn more, with less work, yet providing customers with more and better value.

Because this work examines service productization in solely Finnish environment, following part provides definitions of the term “*service productization*” found in Finnish literature.

Parantainen, who written and cooperated on many books and articles from the field of productization, starts one of his books by claiming that service productization does not have a single paradigm and the definitions vary from author to author. He defines it as a process of transforming the expertise, intangible knowledge, or know-how into a set of deliverables which is salable, marketable and easy to be delivered (Parantainen 2007). Jaakola et al. (2009) define service productization as a way of arranging service development in a way so that goals like prosperity on international markets are achieved. According to Sipilä (1999) it comprehends actions like defining, planning, developing, describing and manufacturing the service, in order to be able to maximize customer profitability and meet company's earnings targets. When the service product is ready to be sold further, it can be considered as successfully productized (Sipilä 1999). Importantly, productization should not be seen as only a process which focuses on defining service products. It should be perceived as a part of research and development plan, focusing on designing the entire service delivery into more controllable and predictable formula. (Lehtinen & Niinimäki 2005.)

Table 1. Service productization as described in Finnish literature, loose own translation.

Definition	Author
<i>"A process of transforming the expertise, intangible knowledge, or know-how into a set of deliverables which is salable, marketable and easy to be delivered."</i>	Parantainen (2017)
<i>"A way of arranging service development in a way so that goals like prosperity on international markets are achieved."</i>	Jaakola et. al (2009)
<i>"It comprehends actions like defining, planning, developing, describing and manufacturing the service, in order to be able to maximize customer profitability and meet company's earnings targets."</i>	Sipilä (1996)

<p><i>"It should be perceived as a part of research and development plan, focusing on designing the entire service delivery into more controllable and predictable formula."</i></p>	<p>Lehtinen & Niinimäki (2005)</p>
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From a world-wide literature, according to Bask et. al (2010) productization of services is a relatively new term which is gradually rising interest amongst professionals. Nagy (2013) describes it as a stage which foregoes sales where services are transformed through commodification and systematization into more product-like solutions. It focuses on obtaining advantages from efficiency, configurability, scalability and modularity (Morrison 2003).

Table 2. Productisation of services as conveyed in the literature (Harkonen et. al 2015).

Productisation in the category of services	References
<p>To address various challenges, including inefficient production of services and difficulties by customers and company employees perceiving the service offering</p>	<p>Valminen and Toivonen (2012), Jaakkola (2011), Ardley and Quinn (2014)</p>
<p>To make services more product-like, repeatable and tangible</p>	<p>Salmi et al. (2008), Bask et al. (2010a), Chattopadhyay (2012), Valminen and Toivonen (2012), Djellal et al. (2013), Stone (2010), Karmarkara and Apte (2007), Skalen and Hackley (2011), Morrison (2003), Nadim and Singh (2008), Rissanen et al. (2010), Mattila et al. (2013), Gupta (2011)</p>

Facilitates the development of customer understanding	Valminen and Toivonen (2012)
Packaging the service offering	Leon and Davies (2008), Ukko et al. (2011), Bruce et al. (2008)
Linked to content and pricing of services	Arrto et al. (2008), Chattopadhyay (2012)
Developing well-defined service packages	Lukka and Partanen (2014)
Making services tangible and providing more product-like services through systemization of their components	Nagy (2013)
Refers to heterogeneity - to visualise, model and scale the offering	Ritala et al. (2013)
Highlighted as a pre-sales activity	Nysten-Haarala et al. (2010), Hanninen et al. (2013b,c)
Relates to modularity in services	Rajahonka (2013)
Relates to enhancing services	Anupam et al. (2006)
Follows R&D	Daim et. al (2013)

These definitions proved that service productization can be perceived and formulated differently. Although, what they have in common, they all describe productization process as comprehensive, aiming at transforming intangible services into more product-like form which brings increased value to the customers as well as more profits to the sellers.

2.1.2. Standardization

Service productization can be accomplished through standardization. Through standardization, services are converted into easily distinguishable deliverables with unique attributes which are easy to commoditize. By standardizing service processes, the service becomes more of a stable and consistent value, easier to be copied and easier to be predicted,

especially in the field of production costs and production time. Standardization can result in increased level of compatibility, repeatably, scalability, comprehensibility, modularity, predictability but also safety and quality. Also, it decreases the risk caused by differentiation and divergence. All previously mentioned qualities result in lower production costs and more product-like service packaging, which is less-risky to market and sell. (Apunen & Parantainen 2011.)

Despite the fact that service productization and standardization brings many advantages, Nagy (2013) also states some disadvantages. By converting the intangible service offering and connected knowledge into tangible standardized products, it is easier for business rivals to copy or steal them with less difficulties (Nagy 2013).

2.2. Productization of higher education

Higher education, or differently third-level education, tertiary education or post-secondary education, refers to an optional learning delivered by multiple different organizations such as universities, universities of applied sciences, colleges, academies, conservatories, etc. When completing an education programme or research, participants are awarded by academic degrees from relevant academic field or discipline. (Clark 1986). Higher education systems, structures, requirements and rules differ significantly from country to country.

In this context, there is a lack of literature discussing productization of education. In the field of education, only one article by Aapaoja, Kujala and Pesonen (2012) discusses the productization of services in the context of university-industry co-operation. However, it neither considers the legislation change and its effects on higher educational institutions nor discusses the use of productization as a tool for enhancing programmes' competitiveness and attracting students.

Järvi and Toivonen (2012) claim that service companies can improve competitiveness and performance through productization, mainly by better service definition, systematization and concretization. Also, Sipilä (1999) believes that by more thorough defining, systematizing and concretizing the service offering can result in improved efficiency as well as profitability. In addition to improved competitiveness, productization can enhance the amount of knowledge transferred and improves the work division (Sipilä 1999). Based on above mentioned theoretical findings, this thesis assumes that productization can enhance competitiveness of international programmes since international programme or the providing higher educational institution can be perceived as a service company.

Simultaneously, according to Kallio (2017) in 2017 the number of international applicants for higher educational programmes in Finland has decreased by 10% to 15% compared to the previous year. This decrease was caused by the introduction of tuition fees for all international students coming from countries outside of the European Union or the European Economic Area (The Ministry of Education and Culture 2015.) According to Kuronen and Mansikkamäki (2017) the decrease of applicants causes many universities serious trouble and jeopardize their internalization or even existence. This thesis suggests that this problem can be solved by implementing service productization, since in the previous part it introduces assumptions about productization and its positive effects on competitiveness.

Furthermore, Jaakola et. al (2009) introduces an approach by which productization can be implemented to service businesses in following stages: (1) evaluating customers' needs and discovering the ways of satisfying them, (2) defining the service offering, structure and content, (3) determining the level of standardization, (4) concretizing the service package to the customer by creating package description and introductory brochures, (5) defining the pricing system, (6) collecting the feedback and measuring the service success, and (7) analyzing the feedback results and adjust accordingly future development. This study acknowledges this approach and modifies it to fit higher educational institutions' purposes and their specific environment. Productization of education should be done carefully in

several subsequent stages, where each of them is similarly important. The stages are: planning, implementing, marketing and feedback collection.

The scarce existing literature seems to suggest that service productization may be connected to competitiveness of international programmes at higher educational institutions in Finland. Service productization can enhance the competitiveness of service business, and this thesis assumes that this basic assumption can be applied at university environment. Further, the legislation change establishing compulsory tuition fees for some of the international students represents a major problem for many universities. Accordingly, this problem can be solved by implementing service productization in subsequent stages, which if applied correctly, can enhance the competitiveness. To be able to explore these assumptions, a research was conducted in form of in-depth single-case qualitative study consisted of four embedded cases.

3. METHODOLOGY

Methodology is a set of techniques, methods, approaches and tools used for studying a field, activity or problem. In the following chapters the methodology of this study is presented. Accordingly, the research strategy and the method are introduced, the selection process justified, and the data collection and data analysis processes described.

3.1. Research strategy and method

According to Buckley et al. (1976), research methodology can be defined as “... *a strategy or architectural design by which the researched maps out an approach to problem-finding or problem-solving.*” In other words, research methodology is a thorough strategy by which the research techniques are decided to help to solve research problem and to reach anticipated outcomes (Crotty 1998).

Research strategy has two possible distinct approaches: qualitative and quantitative. Based on the type and qualities of the research problem, one of these two is selected (Eriksson & Kovalainen 2016). If the researcher intends to explore a new field or transform current knowledge into theory, qualitative research strategy is considered as highly convenient and so for recommended (Corbin & Strauss 2008). Based on the nature of this research and its aims, qualitative research was selected as the most appropriate research methodology.

The method by which the qualitative research was carried on is an in-depth single case study. Case studies in general are meant to examine a specific problem within its own context. Yin (2013) recognizes two types of case studies; single and multiple. Single case study analysis is particularly suitable when analyzing a phenomenon which is hard to simply measure or quantify and which is irreducibly subjective (Yin 2013). Based on these facts, a single case study is the most suitable option for this thesis. Thus, a single case study, examining one of

the higher educational institutions in Finland, although it consists of four embedded cases, each representing one of the international programmes the case organization organizes.

Embedded case studies still only concern one main unit, although the data are acquired from its subunits. For example, in organizational embedded case studies, the company itself represents the main unit while its departments are the subunits. Embedded case studies allow usage of different methods for each of its subunits. During the research, the subunits are being analyzed, however the aim is general comprehension of the examined organization in its real-life environment. (Scholz & Tietje 2002.) In case of this thesis, the main unit is the case organization – Centria University of Applied Sciences. However, the target of analysis are the subunits which represent four distinct international programmes which the university organizes.

The most common techniques of qualitative research methods are observation and interviewing, but there are many other tools, methods and approaches, which can offer desired in-depth comprehensive understanding of examined problem (Creswell 2007). To acquire the primary data, interviews were conducted by using a semi-structured protocol. Each interview took about an hour and half and was recorded to be later transferred into transcripts to ease the process of further processing.

3.2. The context: A Description of higher education in Finland

There are two different types of higher education institutions in Finland: 1) universities and 2) universities of applied sciences. The university offers theory-based classes and focuses on scientific research. It requires a high level of independency and supports individualism. If internship is performed, then it is more of a scientific nature, observing and researching a particular company, not performing day-to-day operations. On the other hand, university of applied sciences tries to combine both – theory with practical skills. It offers challenging classes focusing on practical skills which can be used in real work life. Often, courses consist

of lectures with field experts and company representatives, field visits and excursions, and sometimes even work-placements. These work-placements are more hands-on, and students are supported to participate in all daily routines. Altogether, Finland has 14 Universities and 24 Universities of Applied Sciences. (Web.centria.com 2018.)

In both, universities and universities of applied sciences, Bachelor's degree programmes and Master's degree programmes are offered. Moreover, universities are authorized to offer postgraduate licentiates and doctoral degrees. No matter of which institution the chosen programme is from, the graduation diploma has the same legal value. Although the admission criteria and programme's requirements and content vary. (Studyinfo.fi 2018.)

From the international point of view, Bachelor's degree programmes in English are mostly organized by universities of applied sciences while Master's degree programmes taught in English are usually offered by universities. There are approximately 100 Bachelor's programmes and 20 Master's programmes taught in English which are organized by universities of applied sciences and around 200 Master's programmes and 23 Doctoral programmes taught in English are provided by universities. (Studyinfo.fi 2018.)

Proven by the fact that Finland has over 400 English-speaking higher education programmes, international study environment is extremely welcoming and perspective for all foreign applicants. Studying in Finland has many advantages. The country itself is very internationally-minded and it's higher education is of a high quality and of an excellent reputation. Finnish higher education institutions are well-funded and supported by the state so they can offer high-tech laboratories, well-equipped school facilities, libraries, sport premises, etc. (Bachelorsportal.com 2018.)

3.2.1. Legislative change

Introduction of tuition fees in Finland has been a center of discussions for last two decades. In 2004, the government published a globalization report which discussed the possibility of tuition fees implementation in Finland. On minister of education's command, an investigative group was formed to examine these possibilities. In 2015, the research group proposed a scheme stating that students from non-EU/EEA countries would be obliged to pay tuition fees, differing from 3,500 € to 12,000 € per academic year. Nevertheless, at that point the proposal was not unanimously approved by the parliament and due to that the fees did not come into practice. (Kivistö 2009)

As mentioned in the introductory part of this work, finally in 2015, the law concerning Finnish universities and universities of applied sciences was modified. The new legislation concerning foreign language degree programmes and tuition fees claims that since 2016 higher education organizations were able to collect fees from students originated from countries outside EU/EEA area. Then from the fall semester 2017, these institutions were obligated to do so (The Ministry of Education and Culture 2015).

As described in one of the acts, each organization can decide the amount of the tuition fee on its own, although the minimal amount per academic year is 1, 500 €. The collection rules and payment options can also be decided by the organization itself. To support the paying students, it is compulsory to have a scholarship system. (The Ministry of Education and Culture 2015.)

3.2.2. Current challenges

Due to the change described in the previous chapter, many Finnish universities are struggling. On one hand universities could benefit from this change since it might bring additional revenues. Although, it is not proven yet that tuition fees will necessarily improve the

economy or enlarge the funding base. On the other hand, the amount of non-EU/EEA applicants, which before the fall 2017 used to be the majority of applicants for most of Finnish universities, has suffered a decline. The decrease of applicants causes many universities serious trouble and jeopardize their internalization or even existence. (Kuronen & Mansikkamäki 2017.)

Before the tuition fees were made compulsory, one of the main competitive advantages and aspects of foreign students' attraction was the fact that the education was free of charge. Since after the change that fact had to change, and nowadays higher education institutions must develop differentiation points and focus on marketing them to improve competitiveness and attract applicants again.

3.3. Case Selection Process

For the explorative purposes of this research a case institution was needed. The case selection criteria were as follow:

- 1) The case institution needs to be an educational institution that offers higher education in English for international students
- 2) It is located in Finland
- 3) It has an innovative approach to education and supports internalization
- 4) It has taken extra actions or implemented a responsive strategy when the legislation change came into practice.

Based on these requirements, Centria Ammattikorkeakoulu, shortly Centria AMK, was selected as the case institution. It is a higher education institution, located in Finland, with modern dynamic approach, whose core values are safety, responsibly, transparency, entrepreneurship, internalization and innovation, and importantly has applied a unique strategy while approaching the tuition fee challenge.

Centria Ammattikorkeakoulu is a University of Applied Sciences established in 1991. It is centered in Kokkola in Talonpojankatu campus, but also operates in two other campuses in Ylivieska and Pietarsaari, all in Central Ostrobothnia region. The institution currently offers five various international programmes (see Table 3) being taught in two different campuses - Talonpojankatu in Kokkola and Allegro in Pietarsaari. Each programme has a different agenda and its own principal lecturer. Principal lecturer is the head of the programme who is responsible for managing the programme as well as the programme's teachers. He or she makes all-important decisions considering the programme's agenda, content and development, ensures effective planning, monitors smooth execution of the plan, manages programme's teachers, communicates with supervisors, and teaches.

For this particular research, four out of five principal lecturers were interviewed. The principal lecturer who is responsible for the Bachelor's programme in Environmental Chemistry and Technology did not participate in the research. This principal lecturer was contacted via e-mail multiple times but has not ever responded, probably due to lack of time, since principal lecturers are overloaded by the amount of tasks they are responsible for and that they have to execute or oversee. Since one of the programmes did not contribute to this study, some data is missing. The missing data represent a restraint, although thanks to the nature of this research, not a major obstacle.

Table 3. International Bachelor's Programmes at Centria Ammattikorkeakoulu.

Degree	Degree Programme	Principal Lecturer
Business Management, Enterprise Resource Planning (ERP)	Bachelor of Business Administration	Janne Peltoniemi
International Business	Bachelor of Business Administration	Sara Åhman
Environmental Chemistry and Technology	Bachelor of Engineering	Did not participate in the research

Information Technology	Bachelor of Engineering	Sakari Männistö
Nursing	Bachelor of Health Care	Maria Björkmark

Centria AMK is a small university and due to its size, it has to focus on its strategy, core abilities and differentiation points to be able to survive in today's competitive world. The approach to education is very pro-active, modern and dynamic using teaching techniques like simulations, problem-based learning, group projects, design thinking, and similar using hi-tech facilities and equipment. It's core values are safety, responsibly, transparency, entrepreneurship, internalization and innovation.

As an example of its matureness and high level of advancement in strategic and innovation thinking, Centria developed an extraordinary pre-intake strategy applied in 2017 to avoid any drastic consequences of the introduction of tuition fees. This pre-intake strategy was applied by only two universities in Finland; Centria University of Applied Sciences and Lahti University of Applied Sciences. As the term "*pre-intake*" suggests, the strategy was based on programmes starting uncommonly in spring instead of fall, to avoid the tuitions at the last moment. This deviation allowed the programmes to skip the first commissioned intake period and instead obtain valuable information by observing other institutions battling the legislation change. It also ensured precious time for resolving what the next strategy and innovation steps are going to be. Based on these facts, Centria was evaluated as highly suitable alternative and was selected to be the case company for this research.

3.3.1. Centria University of Applied Sciences

This qualitative study investigates one institution and analyzes four interviews. The studied institution Centria Ammattikorkeakoulu is relatively young University of Applied Sciences, established in 1991 in Kokkola, Finland. Currently it is centered in Talonpojankatu campus in Kokkkola, but also has two other campuses in neighboring towns Pietarsaari and Ylivieska.

All three towns are located in Western Finland, relatively near-by each other. Kokkola is by far the biggest, compounding over 47,000 inhabitants, being the twenty-second biggest town in Finland (Kokkola.fi 2018). It is also the capital of Central Ostrobothnia region (Kokkola.fi 2018). The campus in this city lies on Talonpojankatu and accommodates most of the students. Pietarsaari and Ylivieska are much smaller. Pietarsaari, as well as Kokkola, is a seaside town. It is significantly bilingual, consisting of around 20,000 citizens (Britannica 2018). The campus is there is called Allegro. And finally, the only inner-land town Ylivieska, which belongs to Northern Ostrobothnia, has over 15,000 inhabitants. Local campus currently does not offer any international options for foreign students (Ylivieska.fi 2018).

Centria University of Applied Sciences is owned by a limited liability company called Centria University of Applied Sciences Ltd. The main stakeholder City of Kokkola owns 27% share. Furthermore, the stakeholders are the City of Ylivieska, the Central Ostrobothnian Entrepreneurs Association, the Education Federation of the Jokilaakso Region, the Ostrobothnian Chamber of Commerce, the Federation of Education in Central Ostrobothnia, the Central Ostrobothnia Conservatory Association and the Raudaskylä Christian College Association. The CEO of this limited liability company is the current rector of the university Kari Ristimäki. (Web.centria.com 2018.)

The university overall consists of around 2900 students. The institution organizes Bachelor's Programmes both in Finnish and English, and one Master's Degree Programme (Master of Business Administration, MBA). Although, for the purposes of this thesis, only the bachelor's degrees are going to be further discussed. In Kokkola itself, students can study in English four different programmes and are able to gain bachelor's degrees in three different fields; Business Administration, Engineering and Health Care. In Pietarsaari in the Allegro campus, international students can study International Business Programme to become Bachelor of Business Administration. As previously mentioned, these days Ylivieska does not facilitate any international programmes.

From the international perspective, before the legislative change in 2015, resp. 2017, the school was performing very well. Yearly, it had over 200 newcomers representing various countries from all around the world. The high-standard, modern, interactive and free-of-charge higher education was a good seller.

Centria promotes to be modern, dynamic and multidisciplinary schools which core values are safety, responsibly, transparency, entrepreneurship, internalization and innovation (Web.centria.com 2018). Especially last two of these aspects are very interesting and important for this study. Centria AMK is a very business-oriented school which concentrates on being multicultural and international. Nowadays business environment demands connections with outside world and Centria tries to work on it for itself as well as for its students. It focuses on internalization at campuses, promotes international programmes, supports mobility programmes, and builds wide networks based on strong relationships with partner universities, institutions and companies all around the world. The partner foreign institutions share similar goals and/or approaches and bring benefits to Centria's students in form of study exchanges, international projects or study-related work placements and internships. Also, to enhance the internalization, Centria is trying to offer more and more English-taught degree programmes. In 2010 it offered three programmes in English while now it organizes five (Web.centria.com 2018).

According to data gained during the interviews, most of the students before the change were from Africa and Asia, and in a lesser extent from Europe, which of most, from the countries of the European Union. Barely none, or sporadically some, from other continents. Introducing the fees caused major problems for the case organization, since most of its international students were about to start paying for the receiving education. Since it is a serious but very recent change, the university is still trying to find ways of dealing and overcoming the obstacle. Though, some issues are obvious already; the number of international applicants has decreased, and international base is starting to change.

3.4. Data collection

Interviews are one of the most common ways of conducting qualitative research and can be described as a discussion with a purpose between two people (Saunders et al. 2012). Interviews with a scientific purpose and research interviews very rarely lack structure; most of them are either semi-structured, highly structured or in-depth interviews (Bryman & Burgess 1996). For the purposes of this thesis, semi-structured interviews were applied; since highly structured and in-depth interviews are usually used when conducting a long-term study where respondents are left to express their own ways, with very little or no interference from the interviewer (Corbin & Morse 2003).

For a semi-structured interview, questions are prepared beforehand. During the actual interview, the interviewer leads the discussion and asks prepared questions. Although, the questionnaire does not limit the conversation and interviewer can ask additional questions which are related and relevant to the research topic and can support or enhance the result of the discussion. These interviews are usually informal. The interviewer is advised to pay attention that all planned questions were answered, and the aim of the interview fulfilled. (Eriksson & Kovalainen 2008.)

To obtain the data needed, four programme principals were interviewed. Aim was to interview head of each international programme Centria organizes, which would mean five, however one of the principals refused to participate as mentioned and explained earlier. Interviews were carried out in September 2018 in Kokkola and Pietarsaari at Centria's premises. Each interview took slightly over an hour. Three interviews were recorded and later on converted into transcripts. One of the interviewees refused to be recorded and this requirement had to be respected. The reason why one of the interviewees refused to be recorded is because he or she feels restrained and nervous when being recorded and it prevents him or her from being able to fully express ideas, thoughts and opinions. However, the important and most essential information were noted down during this interview and used, later on, in the analysis with other transcripts.

The interviewees agreed to have their names published in the introduction (see Table 3.), although they did not wish to be mentioned any further with connections to specific information or statements given. For that reason, the names, in the findings interpreting section, are going to remain confidential and data is not going to talk specifically about each of the programmes. Due to this fact, the results might slightly seem to generalize, however the connections between service productization and education are illustrated well, and their effects remained uninfluenced.

3.5. Data analysis

When conducting a research, there are multiple ways and techniques of analyzing the data. For qualitative research case studies, the typical options are: discourse analysis, narrative analysis, conversation analysis and content analysis (Eriksson & Kovalainen 2016). For this work, the selected approach for analyzing the data was through the content analysis, where the researcher examines the data by coding the transcript materials searching for similarities, patterns and frequencies (Eriksson & Kovalainen 2016). Based on the literal transcription of the interview-recordings, the content of the interviews was systematically coded and divided into first level concepts. Emerged concepts were further analyzed and grouped into second level themes. When concepts and themes were defined, it was possible to start searching for possibilities of refining second level themes into second level aggregate dimensions.

As Gioia et al. (2012) state, after achieving the distinction of first level concepts, second level themes and aggregate dimensions, the research approach has its stepping stone – a data structure. The data structure is a valuable visual framework for portraying and explaining the audience the way of transforming the raw initial data into terms and themes and illustrating the rigor of the research (Tracy 2010). Obtained terms, themes and aggregate dimensions were further analyzed in couple of rounds, comparing and combining with relevant literature,

searching for theoretical precedents and possibly for new concepts. To ensure transparency, the data structure of this work is attached below.

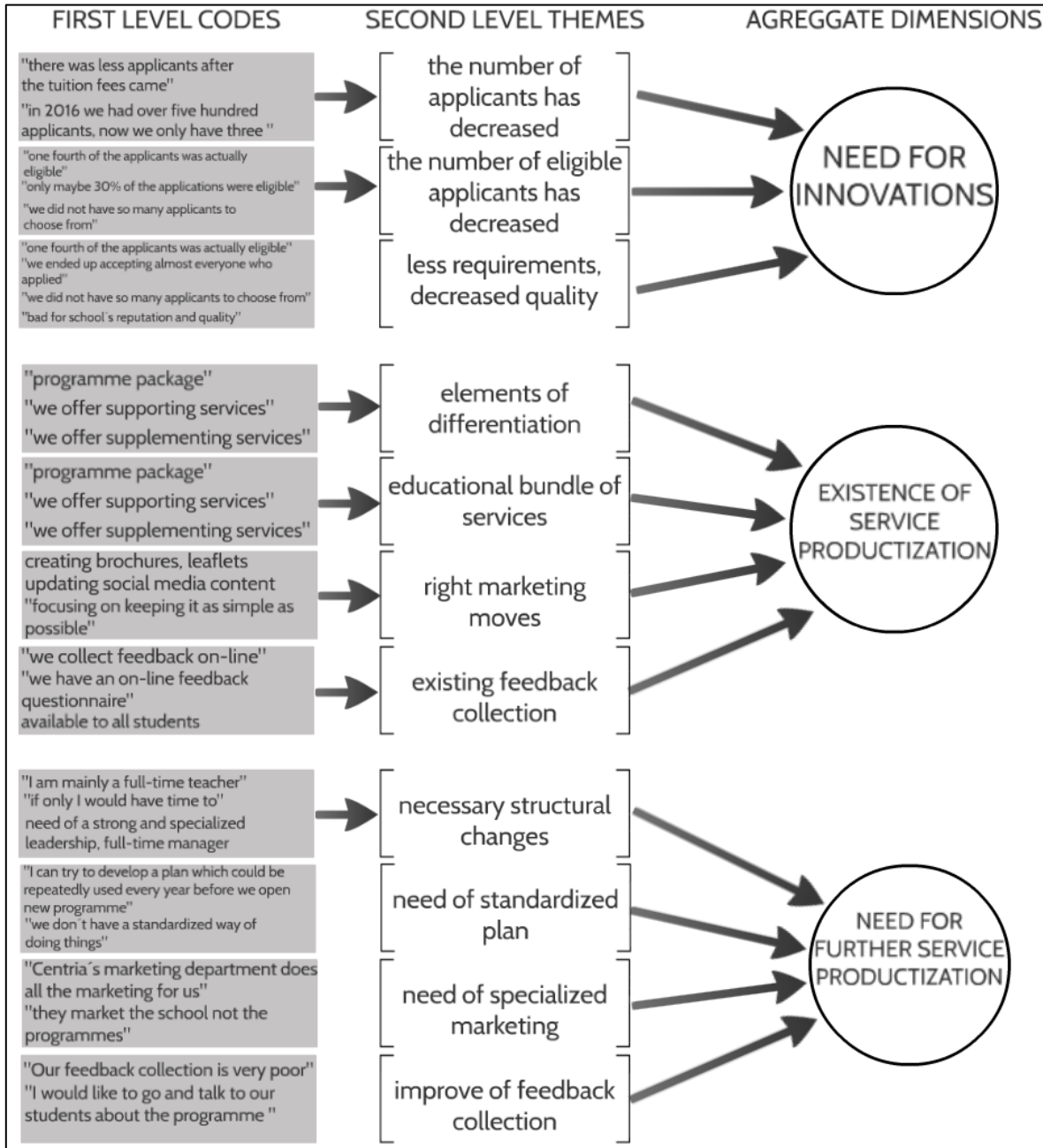


Figure 2. Data structure inspired by a model by Corley and Gioia (2012).

4. FINDINGS

This section presents the results of this research. The results are divided into sub-sections based on the topical blocks that were discussed during the interviews. Accordingly, the main topics are – the impact of the change in the legislation, the implemented innovations, the use of productization, and the current development plans and further innovation ideas.

4.1. Impact of the legislation change

The first set of questions focuses on the situation before, during, and after the tuition fees were introduced in 2017. To overcome severe consequences of the introduction of the tuition fees, each programme developed a unique strategy.

Two of the programmes organized the so-called “*pre-intake*”, where an ordinary programme started uncommonly in spring instead of fall, to avoid at the last moment the tuitions. Thus, the programmes started gradually in fall 2015, fall 2016, spring 2017, fall 2018. This innovative strategy allowed these programmes to skip the first commissioned intake period and instead obtain valuable information by observing other institutions dealing with it. Moreover, the pre-intake brought valuable time which was used for resolving what the next strategy and innovations are going to be. One of the interviewees concluded the pre-intake strategy as follows:

“...by this move, we wanted to obtain a competitive advantage and purchase time.”
(Interviewee A)

Third programme decided to skip the intake in the year 2017 completely, but instead accepted more students and created bigger cohorts in 2015 and 2016. During the skipped year 2017, the programme management took the time to rethink the strategy and plan the next moves.

Due to its small size, the last programme decided to skip even the year of 2018 and fully focus on developing the programme which will start in the fall of 2019.

It appeared that being given the time and space to talk about the change and how was the programme preparing for it and what occurred afterwards, brought very many extra important facts. For example, interviewees independently mentioned that they tried to use their differentiation points, adjusted their strategies and implemented important innovations, without even reaching the question Q3 that specifically focuses on differentiation.

“When the change was approaching, we understood that we would have to offer something unique to differentiate from others. So, we hired a person which is a specialist from this field and possesses a lot of valuable contacts, and we created a unique programme where we are trying to connect education with work life, create kind of a tube.” (Interviewee A)

“Our strategy was to accept more students in 2015 and 2016 so we could skip first two years with tuition fees. Instead of opening programmes in 2017 and 2018 we keep on observing other institutions and work on developing our own programme so it will be competitive enough for the fall of 2019.” (Interviewee B)

“Around the change, we tried to innovate our teaching methods. We think that we offer some special teaching techniques which can differentiate us from other universities. For example, our work placements are done during the year while students also go to school. And there are completely in Finnish.” (Interviewee C)

“We believe that we can still offer something special, what other universities cannot. Our school lies in a small town in beautiful and calm environment by the sea and still students can come here from all over the world and study bachelor’s degree in English. I think that our differentiation points are location and small size and before the change we did some innovations like adjusted the size of teaching groups and focus more on languages. And that is we hope will attract students in the future.” (Interviewee D)

What the previous experience assumes is that legislation change strongly influences the number of applicants and changes the application base. It was assumed that the number of applicants from non-EU/EEA areas is going to decrease as it happened in Denmark as well as in Sweden (Kuronen & Mansikkamäki 2017). Based on the research conducted by Kuronen and Mansikkamäki (2017) and after the results from the trial which was kept in

Finland between 2010 and 2014, the supposition was proven correct. According to Kallio (2017), the number of international applicants in 2017 is 10-15% lower than in 2016.

During the interviews, respondents were asked, how many applicants they had during the recent years before the tuitions were made compulsory (i.e. 2015 and 2016), compared to how many applicants they had afterwards. All principals confirmed that after the tuition fees came into practice the numbers declined and compared to the percentage from Kallio (2017) Centria recorded decline as high as 15% for the programme no.1, 28% for the programme no.2 and 20% for the programme no.3. There are no numbers for the programme no. 4 since it did not accept any students. Following chart pictures approximate numbers of applicants before and after the tuition fees were introduced, based on the data obtained via the interviews.

Table 3. Approximate number of applicants before and after the legislation change.

	2015 - without the tuition fees	2016 – without the tuition fees	2017	2018
Programme No.1	No data	700 applicants	Pre-intake; there is no information concerning the number of applicants, although the programme containing around 30 students was filled with no problems	600 applicants
Programme No.2	610 applicants	530 applicants	Did not organize a programme at 2017	330 applicants (209 first round, 121 second round)
Programme No.3	480 applicants	500 applicants	Pre-intake; there is no information concerning the number of applicants, although the programme containing around 30 students was filled with no problems	400 applicants

Programme No.4	No data	120 applicants	Did not organize a programme at 2017	Did not organize a programme at 2018
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As shown in Table 3, a decline was recorded. There were still enough applicants to fill all the programmes which consists of 10 to 23 students per class, although there were no entrance exams and the requirements of the university on the applicants were as mild as ever. Interviewees admitted that this fact represents a threat for the future, which requires attention and solutions.

“The general decline in the number of applicants is not as severe as I personally expected, although maybe only one fourth of the applicants was actually eligible to become one of our students and we do not even have an entrance exam anymore. So, in the end, we ended up accepting almost everyone who applied. It is easier than ever to get in which is bad for school’s reputation and quality. I hope it is going to change.” (Interviewee B)

Another connected major problem emerged. Out of the number of applicants, only a fraction is actually eligible to become students. Specific requirements differ from programme to programme and are mentioned to students while applying, but the general ones are following: applicants need to submit valid personal identification documents, provide a certificate that they have successfully completed a secondary education, they need to prove a sufficient level of English, and they need to be able to obtain a residence permit in Finland (Web.centria.com 2018).

“I don’t have an exact number, but I can say that only maybe 30% of the applications were eligible. So, in the end we did not have so many applicants to choose from.” (Interviewee D)

The fact that the university is forced to accept majority of the eligible applicants without any further accepting requirements lowers the level of accepted groups as well as the quality of

the school itself. This has always been as an issue, although after cancelling the entrance examinations the percentage has increased.

“When we used to have the entrance exams, from all the applicants, let’s say, 70% was eligible to take the actual exam and potentially becoming a student. After the tuition fees came and after we canceled the entrance tests, only maybe 40% is eligible to get in.” (Interviewee A)

The principals would like to improve the overall number of applicants as well as the fact that they are forced to accept students which would not be accepted couple of years ago. Most of the programmes have already taken some actions to do so.

4.2. Innovations

As interviewees indicated, there is an urgent need for major innovations since tuition fee introduction brought a noticeable decrease in the number of applicants as well as the number of eligible applicants continues to decline. They believe that innovations and strategy modifications are going to increase the numbers of applicants as well as help to restore the level and quality of the student groups.

As mentioned in the previous chapters, when the new legislation was changed, Centria AMK decided to create a unique “*pre-intake*” strategy to prevent severe damages. This specific approach was very rare and besides Centria, used only by one more university in Finland – Lahti University of Applied Sciences. This strategy aimed at using the time as wisely as possible. According to the interviewees, this unique modification was one of the biggest and most successful actions, which ensure many beneficial innovations.

“During that time, we had time to think about our strategy and we decided that we are going to change the core of our programme and we are going to use it to attract students. By offering unique programme which is different from others in Finland, we believed we could win the students on our side.” (Interviewee C)

“During that time, we decide to change our strategy a bit – we will focus now on attracting people living in Finland, who does not need to pay the tuition fees, but want to or need to study in English. And that is what we were doing in that time, we slightly changed the content (of the programme) and focused on marketing it in Finland.” (Interviewee D)

After the legislative amendment, during the time gain by the “pre-intake”, the programme in Business Management completely redesigned its whole content and structure. One of the biggest drivers was also the fact that it is the biggest and most popular programme functioning as one of the pillars for the whole international section of the university. The principal was talking about a large period of time spent on making connections with the field leading universities in Europe as well as with foreign and local companies trying to develop a unique package for its future students. He stated following goals:

“...and we were trying to create a unique tube or a tunnel connecting the school with field’s most renowned companies, so that the students would get something special and useful at the same time.” (Interviewee C)

The uniqueness and hard work have paid off and the programme is prospering. It is even gaining attention and respect from field’s leaders and was just recently given a full article in one of the discipline’s leading journals.

Another major innovation was cancelling entrance examinations in three out of four examined programmes. In general, all international programmes are without an entrance exam except of one, and Finnish programmes are also mainly without entrance exams, only two specialized programmes still have them (Web.centria.com 2018). The school believed that ordinary written entrance tests are no longer convenient and can cause the decreased number of applicants. Instead, the selection process was based on motivational letters and motivational videos which the applicants submitted alongside with their personal documents and study certificates. The data revealed that the interviewees believe the cancellation of entrance exams can be beneficial and attract more future applicants. This change is not only an ease for the applicants but also for the university itself. A lot of money and other sources

were saved by not being obliged to organize complicated entrance exam sessions all over the world. One of the respondents stated:

“... and by not having have to hold the entrance exams, we could focus more on other important innovations.” (Interviewee A)

This statement makes from the transformation of the selection process one of the most important innovations since it opens doors for many more innovations. For example, with the time saved the principals can focus more on actual programme management, innovation of the teaching methods or marking the existing offering.

The international programme, which still holds the entrance exam, is struggling by far the most. It is by nature the one that demands the most of proper theory knowledge and a lot of in-class education. Regardless, the principal is trying to find possibilities of innovation elsewhere and said the following:

“Besides of the normal lectures we are also organizing workshops, on-line courses, simulations and we do a lot of problem-based learning. We are also trying to offer other supporting services to our students like organized internships, student advisors and councilors, accommodation, and more.” (Interviewee B)

Mentioning the use of supporting services suggests an existence of some form of service productization.

4.3. Use of productization

The most questions in the interview script focused on the productization of educational services. Accordingly, the interviewees were asked by many ways whether the programmes are somehow centralized, standardized, bundled or target-marketed. Later, from the transcripts, indications of service productization were searched for. Surprisingly, many signs of existing productization emerged. However, the level of current productization of education

at Centria University of Applied Sciences cannot be measured or evaluated, since there is no standardized way of measuring and evaluating the performance of productization activities.

From the literature review, the most significant sign of service productization is the fact that productized services are just like products; packaged, easy to be recognized, selected and purchased. For any organization, product-like packages are easier to create, upscale, package and market, and at the same time easier for the potential applicants to recognize, identify, select and apply. So, the main indicator of existing productization at researched programmes, was the fact that all the interviewees, at some point, explicitly or implicitly indicated that they are trying to offer some sort of service package.

“We are trying to attract applicants by offering supporting services like student advisers and councilors, or we try to help them to find jobs and of course with the accommodation.” (Interviewee B)

“The classic teaching is not enough. We offer modern teaching techniques like problem-based learning, simulations, workshops, projects, we offer on-line courses and a lot of internship possibilities.” (Interviewee A)

“I believe that by offering more of these other services we attracted more students.” (Interviewee C)

The education itself is no longer sufficient and they are forced to come up with supporting services or supplementing activities, which are attractive for the applicants. They agreed that the most usual supporting services and activities are: the option of on-line education, the student-company cooperation and cocreation, the project work, the internships and work placements, the student advisers and councilors, the university canteen, the school nurse services, and the student accommodation service.

This service bundle offering does not need to create a competitive advantage on its own. Although if a unique aspect of the programme is combined with supplementing services and introduced to the market by using appropriate marketing techniques, it can really attract the attention of potential applicants. Service productization research suggests that after a more

product-like bundle of services is created, it needs to be presented as comprehensibly as possible to the market. The target segment of the market needs to be able to see the uniqueness easily and quickly understand what is included in the service offering, how long it is going to take, and how much it is going to cost. The important fact is that Centria's education bundles are marketed from this perspective in the right way. Citing one of the principals:

"...and this information, I mean what is included in the programme package, we put on our website and also to our programme brochure. We focus on keeping it as simple as possible, stating what we offer, how long it takes and how high is the tuition fee. It is a major part of our marketing." (Interviewee D)

However, when the same person was further asked, who is in charge of the marketing campaign, and if it is a well-targeted strategy using somehow standardized processes, some alarming facts emerged. The individuals responsible for the marketing of each of the programmes are from university's central marketing department. Those marketers are in charge of maintaining the school's website, updating the social media content and creating all university's marketing materials like brochures or simple fliers. Another interviewee added to this:

"...the marketing strategy is not specialized enough; they market all the programmes the same way to the same people." (Interviewee C)

Meaning that the central marketing department mainly propagates the school and its programmes in general. However, each of the programmes has different target groups and different needs in sense of marketing strategy.

Marketing activities are essential for attracting applicants and selling the programme. All research participants believe that marketing makes sure that the value proposition reaches the targeted group and is understood by potential customers. They also confirmed that the proposal of having a specialized marketing unit or individual, who would focus solely on a single programme marketing, would be more than beneficial.

“I can see a problem in using Centria’s common marketing department for marketing our programme. I believe that if we would have our own Facebook page and group, Instagram profile, and create our own content from our classes only and from updates from our field, the campaign and the social media presence would be more successful and efficient. It makes sense, I am going to talk about this with my supervisor.” (Interviewee A)

By having a specialist who could fully focus only on programme’s specific marketing needs in all steps of the marketing process, would certainly bring better results than centralized marketing provided by the university now. The interviewees came up with ideas for marketing specialization and improvement. For example, running programme’s own social media pages (like Facebook page, Instagram, Snapchat, Twitter), presenting at specialized field-related trade fares and show fares, and creating its own promotional materials is believed to be favorable. Yet, all four principals said that even though this marketing innovation would certainly bring positive improvements, there are no sources for employing an extra marketer for each of the programmes. As one of the interviewees stated:

“Our university doesn’t have resources to hire specialized marketers for each programme. I as the head of the programme have to function as the programme manager, supervisor, developer, part-time marketer and a teacher.” (Interviewee A)

Even though, university often doesn’t have resources to focus on experimental innovations, the interviewees believe that further service productization would be beneficial. When asked, whether the interviewees think that offering services bundles and marketing them as product-like packages improved the competitiveness and attracted more applicants, the answers were positive. Which somehow confirms the starting assumption of this thesis which suggests that service productization is connected to programme competitiveness. From the following statements, it is obvious that this assumption seems to be correct.

“We are nowadays offering the whole experience, we are not only a school where people go to listen to lectures and take exams to get their degrees. We are an institution which mediates accommodation, holiday trips, student parties, and similar. The school itself provides other similar services like medical care, school

canteen, study counselors etc. Programme content has changed as well, we are more connected to companies and we try to introduce and integrate our students to working life while they are still here. And the teaching techniques and teaching facilities improved and, let's say, modernized too. And I strongly believe that this transformation into more business like offering of a comprehensive service package is the reason behind it.” (Interviewee C)

4.4. Plans and further innovation ideas

Interviewees evaluated the idea of further implementation of service productization as possibly beneficial. Although, they agreed that the concept of productization is better suitable for profit-driven organizations. For non-profit educational institutions, which aim at filling a programme once in a year, and, when the goal is achieved, there is no further strive or need of better results, the productization complexity might be too excessive. Nevertheless, some weak points which were discovered could be productized in the future. For instance, the organizational structure or feedback collection methods and techniques.

As one of the interviewees stated:

“I am mainly a full-time teacher. On a side I have to manage the programme and organize programme's teachers. I have very little time to focus on extra innovation activities like specialized marketing.” (Interviewee B)

This statement implicates structural problems which are preventing the programme from better prospering. From a business point of view, each programme can be seen as a business. No business can exist without a full-time manager who has resources, like time and energy, to oversee and govern it (Kotler 1997). Based on the data acquired, it would be beneficial if the principals could mainly focus on programme management. If given more time, the interviewees believe, they could concentrate on future development, creating standardized frameworks for other employees, overseeing the marketing campaign and create and sustain better relationships with the students which could ease the feedback collection and ensure improved references.

In terms of feedback collection, the research has proved that it influences the success of the programme. From the data acquired from the students, programme principals can focus on improving weak spots and developing services which students like, appreciate or need. The interviewees stated that by collecting feedback they can adjust upcoming programmes and shape future development to better suit the students' needs and wishes.

“Our feedback collection is very poor, although we try to learn from the results as much as we can. If students complain or ask for improvements, we always consider them and many times, these complaints or ideas which came from our students, shape our future plans.” (Interviewee D)

“We believe that if we collect feedback and act on it, students can be more satisfied in the future which means better references and this word-of-mouth free marketing.” (Interviewee A)

By embracing the feedback collection results and innovating based on them, students' well-being and satisfaction increases which brings positive references. Satisfied students spread their recommendations and references which has many positive effects and can possibly attract new applicants.

Even though the interviewees stated that feedback collection is necessary and helps in improving programmes' quality, they suggested that poor collection feedback is another spot for possible future innovation. Interviewees stated that there is an existing feedback collection method, which sadly brings very little value and usable data. The feedback collection is conducted by the organization itself in form of voluntary feedback questionnaire available on-line on the school's student system. The questionnaire is available to all students, although the return rate is only about 10%. The results also often bring only partial fragments of information or complaints which cannot be understood without context. That is why this technique was by all four principals evaluated as dysfunctional. One of the interviews suggested:

“I would like to go and talk to our students about the programme and their feelings, complaints and ideas... if only I would have time to conduct every now and then a small research via in-depth interviews with couple of volunteers. That would move us and the programme forward.” (Interviewee B)

This extract confirms the necessity of structural changes as well as improvements concerning the feedback collection.

Finally, interviewees independently agreed that if given the necessary resources, further service productization could improve the numbers of applicants and enhance the level of its competitiveness. One of the principals ended his thoughts by saying that

“...if we are smart and execute these moves well, I believe we can even exceed the numbers we used to have before the change.” (Interviewee A)

The changes do not need to be suddenly enormous. It is important to start with a switch of a mindset. More of a business-oriented point of view and approaches are needed in nowadays competitive world with a lot of obstacles in every-day life.

4.5. Discussion

Based on the data collected through semi-structured interviews with four programme principals, in combination with the literature review, this section of the thesis proposes a unique approach of implementing further service productization into education. This thesis believes that productization of education should be done carefully in several subsequent stages, where each of them is similarly important. This approach was discussed with the interviewees in question Q11, when they were asked if they believe if further implementation of standardized planning stage, implementing stage, marketing and feedback collection would benefit the programme and could possibly attract more applicants. The answers were positive, and interviewees confirmed that by inventing a thorough plan for further service

productization could improve the competitiveness of the programmes. Mainly by creating a complex plan, which would consist of standardized and easily-repeatable frameworks, plans, guidelines, etc. which all employees would understand, respect, and follow, and secondly by hiring a specialized marketing unit which would fully focus on marketing the programme mainly to the targeted segment of the market. The marketing should also develop a standardized framework, plans and techniques which could be repeatedly used every time needed, would save time as well as other resources. These changes would create a better, more understandable, product-like bundle of services, which would be introduced in a better way to the market, which would attract more attention and increase the number of applicants.

First step is creating a detailed planning stage, where in the end, the organization defines its goals, mission and aims, estimate the creation costs and produces a detailed schedule. In this stage, it is important to recognize and formulate the core services which will differentiate the organization and its services from others. Also, cost calculations and detailed task schedule are necessary, and they should be implemented and accepted by all individuals involved in the processes. The result of the planning stage should be a clear vision of the service product and the way by which it is going to be produced. Moreover, standardized frameworks, process manuals and guidelines should be created, so that the process could be easily repeated in the future. Standardization saves many resources like for example time and money, as well as it improves efficiency. In Centria's case, the result of the planning stage should be a clear plan for formulating and developing an international programme. The core is to develop a repeatable process consisting of guidelines or frameworks which could be easily used by all employees involved. This would save time and other sources in the future, which is one of the aims of service productization.

In the second implementation stage, individuals follow the plan and work on creating the service package. International programme is developed, education should be standardized according to the plan and have a clear structure. Great emphasis should be on on-line study options since they are easy to launch, scale, and repeat. In addition, on-line study options are

a possible way of attracting more students, since it can be seen as a unique point of offering which is not widely offered by all universities.

However, when productizing a professional service like educational services, the product needs to be adjustable and modifiable based on the student's needs and desires. At the end of the developing stage, service package should be easily readable; the customer should be directly able to see what the service includes, how long it takes to take it or use it and how much it is going to cost. Most importantly, the service package needs to show what the core customer value is and where it lies. For a university and its programmes, it is recommended to create programme brochures which will include all above mentioned information.

Marketing stage is a crucial part of the whole selling process since it ensures that the value proposition reaches the market and is understood by the customers. Service productization believes that marketing needs to make the abstract nature of the service more tangible by detailly specifying what is being offered at which price. In this case, marketing-thinking should always have the customer or preferably the target customer base on the mind. When marketing productized education, it is essential to be able to offer standardized bundle of services but still show some sort of flexibility and be ready to offer variations so that the customer can always get exactly what he or she needs.

As in the practice, higher educational institutions usually have a marketing department which creates and leads marketing activities for the whole organization, some level of specialized marketing and target group focus is missing. The service productization plan suggests a specialized marketing unit or individual who would focus solely on a single programme marketing. The data acquired from the interviews showed that hiring a person who could only focus on marketing and promoting one specific programme, would improve the numbers of applicants. For the organization, the marketing department focuses all sorts of students who could possibly apply for one of the programmes. By thoroughly specifying the focus group and targeting it by all means in all steps of the marketing process, is believed to bring better results than centralized marketing provided by the organization. For example,

programme's own social media pages, presenting at specialized field-related educational trade fairs, networking activities and own promotional materials like brochures, fliers or videos, are recommended. Special attention should be given to development of social media presence.

Finally, an important part of successful service productization is the feedback and reference collection. Positive references are heavily dependent on customer relationships, so for university should focus on developing and sustaining good relationships with its students. Satisfied customers spread their recommendations and references which has many positive effects. Similarly, by collecting feedback organization can improve future development and adjust upcoming programmes. Based on the research results, Centria AMK collects feedback, although not in a very effective way. By improving the collection process and focusing on using the data to improve or innovate the programmes is believed to be beneficial.

As the Figure 2 below illustrates, this study suggests a connection between service productization and success of international programmes exists. It also assumes, that the performance of international programmes after implementing extensive service productization as previously described, could in the future exceed the results from the years before the legislative change came into practice (2016 and earlier). Based on the four conducted interviews, these assumptions were proven correct and a unique approach of implementing further service productization into education was developed. This approach productizes process which are part of the programme creation.

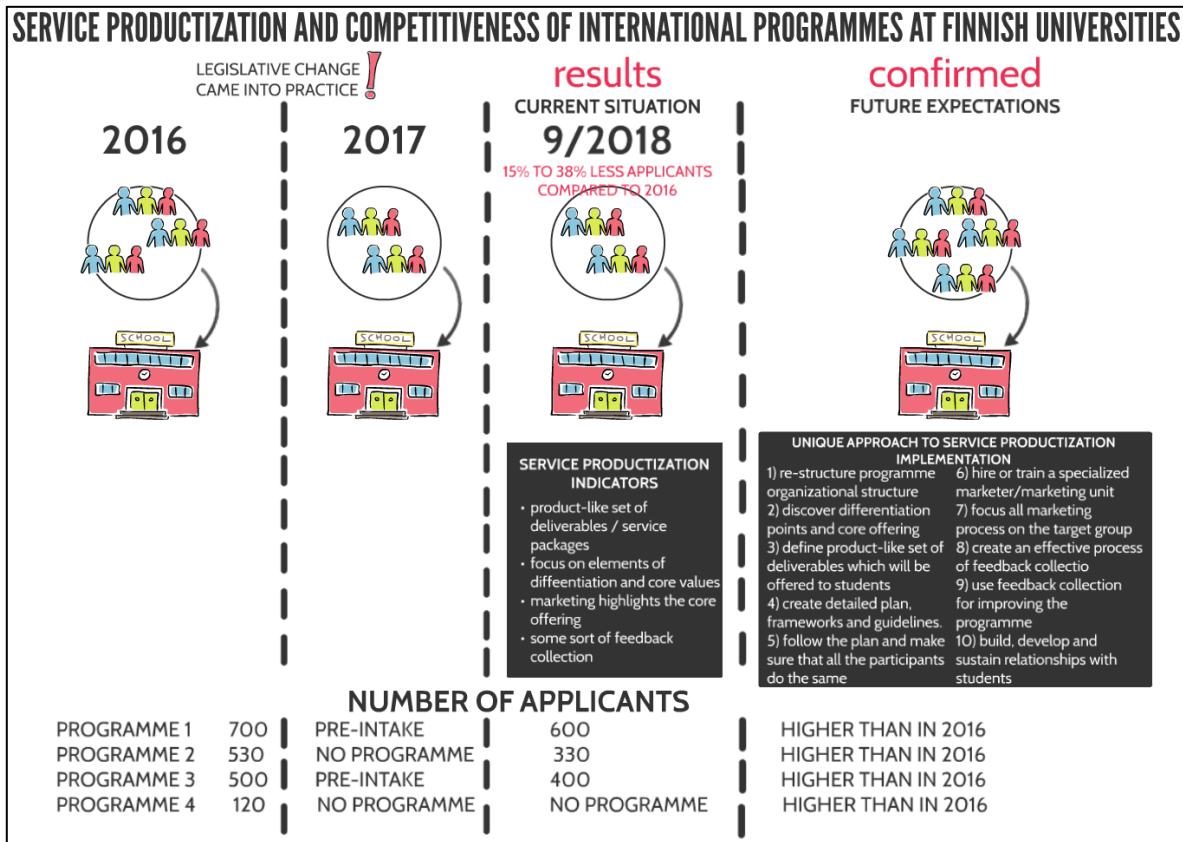


Figure 3. Research results; The interconnection between service productization and competitiveness of international programmes at Finnish universities.

The figure above portrays the year 2016 and the situation before the legislation change came into practice. Secondly, it shows what the tuition fees caused, specifically a decrease in number of applicants as high as 15% for the programme no.1, 38% for the programme no.2 and 20% for the programme no.3. The current situation scheme represents the results of Centria's current situation and current process which are considered to be an indicators of existing service productization. And finally, the last part of the figure represents the future and assumptions which believe that by implementing the approach developed would improve the number of applicants as well as the competitiveness of the programme. Based on all research results, these assumptions seem to be correct and interviewees confirmed they believe that programme performance can improve by applying centrally organized and guided service productization and overall standardization, by following a distinct approach

consisted of centrally-driven planning stage, implementation stage, specialized marketing and improved feedback collection.

5. CONCLUSIONS

The last chapter summarizes the research outcomes, answers to the research questions, presents the key findings and offers theoretical and managerial recommendations. In the end, limitations of this study are drawn and suggestions for future research are proposed.

5.1. Key findings

While browsing topics of interest, which are productization and service businesses, an interesting unexplored research topic has emerged; productization of education. Only one previous study focuses on productization within a university environment by analyzing how productization of services can be used to enhance university-industry co-operation (Aapaoja et al. 2012). Hence, the field offered plenty of space for a unique research.

This work focuses on analyzing the current situation of international programmes at Finnish higher educational institutions and explores possible ways of how could productization of services improve the competitiveness of these programmes. To be able to obtain necessary data a single-case study was conducted via examining Centria University of Applied Sciences from Finnish municipality town Kokkola. Four principals of four distinct international programmes, which are taught in English at Centria were questioned using a semi-structured interview script.

One of the research questions focused on capturing the current situation, trying to discover how is service productization currently used and what it brings to the examined institution. As the existing research predicted, the legislation change influenced the number of foreign applicants, the numbers declined was from 15% to 38% compared to the number of applicants before the tuition fees came into practice. There were still enough applicants to fill all the programmes, although the selection requirements and criteria were as mild as ever, which

lowers the level of accepted groups as well as the quality of the school itself. There has also been a problem with students' eligibility since out of the overall number of applicants; only a fraction was actually eligible to become students.

Considering service productization, the main productization indicator was the service package bundled as a comprehensive offering. The service package is the most crucial part in the end of the developing process, which presents the programme to the market. If a unique aspect of a programme is combined with supplementing services and introduced to the market by using appropriate marketing techniques, it can really attract the attention of potential applicants and that way improve the programme's competitiveness. The presentation of the programme offering on the market needs to portray the uniqueness as well as state clearly how long it is going to take, and how much it is going to cost. In Centria's case a good example is the programme in Business Management, which differentiates by offering a special tube connecting education with work life specializing in SAP systems. By highlighting this fact and bundling it with supplementing services like organized internships, student advisors, accommodation, etc. and by offering modern teaching techniques like workshops, on-line courses, simulations, or problem-based learning, the programme became renowned in its field and is the most successful out of all Centria's international programmes with the highest number of applicants.

Even though the programmes are performing well at the moment, the interviewees are worried of the uncertain future. They mentioned the threats of further and further decrease of the number of applicants as well as the uncertain future concerning the state support and funding. For those reasons, the principals were more than open to new innovative ideas and further suggestions for productization.

The second research question tried to reveal how the examined institution can improve its competitiveness through further use of productization of its services. Gaps for innovations were significant in following fields: programme's organizational structure, planning stage, implementation stage, marketing processes and collection feedback. Also, Structural changes

in the programme structure and workload division should be adjusted. Programme principal should focus more on managing, developing and sustaining the programme, while teaching should be delegated to teachers. Considering the rest of the issues, this thesis proposed a plan, which helps to implement further service productization. Mainly by creating a complex plan, which would consist of standardized and easily-repeatable frameworks, plans, guidelines, etc. which all employees would understand, respect, and follow, and secondly by hiring a specialized marketing unit which would fully focus on marketing the programme mainly to the targeted segment of the market. The marketing should also develop a standardized framework, plans and techniques which could be repeatedly used every time needed, would save time as well as other resources. These changes would create a better, more understandable, product-like bundle of services, which would be introduced in a better way to the market, which would attract more attention and increase the number of applicants. Moreover, an important part of a successful service productization is the feedback and reference collection. Positive references are heavily dependent on customer relationships, so university should focus on developing and sustaining good relationships with its students. Satisfied customers spread their recommendations and references which have many positive effects on organization's reputation as well as it can increase the number of applicants. Similarly, by collecting feedback organization can improve future development and adjust upcoming programmes. The interviewees confirmed that by inventing a thorough plan for further service productization could improve the competitiveness of the programmes.

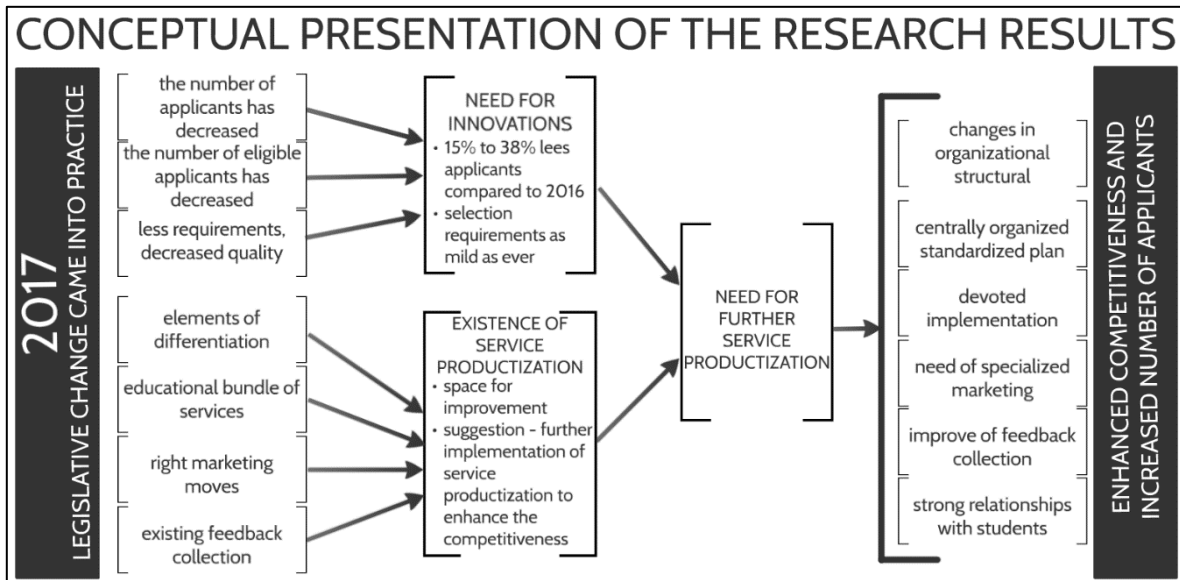


Figure 4. Conceptual presentation of the research results.

Even though the interviewees are aware of the weak points that should be innovated and realize that further productization would enhance the programme performance as well as competitiveness, there is a major issue preventing actions from happening. University often does not have resources and funding to execute all needed innovations. Also, experimental approaches to innovations where the results are not certain or have not yet been tried by other institutions, are sometimes not supported. However, the principals were quite sure they must continue with further service productization by taking smaller or bigger actions depending on university allowance.

5.2. Contributions of this study

Based on the reviewed literature on service productization, this study contributes by offering a new definition of the term service productization. The definition has its roots in articles from Harkonen et. al (2015), Parantainen (2017), Jaakola et. al (2009), Sipilä (1996), Lehtinen & Niinimäki (2005), Bask et. al (2010), Nagy (2013), and Morrison (2003). The

new definition was constructed since the field does not have a single paradigm and the definitions vary from author to author. Consequently, for the purposes of this thesis, productization can be understood as a complex process of identifying and analyzing customer's needs, defining and merging appropriate tangible and/or intangible assets, into intelligible, standardized and repeatable product-like sets of deliverables which can be commercially marketed.

Further, this thesis contributes to field by focusing on productization of education and educational services. Only one study tried to examine how can productization be used in education and this lack of a research has created an interesting research gap. Aapaoja, Kujala and Pesonen (2012) discuss the productization of services in the context of university-industry co-operation. However, none of the existing studies have ever tried to analyze how could productization of service enhance university performance and competitiveness. This study enlarges the existing base of knowledge by analyzing current use of service productization at Finnish higher education institutions as well as offers innovative productization ideas and suggests how to implement them.

Developing a unique approach for implementing service productization into education in several subsequent stages, can be considered as one of the most valuable addition to the existing knowledge on the topic. This study assumed that by applying centrally organized and guided service productization and overall standardization, by following a distinct strategy consisted of centrally-driven planning stage, implementation stage, marketing and feedback collection, could be beneficial and enhance the performance of the organization. Based on the research, these assumptions seem to be correct.

5.3. Managerial implications

All interviewees, no matter of which programme they oversee, agreed that the future situation is uncertain. The legislation change came into practice just a year ago and the fall 2018 is the

very first class where some of the students are obliged to pay tuition fees. So far, there has been enough applicants to fill in all the programmes, but the participants confirmed that it is most likely going to change and that in couple of years, new more pro-active business strategies might be essential and necessary.

Interviewees evaluated the idea of further implementation of service productization as possibly beneficial. Even though, they agreed that the concept of excessive productization is best suitable for profit-driven organizations that aim at utilizing the resources striving for resource savings and margin maximizing. Even Centria AMK is a non-profit educational institution, some aspects of service productization can be used according to the interviews. The idea of focusing on creating comprehensible service bundles, simplifying them for the eyes of potential customers and using a specialized marketer or marketing unit, were the most valued productization ideas.

Nowadays, the challenge lies in finding different points of attraction. It is time to emphasize the quality of education and forget about the fact that it used to be for free. It is time to shift into more business-like thinking, organizing and doing. By discovering or creating a unique value offering, developing in into a standardized product-like service bundle and marketing it the right way, a possibility of reaching the old numbers of applicants or even exceeding them is real.

Programme principals or managers should remember that productizing and standardizing education is not easy especially due to the extensive amount of people involved. Nevertheless, the aim is to educate the employees to be able to offer more than just quality education. Using a marketing spirit and offering supporting and supplementing services result into student satisfaction, maintain long-term relationships and eventually attract more applicants alias future students.

Based on the findings, this thesis offers some managerial recommendations especially for programme managers and leaders. Firstly, it offers an approach for implementing further

service productization into programmes. In several subsequent stages (planning, implementation, marketing, and feedback collection), principals or programme managers are advised to transform current actions into more standardized ones, which would in the future save many kinds of resources. Confirmed by the interviewees, this approach can improve programme's performance and possibly improve competitiveness. Based on statements from the Interviewee D, by developing a plan for further productization implementation, which all employees would understand and follow, definitely benefits the programme. And if a specialized marketer is hired and his or her actions are productized, using repeatable frameworks, tools and approaches, which makes the process more efficient and really allows focusing on attracting potential applicants from the targeted segment, then productization can improve the competitiveness.

Furthermore, not only managers but also all involved employees should focus on creating, developing and sustaining good relationships with the students. Satisfied students who are willing to share their opinions, ideas and complaints about the programme are very valuable. By collecting feedback, the organization can improve future development and adjust upcoming programmes to be more attractive. Moreover, happy students can spread their recommendations and references which has many positive effects, for example on the programme's reputation and possibly on the number of applicants as well.

Based on the acquired data, this thesis also recommends to re-structure the programmes' organizational structure. These days, principals are responsible for managerial tasks as well as they teach excessively by themselves. They should be given more time for actual programme management, while teacher should distribute the teaching workload. Also, a specialized marketer or marketing unit should be hired to ensure specialized marketing. All individuals above mentioned should follow created standardized plan, frameworks, guidelines and common way of actions to secure best possible results.

5.4. Limitations

“The limitations of the study are those characteristics of design or methodology that impacted or influenced the interpretation of the findings from your research. They are the constraints on generalizability, applications to practice, and/or utility of findings that are the result of the ways in which you initially chose to design the study, or the method used to establish internal and external validity or the result of unanticipated challenges that emerged during the study.” (Price & Murnan 2004)

Even though this study offers detailed insight into field relevant literature and provides truthful empirical research findings, also some several limitations can be found. Firstly, one of the parts of the literature review demanded translations of Finnish authors and their definitions into English, which brought certain level of personalization. In addition, literature review was not done systematically which might caused that some valuable definitions or authors have not been present.

The assumptions created in the theoretical part and the strategy of implementing service productization into education was examined and partly verified by the research and the participating interviewees. Since this research was a single-case study, the level of generalizability is very low. Nevertheless, the meaning of the chosen method is to focus on in-depth knowledge and theoretical generalization rather than statistical generalization.

The research itself aimed at interviewing all five principals of international degree programmes organized by Centria AMK. One of them did not react to any sort of participation proposals hence did not participate in the research. Acquired empirical data are sufficient, although the full-scale comparison is missing and would be beneficial to try to obtain in the future researches.

Considering the interview scripts, after conducting the first of the four planned interviews, some deficiencies of the questionnaire script have already appeared. For example, some of the questions like Q12 and Q13 were redundant and could have been skipped completely

since prior questions already offer the answers and bring the information. Similarly, question Q6 was not formulated clearly enough and interviewees had problems understanding it. Also, it would be more convenient, if questions Q1 and Q2 would merge and ask the interviewee more openly to describe the situation around the legislation change. It appeared that being given the time and space to talk about the change and how was the programme preparing for it and what occurred afterwards, brought very many important facts. For the future, it would be beneficial to slightly re-model the questionnaire to ease the process and ensure even better results.

On the other hand, the structure was well logically organized, and the flow of the discussion was satisfying. Needed information and data were acquired and some additional, interesting connecting questions and data emerged. Overall the questionnaire accomplished its purpose.

1.1. Suggestions for future research

Main suggestion for the future is to repeat this research again in couple of years, when there is more data about the situation after the introduction of tuition fees. As mentioned earlier, there has only been one or maximum two application periods where students of non-EU/EEA were required to pay tuition fees. The impact of this legislation has surprisingly not been as harmful as expected, although it might, and it is rather likely to going to change in the future. At the moment, Centria AMK is still performing well, but they admitted, some of the programmes organized an additional pre-intake or did not open any programmes in fall 2017, to mitigate the impact of the change and to acquire some valuable time.

The research itself is a single case study, although it would be interesting to conduct this research with multiple educational organizations to obtain data from diverse environments. Centria AMK is a very specific rather small university of applied sciences and the level of productization is quite moderate. The main cause seems to be the lack of resources. It would

be useful to see how different and larger institutions are utilizing service productization and how could they benefit from it in the future.

Finally, none of the existing studies examine, what are the performance metrics for productization activities. In other words, there is no homogenous way of measuring and assessing the level of productization. This lack of performance metrics influenced not only this study, but also generally slows down development of this field. Researches are not able to track, evaluate and measure the level of the productization processes and their success and compare the results to other case studies and previous research. The common understanding of assessment criteria is missing, but certainly needed.

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APPENDICES

Appendix1. Questionnaire

Productization of education. How can service productization enhance competitiveness of international programmes at Finnish universities? How is service productization of international programmes used now by Finnish universities?

Q1 After the change of legislation in 2015, which came into practice in 2017, have you and the programme you are in charge of, experienced any changes?

- *How many applicants?*
- *How has the number changed after the tuition fees?*

A1 ...

Q2 How did you react to these changes?

- *Are there any innovations after the legislative change aiming at attracting applicants or improving the competitiveness?*
- *In which areas?*
- *Are the changes centrally organized and guided?*

A2 ...

Q3 Does your programme only focuses on high-quality teaching or does it try to offer a bundle of services to students?

- *What kind of supporting services do you offer?*
- *Are they well-received? Do they improve relationships with students?*

A3 ...

Q4 Does your programme have crucial differentiation points? Do you use this uniqueness when marketing?

- *How did these features change after the legal change?*

A4 ...

- Q5 Is there some permanent process, process charts or usual framework when creating your programme package for annual application period?
- A5 ...
- Q6 During these processes, which of the actions and procedures are standardized?
- A6 ...
- Q7 Who is responsible for creating, developing, marketing, launching and feedback collection of the programme package?
- *Do you have a specialized department, group of people?*
- A7 ...
- Q8 Do you have a marketing plan every-time new application period approaches?
- *Has the marketing process and the marketing strategy change after the legal change?*
- A8 ...
- Q9 What are, so far, the results of the innovations you applied after the tuition fees were introduced?
- A9 ...

EXPLANATION OF THE TERM “SERVICE PRODUCTIZATION” BASED ON THE LITERATURE

- Q10 Do you believe that further centrally organized and guided service productization (centrally-driven planning stage, implementation stage, marketing, and feedback collection) and overall standardization could improve the competitiveness and bring more applicants?
- A10 ...

- Q11 Do you think that productization effects success of the programme?
A11 ...
- Q12 Do you think that productization effects competitiveness of the programme?
A12 ...
- Q13 In the future, are you planning to further integrate productization? Are you planning to transmit more services into product-like deliverables?
- *Do you personally have any innovation ideas for the future concerning the problem with the number of applicants?*
A13 ...