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TITLE:

Educational Quality in Business Schools
A comparison between HH-UiS, BI and NHH

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PREFACE

This thesis marks the end of our master's degree in Business and Administration at UiS Business School, and it is rooted in the specialization of Strategy and Management. The thesis is 30 credits and is written throughout the spring of 2018.

Working on this thesis has been a very interesting and educational process, but it has also been quite demanding. We have met some obstacles, challenges and a fair share of confusion along the way, but we are now left with a finished product that we are pleased with. Additionally, we have a new acquired competence in regard to indicators of quality in selected Business Schools. Our analysis is based on secondary data in the form of survey results, published reports and statistics in public databases.

First of all, we would really like to thank our supervisor, Terje I. Våland, for excellent advice, tips and his priceless ability to make us see things more clearly when we felt stuck. Our thesis would not be the same without you. Additionally, we want to thank Klaus Liland and Anne-Lin Brobakke for information regarding HH-UiS.

Last but not least, thank you to our family, friends and boyfriends for moral support, advice and for proof reading our master's thesis. We highly appreciate it!

We emphasize that we are in charge of the interpretations and views expressed in this thesis and we stand responsible for any misunderstandings and misinterpretations.

Stavanger, June 2018

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ABSTRACT

In recent times, educational quality in higher education has once again been brought up and discussed, and several areas for improvement have been recognized. Also, the question of whether differences between educational institutions may possibly affect this quality has been raised. The purpose of this thesis is to shed some light on these differences, and to see if characteristics and resources within the educational institution can be a part of the explanation. We do so by comparing HH-UiS, BI and NHH. Based on this, we aim to answer the following research question:

"What characterizes educational quality in Business schools?"

Through a collection of secondary data on the subject, we gained insight into educational quality as both input, process and output. In other words, we looked at quality as a 'trinity'. It can be explained by input – features of the school and students that are accepted, process – how students enrolled in the program view their education, and output – how candidates experience their benefit and situation after completing studies.

The empirical evidence consists of several sources of secondary data. The data retrieved for this thesis have, along with existing theory on the subject, created the foundation from which we will be able to answer our overall research questions and its three related, underlying questions that will help illuminate the issue.

This thesis has revealed strong indications that both the resource base and characteristics of the program within a Business School will have an effect on how students and candidates assess the quality of the institution where they are currently studying, or have graduated from. However, the magnitude of the effect varies from school to school. Generally, high values of publication points per FTE and students per FTE have a negative effect on how students and candidates assess quality. On the other hand, high admission, higher numbers of specializations and the possibility of internships have a positive effect. Additionally, this thesis reveals indications of possible gaps between students' perception and candidates' experience when it comes to work relevance and learning outcome. Also, there is an existing gap between work-integrated learning and unemployment.

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1.0 INTRODUCTION

When we started to work on this thesis in the winter of 2018, there was a lot of back and forth in regard to what we wanted to write about. Eventually, we found that we wanted to focus on what creates educational quality through the relationship between indicators of quality as input, process and output variables. By that, we mean that we want to explore how different quality indicators are connected and affected by each other. Hence, this thesis looks at how variables regarding the resources and characteristics of the educational institution can affect the perception of quality for both students and candidates. We look at their satisfaction, feeling of work relevance and learning outcome, along with the work situation for candidates that have newly graduated.

To investigate this subject and its related variables, we have chosen to compare three Business Schools, namely HH-UiS, NHH and BI. By writing this thesis, we hope to shed some light on the relationships between the mentioned variables, and see if aspects of the educational institution actually do have an effect on perceived quality and the life after studies. Additionally, it is interesting to explore whether there are visible differences between students in the program and candidates after transitioning into the life of work.

1.1 Actualization of the chosen theme

In the white paper[1] for 2016/2017 to the Norwegian Storting (parliament), the Norwegian Ministry of Education once again put educational quality on the agenda. This report acknowledges that higher education in Norway do have faults and areas of improvement. Common problems are lecturers who never change their approach regardless of the response from students, empty lecture halls and relatively low numbers when it comes to the share of students that finish their degree on time (Kunnskapsdepartementet, 2016).

The white paper emphasizes the importance of a culture for quality and the mutual responsibility to continually improve quality in higher education. Its main goal is to stress that education should be work relevant for students – an aspect that has become more important than ever due to the major changes that the Norwegian labor market is facing. We are currently witnessing a shift from oil and gas to new sectors of value creation. Hence, to secure that students graduate with

[1] Meld.St. in Norwegian. A report presenting matters to the Storting on work carried out in a particular field (Regjeringen, s.a).

the competence that the labor market now require is of increased importance. To achieve this, the Norwegian Ministry of Education emphasize the importance of linkages between universities and the industry, research and tight collaboration with the students (Kunnskapsdepartementet, 2016).

Higher education in Norway is an area of growth, and from 2006 to 2015, the number of business students increased by 36% to over 53,000 students (SSB, 2017). Many articles are calling bachelor degrees the new high school diploma and this leads to an increasing number of students getting their master's degrees in order to stand out in the business world. Hence, the competition among candidates with master's degrees has also increased. However, how much does the school from which they graduate really matter? In recent times, this issue has come up in public debate to a greater extent than before. Questions that have arisen refer to whether there are differences between institutions in regard to quality (Støren, 2016). This is really the basis of this master's thesis where we examine these differences and their possible effects. By doing so, we can investigate whether or not selected Business Schools manage to make sure that their students become attractive and productive candidates that can contribute to our ever-changing society. Additionally, we can reveal the characteristics that can help explain their educational quality.

1.2 Presentation of the problem statement

The problem statement that we have based our thesis on goes as follows:

"What characterizes educational quality in Business Schools?"

To go deeper into the issue, and illuminate the angle of the subject further, we have chosen the following underlying research questions:

1. Is there a connection between academic resource base, students' perception and graduates' experience?
2. Is there a connection between program characteristics, students' perception and graduates' experience?
3. How does students' perception and candidates' experience differ?

1.3 Conceptual model

The following model tries to illuminate our thought process and shows the different indicators of quality, along with the connections and relationships that we want to examine throughout this thesis.

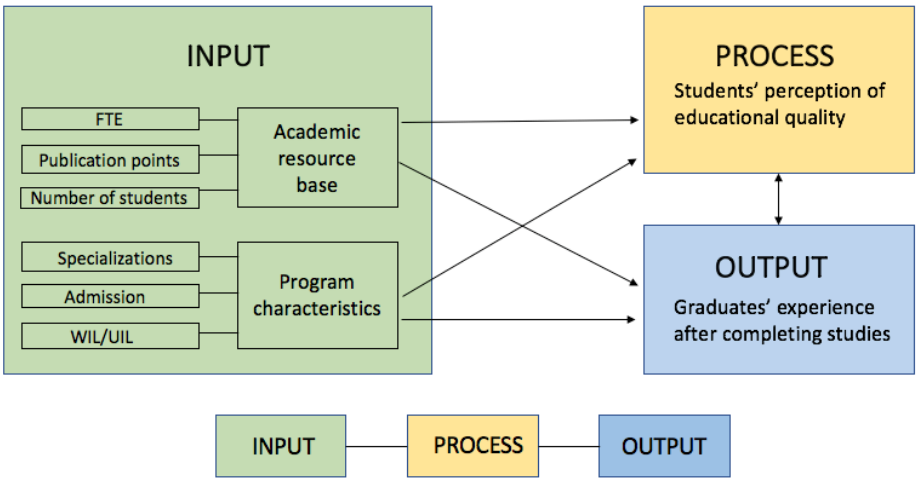

Figure 1: Conceptual model

The boxes represent the variables that we want to examine in regard to higher education. We have adopted Handal's (1990) contemplation in terms of looking at educational quality as a three-folded concept, and based on this, we came up with the conceptual model presented above. We choose to look at quality as input, process and output – variables that represent different phases of the course of education. They are all related to one another, and it is the connectedness between them that we find interesting to investigate.

First, we have the input variables. These are the independent variables, and we want to see whether they have an effect on process and output, the dependent variables in our model. Input is divided into attributes of the educational institution – the academic resource base and program characteristics. Process variables symbolize the students that are still enrolled in the educational program and their assessment of their education. Thirdly, the output variables represent those who have newly graduated and how they look back on their education and its quality. Lastly, the arrows represent the connections and relationships that we want to look at.

1.4 The structure and refinements of the thesis

This thesis has a total of 9 chapters, each with relevant subsections.

Chapter 1 presents the introductory part of the thesis where we give insight into the choice of theme, our overall research question, conceptual model and structure.

Chapter 2 is the theoretical framework, and it includes several theories that we find relevant for the subject matter. The theoretical foundation comprise quality in higher education, value chain and business model for higher education, skills gap, university-industry linkages and work-integrated learning.

Chapter 3 explains our methodical approach in regard to problem statement, choice of method, data collection and analysis, along with an assessment of the thesis' validity and reliability. We also include the challenges and limitations that we have faced.

Chapter 4 describe our empirical evidence. Here, we present the data of which we have based our thesis. This includes the results from various surveys, along with statistics and information retrieved from public databases.

Chapter 5 is the analysis where we look at possible connections between the variables that we want to investigate. This chapter deals with the connections that are symbolized by five arrows in our conceptual model. We analyze each arrow in turn, and look at indications of possible effects, similarities and differences.

Chapter 6 is our discussion. Here, we try to see whether our analysis correspond with the theoretical framework and we discuss our findings in light of this theory.

Chapter 7 comprise managerial implications. This includes suggestions for changes and possible implementations to improve educational quality in Business Schools.

Chapter 8 presents suggestions for further research. There are several other aspects of this subject that would be interesting to look into, and this chapter covers many of the elements that could (and probably should) be considered in the future.

Chapter 9 is our last chapter, and here, we present our conclusion. The chapter includes our main conclusion where we answer our overall research question along with the underlying questions.

Due to the limited timeframe and resources when writing this thesis, we needed to confine the scope and coverage in order to conduct a more thorough research on the chosen subject. Hence, we decided to narrow our focus to three Business Schools that offer master's degrees in Business and Administration, namely HH-UiS, NHH and BI. In other words, we narrow our focus to masters' students in Business and Administration only. Ideally, we would compare more Business Schools, and we would also include more variables in the comparison such as social conditions. Additionally, we could go more in depth when it comes to teaching methods and curricula. The aspects that we would have wanted to investigate more thoroughly is included in chapter 8 where we pointwise present interesting factors to examine in the future.

2.0 THEORETICAL FRAMEWORK

In the following chapter, we are going to present the theories and the previously conducted research that our thesis is based on. First, we will describe educational quality in higher education and look at varieties of the concept and facilitating factors. Next, we describe the value chain as it was originally introduced, before we go on to present how it has been applied to higher education. We want to look at how value is created in universities, and the theory below allows us to do so. Additionally, the business model of higher education is included, showing its value proposition to both students and institutions. Further, we look at the skills gap – the gap between graduates' competence base and the requirements of hiring firms. Lastly, we introduce work-integrated learning and university-industry linkages as tools to prepare graduates for the labor market, ultimately increasing employability, quality, student value and mitigating the skills gap.

2.1 Defining quality in higher education

Quality is one of the most frequently used words when talking about higher education, but there is however no clear definition of the term. Actors within higher education need to deal with different established varieties of the quality concept, and they describe different activities at different levels. According to Fossland, Ramberg & Gjerdrum (2013), a common way of defining the concept is to divide it into the following areas;

Admission quality – recruitment and the students' prerequisites for their studies along with factors related to applications, admissions and the beginning of the course of studies.
Framework quality – technical, organizational, administrative, social and welfare conditions within an educational environment.
Program quality – quality of curricula, organization and completion of teaching and educational work.
Quality of results – students' performance and learning outcome along with graduates' level of success in the labor market.

In other words, the above description of quality indicates that both skilled professors, prerequisites and admission, success in and after studies, social conditions and relevant course material contribute to a positive feeling of quality. This is dependent upon both university and students, and the interaction between them. Quality related to higher education is however hard to measure, and it really depends on who you're talking to and what role they have. The mass of

students is diverse and they are often found to be in different life situations, thus their perspective on educational quality may vary (Fossland, Ramberg & Gjerdrum, 2013). An alternative way of defining quality has been presented by Harvey & Green (1993) and entails five definitions including various dimensions not only related to academic criteria and standards, but also factors outside higher education. They see quality as something that is unique and outstanding, and something that is related to specific standards, relevance, efficiency and economy, and change and development.

There are several quantitative indicators of quality, and they each capture different dimensions of the quality term. The GPA level for admission will matter in terms of completion and learning outcome, and it will also have an effect on the general academic level in terms of advancement of teaching and the demands of student performance. Other indicators are dropout levels and credits, how teaching is conducted in the process, along with the number of graduating students and the share of graduates that get relevant work after completing their studies. Dividing quality into different areas as presented above and having a multidimensional understanding of the term, shows that educational quality can be related to both input factors, factors related to the educational process, and the educational output – all representing different phases of the course of education (Hovdhaugen, Aamodt, Reymert & Stensaker, 2016). Hovdhaugen et.al (2016) have compiled a framework that applies the definition by Harvey & Green (1993) and distribute different indicators along the five definitions of quality.

Understanding of quality	**Examples of indicators**				
Unique and outstanding	GPA level for admission	Distribution of grades	Number of FTE/student	Publications and citations	
Specific standards	GPA level for admission	Fail rate	Distribution of grades	Dropout rate	Credits
Relevance	Kandidatundersøkelsen, share that get a relevant job	Share that doesn't have a full-time job but want to	Unemployment rate per program / subject area	Experienced benefit from studies	
Efficiency and economy	Completion in normal time frame	Completion within a given number of years (beyond standard time)	Dropout rate	Credits	
Change and development	Data in time series (shows change over time)				

Table 1: How quantitative indicators can be seen as different forms of quality (Hovdhaugen et.al, 2016)

In later years, quality in higher education has been put on the agenda by the Norwegian Ministry of Education. They recognize the important role of students when it comes to societal development and maintaining our level of welfare, and thus, they stress the significance of universities offering relevant educations that motivates learning and completion. Universities and colleges are supposed to provide students with high standard education that is satisfactory in regard to established standards and quality demands, and it needs to be constantly improved in accordance with these demands. Students need to develop and exploit their learning potential, and this entails the students acquiring knowledge, skills and analytical understanding for the program that they are in. Additionally, their learning outcome should include critical thinking, analytical assessments and an understanding for contexts and phenomena (Kunnskapsdepartementet, 2016).

The education needs to be relevant in order for the student to be prepared for the life of work that awaits them. It is important that they are able to use their academic competence in the labor market, and crucial experience is established through collaboration between higher education and businesses. According to Støren (2016), quality and relevance can be achieved through this type of collaboration. Lastly, an ambition is that students are efficiently completing their education, and that the share of students that graduate in standard time increases.

There are several factors that contribute to achieving educational quality in the form of learning outcome, relevance and a high level of completion, and it is dependent upon both students, universities and lecturers. Besides students being engaged, motivated and hardworking, universities need to facilitate in terms of educational content, research, labor market collaboration and internationalization. Professors and lecturers that contribute to quality will have a positive interaction with students, are well prepared, and have both academic, didactic and educational competence. Institutions that succeed in creating a culture for quality will have employees that are more concerned with developing and improving their teaching methods, and thus, both employees and students are becoming more satisfied (Kunnskapsdepartementet, 2016).

2.2 Value chain

The value chain can be seen as a basic tool for analyzing sources of competitive advantage. It was first introduced by Porter in 1985, and has been widely used ever since. It provides us with a better understanding of both existing and potential sources of differentiation by disaggregating a firm into activities that are performed to design, produce, market, deliver and support in a cheaper or better way than their competitors. A firm's value chain reflects its history, strategic choice, and the implementation of the chosen strategy in addition to the underlying economics of the activities. It displays total value, and comprises value activities and margin. The distinct activities in the value chain can be split into two main segments, namely primary activities and support activities (Porter, 1985).

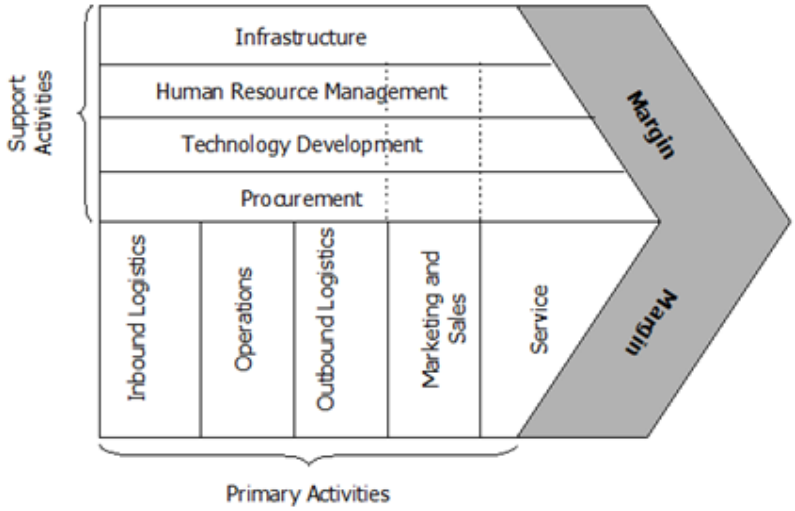

Figure 2: The generic value chain (Porter, 1985)

The primary activities are the activities related to the physical creation of the firm's offering, its sale and transfer to the customer, as well as assistance after the sale. These activities can again be divided into five categories, namely inbound logistics, operations, outbound logistics, marketing and sales, and service. Regardless of what area that the organization is in, all the five types need to be present in order to gain competitive advantage, but some of them are more important in some industry sectors. For example, outbound logistics is largely nonexistent for service firms, while operations is a crucial category. Furthermore, Porter identifies four support activities which comprises procurement, technology development, human resource management and firm infrastructure (Porter, 1985).

According to Porter, there are four dimensions of scope that can have a large impact on competitive advantage. First, there is the segment scope. The value chain depends on the segment you serve. Many of the activities done are the same, but at the same time, there is a fundamental tension between serving a narrow scope and a broad scope. Second, there is the vertical scope – the division of activities between the organization, the suppliers, channels and buyers. This is the make-or-buy decision. It can be both the physical products being replaced in addition to changing the supplier relationship. The third scope is the geographic one, which entails coordinating and sharing the value chain across geographic areas. It can increase competitive advantage by decreasing the cost or through differentiation. Lastly, Porter has identified the industry scope – the relationship between two or more value chains to be able to compete in the industry. This can be a cross between primary and secondary activities and can be within an organization or across several organizations (Porter, 1985).

2.2.1 Value chain in higher education

Both Porter and several other researchers pinpoint that the generic value chain model is made for production and in some cases, it is applied for the service sector. After Porter's theory was published over thirty years ago, many scholars have tried, and to varying degrees succeeded in making a value chain for higher education. This has been done as an attempt to seek out bottlenecks and reveal the potential for value creation. Even though higher education is funded differently and is done somewhat different across nations, Rathee & Rajain (2013) calls today's educational model the "business of education", and they refer to students as "customers".

Universities today are facing larger classrooms, brain drain as the best professors leave, less support for faculty and less secure faculty positions (UNESCO, 2009). Because institutions of higher education (HEI) need to cater to both the students, funding agencies such as the government and the ranking agencies, they are under a lot of pressure to achieve good results in all areas. Due to increased competition, HEIs need to create a competitive advantage to withhold the results needed. There has been a lot of discussion in the academic sphere in regard to whether Porter's value chain can be used in a service setting, as it is mainly meant to be applied to manufacturing firms.

Pathak & Pathak (2010) represent some of the scholars that have tried to extend the application of Porter's theory to the sector of higher education. They have identified the primary activities,

and *inbound logistics* is in this case described as student enrollment and faculty recruitment. *Operations* is significantly different from manufacturing, and is here seen as the process of making students, professors and researchers more efficient and turning them into skilled human resources. Efficiency adds value, and a more structured way of measuring this value is taking place in terms of evaluating teachers' output, both when it comes to teaching and research. *Outbound logistics* implies the best possible learning for the students, the most efficient teaching for the professors, and being publicized in the best academic journals. Altogether, these factors are important for rankings at both national and international levels, and they all reflect the value that is being added. Pathak & Pathak (2010) note that all these parts of outbound logistics are quantifiable to measure value added. Furthermore, *marketing, sales and service* – where buyers are students, government, employers, publishers and funding agencies. Faculty and alumni has traditionally been the core components of the overall brand identity, but recently there has been a steady increase in the marketing focus for universities due to the increased competitiveness for HEI. This is normally done through 'open days' to market courses and recruit students.

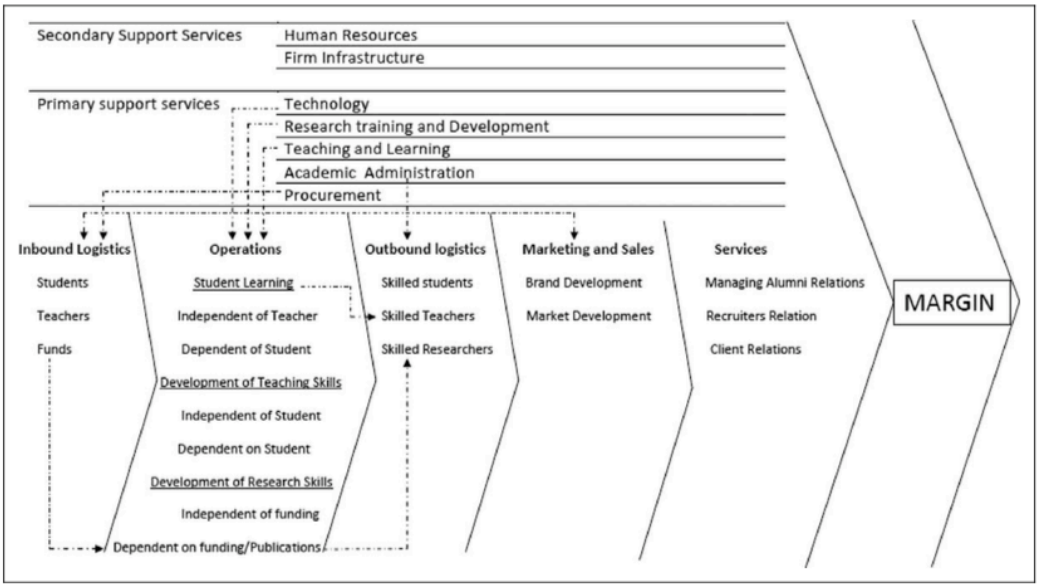

Figure 3: The reconfigured higher education value chain (Pathak & Pathak, 2010).

Further, as the model above shows, Porter's four support activities are also relevant for higher education. *Firm infrastructure* may help by creating rules and guidelines for running an HEI effectively. *Human Resources* can help recruit and develop staff. *Technology* may help with improving curriculum, ways of teaching and facilitate learning. Lastly, *procurement,* which can be argued is not as relevant in the higher education context, can here be used to attract good

staff/students in addition to deals for maintenance, building, and areas such as the cafeterias. Additionally, Pathak & Pathak (2010) have tried to reconfigure the traditional value chain and have therefore added *teaching and learning* as a response to the emerging trend, *technology* due to the fact that it creates advantages in terms of costs and enhances efficiency, as well as the formalization of *marketing and sales*. Each of the stages add value, and there are clear linkages between the activities.

According to Hutaibat (2011), higher education is an internationally competitive sector that calls for the identification and acquirement of resources that will lead to a global position of top research and education in the market. His study is an interesting contribution to the field and focuses on the perception of academic actuality and the activities of teaching and research. In other words, it takes a look at the tension between teaching and researching/publishing for professors including time spent on the care of the students and time spent for marketing publications. Critical issues that help determine the right strategy and gain competitiveness is staff, funding and time. As previously mentioned, there is an increased competitiveness in the sector, mostly due to the fact that all institutions want to hire the most promising academics. Additionally, there are tight resources when it comes to funding, and getting such grants is an important part of prestige in research. Lastly, time is a critical success factor as the staff need to manage both teaching and research as successfully as they possibly can. Taking this into account, Hutaibat (2011) has also applied Porter's theory to higher education, somewhat differently than the one previously discussed.

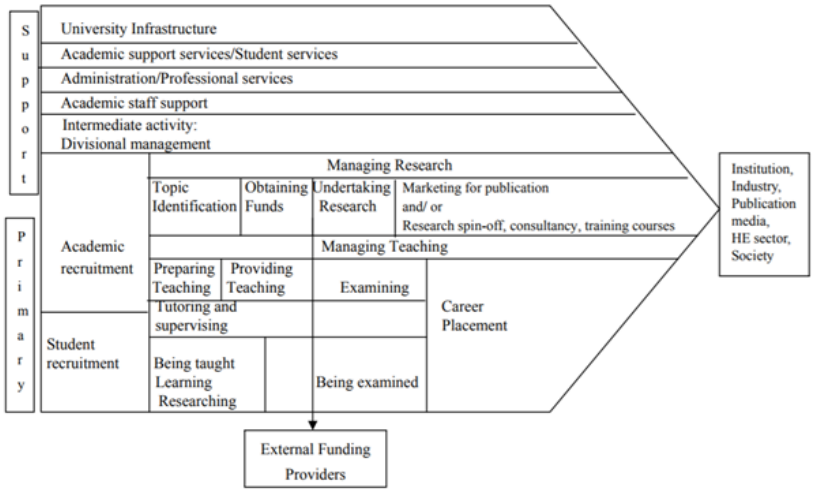

Figure 4: The value chain for higher education (Hutaibat, 2011)

Here, the support activities are divided into five components. The first one is *university infrastructure* which comprises the services performed such as management, HR, finance and advisory for the students. The next component is *academic support services/student services* – the library, information services, accommodation for the students, career services, training courses etc. *Administration* is managed by staff members outside the academic aspect of universities, and the tasks include student admissions, finance, HR and other support activities. *Academic staff support* involves support to new academics by senior academic staff in regard to research and teaching. Lastly, *divisional management* refers to the divisional leaders' decision-making, commercial marketing, tasks needed to be completed by the administration in each division and the management's involvement in the institution.

Furthermore, Hutaibat (2011) divide the primary activities into two 'channels', one for students and one for academics, and the value chain is also compiled in regard to two aspects – research and teaching. Both research and teaching are concepts that are considered to add value to society, but the core customers are the institution and the industry that will employ students, respectively. The first primary activity in this value chain is applicable for both research and teaching and is called *academic recruitment*. This activity is deemed important due to the perception of academic actuality, and entails recruitment through applications or headhunting, viewing intellectual capital as a core competence. Within the research aspect, the next activity is called *topic identification* – choosing a topic to research through an internal thinking process inspired by current research or everyday life. This activity includes getting funding to undertake the research. *Marketing for publication* represent getting the conducted research published by contacting academic journals, while *research-spinoff and consultancy* refers to using the knowledge acquired through research for commercial purposes. Lastly, research needs to be *managed*, and this involves administering interviews, grants, assistants and so on.

When it comes to the aspect of teaching, academic expertise is considered the core competency. As previously mentioned, the customer is here the industry that will employ the student, and their point of view can be indicated through the percentage of students employed. *Student recruitment* can be seen as a combination of inbound logistics and marketing, which include links to industries for postgraduates and advertising related to courses. The main activity that goes on between academics and students is *supervising and tutoring*. Further, providing teaching is the traditional contact in class and entails being taught for students, and research for research students. Examining and being examined happens at the end of the academic year, and Also,

while career placement is the linkages that the student can use for further development and opportunities. Lastly, teaching also needs to be managed, and this refers to arranging the courses, making facilities accessible and other administrative activities (Hutaibat, 2011).

2.3 Business models and value propositions in universities

In all simplicity, a business model '*defines the content, structure and governance of transactions designed so as to create value through the exploitation of business opportunities'* (Miller, McAdam & McAdam, 2014, p. 266). When operating in the marketplace, having a business model that delivers value to the customers is key, and satisfying customers can be seen as the source of creating sustainable value. Like any other entity, universities operate in the marketplace, thus aiming to deliver value to their customers. Universities exist in order to produce value rather than profit, but they also strive for the intrinsic values that lie in their mission. Hence, the business model of universities is quite different compared to other, for-profit businesses (Massy, 2016).

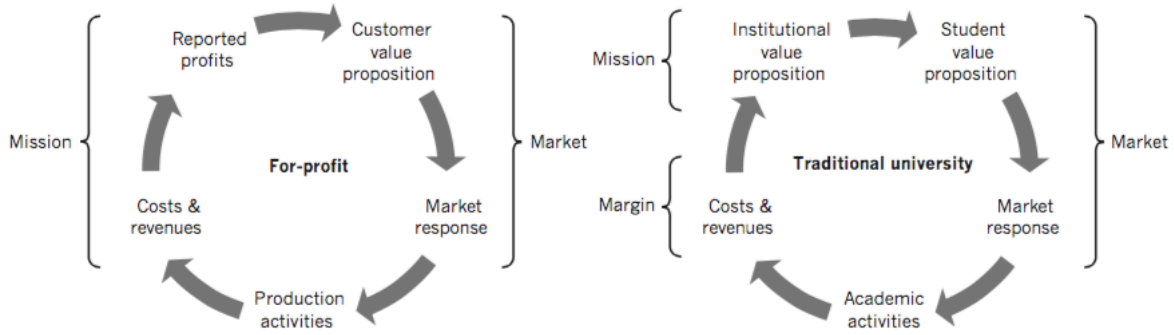

Figure 5: Business models in firms and universities (Massy, 2016)

The right-hand side of the model illustrates the business model of universities. Here, the mission is somewhat different as it isn't based on costs and revenue, but rather rooted in the institutional value proposition, i.e. the universities intrinsic values and not the values that lie behind market demand. Furthermore, the customer value proposition in the for-profit business model is substituted with student value proposition, but at the end of the day, they aim to do the same – create market demand (Massy, 2016). In other words, the student holds the role of the core customer in universities. Higher education can be seen as a service and the need to provide a great customer experience 'across the student life cycle' has been recognized. Studies have also shown that students consider themselves to be customers, and that they expect to be treated as

such in terms of both classroom studies, feedback and communication. Having satisfied customers (students) and being market oriented will thus lead to increased student retention, an objective for institutions of higher education. Additionally, it will lead to higher student satisfaction, increased rates of graduation and improved university ratings (Guilbault, 2018).

As the model above shows, universities pursue two value propositions, something that makes them quite complex. According to Hassan (2012, p. 69), a value proposition is *"an explicit promise made by a company to its customers that it will deliver a particular bundle of value creating benefits"*. Universities work closely on both their mission as well as operating in a highly competitive market, thus concentrating on value for both students and the overall mission. As opposed to for-profit organizations with one-dimensional objectives of revenue, universities stand out by addressing both mission and market simultaneously (Massy, 2016).

2.3.1 Student value proposition

The value proposition for students (market) oftentimes revolve around undergraduates as their goals are more complex and their motivation can be difficult to attain. However, it may also be applied for master's students. There are five main propositions for students at traditional universities, and combined they make up the total value that is delivered, communicated and delivered in universities from the student's point of view (Hassan, 2012). First, it adds value as getting a job is a top priority for most students. For employees, a major goal is gaining access to a pool of skills and knowledge. Hence, universities serve the marketplace and respond to this objective as development of job skills is one of their key purposes. Additionally, it provides outcomes such as the ability to make better decisions for themselves and adapt to others. In other words, it has goals both in terms of work and increased quality of life, and these goals are highly synergistic.

According to Massy (2016), a second proposition is credentials. Credentials in the form of degrees and certificates assures both employers and other stakeholders that the students have met the criteria needed. Additionally, students who enter so-called selective institutions will benefit from the certification that is implied when being admitted. Third, other life-changing experiences can be provided in terms of being involved with people who not only have passed the selection of the institution, but also represent different ethnicities and perspectives, and thus gives the opportunity to appreciate these differences and to form relationships. This is somewhat related

to the next proposition, namely socialization and the 'college experience' which is an important part of the overall student value proposition. Lastly, being 'a part of something big' can open doors for students in terms of knowledge, course work, high culture and extracurricular activities. Combined, these five propositions all represent the value one can expect when being a student, and they are all important for attracting and satisfying students.

2.3.2 Institutional value proposition

The main differences between customer (student) and institutional value propositions is what really distinguish the business model for the profit- and non-profit sector. There are five main components of the institutional value proposition, and the first element is about creating educated citizenry, which is important as it makes people willing and able to participate constructively in governmental problem solving. This is a defining objective for universities as an educated population is a critical public good. The second proposition is about research and scholarship, and pushing the boundaries when it comes to knowledge is critically important, both for the nation and the world. Academics oftentimes view this as the main 'calling' for a university, and success is measured through number of publications and citations.

The third proposition revolves around preserving and exchanging knowledge and culture. Universities embody a lot of knowledge, and they engage in active knowledge exchange both through cooperative projects, joint ventures and consultancies which may eventually lead to entrepreneurship, improved communication and increased profits. The next proposition is about diversity and affordability – providing opportunities and making it affordable for all students, ultimately resulting in public benefits and a societal improvement. Lastly, the institutional value proposition includes faculty career aspirations. Rewarding and facilitating professors' work will contribute to the intellectuality of society (Massy, 2016).

2.4 The skills gap

There is increasing talk in literature about the skills gap which simply put is the perceived mismatch between the employers' need and the skills possessed by the available work force. A study by Mourshed, Farrell & Barton (2012) showed that 42% of the employers and 72% of educators believed that the recent graduates were ready for the labor market, a difference of 30 percentage points.

In a sample of 27 studies performed across several regions of the world to see what employers seek for in employees, socio-emotional skills came out as the most important. Traits such as teamwork, honesty, punctuality, work ethic, interpersonal skills, work attitude, integrity, negotiation and responsibility. These are non-technical traits. This is shown both in managerial positions as well as in entry-level workers (Cunningham & Villaseñor, 2016). Furthermore, Manpower, the staffing agency, interviewed 37.000 employers across 42 countries and found that over one third had difficulties finding employees with the right skills set. Manpower estimates this number to be below average for Norway at around 20% or one-fifth in 2014. On a global scale, many business professions are on the top-10 list of most difficult to find employees to fill including sales, accounting & finance, management & executives and IT staff. According to the survey, 35% of the gap was in the technical – or hard skills, while 19% was soft skills. Interestingly, to overcome this gap, 7% of employers say that they are working with educational institutions to align curriculum designed to meet the skills the employer need. This number is quite low and there were no further details as upon either the collaboration or its success (Manpower, 2014).

A report done in the U.S. showed that the most important applied skills for new employees are professionalism, oral communication, teamwork and critical thinking regardless of educational background. When rating skills that are thought to be of increasing importance in the future; foreign language, creativity/innovation, and personal health regarding their bodies, finances and work-life effectiveness were the most important (Casner-Lotto & Barrington, 2006). Historically, Business Schools were trade schools, where the business-trade was taught, just like an electrician learn a trade. Due to criticism regarding the lack of academic focus, the schools became more and more focused on academia. However, the criticism nowadays is that Business Schools are too involved in academia and detached from the business world. According to Pfeiffer & Fong (2004), Business Schools are criticized of both graduating students of mediocre quality and publishing irrelevant business research.

Data regarding skills gap suggests that there is a clear gap between what the employer wants, and the perceived skills a graduate has. A lot of the focus in Business Schools are on technical – or *hard skills,* such as accounting, excel spread sheets. The academic focus is on the students' understanding of different theories, understanding and growth in academic writing. A study done by Matsouka & Mihail on the graduates in Greece in 2016, shows a clear gap between the skills the companies seek and what they believe the graduates have. The mismatch is both between

what they see as important and how highly the students rate themselves as compared to the employers. This is in line with the research on the student skills gap.

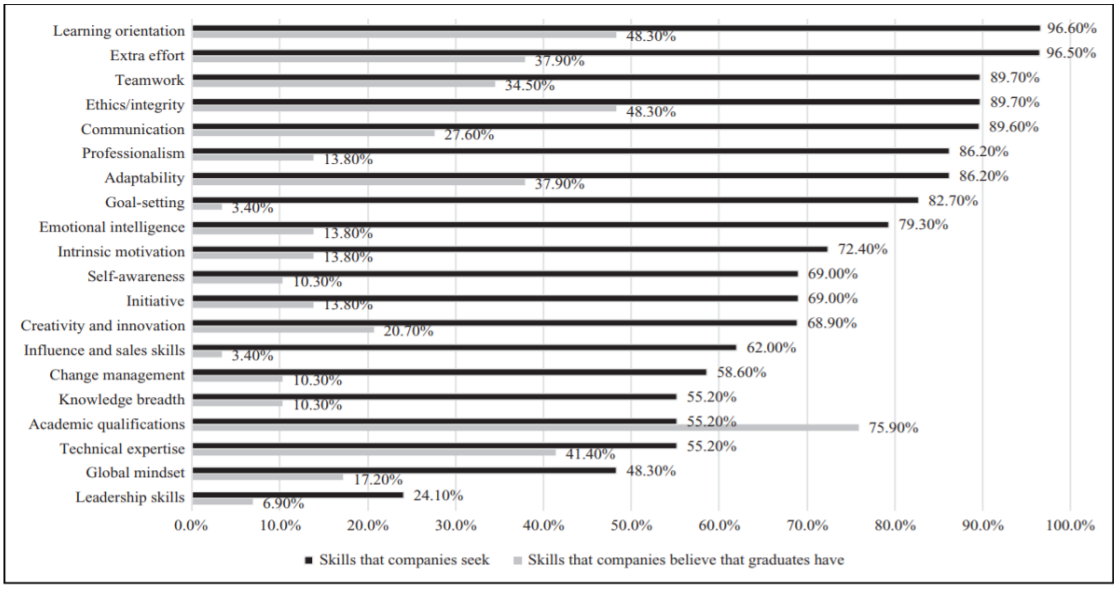

Figure 6: Skills gap (Matsouka & Mihail, 2016)

When looking at the figure presented above, the companies clearly perceive the graduates' soft skills to be well below what they need. This creates tension between the employer and graduates. Matsouka & Mihail (2016) emphasize the importance of the student to develop his/her own professional training during their studies. Both provided by the universities and initiative by the student. Because a HEI cannot provide all the demands of all employers, Matsouka & Mihail (2016) argue that the employers should work towards collaborating more with universities to develop the skills they need in students. Of special interest is that soft skills such as learning orientation, extra effort, team work, ethics, communication, goal setting, adaptability and professionalism are all skills highly valued by employers, but the employers believe to a low degree that they exhibit these traits.

One category that is represented in the skills gap is soft skills. Simply put, soft skills include common sense, capability to deal with others and attitude. Because work environments are increasingly collaborative, often with an open office solution, team work, and interdependence, i.e. soft skills, are becoming increasingly more important. Cunningham & Villaseñor (2016) argue that if the employees do not have soft skills, they become hard to work with, unpredictable and frustrating for the employer. Research shows that as employees have increasingly more complex jobs, both the soft skills, but also technical – or hard skills, become more important.

2.5 University-industry linkages

In order for universities to offer relevant education for the industry and to support economic development, they establish collaborative relationships with the industry in what is called UIL – university-industry linkages (Vaaland & Ishengoma, 2016). These linkages can be described as *"bi-directional linkages between the university and industry entities, established to enable the diffusion of creative ideas, skills and people with the aim of creating mutual value over time"* (Ishengoma & Vaaland, 2016, p.1014). Over the years, there has been an increase in these types of collaborations, mainly attributed to the combined pressure on both university and industry. The pressure facing the industry revolves around global competition, accelerated technological change and shorter product cycles. For universities on the other hand, the pressure includes the challenge of increased costs, growth in new knowledge and problems related to funding. The pressure on both stakeholders stimulates the development of university-industry linkages – ties that aim to increase economic competitiveness, organizational capacity and innovation through knowledge exchange (Ankrah & Al-Tabbaa, 2015).

According to Vaaland & Ishengoma (2016), there are several areas for UIL, such as research and development projects, services and consulting activities, and training and education-related activities. The latter area revolves around career talks, students' work experience through programs or internships, and involving industrial practitioners in teaching. The value of UIL in regard to employability has been recognized, and the desired outcome is graduates who can easily transfer into working environments. Employability is an important indicator of quality in the context of education, and the overall quality of a university is highly related to the employability of graduating students. UIL, especially educational activities that affect the individual student, can be used to reduce the skills gap that is present – the gap between university learning and work-life demands.

2.5.1 Work-integrated learning

To equip graduating students with the employability skills required and making them able to function optimally in the work environment is considered the main objective for universities, and *work-integrated learning* is an instrumental tool that can be used for this purpose (Jackson, 2015). Employability can be described as '*a set of achievements, skills, understandings, and personal attributes that make graduates more likely to gain employment and be successful in their chosen occupations'* (Taylor & Govender, 2017, p.108). Finding ways of enhancing

employability is crucial due to a growing supply of graduates, credential concerns, the labor markets for soft graduates and the overall economic weakening. WIL is in other words a way of coping with the ever-changing labour market and a differentiating mechanism for students (Jackson & Collings, 2017). Further, graduates are met with changing requirements as employers are more concerned with practical skills in the workplace, which requires a new kind of knowledge (Taylor & Govender, 2017).

Work-integrated learning, hereby referred to as WIL, is an initiative to improve employment outcomes, and it encompasses the use of both traditional, formal learning as well as student exposure to the work environment of their chosen line of work. WIL aims to prepare graduates for the work life through experimental learning, and it gives students the opportunity of experiencing work practice and to learn and employ knowledge in a real-life context, meaning that they actually 'do' what they have learned. It has become an important feature of higher education all over the world, and it is considered to be crucial for the job-readiness and skill development of graduates (Jackson, 2015). WIL comes in many forms, such as unpaid, short-time work placements, one paid year during university or virtual consulting or industry-based projects (Jackson & Collings, 2017). This experience may make the transfer of skills from university to workplace easier, resulting in better academic performances among the students and better results for organizations (Jackson, 2015).

There are three main players involved when it comes to WIL, namely the students, employers of the industry and the university, and each participant gain both opportunities and benefits from this partnership. In other words, WIL makes sure that the needs of all stakeholders are met. For students involved in WIL, this means both getting relevant and authentic experience from a real working environment, better return on investment, establishing a network, self-development, confidence, career-awareness, and the possibility of future employment at the company involved – another party that can experience several benefits from WIL. This is benefits are for example access to potential staff of high quality, flexibility, the chance to influence academic programmes, along with a new, creative approach and energy from the students. Lastly, the universities experience opportunities and benefits in the form of strengthened industry ties, input from managers that will make sure that the programmes universities offer remain relevant, trust and loyalty from students and most importantly; it ensures that graduating students have real life work experience (Jackson, 2015; Taylor & Govender, 2017).

As previously discussed, WIL fosters partnerships between institutions of higher education and the industry, and this is considered necessary for the construction of a curriculum that is responsive to both the needs of the community and the industry (Jackson, 2015). To effectively incorporate WIL into university can be done in several ways pedagogically and in terms of curriculum. Integration has been given emphasis, more specifically integrating learning in the workplace with learning on campus. By combining knowledge and skills required in a work setting and knowledge that students aquire at their learning institution, students are supported throughout their academic studies as well as being strengthened during the experience of workplace learning (Taylor & Govender, 2017).

Also, students can make links between what they learn in different settings and reflect upon what is required in terms of skills and knowledge, behaviors and how procedures can be combined in order to address problems and create practices in the workplace (Billet, 2011; Taylor & Govender, 2017). Billet (2011) describe some main principles in regard to achieving integration, which include sufficient preparation for students before they delve into activities based on real-life work, support during the placement at a firm, and the opportunity to reflect the experiences when the activity is completed.

Studies show that those completing WIL experience improvements in several skills that are essential when it comes to employability, such as team work, communication, problem solving, better portability of skills across contexts, technical expertise and professionalism (Jackson, 2015; Jackson & Collings, 2017). According to Choy & Delahaye (2011), learning challenges that are based on real work circumstances are preferred by both students and employers. Students are required to both understand new knowledge, as well as applying this knowledge in ways that will benefit the organization. Hence, there is a dual emphasis on both student and organizational development through the use of WIL. Aligning the two is however quite challenging as each stakeholder holds different knowledge and expertise that will contribute positively to WIL, and this needs to be properly negotiated with notion of sharing, collaborative self-interest and transparency at the core.

The implementation of the new and combined curriculum requires a tight relationship between organizations and the university. Normally, the context of organizations relies heavily on tacit knowledge and the academics hold dominance in the theoretical knowledge base, but a WIL partnership implies that the university is no longer the dominant player in terms of content,

activities and outcomes. A partnership with fair distribution of power between students, universities and organizations will result in a positive alignment and an effective learning environment. Designing WIL requires inputs from all stakeholders because workplace learning is co-produced by learners, workers and academics.

3.0 METHOD

In this chapter, we will theoretically clarify and explain the method used in this thesis, and the assessments made to determine the procedure in relation to problem, design, selection and other necessary methodological approaches. Here, we will give a clear, overall picture of the theory behind our choice of method, how we conducted the research and obtained the data used in this thesis, along with the possible limitations and pitfalls of our approach.

3.1 Introduction

Method is an approach that describes how empiricism is collected, and serves as an aid to provide a description of reality. A distinction is made between qualitative and quantitative methods, two approaches characterized by different basic views and execution. Using a certain method makes us have to go through specific phases, a type of recipe for how to conduct research. This allows us to critically evaluate the choices made and the consequences these choices may have for the research. The phases you go through when conducting research is the clarification of the problem to be analyzed, choice of research design and methodology, data collection, sample selection, data analysis and an assessment of the validity and reliability of the conclusions (Jacobsen, 2015).

3.2 Preparatory work

We wanted to examine indicators of quality in higher education in the form of input, process and output variables and look at the relationship between them. By doing so, we are able to see what characterizes educational quality. In other words, we were interested in getting a deeper understanding in regard to how master's students at different Business Schools perceive their education, and if this differs from newly graduated candidates. We also want to see if the assessments of students and candidates can be affected by factors within the resource base or characteristics of the educational program. This is something we didn't know a lot about beforehand, which made the preparatory work both challenging and interesting.

We conducted this research by using secondary data from surveys carried out among business students in Norway and reports that illuminate the newly graduated candidates' perspective and situation. Additionally, we found data in public databases and Business Schools' websites to get an overview of the academic resource base and the way they organize their educational offers.

3.3 Clarifying the main problem statement

Empirical research usually begins with a question regarding the issue that you want to further investigate. When developing a problem statement, it is important that it is brought from a theoretical to an operational level. This means that the problem must go from an abstract thought to something that can be observed in more concrete terms. The problem must be dealt with and defined, which can be very demanding, but necessary to be able to investigate the phenomenon and to adapt the task to the project's resources (Jacobsen, 2015).

Further, a good problem statement needs to meet other requirements. Firstly, the problem should be exciting, and as the researchers don't know what the outcome will be, a certain level of surprise is achieved. The next requirement is that the problem should be simple to ensure that the problem doesn't become too complicated. The third and last requirement is that the problem must be fruitful. This implies that it must be possible to implement, while also adding new knowledge (Jacobsen, 2015).

Early on, we figured out that we wanted to write about learning outcome for graduates at Norwegian universities, and first, we wanted to compare this to what businesses require and desire. In other words, we wanted to look at employability both from graduates' and businesses' point of view and let that be the basis of our research question. Throughout the work related to this thesis, we have changed our approach multiple times. As new points of views came forward, and as we worked our way through existing data and theory, new ideas came to mind and we gradually changed our approach along the way. As businesses' point of view was hard to operationalize, we changed our focus. We finally ended up with an overall question that revolves around educational quality. Our research question goes as follows:

"What characterizes educational quality in Business Schools?"

As mentioned in chapter 1, we have also chosen to have three underlying questions:

1. Is there a connection between academic resource base, students' perception and graduates' experience?
2. Is there a connection between program characteristics, students' perception and graduates' experience?
3. How does students' perception and candidates' experience differ?

By basing our research on this main question and the underlying questions, we gain insight into what factors that affect graduating business students' overall satisfaction, their feeling of work relevance and learning outcome – all indicators of educational quality. On the other hand, we look at how the same variables are assessed by newly graduated candidates in addition to unemployment, maladjustment and the effects of collaboration with the labor market. We believe that our approach is both exciting, fruitful and relatively simple, thus meeting the requirements of a good research question.

3.4 Research design

Research design can be defined as *"the general way of how you will go about answering your research question(s)"* (Saunders, Lewis & Thornhill, 2009, p. 136). This plan will include objectives based on the research question, data sources from which you will be collecting data, and the possible constraints that you may face. All decisions made in regard to your research need valid reasons.

We have based our thesis on the conceptual model that was presented in 1.3, and this really represents the design and plan of how we will go further when trying to answer our research question. To repeat, we look at input, process and output variables and links between them, and we use secondary data to do so. By *input* we mean factors regarding the resource base of the university, how they structure their educational programs and the intake quality of students. *Process* represents factors during the course of education, and how students perceive quality. *Output* comprises the results, how newly graduated candidates look at their education in hindsight, in addition to how their labor market situation is in terms of unemployment and maladjustment.

3.5 Choice of method

Once you have decided on the research design, you are left with the choice of obtaining qualitative or quantitative data. You must choose an appropriate method of data collection to elucidate the problem. *«Whereas quantitative data deals with numbers, qualitative data deals with meanings. Meanings are mediated mainly through language and action»* (Dey, 1993, p. 11). Here, there is no absolute distinction, but it is clear that the two methods are mainly suitable in two different approaches. Quantitative data is best suited if you have a lot of information on the subject beforehand, if you want few variables and the ability to statistically generalize.

Qualitative data fits better if you want many variables, depth and theoretical generalization with high internal validity.

However, it is not either or. You also have the choice of secondary data. Secondary data, which is the form of data collected in this thesis, come in the form of both qualitative and quantitative data. The reason why we chose secondary data is that the data we wanted was already available, and to do this ourselves would be extremely demanding due to both the limited time frame and available resources.

3.6 Collection of data

Within research methods, there are several ways of obtaining data. You could collect it yourselves by conducting surveys or interviews, or you could use already existing data, also called secondary data. The table below shows the sources of secondary data that we have used, what they cover and their possible weaknesses.

Source	Coverage	Weakness
NOKUT (Studiebarometeret)	Survey regarding students' perception of educational quality. Gives the average on a scale from 1-5 on various variables. We have used work relevance, learning outcome and overall satisfaction for three different Business Schools.	Average Incomplete data, response rate is relatively low Few observations, survey started in 2014
NSD DBH	The database for higher education in Norway. We have used this database to retrieve publication points at each school, FTE, number of students, share of students completing in normal time	The data doesn't show where FTE use the majority of their time Uses average for publication points Data for 2017 not yet published
Business Schools' websites	The Business Schools' strategies, number of specializations, electives, WIL (internships)	Biased Vague
Søknadsweb, BI	We used Søknadsweb to find the GPA level for MBA at HH-UiS and NHH. Contacted BI for their GPA.	Different admission level for each specialization Used the average
NIFU (Kandidatundersøkelsen)	Survey regarding candidates' assessment of educational quality six months after graduating. We have looked at work relevance, learning outcome and overall satisfaction in addition to unemployment and contact with labor market.	Full report for 2017 has not yet been published Preliminary paper Had to use report from 2016 BI is not included Data for UiS, not HH-UiS
NIFU (Spesialkandidat-undersøkelsen)	Survey regarding candidates' assessment of educational quality two-three years after graduating. We have looked at work relevance, learning outcome, satisfaction and utilization of skills.	Data for UiS, not HH-UiS

Table 2: Sources of data in this thesis

When choosing to use solely secondary data, one must view these data with caution the same way as primary data collected yourself and it is important that they meet certain criteria. They need to enable you to answer your overall research question and also meet your objectives in the desired way. Next, it is naturally important that you actually gain access to the data and that the benefit is greater than the cost (Smith, 2008). Most of the data we have used is available for the public, and we therefore haven't experienced particular difficulties gaining access except for the information regarding BI. It was more challenging to figure out *what* we needed in order to measure what we intended to measure in a satisfactory way.

The process of data collection was continuous, and we constantly found new reports and statistics that came to good use. The change in the thesis' focus was mostly due to the lack of data available when it comes to the labor market and what the businesses want. We therefore needed to alter our objectives so that we could use data that were available and better fit the data we already knew we were going to use to illuminate students' point of view. Hence, the two main sources of data that we finally decided to use were easier to compare as they largely measured the same for students and candidates, respectively. We felt that we could indirectly look at businesses by examining how many of the students actually got a relevant job after graduating. Even though our sources do have weaknesses, it is unlikely to find exactly the data you want when basing research on secondary data. We are however aware of these faults, and they will be more closely discussed in 3.9.

3.6.1 Secondary data

Secondary data is all the information that has been collected and produced by others on the subject at hand, both in the form of raw data and published summaries. There are several sources of secondary data such as public and internal documents and surveys, previous research papers, newspapers and websites (Saunders et.al, 2009).

This type of data collection may be useful in several situations. Firstly, you reduce the need to retrieve the same data yourself, which ultimately saves a lot of time. Secondly, a researcher doesn't necessarily have direct access to the information needed. Further, you will be able to analyze larger sets of data and more time to think about theoretical approaches and due to the fact that the data is already available, you will be able to spend more time interpreting the collected data. Individuals in companies may be subject to confidentiality, and indirect secondary

data may illuminate the information that they need. However, it doesn't have to be sensitive information. Oftentimes, you simply do not have enough resources to interview everyone you want, and secondary data thus becomes a useful source (Jacobsen, 2015; Saunders et.al, 2009).

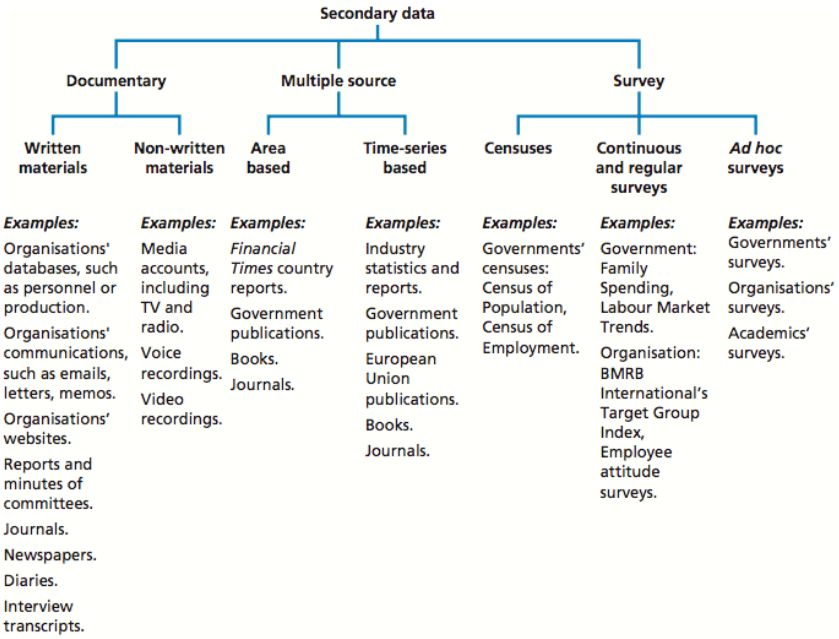

Figure 7: Types of secondary data (Saunders et.al, 2009).

In our thesis, we have used several sources and these sources are presented in table 2. We have used both survey-based raw data and analyzed results that are presented in published reports. The surveys we have based our data on are continuous and regular surveys, where one is conducted every year (Studiebarometeret) and the other every two years (Kandidatundersøkelsen). We have also used some documentary secondary data in the form of written materials such as organizations' websites and public organizations' databases of information. As Saunders et.al (2009) state, we didn't find all the data we needed from one source, resulting in a multiple-source set of data, and subsequently linking them together to fit our purpose.

3.6.2 Potential pitfalls when using secondary data

According to Smith (2008), there are many advantages for researchers using secondary data in their research, but they are also met with challenges related to this type of data. The potential pitfalls are many, and the first one is that there is a chance that the data was collected for an

entirely different purpose, thus aiming to measure something different than you are. Data can also be manipulated and can be difficult to use in comparisons. Further, secondary data can be full of errors, but it is useful to keep in mind that as long as the errors are recognized and accounted for, it doesn't inhibit the use of the data. Secondary data is also said to be socially constructed and by some researchers, it is something that is often frowned upon as they do not believe that numbers can represent reality. However, official data is far too important not to be included in research, and researchers should definitely engage with the data as long as they have an understanding of their limitations.

It is important to be critical when selecting data that you haven't produced yourself. The information available is mainly processed and not in the form of raw data. In other words, much of the data is already interpreted and processed to be used in a context. Such processing therefore changes the information in a manner that can be unfortunate as it may change the content of the information. It may also be difficult to know which sources the data is based on, and as a researcher, it is important to be critical and aware of such sources of error (Smith, 2008).

When writing this thesis, we were constantly making sure that the data we used were from credible sources. Due to the pitfalls mentioned, we felt that we couldn't make definite conclusions of reality, but rather discuss what the data indicates based on parallels drawn from what we initially thought and what existing theory and research suggests. We used information collected by for example DBH, NOKUT and NIFU, all public and trusted sources of data. These databases are also linked to the Norwegian Ministry of Education, which in our opinion makes it even more reliable and trustworthy. However, as we have discussed above, it is important to respect and understand the possible faults of this type of data when linking them to existing theory, and this specific use of data can be a possible challenge in this thesis, both due to its nature but also because we may not find all of the data that we would have wanted.

3.7 Data analysis

Data analysis aims to extract some sense from the secondary data. It involves structuring, simplifying and removing complexity in order to obtain an overview (Jacobsen, 2015). We organized our analysis based on our conceptual model, and the arrows between the variables were the connections that we wanted to analyze. By doing so, we examined the connections between input and process variables, input and output variables, and process and output

variables. In other words, we used the presented secondary data from the empirical chapter to analyze how input variables may affect process and output, and if there is a gap between process and output.

As previously mentioned, we extracted certain results from one of the surveys (Studiebarometeret) and compared them to the same results from previous years. The results of Studiebarometeret is quantitative (numeric), and as this survey has been repeated a number of times, we looked at selected variables over the course of four years. This was also the case for publication points, number of students and the number of full-time equivalent, and we also made a timeline for this type of quantitative data. Consequently, we were able to look at trends, possible links and correlations. Qualitative (non-numeric) secondary data can include data from interviews, documents, reports or conversations (Smith, 2008). The results from Kandidatundersøkelsen and Spesialkandidatundersøkelsen were only available in published reports, and thus, the results had been analyzed beforehand. These data are considered to be qualitative, and it is therefore harder to really find new, unbiased understandings. With the qualitative data, for example the information about program structure and characteristics, we rather looked at possible connections instead of trends.

Initially, we wanted to conduct a correlation analysis as this would make it possible for us to statistically generalize our conclusions, and we could really state that there actually *are* connections between the variables that we want to investigate. However, the data available had too few observations, and a statistical correlation analysis would not make any sense as it is not possible to really state anything statistically with that small amounts of data. This is a pity as it would have made our conclusions, and our thesis as a whole, stronger.

We divided our analysis into 5 parts, each part representing an arrow in the conceptual model:

1. How the academic resource base may affect students' perception of educational quality
2. How program characteristics may affect students' perception of educational quality
3. How the academic resource base may affect candidates' experience
4. How program characteristics may affect candidates' experience
5. If students' perception and candidates' experience in terms of educational quality differ in any way

In each of these five subsections, we compared the available data and tried to draw conclusions based on logical explanations in addition to examining development over time when the data allowed us to do so.

3.8 Validity and reliability

According to Saunders et.al (2009), validity refers to whether your findings are about what they appear to be about. In other words, it tells you something about whether you have measured what you intended to measure. It also looks at the relationship between two variables, and if it can be called a causal relationship. Reliability on the other hand, is concerned with whether your data collection and analysis will yield findings that are consistent. Central questions that need to be answered is if similar results would be reached by others and if there is transparency in the sense made from raw data (Saunders et.al, 2009).

When it comes to validity and reliability of secondary data, they differ from data you have collected yourselves. The validity and reliability ascribed to secondary data concerns an assessment of the data collection method and the source from which the data was retrieved. Using surveys from large organizations are highly likely to be credible, and consequently, the way these data were first collected is probably accurate and thoroughly calculated. This is also the case for surveys conducted by government organizations (Saunders et.al, 2009). As mentioned, our data is collected by NOKUT and NIFU, both 'extensions' of the Norwegian Ministry of Education. We believe that this is a credible source and hence, that the data has high validity.

As we will further discuss under the next section in regard to our thesis' limitations, a threat to reliability is that we are currently master's students at HH-UiS. This raises the concern of partiality and if our connection to this specific Business School result in an analysis that is colored by our own thoughts and previous experiences. From the start, we have been aware of this challenge, and we have constantly made sure that we stay neutral and only focus on the data that we retrieve.

Naturally, secondary data that has been collected through surveys are likely to be more reliable if the response rate is high. The response rate for Kandidatundersøkelsen was 50% and for Studiebarometeret, the response rate was 60%, 33% and 27% for UiS, NHH and BI, respectively. This is relatively low, but still higher than what is expected when sending out surveys externally

(Fosnacht, Sarraf, Howe & Peck, 2017). One can therefore question the validity of using these results. Even though it would be ideal to use survey results that have a higher response rate, it is very uncommon as there are few incentives to answer the survey. Therefore, the response rates are not that low if you compare them to other surveys that are sent out to a chosen group of respondents.

Documentary data is a bit harder to assess when it comes to validity and reliability. Organizations may argue that their data are reliable, but there are often inaccuracies as well as inconsistencies. The data we have retrieved from various databases like NSD/DBH is in our opinion trustworthy as it is funded by the state, but it may of course include errors like all secondary data can. We are aware of the chance of inaccurate data, and we are also aware that organization names may contribute to the feeling of reliability. Publication of data on the internet is not controlled, and even though the database sound credible, specific names are often used to 'suggest pseudo-academic credibility' (Saunders et.al, 2016).

Validity and reliability are also determined by the collection method for survey data. We chose to focus on specific variables within Studiebarometeret, and we felt that the questions within each variable covered the concept really well. This will also give us an indication of validity, and we believe that the validity is high. A challenge however, was using data that has been compiled in a report like the report on Kandidatundersøkelsen. Here, they use percentages, and that makes it harder to assess the importance as the totals on which these numbers are based is not included. The challenge here is really related to the fact that we are far away from the original data, and hence, the more difficult it is to really assess their quality.

As mentioned, validity is concerned with whether there is a causal relationship between two variables. In our thesis, we look at possible connections, but we are aware that the connections we might find is not the sole contributor to a certain trend, and causal relationships cannot really be found in this thesis when we don't use any quantitative tools to really back up and validate our statements. As an example, we say that we believe that having internships during studies will decrease unemployment and maladjustment, but that doesn't mean that we solely attribute low unemployment to whether you have had practical training or not. There are so many reasons as to why unemployment is low or high such as labor market conditions, the area students/candidates choose to apply for work, grades, downturns in the economy and so on. However, characteristics in the educational program can be one *possible* contributor.

3.9 Challenges and limitations

Besides the general limitations related to the use of secondary data, we want to elaborate on some of the challenges we faced throughout our work with this thesis. First of all, comparing the three schools that we did, proved to be more difficult than we envisioned. This was mostly due to the fact that BI is a privately-owned Business School. Hence, the data regarding both unemployment, admission and program characteristics were much more challenging to get a hold of compared to the public Business Schools where just about everything is out in the open. We tried to contact BI directly with limited success.

BI also chose not to participate in Kandidatundersøkelsen, which made the comparison more challenging as we needed to find the same data elsewhere. We managed to do so for some variables, but not all. This, of course, limits our conclusions to some extent, and we are aware of this disadvantage. We tried to do our best with the data we had, a common challenge for those who base their thesis on secondary data. Nevertheless, BI was a part of Spesialkandidatundersøkelsen, and hence, we were able to include them in our analysis, but not as thoroughly as we would have wanted to.

Additionally, Kandidatundersøkelsen do not have data for HH-UiS specifically, but master's at UiS as a whole. We contacted the strategy department at UiS to see if they had any data for HH-UiS alone, but apparently the data in Kandidatundersøkelsen were the only ones that were available. This makes it harder for us to compare and to make valid conclusions. Even though it is not as detailed as it ideally should be, it does include HH-UiS and we can see *indications* of trends and connections to the data in Studiebarometeret.

Another limitation is that Kandidatundersøkelsen from 2017 did come out in the end of April 2018, but only as a preliminary paper. NIFU have divided the results into two parts, and the full report is going to be published in August. Consequently, the full report is not available until after our thesis is submitted. This is a misfortune, but again, we need to do the best we can with the data that is currently available. We used the preliminary report when it comes to unemployment and maladjustment, and we needed to use the full report from 2016 for the rest of the variables. These data are relatively old in this context, but as the report states, the data doesn't really change a whole lot from survey to survey, but it would definitely be beneficial to have the most recent results. The report regarding Spesialkandidatundersøkelsen was however from 2018, so these data were up to date.

When it comes to the data that we have used from NOKUT (Studiebarometeret), it is presented as the average. This is also the case for publication points and admission GPA. Using the average is a clear limitation as it is strongly influenced by extreme values. If we take publication points as an example, it could be the case that one or two professors conduct a lot more research than the rest, and thus, they affect the average positively. This can portray an inaccurate image of reality. For GPA admission levels, there are different levels for the different specializations and the average is used here as well. In some cases, this will only cover parts of the mass of students in a program. Furthermore, one can also discuss to what extent marginal differences in GPA levels really affect the quality of the educational program. The differences in grades between students are relatively small, and due to the small variations, it is hard to say whether it has any consequences for quality. However, it does indicate the academic level of the students that have been accepted.

Comparing the two surveys was also quite challenging as the questions are not identical. Hence, it was difficult to directly compare the results. However, both surveys largely cover the variables and concepts that we wanted to investigate. The response options are also organized in different ways. In Studiebarometeret, students answer on a scale from 1-5. In Kandidatundersøkelsen, candidates have the option of answering very dissatisfied, a little dissatisfied, neither, a little satisfied or very satisfied. Consequently, to compare the answers was not easy, and we had to assume that 4 or 5 in studiebarometeret was "very satisfied".

Lastly, a possible limitation is that we are master's students at HH-UiS. This means that we are close to one of the 'objects' that we analyze. One could therefore say that we are partially biased in some way, but it can also be a strength. We have experience in regard to lectures, professors and general aspects of the Business School, and us being in close proximity makes us able to assess the quality for ourselves. Again, we feel that it is important to emphasize that we have solely based our thesis on available data and subsequent analysis of these data, and not our own experiences.

4.0 EMPIRICAL EVIDENCE

In this chapter, we will present our secondary data in the form of survey results, report findings and available data that we have collected to illuminate our overall research question. We have tried to organize the chapter in accordance with our conceptual model, thus distinguishing between three types of variables – *input, process and output*. To remind the reader of the structure and aim of this thesis, our conceptual model is repeated below.

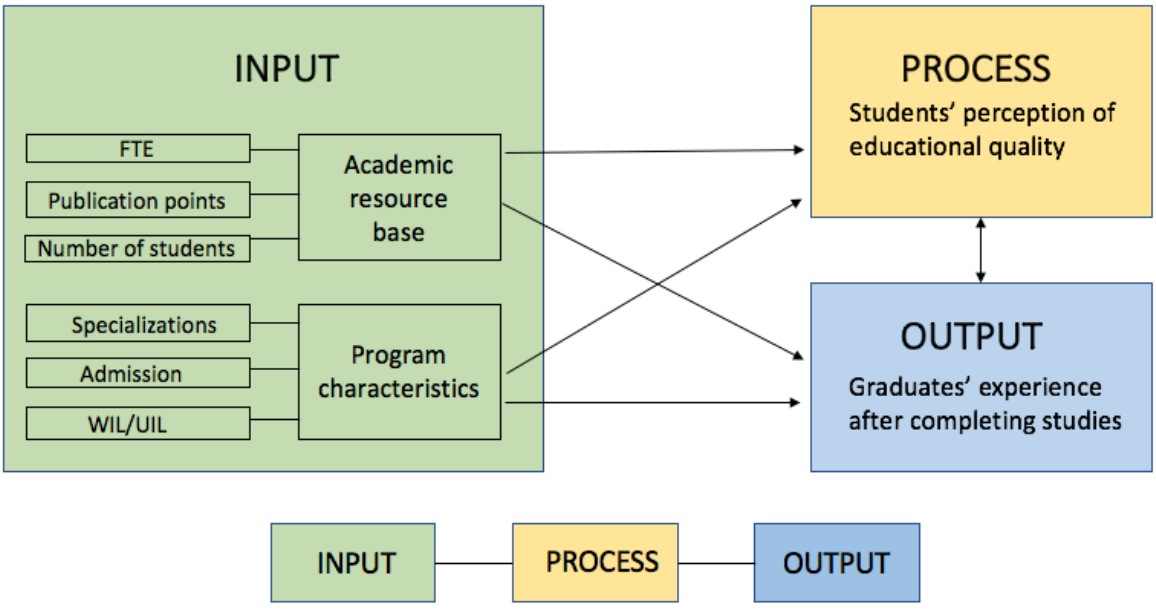

Figure 8: Conceptual model

As described in the first chapter of this thesis, this conceptual model shows our thought process and what connections that we want to examine. First, we look at *input variables*, and these variables are related to the academic resource base and the program characteristics. Next, we present the results from Studiebarometeret, and these results represent the perception of students in regard to educational quality. These are the *process variables*. Lastly, the *output* in the form of results from Kandidatundersøkelsen is presented, and this demonstrates graduates' experiences. The arrows in the model symbolize connections and gaps that will be explored in the next chapter when we analyze our findings.

4.1 Input variables

Input variables aim to capture the characteristics of quality in higher education and functions as a conceptual framework that includes the academic resource base and program structure. The *academic resource base* is measured by number of students per full-time equivalent (from now on called FTE), along with indicators of employee research. *Program structure* looks at average admission scores, linkages to the labor market and different specializations within the program.

The variables concerning input is found in DBH – the Department of Educations' Database for Statistics in Higher Education. This database provides data and statistics from all HEIs, both private and government funded. The most recent data from 2017 is not available until fall 2018 (DBH, 2018).

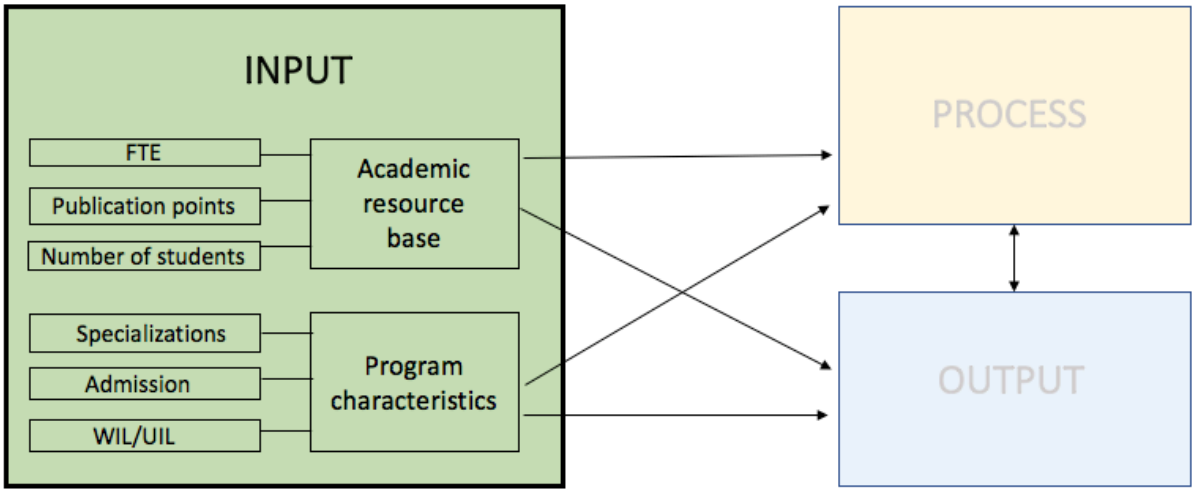

Figure 9: Conceptual model with focus on input variables

4.1.1 Academic resource base

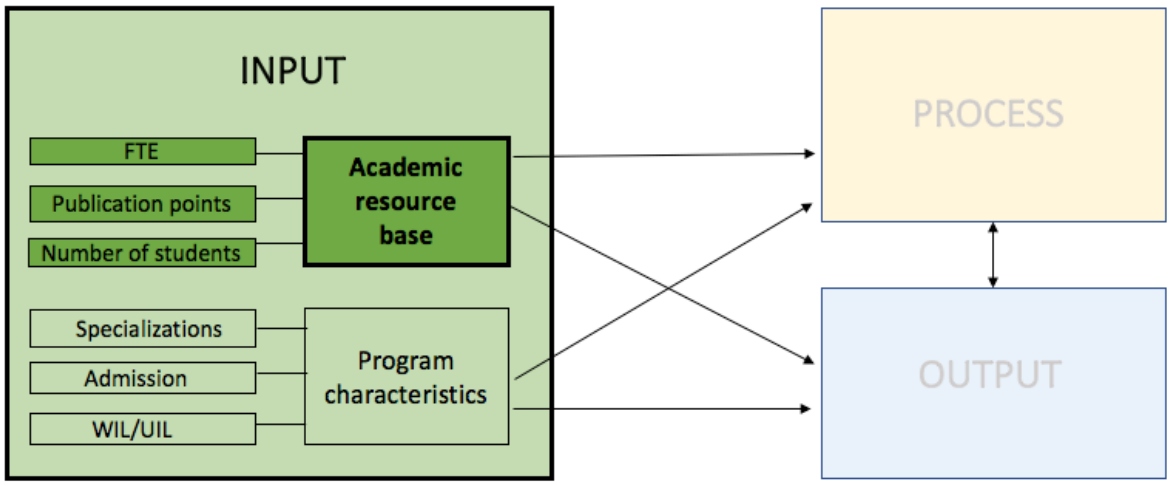

Figure 10: Conceptual model with focus on the academic resource base

Full-time equivalent (FTE) per school

The database provides interesting data regarding FTE[2], for teaching, research and different types of professor degrees excluding Ph.D. students. These numbers are FTEs' for both bachelor and master's students as we were unable to find data to distinguish between where the class facilitators spent their time. It is common for professor to have courses at both the bachelor and master level.

FTE[3]	2016	2015	2014	2013	2012	2011	2010
HH-UIS	38,2	36,2	34,7	32,5	32,7	28,9	26,1
BI	272,9	281,4	266,9	290,0	284,5	289,9	286,1
NHH	177,2	175,8	168,1	165,7	157,6	153,5	154,9

Table 3: Full time equivalent per school (DBH, 2018a)

[2] Called *årsverk* in Norwegian. Defined as the ratio between the number of paid hours in a period for part time, full time and contracted employees and the number of working hours in the period Monday-Friday. One FTE is considered to be one full-time working employee (Business Dictionary, s.a)
[3] FTE excluding Ph.D. students.

As table 3 above shows, BI has the largest amount of FTE across the board, around 100 more than NHH, and HH-UiS has over 7 times fewer FTE's in 2017 compared to BI. There is a large increase in number of FTEs' at HH-UiS, while both BI and NHH have been relatively stable over the last six years. HH-UiS has however had a yearly increase in FTE over the same time period. An increase of 44% compared to NHH with a 14,4% increase and BI with a decrease of -4,6%. Even though HH-UiS has increased, they are not in nearly in the same league as either BI and NHH.

Publication points per school

The amount of publication points tells you about both the quality of the publication journal and how many people have written the article published. In 2015, there were three new factors included in the calculation of points; number of authors, quality of the journal and if there is international collaboration. It is taken into account that the data before and after 2015 will differ somewhat, but because it differs equally across all the Business Schools – and HEIs' in general, we see the data as valid. Generally speaking – if the publication points suddenly increase/decrease in 2015, this can be a sign of the quality of the articles published.

The data shows that all schools have an increase in number of publication points, while the largest increase is for HH-UIS. BI also has a steep increase. This can indicate an increased focus of the schools to do more research and publicize more, which may be because schools receive financial aids from the government based on publications. To put the increase into perspective, HH-UIS has an increase of 329% and BI has an increase of 109,1%. We see that there is an increase of 191 points for BI in 2016, and because we don't have the data for 2017, it is difficult to say whether this is just an anomaly, or a new normal. NHH has a 51,7% increase. Across our data, BI is the Business School with the highest publication points, except 2013 and 2015, when NHH is above by a small margin.

Publication Points	2016	2015	2014	2013	2012	2011	2010
HH-UIS	64,41	54,36	23,31	30,68	19,99	19,68	15
BI	436,96	245,03	271,89	180,49	221,49	217,62	208,99
NHH	280,43	246,91	145,18	188,93	156,52	153,53	184,8

Table 4: Publication points per school (DBH,2018b)

Number of students per school

When looking at the data above, it is difficult to draw conclusions regarding both the increase in publication points and FTE without looking at the number of students. Generally, the higher number of students, the more faculty is needed. This would generally increase the FTE. Logically, more FTE would lead to more publications and therefore more publication points. But the question is – by how much? We will later look at this, but first we need to look at the number of students at the Business Schools from 2010-2016.

Because time is a limited resource, we have included both the total number of students at the Business School and the master's in business students, because our data does not distinguish where a faculty – or FTE spends his/her time. A professor might teach a course at both the master and bachelors level, and due to the limitation of our data, knowing the relative student mass is of interest too.

Number of students	2016	2015	2014	2013	2012	2011	2010
HH-UIS	1095	1016	1018	986	975	906	887
HH-UIS Master	375	312	320	295	270	219	137
BI	20738	20759	20094	21631	22001	20021	14545
BI Master	3232	3140	3177	3203	3217	3609	2917
NHH	3427	3359	3413	3369	3488	3433	3271
NHH Master	1493	1667	1697	1563	1583	1530	1477

Table 5: Number of students at each Business School (DBH, 2018c).

One can immediately see that HH-UiS is the smallest Business School, and BI is the largest. The number of master's students at HH-UiS has had a yearly increase and the largest increase while BI and NHH has fluctuated. When looking at the Business Schools as a whole, one can see that BI is over 6 times larger than NHH and almost 19 times larger than HH-UiS. This is because there is a very large number of students getting their bachelor's degree from BI.

Number of students per FTE

Because the number of students widely differ between the schools, and the FTE does too, it is interesting to see the ratio of students per FTE. Are there indicators that class size does matter? Because our data do not distinguish what the FTE spends his/her time on, both the whole Business School as a whole and the master's level is shown below.

Number of students/FTE	2016	2015	2014	2013	2012	2011	2010
HH-UIS	28,66	28,07	29,33	30,39	29,83	31,35	33,98
HH-UIS Master	9,82	8,62	9,22	9,09	8,26	7,58	5,25
BI	75,99	73,78	75,29	74,59	77,35	69,07	50,85
BI Master	11,84	11,16	11,9	11,04	11,31	12,45	10,2
NHH	19,34	19,11	20,3	20,34	22,13	22,37	21,12
NHH Master	8,42	9,48	10,09	9,43	10,05	9,97	9,54

Table 6: Number of students per full- time equivalent (DBH, 2018a; DBH, 2018c)

As the number of master's students vary, both the amount of master's students and total number of students is included. For master's students alone, the number of students per FTE does not differ much. Even though the variations are small, there is an increased number of students per FTE at both HH-UiS and BI, while there is a decreased number for NHH.

Looking at only the master's level; HH-UiS has almost doubled its number of students per FTE at the master's level, while BI has had a slight increase at the master's level. BI also have the highest number of students per FTE when compared to both HH-UiS and NHH. NHH has had a very slight decrease, but there is a yearly fluctuation.

When looking at the total number of students at the Business School to FTE ratio, one can see that overall, BI is considerably higher than both HH-UiS and NHH. In 2016, BI had almost 4 times as many students per FTE compared to NHH and 2,6 times more than HH-UiS. The ratio for the Business School as a whole has decreased for both HH-UiS and NHH, while it has increased at BI.

Publication Points per FTE

Because size does matter, one can see from the data that the largest school has the most publication points and the highest FTE. But it is interesting look at the ratio to see if the number of publication points is related to how many FTEs' the different schools have. Simply put – how much does each full-time equivalent publish? This is an indicator of time spent on research.

Publication Point/ FTE*	2016	2015	2014	2013	2012	2011	2010
HH-UIS	1,69	1,50	0,67	0,95	0,61	0,68	0,57
BI	1,60	0,87	1,02	0,62	0,78	0,75	0,73
NHH	1,58	1,40	0,86	1,14	0,99	1,00	1,19

Table 7: Publication points per full-time equivalent (DBH, 2018a; DBH, 2018b)

When looking at the ratio, all three schools have an increasing ratio. This means that each FTE publicize for more points than before. HH-UiS has the largest increase with a 1,12-point increase per FTE or 196,5%, while BI has 0,87 and 0,39 points increase per FTE. This means that across the board the Business Schools use increasingly more of the FTEs' on publications. Due to the fact that limited time is something that affects us all, the increase in focus on publication points per FTE will have to come at the cost of something else. This ratio does not explain what this comes at the cost of, but we will look further into this in the chapter 5.

4.1.2 Program characteristics

The program characteristics can indicate the strength of the program, the academic strength of the students. Additionally, it says something about the outward versus inward focus of the Business School when looking at the students' opportunities to enter the work force through an internship arranged by the university.

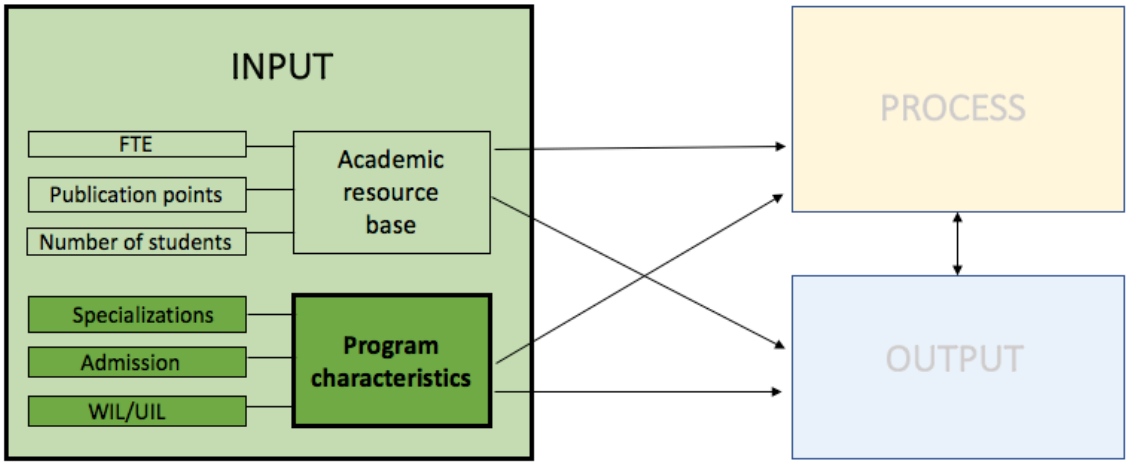

Figure 11: Conceptual model with focus on program characteristics

Admission

Because admission can tell you something about the grades, the academic level and the work effort is an interesting aspect to look at. NHH, BI and HH-UiS require different things to be admitted into their master's program. HH-UiS require a C in average, while NHH require a C in every course, but in reality, NHH doesn't accept anyone with an average below B. Furthermore, at BI they must average between a B and a C and must pay to attend the school, while at NHH and HH-UiS you only pay the student fee, which is around 700 – 800 NOK per semester. At BI, the tuition is 47,000 NOK per semester. This is because it is privately owned. This can deter certain students who do not have the financial means to attend BI.

The admission GPA of the program says something about how much they know, willingness to work hard and sometimes ability. For the Business School to have a high GPA may have a domino effect which leads to students with high GPA applying in the future and a larger applicant pool. A high GPA may tell the school at what level they can start teaching and what they can

expect of the student. This can be a self-fulfilling prophecy, both positively and negatively for programs with low GPA.

However, admission statistics alone does not fully predict how relevant the master's program is. One may faulty assume that high GPA means good and desirable employees. This may or may not be the case. It can certainly be an attributing factor worth looking into. Below is the GPA, number of applicants and the applicants accepted into the program (DBH, 2018). We were unable to gather applicant data from BI.

	HH-UiS	**BI**	**NHH**
GPA	3,06 / 5	3,5/5	4,1/5
Number of applicants	4 321 (2017)		6 996 (2017)
Number of applicants who was accepted	280 (2017)		856 (2017)
Percentage of students completing in normal time	47,77 %	74,36 %	78,53 %

Table 8: Applicant characteristics and admission for 2017 (DBH, 2018d; DBH, 2018e)

Work Integrated Learning

Because work-integrated learning gives the students hands-on experience, it can be a key factor when looking at the perceived benefit of the student both as work experience, networking and potential increased understanding and relevance of the curriculum. It is approved by the university as relevant and it either gives the student credits towards their degree or a leave of absence to do so. Because the university values internships to this degree, we also see it as valuable experience for the student.

Furthermore, individual courses could also have simulations, case studies, and visits from professionals at relevant firms. This could be very relevant for students and may help them to get hands-on experience and understanding while in the classroom. Even though this would be relevant, there are no data on this, so it will not be considered. Another factor that could be included is the part-time job the student has. This could be relevant for their studies, but it could also not be. Working part-time in a day-care facility may not give the same work-related experience as working part-time in a bank. Because neither Studiebarometeret or DBH give us any data on part-time work and its relevance, only internships will be considered as WIL.

At HH-UiS, they have no internships as part of their academic courses (Universitet i Stavanger, 2018). At BI, they give the students who have a B or higher as average a possibility to take 2 months off school to work full-time as an intern in a business. This counts towards their degree and they have to write a paper on it after the completion of the internship (Handelshøyskolen BI, 2018b). At NHH they also have internships available for students abroad in both Japan, Brazil and London, that counts towards their degree and is doubled as a semester abroad as an exchange student (NHH, 2018c).

	HH-UiS	BI	NHH
Internship[4]	No	Yes	Yes
Study abroad	8 students (2017)[5]	Yes, but data unavailable	227 students (2017)[6]

Table 9: WIL at HH-UiS, BI and NHH

Program specialization

Even though the schools offer different numbers of specializations, it does not say anything about how many courses they take within their specialization. The students can also choose from a variety of classes within the specialization, to further specialize their degree which means that there is a finite, but large number of course combinations. We were unable to retrieve data from BI in regard to electives.

HH-UiS	BI	NHH
Strategy and Management (21)	Business Analytics	Business Analytics (11)
Business Innovation (20)	Finance	Economics (24)
Applied Finance (17)	Quantitative Finance	Energy, Natural Resources and the
Economic Analysis (19)	Strategic Marketing Management	Environment (28)
	Business and Leadership	Financial Economics (41)
		International Business (20)
		Marketing and Brand Management (24)
		New Business Development (13)
		Business analysis (11)
		Strategy and Leadership (35)

Table 10: Number of specializations, with the number of electives in parenthesis.

[4] Looked at each schools' website
[5] Data retrieved from e-mail correspondence with Anne-Lin Brobakke at UiS
[6] DBH (2018)

At NHH, the students can choose from a large number of relevant electives within their major. Each class is 7.5 points, which means that they need to take more classes than if they all were 10 points. However, according to their website all the electives available are related to their major. Simply put – if you study Financial Economics, the 41 available electives are within the field of finance (NHH, 2018a).

At HH-UiS, there are between 17-21 electives. This may sound impressive until you see that they are all the same for all specializations. However, depending on how many required classes you have, the number of electives may vary. For some specializations, this means that there are no, or few electives related to their major (Universitetet i Stavanger, 2018).

To summarize this empirical subsection, we have now presented the input variables, which also works as our independent variables. As input, we have the academic resource base and the program characteristics. These are the two main input variables that we believe have an impact on both process and output variables. The academic resource base includes fulltime equivalent, publication points and number of students. Subsequently, we have combined them to find publication points per fulltime equivalent and students per fulltime equivalent. We will now go on to present our data in regard to process variables.

4.2 Process variables

Process variables can be seen as an indication of quality of the educational process, and this is measured through a yearly survey among students called Studiebarometeret, starting in 2014. The survey measures a wide variety of indicators, but what we focus on is mainly the feeling of work relevance for students. We also take a closer look at their perceived learning outcome and overall satisfaction. These are all signs of the quality of the educational offering and the students' effort, which ultimately predict the students' benefit achieved from their education.

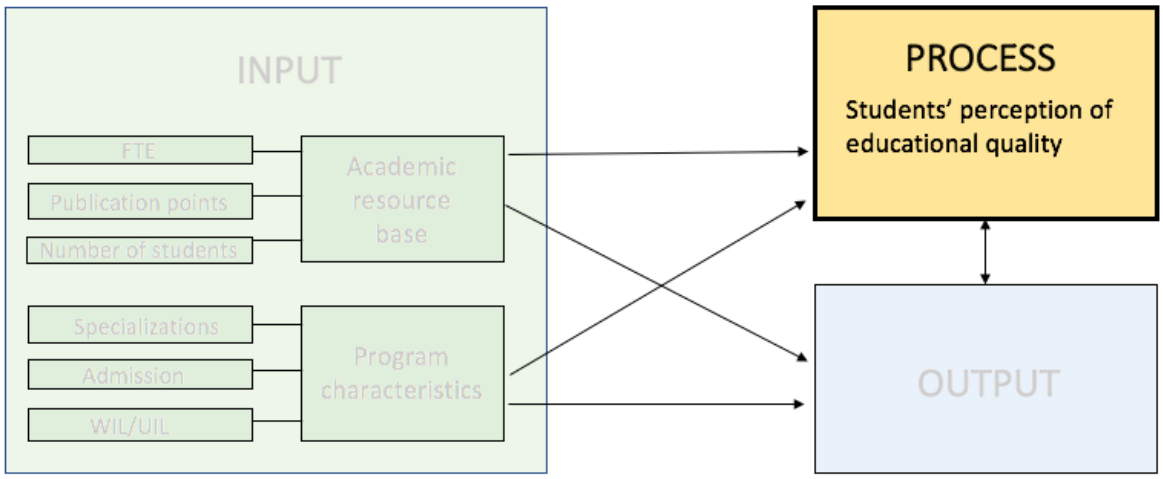

Figure 12: Conceptual model with focus on process variables

4.2.1 Studiebarometeret

Every year, NOKUT - the National Organ for Quality in Education in Norway within the Department of Education, conduct a survey among Norwegian students where the aim is to reveal how students assess the educational quality of their studies. We are going to present the results for the masters' program at NHH, BI and HH-UiS, and we focus on three variables, namely perceived work relevance, learning outcome and overall student satisfaction.

According to the most recent student survey, there is a considerable gap between the master's in business programs at HH-UiS, BI and NHH. Looking into this can show indicators of how the Business Schools are catering to the students, while at the same time catering to their *needs* and not their *wants*. There is a tension here because the student might not know what he or she actually *needs*. In the same way that a child *wants* ice cream for breakfast – and not giving the child the ice cream is actually what the child *needs*. However, Studiebarometeret give important

indicators and the Business Schools need to be measured to give the students the education they deserve.

A limitation to Studiebarometeret is that they started their research and surveys in 2014 and only have data from 2014 – 2017. This makes it difficult to make statistically significant conclusions because one anomaly can skew everything. It does however show important trends and each Business Schools' approximate base level.

Work relevance

Work relevance is concerned with whether the students perceive their educational program to prepare them for the labor market, and to what extent they feel that they can use the knowledge and skills that they have obtained during their studies in the labor market later on. This is a composite variable that consist of several indicators. The areas looked at within work relevance is whether the education is relevant for the area of work the student wants to get into. Also, it measures whether or not it gives good work opportunities and competence necessary for the job. Lastly, it looks at the university collaboration with the labor market.

Work Relevance	2017	2016	2015	2014
HH-UiS	3,7	3,9	3,8	4
BI	4,1	4,2	4,2	4,3
NHH	4,5	4,5	4,5	4,5

Table 11: Work relevance (NOKUT, 2017)

Based on the survey conducted by NOKUT in 2017, HH-UiS is below average, BI is just around the average and NHH is consistently above average. All these surveys were done for students getting their Master in Business and Administration. As the figure above shows, the work relevance is perceived to be decreasing for both HH-UiS and BI. However, we see that NHH has consistently stayed at a 4,5 level over the last four years. Studiebarometeret does not have any earlier data.

	HH-UiS				BI				NHH			
	2017	2016	2015	2014	2017	2016	2015	2014	2017	2016	2015	2014
Relevant for area	4,0	4,3	4,1	4,1	4,2	4,2	4,2	4,4	4,6	4,5	4,6	4,6
Work opportunities	4,0	4,0	4,0	4,3	4,3	4,4	4,3	4,7	4,7	4,7	4,7	4,7
Necessary competence	3,8	4,2	-	-	4,1	4,2	-	-	4,4	4,4	-	-
Collaboration with labor market	2,8	3,1	-	-	3,9	4,2	-	-	4,3	4,3	-	-

Table 12: Work relevance in detail (NOKUT, 2017)

The more detailed results for the indicators that lie within work relevance show that the biggest difference between HH-UiS, BI and NHH is on the indicator that revolves around collaboration with the labor market. Here, NHH students score the highest while HH-UiS score relatively low compared to the other Business Schools with a score of 2,8 in 2017. Overall, HH-UiS score the lowest while NHH score the highest on all four indicators.

Learning outcome

Learning outcome is determined by various variables such as theoretical knowledge, knowledge about research, own experience in regard to research, work-specific skills, the ability to reflect and to think critically, cooperation, good oral and written communication, innovative thinking and independent thinking.

Learning Outcome	2017	2016	2015	2014
HH-UIS	3,44	3,78	3,52	3,64
BI	3,91	3,86	3,73	3,86
NHH	3,94	3,83	3,82	3,75

Table 13: Average learning outcome (NOKUT, 2017)

The table above shows that, overall, master's students at NHH consider their learning outcome to be better than the other two schools, but BI is only marginally below. HH-UiS has the lowest score in regard to learning outcome, and the score has decreased a bit from 2016 to 2017. NHH's

score was consistently higher than the others at five out of ten indicators of learning outcome, BI and NHH scored the same on two indicators, while HH-UiS had the lowest on nine out of ten.

	HH-UiS				BI				NHH			
	2017	2016	2015	2014	2017	2016	2015	2014	2017	2016	2015	2014
Theoretical knowledge	3,6	3,9	3,8	4,0	4,0	4,1	4,0	4,2	4,4	4,2	4,3	4,3
Knowledge about research	3,3	3,3	3,7	3,4	3,9	3,8	3,8	3,9	4,0	3,9	3,9	3,7
Experience in research	2,9	3,2	3,3	3,3	3,7	3,4	3,3	3,4	3,7	3,5	3,5	3,4
Work-specific skills	2,8	3,1	2,9	3,1	3,3	3,4	3,3	3,3	3,4	3,3	3,3	3,4
Reflection and critical thinking	3,5	4	3,6	3,5	4,1	4	3,8	3,9	4,2	3,9	3,9	4,0
Cooperation	3,8	4,2	3,8	3,9	4,3	4,2	4,2	4,2	4,1	4,2	4,0	4,0
Oral communication	3,5	3,9	-	3,7	3,8	3,8	-	3,8	3,4	3,4	-	3,1
Written communication	3,7	4,3	-	4,0	4,2	4,1	-	4,2	4,2	4,1	-	4,0
Innovative thinking	3,4	3,7	-	3,3	3,6	3,5	-	3,3	3,5	3,5	-	3,3
Work independently	3,9	4,2	-	4,2	4,2	4,3	-	4,4	4,3	4,3	4,3	4,3

Table 14: Learning outcome in detail (NOKUT, 2017)

Overall student satisfaction

The student barometer looks at several different areas to determine overall student happiness such as environment for learning, students' ability to influence teaching, motivation, work relevance, teaching, staffs' expectation and the organization.

Overall student happiness	2017	2016	2015	2014
HH-UIS	3,40	3,70	4,10	3,90
BI	3,80	4,30	4,10	4,20
NHH	4,50	4,40	4,40	4,40

Table 15: Overall student satisfaction (NOKUT, 2017)

The survey shows that HH-UiS has the lowest scores. BI comes in the middle with higher scores than UiS, but lower than NHH. Both BI and HH-UiS have decreasing scores, while NHHs' scores are consistent, with a slight 0,10-point increase in 2017. This is interesting because especially HH-UiS's scores have decreased quite a lot over the four years the survey has been taken. Arguably, BI's scores are consistent if 2017 is not considered. It is difficult to say if it is an outlier or a new trend because of the limited available data.

To summarize this subsection, we have now presented the available data in regard to process variables. These variables represent the perception of students, and consists of perceived work relevance, learning outcome and overall student happiness. We compare the results (average) for these three indicators for the master's program in Business and Administration at HH-UiS, BI and NHH from 2014 to 2017.

4.3 Output variables

Output variables say something about the benefits that students achieve after completing their studies. This is measured as unemployment rates, benefit from having contact with the labor market, perception of work relevance, learning outcome and satisfaction. The results can be seen in Kandidatundersøkelsen – a survey conducted every two years aiming to reveal adaptation in the labor market. It also serves as an assessment of the educational quality and work relevance for candidates newly graduated from university. In other words, this can be seen as a counterpart of Studiebarometeret as it measures how graduated candidates actually experience the transition from studies to the work force as opposed to students still in university.

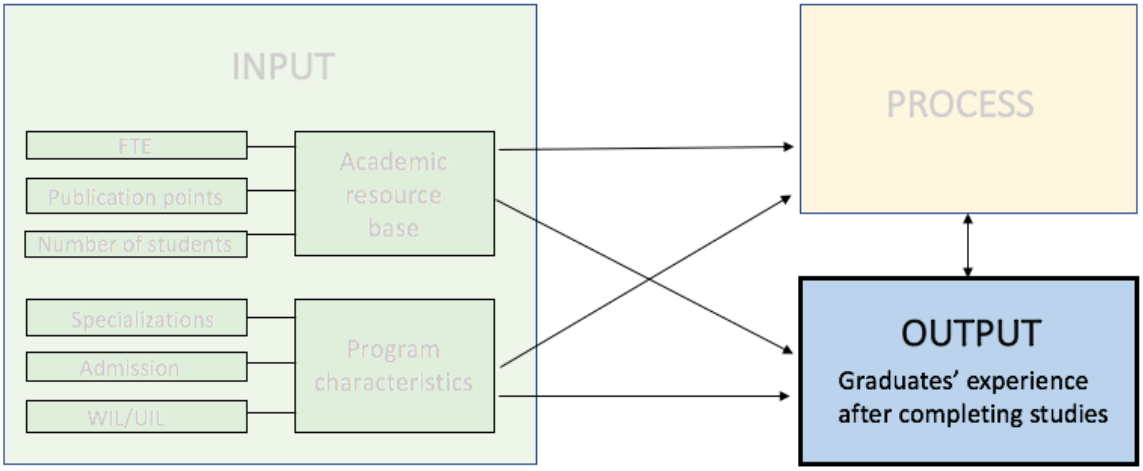

Figure 13: Conceptual model with focus on output variables

4.3.1 Kandidatundersøkelsen

Ever since 1972, NIFU – the Norwegian Institute for Studies of Innovation, Research and Education, have conducted a survey called Kandidatundersøkelsen. This survey aims to reveal how candidates from colleges and universities adjust to the labor market and assess the quality and relevance of their education 6 months after their studies (NIFU, s.a). We have mainly used the preliminary paper that was published in 2018 concerning the 2017 survey. However, the final report is not published until later this year. Thus, when needed, we have also supplemented with the final report from 2016, NSD and results from Spesialkandidatundersøkelsen 2017 surveyed three years after graduating. We will examine the share of candidates that have gotten a relevant job, unemployment rates, as well as how they view relevance, learning outcome and quality when looking back at their education.

A limitation of using this survey as an indicator of output is that BI is not included. They have declined participation in the study, and what we have used to capture BI's adaptation to the labor market is their own labor market survey. Additionally, they are included in Spesialkandidatundersøkelsen. Another challenge is that in some parts of the survey, numbers for masters' in Business and Administration are presented as a whole. It is therefore difficult to compare the schools, but it gives us an indication nonetheless.

Unemployment

One of the main topics that Kandidatundersøkelsen seek to disclose is the level of unemployment among candidates from different study programs six months after graduating. 2015 and 2016 was recognized by an increased unemployment rate, but this went down in 2017. This is consistent with the rest of the work force, but the changes are more apparent among recent graduates as they are more sensitive to cyclical fluctuations. This is also the case for master's in Business and Administration, where level of unemployment has gone down from 7,8% to 5,6%. However, the changes are not substantial compared to other programs who have encountered large fluctuations. Overall, candidates from Business and Administration experience low unemployment both six months and two to three years after graduating from their studies, and their labor market situation is generally quite good (Støren, 2018; Støren, Nesje, Salvanes, Arnesen & Reymert, 2018).

	2013	2015	2017	N, in 2017
Master's/higher education in total	6,8	8,7	7,9	4289
Humanities and aesthetics	8,3	9,7	7,1	478
Teaching and pedagogy	3,1	3,0	3,1	547
Social studies	7,6	11,2	9,7	588
Law	6,0	8,7	9,0	344
Business and Administration	**7,8**	**6,4**	**5,6**	**702**
Engineer	5,7	15,0	16,0	537
Realists/scientists	9,8	13,8	14,2	326
Health and social studies	4,6	2,9	3,4	590
Sport education	3,3	6,8	1,9	52
Primary industries	14,8	2,7	13,0	54
Transport and security	3,4	21,7	4,2	71

Table 16: Percentage of unemployment six months after graduating. Results from Kandidatundersøkelsen 2013, 2015 and 2017 (Støren, 2018)

Støren (2018) has also examined whether there are differences between institutions. This is not something that they normally do as there are too few respondents at each institution for the numbers to make any sense. However, we can see the unemployment rates for UiS and NHH from 2011-2017 in table 17 below. As for BI, their labor market survey reveals that 85% have gotten a job within six months after graduating (Handelshøyskolen BI, 2018a; Econa,2018).

	2011	2013	2015	2017	N
UiS	5,9	1,0	14,3	8,4	154
BI	-	-	-	-	-
NHH	2,6	9,0	4,1	6,5	216

Table 17: Percentage of unemployed at UiS and NHH (Støren, 2018)

As the table above shows, UiS has a consistently higher unemployment rate than NHH. It is fair to assume that the large increase in 2015 is a consequence of the fluctuations in the oil sector and the subsequent poor labor market in the Stavanger region. NHH experienced a decrease in unemployment the same year. In 2017, the rate stabilized, but there is still a higher rate of unemployed graduates from UiS than from NHH.

It is also interesting to see the share of candidates that are maladjusted, that is, either unemployed, underemployed or involuntarily have an irrelevant job.

	Unemployed	Underemployed	Irrelevant job	Maladjusted in total	N
UiS	8,4	4,5	5,8	18,8	211
BI	-	-	-	-	-
NHH	6,5	0,9	2,3	9,7	216

Table 18: Maladjustment (Støren, 2018)

Table 18 shows that UiS have a higher fraction of maladjusted candidates, and it is higher on all three components. Additionally, NHH has a lower average age of candidates (27,7 years) compared to UiS (33,0 years). One should think that a lower age would lead to a higher maladjustment rate, but this is not the case here.

Two to three years after graduating, NIFU conduct Spesialkandidatundersøkelsen which also includes BI. The results of this survey are consistent with Kandidatundersøkelsen and shows that underemployment is generally low for master's in Business and Administration. However, the unemployment rate in the survey is lower than the registered rate. This is possibly because unemployed are underrepresented among the respondents in the survey (Støren et.al, 2018).

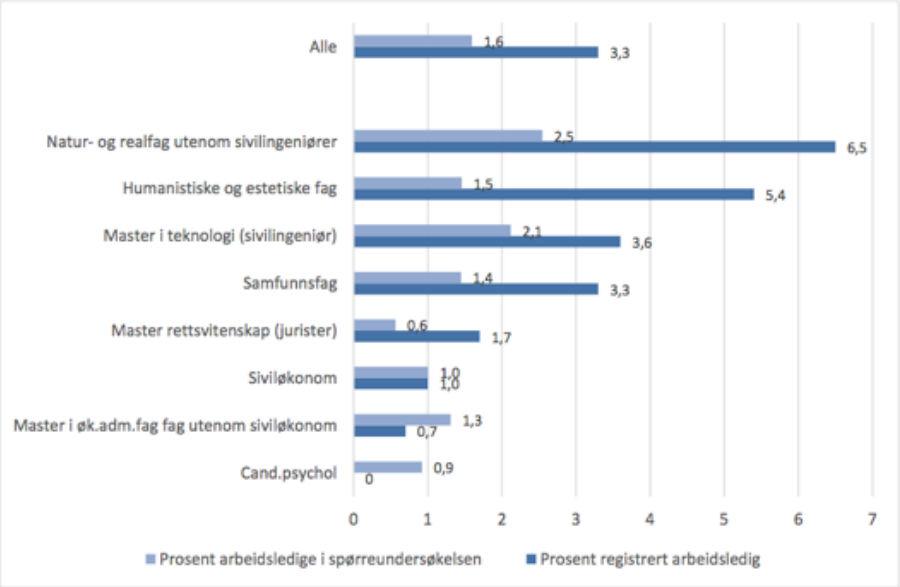

Figure 14: Unemployment in the survey and registered unemployment in the population. Percentage of total work force (Støren et.al, 2018)

Work relevance

In addition to unemployment and maladjustment, Kandidatundersøkelsen also measure how the candidates assess the work relevance of their education. Because the preliminary report for Kandidatundersøkelsen 2017 only included unemployment before the full report is published in August, we have based this empirical subsection on the report from 2016 and Spesialkandidatundersøkelsen 2017 to get a sense of how candidates review their education both six months and two-three years after graduating. For candidates within Business and Administration, approximately half of the respondents are satisfied with their educations' level of work relevance (Støren, Salvanes, Reymert, Arnesen & Wiers-Jenssen, 2016).

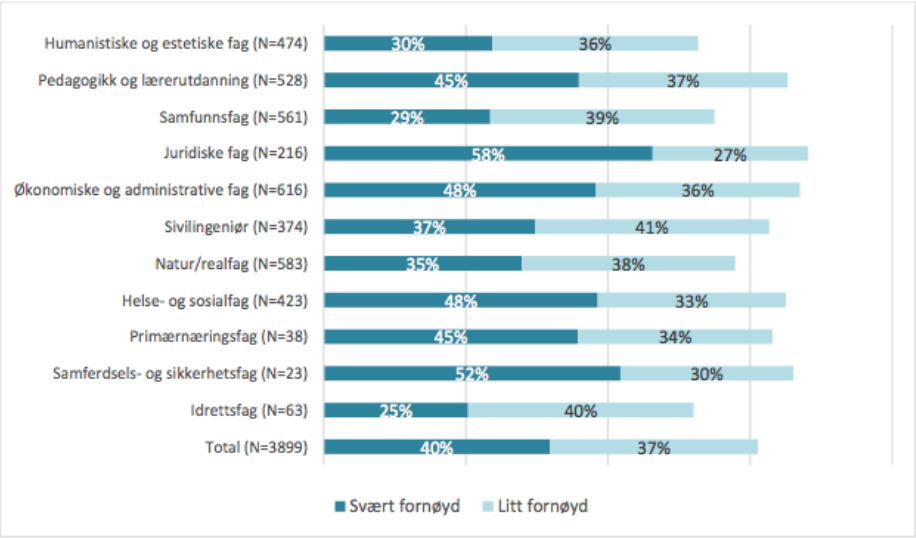

Figure 15: Assessment of the educations' work relevance (Støren et.al, 2016)

When it comes to the number of candidates that have a relevant job six months after studies, that is, those who are not unemployed, underemployed or have irrelevant work (Støren, 2018), there are differences between the three institutions, even though they are quite small.

	2013	2014	2015	2016	2017
UiS[7]	88,35	-	75,71	-	-
BI[8]	91,7	89,7	89,2	87,4	91,1
NHH	90,34	-	88,99	-	-

Table 19: Percentage of candidates with relevant work (NSD, 2018; Handelshøyskolen BI, 2018a)

Table 19 above shows that candidates from BI and NHH view their education as more work relevant than candidates from UiS. It is however important to note that these numbers are for master's at UiS and not HH-UiS specifically. Nevertheless, it gives an indication that candidates from NHH and BI perceive their education as more relevant for the labor market. The numbers for BI are retrieved from their labor market survey, and it is not specified that this only cover those with a *relevant* job (Handelshøyskolen BI, 2018a). Still, when looking at the distribution of where the candidates are employed, we believe that it is fair to assume that at large part has a

[7] Not HH-UiS specifically, these numbers were not available
[8] Not specified as relevant job

job with high relevance. Similarly, the results from Spesialkandidatundersøkelsen 2017 show that UiS is below both BI and NHH in terms of work relevance when looking back at the education three years after graduating. UiS also have a higher level of dissatisfied candidates (Støren et.al, 2018).

	Satisfied	Neither	Dissatisfied
UiS	82	4	14
BI	90	1	8
NHH	91	4	4

Table 20: Assessment of work relevance three years after graduating. Percent. (Støren et.al, 2018)

Spesialkandidatundersøkelsen also examine how candidates view the use of skills and knowledge in their job. Based on the information presented above, it is not surprising that BI and NHH are on top with 66 % and 64 %, respectively. UiS on the other hand, is on the bottom with 44% as seen in figure 15 below. This can also actualize whether employers demand more than the educational institutions manage to offer their students (Støren et.al, 2018).

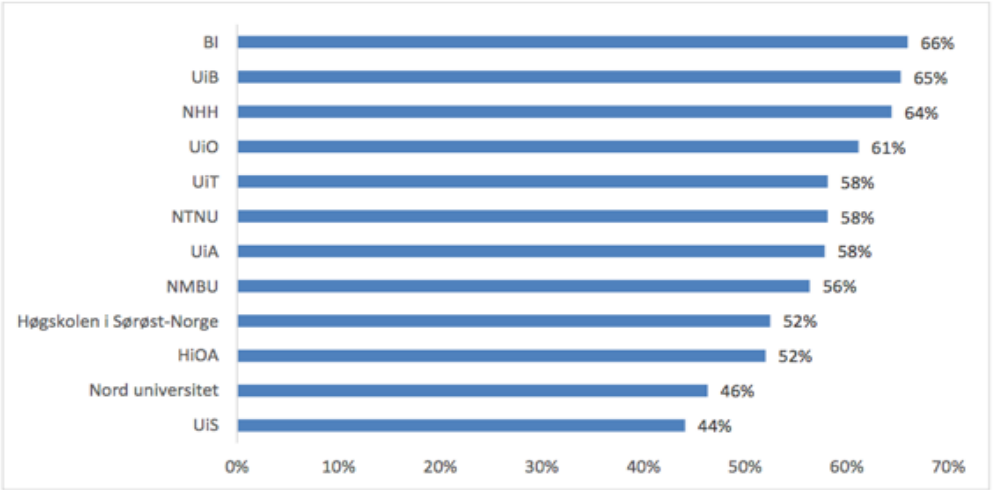

Figure 16: Share of candidates who experience sufficient utilization of skills and knowledge in their current job (Støren et.al, 2018)

The assessment regarding relevance is also dependent upon the situation that the candidates are in when answering the survey. According to Støren et.al (2018), those who are not maladjusted are naturally the most pleased with their educations' relevance. Those who are the least satisfied

are those who have an irrelevant job. Naturally, this is not surprising as the main goal of even getting an education is to get a job. Additionally, a job that aligns with the education is probably a main incentive for most when investing in a master's degree.

Learning outcome

When candidates were asked to look back and review the learning outcome of their completed education in Kandidatundersøkelsen, they were asked to rank different variables that lie within this category. These variables are the same as the variables included in Studiebarometeret, namely theoretical knowledge, knowledge about research, own experience in regard to research, work-specific skills, the ability to reflect and to think critically, cooperation, both oral and written communication ability, innovative thinking and independent thinking.

For candidates in Master in Business and Administration, the highest score in terms of learning outcome is for theoretical knowledge (4,33) and to work independently (4,52). On the other hand, the lowest score is given to oral communication (3,66) and work-specific skills (3,41) (Støren et.al, 2016). Candidates from NHH is the most pleased with the educational environment, while UiS is on the bottom here as well.

The same variables were measured in Spesialkandidatundersøkelsen. However, it is important to note that the question here was focused on whether or not the education should emphasize certain skills to a larger degree. In other words, a high bar in the figures below have the opposite meaning, it is something that the candidates consider as low. The results are shown in figures 17-19 below.

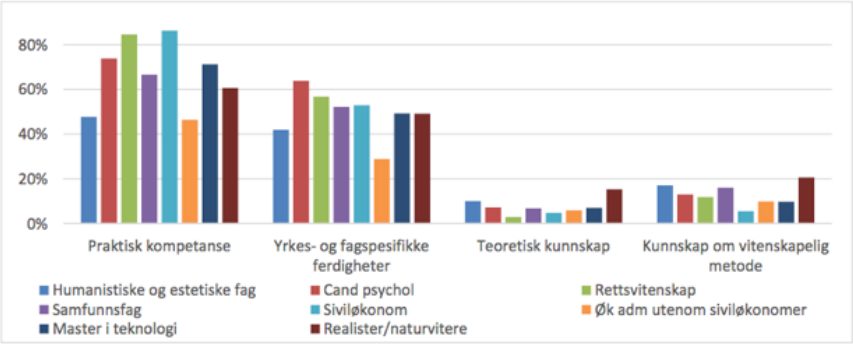

Figure 17: Assessment of learning outcome part 1 (Støren et.al, 2018)

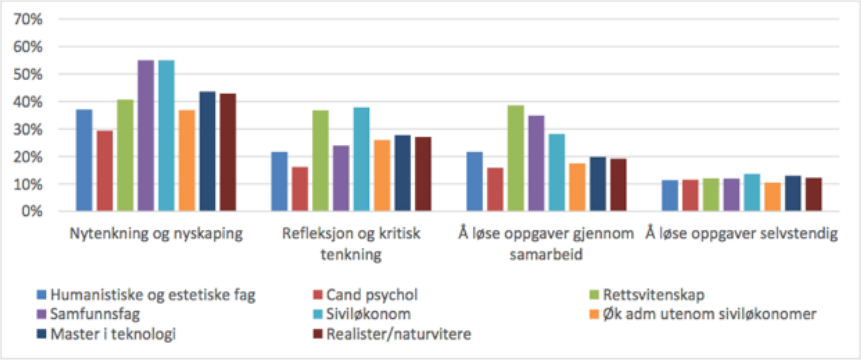

Figure 18: Assessment of learning outcome part 2 (Støren et.al, 2018)

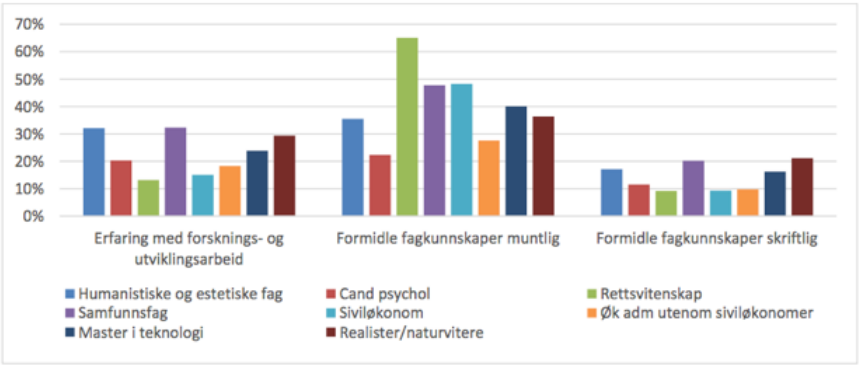

Figure 19: Assessment of learning outcome part 3 (Støren et.al, 2018)

The figures above show that practical competence, work-specific skills, innovative thinking, oral communication, critical thinking and cooperation is something that Business and Administration candidates believe their education should be more focused on.

Contact with the labor market

Former surveys related to examining candidates' experience have shown that the contact between the labor market and the educational institutions vary from program to program. The findings have also indicated that such cooperation makes the transition from studies to the life of work easier as it tends to mitigate the level of maladjustment. This was, however, only applicable to the more committing forms of contact such as guidance, project papers or research projects. This can also raise the level of students graduating within the standard time frame (Støren et.al, 2016).

	Uncommitted cooperation		Projects, guidance, research		Practical training	
	2011	2015	2011	2015	2011	2015
Master's in Business and Administration	81	83	65	62	18	18

Table 21: Participation in various types of contact with the labor market. Percent (Støren et.al, 2016)

Education within Business and Administration normally has a lot of cooperation with the labor market. Surprisingly, the newest available data from Kandidatundersøkelsen show through a regression analysis that the effect of labor market contact in the form of projects, guidance and research on maladjustment is minimal. This may be random, and it may be due to change in the quality and extent of the different types of contact. It can also have something to do with the fact that the importance of grades increases and that grades have a larger effect on unemployment than before. Practical training on the other hand, reduce maladjustment, both unemployment and irrelevant work. What really has an effect on successful adaptation to the labor market is experience with paid, relevant work during studies. This reduces the risk of both being unemployed and having an irrelevant job. Projects, guidance and research may however have an effect on increasing work-specific skills as those who had this contact had a statistically significant increase of 4% in these skills (Støren et.al, 2016).

Overall satisfaction

Candidates within Business and Administration have a high overall satisfaction when it comes to the quality of their education, and the last results from Kandidatundersøkelsen showed that 68% were 'highly satisfied' with their education in general. 53% are 'highly satisfied' with the educational institution from where they have graduated. Candidates from NHH are the ones that are the most satisfied, while candidates from UiS are substantially less satisfied. 50 % of the candidates are 'highly satisfied' with the educational content of the studies, but only 31% answered 'highly satisfied' when it comes to the quality of teaching/lectures. There are big differences between programs as some focus on independent studies and an exam at the end, and others have guest lecturers with business experience, cases and group assignments (Støren et.al, 2016).

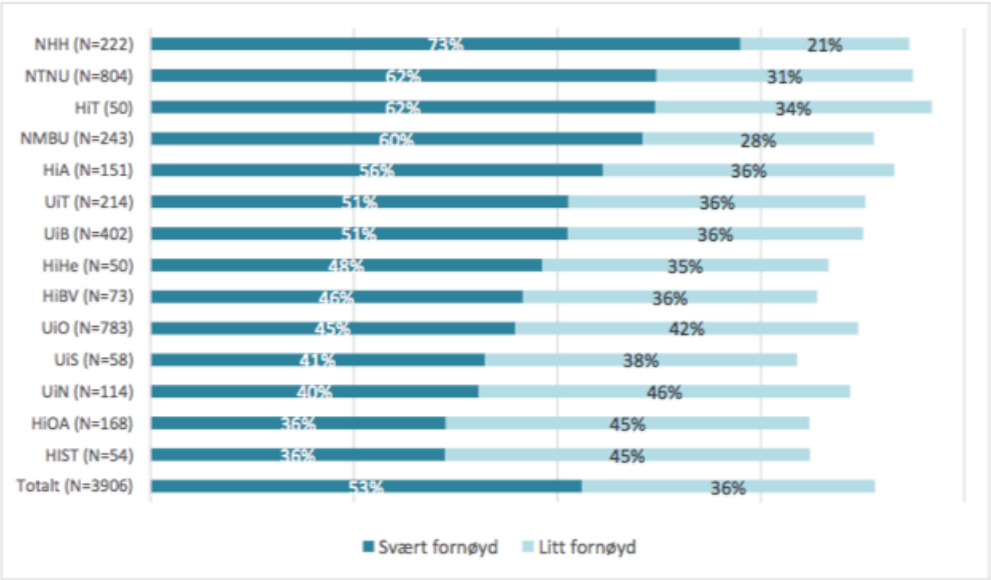

Figure 20: Assessment of the quality of the educational institution (Støren et.al, 2016)

To summarize this empirical subsection, we have now presented the output variables, variables that symbolize our dependent variables. These variables comprise candidates' actual experience after graduating in terms of the transition into the labor market and how they assess work relevance, learning outcome and satisfaction looking back on their education. In other words, we pretty much look at the same variables as we did under process variables, but unemployment and collaboration with the labor market is also included. This gives us an idea of how the work situation actually is for candidates within Business and Administration, and whether linkages to the industry have an effect. In the next chapter, we will analyze the variables that have been presented in the three empirical sections above and look at possible effects, differences and similarities between them.

5.0 ANALYSIS

In this chapter, we go about analyzing the data found and presented in the previous chapter. We aim to reveal whether there are gaps between the variables, which basically means that we will see if there are correlations or inconsistencies between variables regarding input, process and output. How does the academic resource base affect how the students perceive work relevance, learning outcome and their general satisfaction? Can this perception be explained by factors in the characteristics of the program? And how can input factors affect the actual experience when transitioning from university to the labor market? Lastly, is there a gap present between what the students experience while still at university and their actual benefit after completing their studies? These are the questions that we intend to answer throughout this chapter.

5.1 Input and process variables

Here, we look at the connections and possible gaps between the academic resource base, program characteristics and the perceptions of students measured in Studiebarometeret related to work relevance, learning outcome and general satisfaction. Not all variables found are quantifiable and measureable, such as program characteristics, a variable mainly consisting of hard facts about the features of the master's program at the compared universities. Thus, we make a descriptive assessment of possible connections and gaps based on logic and our own thought process.

5.1.1 Academic resource base and students' perception

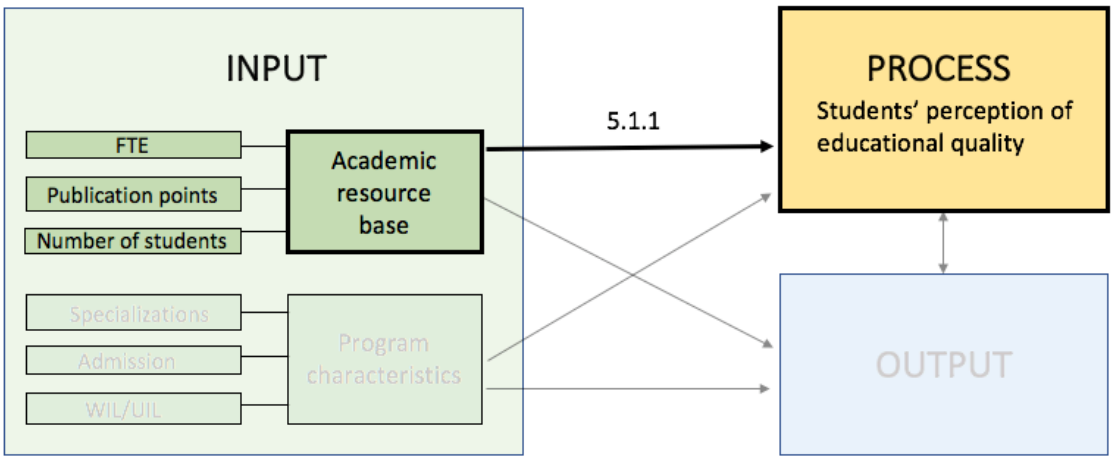

Figure 21: Connection between input and process (1)

When comparing the academic resource base to the students' perception of their education we mean this; does the number of publications a full-time equivalent publish impact the perception of education for the student? Does the number of full-time equivalent per student impact the perceived educational benefit for the student? Are there trends that show that increasing the number of publication points affects the perceived (and maybe even real) quality of education? Are there trends that indicate that number of publications actually decrease the perceived work relevance?

Because of the limited number of data from Studiebarometeret, we can only compare the data from 2014-2016, but can look at the trends from DBH to 2010, and we also have 2017 data from Studiebarometeret. This is not enough for a thorough computational analysis, but enough to see trends and indications.

5.1.1.1 PP/FTE and its effect on perceived work relevance

What effects does the increased number of publication points[9] per full-time equivalent have? Looking at the empirical evidence for *PP/FTE*[10] and *work relevance* for HH-UiS, BI and NHH one can see indicators of correlations.

At HH-UiS, the PP/FTE has increased by 196,5% over a six-year period. From the same time period as measured by Studiebarometeret (2014 to 2016), the PP/FTE has increased by 152%. In the HH-UiS strategy plan for 2018-2020, they want to increase the PP/FTE and increase the level 2 publication points – the most comprehensive publications in well-established and highly regarded publications channels (Handelshøyskolen på UiS, 2017).

During that time, the perceived work relevance has decreased from 4.0(out of 5.0) to 3.9 in 2016, and 3.7 in 2017, a decreasing trend for HH-UiS. It is notable that the perceived work relevance has decreased so much at HH-UiS, especially since the oil crisis drastically decreased the amount of jobs available for people in Rogaland, the county HH-UiS is located in. BI has some small fluctuations in PP/FTE from 2010-2015, but it doubles in 2016. The perceived work relevance decreases from 4.3 (2014) to 4.1 (2016). So, there is an increase in PP/FTE and a decrease in work relevance.

[9] Publication points are points gathered from publishing scientific articles.
[10] Number of publication point per full-time working employee tells us how many publication points one employee produces on average. The higher the PP/FTE is, the more each FTE publishes.

In the strategy plan BI has developed for 2015-2018, they focus on becoming one of the 20 best Business Schools in Europe by focusing on attaining the best students, have great teaching, increased publication points and implement "best practices" from businesses (Handelshøyskolen BI, 2018c). Based on their strategy plan they have become more academically sound based on PP, but the decreased perceived work relevance, can be an indicator of decreased focus on helping the student gain valuable work experience and making the lectures work relevant.

NHH too has fluctuations, but a more distinct increase in 2015, which is also when the new PP system rules were put into place. The perceived work relevance has stayed stable at 4.5 from 2014-2017. According to the strategy plan for NHH from 2018-2021, they want to increase their number of publications at level 2 and increase the amount of money they get from the level 2 publications (NHH, 2018b). NHH is the school that has had the most stable PP/FTE in the 2010-2016-time period, and is a Business School that has over a long period of time put a lot of pride in being academically sound, work relevant and producing good employees. Yearly fluctuations can arguably be considered normal. This is because researching, testing, collecting data, writing and publishing an article can take more or less time depending on the nature of the research paper.

Comparing the three schools, there is a trend implying that an increase in PP/FTE decreases the perceived work relevance for the student. This trend is most notable at HH-UiS. However, there is fluctuation in the number of publication points per full-time equivalent both at BI and NHH, but their perceived work relevance is much steadier, especially at NHH.

Looking at the PP/FTE, it does not tell you anything about the quality of the FTE in contact with the student. It may be that a couple of researchers do excellent research and no teaching, and others no research and excellent teaching. This paper does not measure the quality of the teaching, but it is safe to assume that quality and effectiveness in teaching would influence the work relevance, because a good teacher would include material relevant for students. Having an increased PP/FTE could also indicate an increased focus on research from the university perspective which could be an indicator of less focus on teaching.

Simply put – having a lot of FTE does not mean you have a lot of people giving lectures to students. It raises the question – should all FTE's at a Business School give lectures? We would argue – no. Doing excellent research does not mean that the person gives excellent lectures

relevant for the student. Is the benefit of the research done enough to weigh up for the fact that the person does not enjoy/want to spend time on/is good at conveying knowledge to the students? Could the research done by an employee giving lectures skew the teaching to include too much of the research, and not enough of the material supposed to be covered? If the FTE – or staff, communicates and talk about their research, does it matter who talks about it in a lecture? However, there is never just one variable affecting perceived work relevance. We will now look into the PP/FTE and the students learning outcome.

***Summary**: Even though the data set is small, it shows tendencies towards PP/FTE having a negative effect on the work relevance. This corresponds to our original beliefs.*

5.1.1.2 PP/FTE and its effect on learning outcome

Using the same PP/FTE data as above, one can see that the perceived student learning outcome have small fluctuations at both HH-UiS and at BI. However, HH-UiS have small negative fluctuations while BI has positive. NHH has a small increase. Logically, the more PP/FTE you have, the less the learning outcome because the lecturer spends the time researching. However, the data does not support this. Based on the 4 years the survey has been done, the fluctuations in learning outcome are small, while PP/FTE for HH-UiS and BI are relatively large. NHH is relatively stable, and there is a slight increase in learning outcome at NHH.

***Summary:** Contrary to our beliefs, learning outcome is not influenced by PP/FTE to a large degree. The curve of learning outcome corresponds to the PP/FTE, but to a small degree. As the educational level of the student increases, so should their independence and ability to work autonomously. This may be why the PP/FTE does not impact the masters' student as much as it would on a lower educational level. This may indicate that the time the lecturer uses on other projects does not have a large effect on the student. Even though the PP/FTE does not affect the students' learning outcome to a large degree, it is interesting to see whether or not it affects the overall student happiness.*

5.1.1.3 PP/FTE and its effect on overall student happiness

Opposite to our thoughts, PP/FTE did not affect learning outcome like we expected. The overall student happiness is a completely different matter. For HH-UiS it decreased from 3,9 in 2014 to 3,4 in 2017 – a reduction of 12,8% in overall happiness. In the same time period, the overall BI student happiness decreased from 4,2 to 3,8. However, 2017 looks like an outlier, because the three previous years, its' been above 4,1. NHH has had stayed stable at 4,4 to 4,5 in 2017.

Comparing this data with the PP/FTE, we see that there has been an increase in PP/FTE, and a decrease for both HH-UiS and BI, while NHH has stayed pretty stable. It is difficult to draw out exactly what can be the cause of the decreasing student happiness at BI and HH-UiS and what makes the NHH stable.

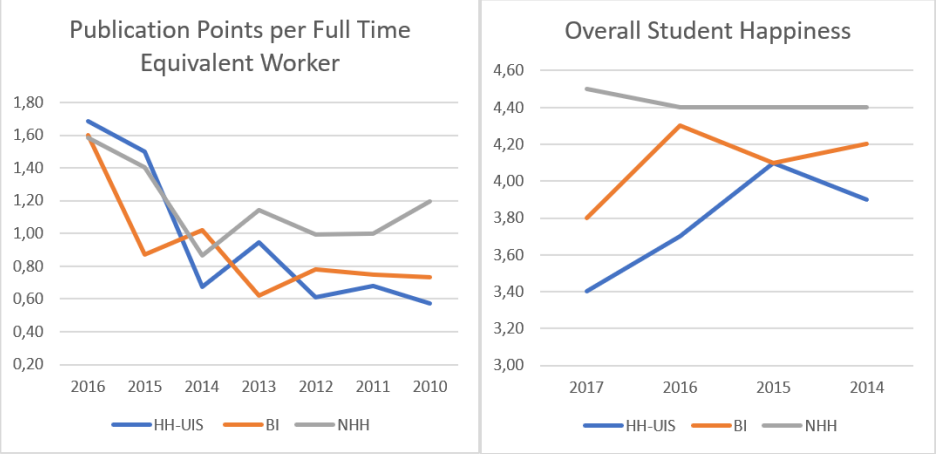

Figure 22: PP/FTE and overall student happiness (note: it goes backwards in time)

At HH-UiS, we see that the last two years, there has been a great increase in PP/FTE, and a large decrease in overall happiness. Logically, this would correspond with our thoughts, because the more a professor/the academic faculty spends on researching and writing, the less focused they are on the students. While there may of course be outliers to our thoughts.

We wonder what makes NHH exempt from this general thought. It is worth repeating that there was a new set of rules that came in 2015 regarding how to count Publication Points, which may for NHH mean that they have many good academic articles worth more points in the new system than in the old. However, this would be the same for all universities and colleges. To see if there

are any major differences, let's look specifically into the data from 2014 to 2015, when the new rules came:

School	Percentage change from 2014 to 2015[11]
HH-UiS	133% Increase
BI	-9,88% decrease
NHH	70,07% increase

Table 22: Percentage change in publication points

As we see in the table, HH-UiS had the largest increase, followed by NHH. BI, actually had a decrease when the new rules were set in place. They did however have a 78,33% increase from 2015 to 2016 [12]. For NHH and HH-UiS, this means that they may have published more, or that the research was simply of high quality – therefore receiving more points. Even this does not explain why NHHs' overall student happiness scores do not fluctuate. We know that there are many factors from Studiebarometeret that goes into calculating overall happiness, but we thought that it meant more than it apparently does – at NHH.

Summary: *Generally speaking, PP/FTE has a negative effect on overall student happiness, but to a different degree depending on the school.*

5.1.1.4 Students/FTE and its effect on perceived work relevance

The number of students per FTE could have an effect on the perceived work relevance, because the more people you have in each class, the less time the teacher can spend on each student. We do not have any data that distinguishes how much of the FTEs' time is spent researching or teaching – specially at the master's level, but trends and indications can be drawn.

As described in 4.1.1., HH-UiS and NHH has had a slight decrease in the number of students at the Business School, while BI has had quite a notable increase – overall. At the master's level, HH-UiS has increased notably, BI has increased a little, and NHH has decreased in number of

[11] Percentage change in PP from 2014 to 2015.

HH-UiS = (54,36-23,31)/23,31 BI = (245,03-271,89)/271,89 NHH = (246,91-145,18)/145,18

[12] Percentage change in PP from 2015 to 2016 BI = ((436,96-245,02)/245,03) *100

students. Viewing the number of students at both master's and overall, one can see that BI has a lot more students than NHH and HH-UiS. The tables below depict the trend in number of students at the school and at the master's level:

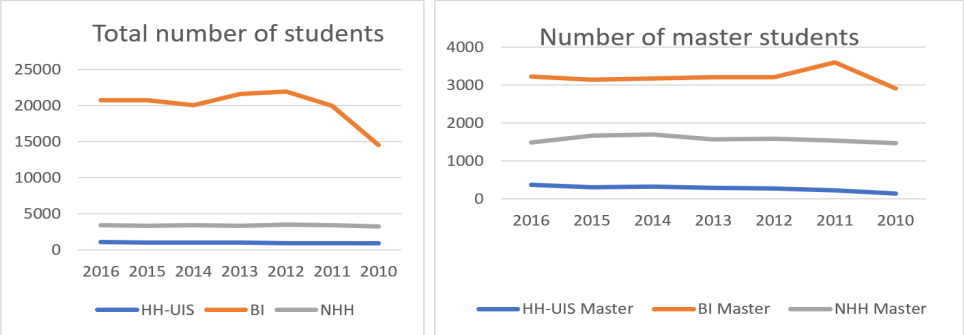

Figure 23: Number of students (note: table starts with the latest year)

However, it is difficult to decipher anything from just the number of students, which is why students per FTE needs to be considered.

% change in students/FTE	Number of students/FTE	Master students/FTE
HH-UiS	-15,60%	+87,05%
BI	+49,44%	-16,08%
NHH	-8,43%	-11,74%

Table 23: Percentage change in number of students from 2010-2016

Looking at table 23 above for HH-UiS, one can see that there is a 15,60% decrease in number of students/FTE and an 87,05% increase at the master's level. This means that in 2010, there were 5,25 students per FTE, while in 2016 there were 9,82 students per FTE. Fewer students per FTE can be in indicator of smaller classes and the lecturers' availability to spend time with each student. So, an increase at the master's level can indicate less time spent with each student.

When comparing this data to the work relevance, we see that the decrease in perceived work relevance at HH-UiS corresponds to the increase in master's students per FTE. BI has a slight decrease from 4,3 in 2014 to 4,1 in 2017 and a slight decrease in number of master's student. NHH students' perceived work relevance has stayed 4,5 over the past 4 years, while its number of master's students have slightly decreased. This means that in theory, there is more time per

student. This may mean that as students/FTE increases, the perceived work relevance decreases. This is true for both HH-UiS and BI. But again, we can scratch our heads and wonder why NHH is different from the two other schools. Their number of students/FTE is decreasing while the work relevance stays 4,5 consistently over the 4 years Studiebarometeret has done this data collection.

Summary: *As we believed, increased students/FTE negatively impacts perceived work relevance, except at NHH which slightly decreased students/FTE and has a stable perceived work relevance, so students/FTE does not negatively affect NHH like the other schools.*

5.1.1.5 Students/FTE and its effect on learning outcome

To further see what effects the number of students per FTE has, we will look into its effect on learning outcome. As previously discussed, students/FTE is generally increasing, meaning there are more students per teacher. NHH is the only school that has a slightly decreasing number of students per FTE, which they have both at the total and master's level. When looking into its effect on learning outcome, we can see that HH-UiS fluctuates, but is generally decreasing, while both BI and NHH's perceived learning outcome is increasing.

This is exactly what we believed would happen. Because the facilitator has more students, each student receives less attention. However, the number of student assistants – meaning older students who help in class is not included in this number. This means that a class of 200 students and one facilitator could have 6 student assistants who can help the students. Because our data does not include these details, we are unable to account for this. Nevertheless, it would be very interesting and we believe it influences the outcome. We are also unable to measure the quality of the teaching done by the facilitator. A good facilitator would be equally good with 10 students as 200, and this would be interesting data to have. We also recommend this in further research. Nevertheless, based on our data, the number of students generally affects learning outcome.

Summary: *The number of students/FTE has a negative effect on perceived work relevance except for NHH, for which the decreasing number of students does not affect the perceived work relevance.*

5.1.1.6 Students/FTE and its effect on overall student happiness

We have already discussed both students/FTE and overall student happiness. We saw that the student happiness was negatively affected by PP/FTE. As both HH-UiS and BI has an increasing number of students per FTE, and NHH has a slightly decreasing number – the student happiness matches these numbers – generally speaking. This may be most notable at HH-UiS where student happiness has decreased by 12,8% as previously mentioned, and their master's students/FTE almost doubled from 2010-2016.

At BI, their students/FTE has slightly increased. Their overall happiness is generally increasing, but they had a large drop of 0,5 points from 4,3 in 2016 to 3,8 in 2017. We are unable to explain the sudden drop in overall student happiness measured by Studiebarometeret and because our data from DBH only goes till 2016, we are unable to see if there is a large increase in students/FTE. If there is, this will strengthen our argument. At NHH, students/FTE is slightly decreasing, and overall student happiness is steady, and only increase by 0,1 points from 2016 to 2017. It is also worth mentioning that the student happiness is the highest at NHH and lowest at HH-UiS.

Summary: *We can see trends indicating that students/FTE negatively affect overall student happiness. The opposite is true for NHH. However, based on these numbers, it is difficult to draw strong conclusions.*

Summarizing connection 5.1.1 – academic resource base and students' perception

This connection is very interesting, because this data does not explain *why* NHH has higher overall student happiness, stable work relevance and increased learning outcome while HH-UiS has a large decrease in overall student happiness, work relevance and learning outcome. BI falls somewhere in the middle.

HH-UiS has had the largest increase in PP/FTE – but in 2016, they had 372,55 fewer PP than BI and 216,02 fewer than NHH. Both when it comes to PP and FTE, HH-UiS is not in the same league. When it comes to students/FTE, HH-UiS is still a lot smaller than both BI and NHH and it is the school with the largest increase in master's students/FTE, while BI has a slight increase and NHH – a slight decrease.

It seems like there is "*something in the water*" at NHH when we compare Studiebarometeret with DBH's data. There are many things we are unable to explain by looking at the first arrow. Therefore, we have to look for other reasons for this which include looking at incoming GPA, work integrated learning and specializations during their master's degree. This can also help us figure out why HH-UiS is consistently below average – a place no school wants to be. And lastly, what can give BI that extra drive to push NHH out of the number one spot?

5.1.2 Program characteristics and students' perception

As mentioned, program characteristics is not a measurable variable, and this connection can therefore not be explored quantitatively in terms of trends. We can however look at our empirical evidence and try to draw connections between the input of program characteristics and the process variables. Here, we look at how characteristics of the educational program such as admission, specializations and WIL can affect students' perception of work relevance, learning outcome and overall satisfaction.

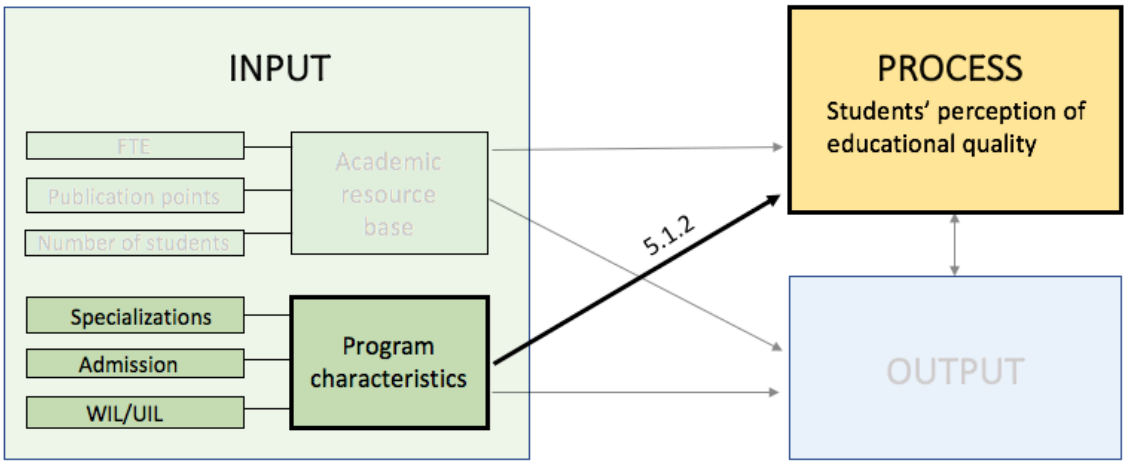

Figure 24: Connection between input and process (2)

5.1.2.1 Admission compared to Studiebarometeret

The reason it is interesting to look at admission is because theory suggests that the admission qualities of the students affect both their work effort, their incoming knowledge, the number of students who apply and therefore an overall high incoming GPA. This may make it more attractive for facilitators due to the students' academic level. All this can be a self-fulfilling prophecy. Based on data from DBH, NHH has the highest incoming GPA (4,1 out of 5) and by far the highest number of applicants. HH-UiS had an average incoming GPA of 3,06 out of 5.

For BI, the admission GPA level is 3,5 out of 5. They also have a slightly different admission process, and it is therefore beneficial to apply early on as this will increase applicants' chances of getting in. In other words, NHH has the highest, BI in the middle and HH-UiS has the lowest average GPA.

We see that NHH has both high (and stable) work relevance, increasing learning outcome and high (and stable) overall student happiness. This matches our beliefs. Overall, NHH has the highest GPA, the highest number of applicants and the highest scores in Studiebarometeret. HH-UiS however, has relatively low GPA, while quite a lot of applicants. They score the lowest on both work relevance, learning outcome and overall student happiness. The interesting – and disturbing part, is that all the data from Studiebarometeret suggests that HH-UiS is decreasing on all things measured and decreases quite a lot.

Summary: *Based on this data, there are strong indications that admissions do affect work relevance, learning outcome and overall student happiness. There is a saying that "the past is a good indicator of the future", and based on the admissions data available, we see that the saying corresponds with it.*

5.1.2.2 WIL compared to Studiebarometeret

Work Integrated Learning means that the student gets work experience from school that counts towards their degree. A normal way to do this is through internships. Both NHH and BI offers internships as part of the Master in Business and Administration, while HH-UiS does not. Because there is no data available as to how many students at BI and NHH who complete an internship, it is difficult to say a whole lot about how WIL affects work relevance, learning outcome and overall student happiness. It is however interesting that NHH who across the board scores the highest on Studiebarometeret, and BI – who were right about average, both have internships. While HH-UiS, who scored below both average and the other two schools on all things measured does not have internships.

We assume that WIL positively affects perceived work relevance, because through the internship, the student would gain actual work experience and contacts. Both NHH and BI have high requirements for the students doing an internship, and we assume that it is actual work experience, and not just getting coffee for the other employees. Work relevance at NHH has

stayed stable over the past 4 years, while at BI, it has fluctuated. At HH-UiS, it has had a large decrease. Without being able to draw any conclusions based on this, it is still interesting to compare.

Summary: *We assume that WIL positively affect how the student feel about the school, specifically their perceived work relevance, even though it is hard to say anything definite due to our lack of data.*

5.1.2.3 Program specialization compared to Studiebarometeret

The reason it is interesting to compare the program specialization to Studiebarometeret is because of the match of specialization and courses towards your desired educational outcome. Because of the sheer number of specializations, we will not go into the number of required courses and how many of them are general and how many are only for that specialization, but we will look into the elective classes you can take in each major – because we believe that is one thing that makes one student different from another. Our assumptions are that having more electives to choose from, will increase perceived learning outcome and overall student satisfaction because you take classes you are interested in. Choosing class-easiness over professional fit however, we believe will negatively impact student fit in the work place. We are of course unable to quantify this, but we still assume there are students who do this.

When looking at the amount of specializations at the different schools, there is no question that NHH offers the most specializations and the most electives related to their major. Offering a plethora of electives also becomes easier the more FTE and students you have, because you have more people to teach and students to actually take the classes. Furthermore, offering a lot of electives does not say anything about the quality of the electives. But at the same time – neither does having few electives. Also, the more electives you have, the more coordination is needed, the more specialized FTE is needed, and all of this makes the whole program more complex to manage. If you are going for simplicity, this is not the way to go.

NHH has 9 specializations with many electives in each. The electives in each specialization is related to the specialization. This gives the student a great opportunity to study their specialization in-depth. This we believe, means that the student is more equipped for the type of job he or she is after. This is why comparing it to Studiebarometeret is interesting. HH-UiS offers

4 specializations with approximately 20 electives per specialization. The electives available for the specializations are the same for all of them. This means that the elective most likely is not related to their major, but a Business Innovation student might have to take a finance class, or a Finance student might have to take a strategy class. This makes for a well-rounded student who knows a little bit of everything. Therefore, it is interesting to see if the students perceive this to be both work relevant, gives good perceived learning outcome and align with overall student happiness. Also, we gain insight into whether a well-rounded student is less attractive because they do not have the same in-depth knowledge, which is arguably one of the reasons people decide to take a master's degree.

When comparing program specializations to Studiebarometeret, we can again see that NHH is above average, BI and HH-UiS on all measurements. In addition to being above average, it is also relatively stable, or increasing over the past 4 years this study has been done. HH-UiS is consistently below average and decreasing on all levels measured. BI is more stable than HH-UiS, but it is generally decreasing, except learning outcome, which is increasing. The availability for the student to specialize and have many opportunities for specializations is not necessarily the sole reason for learning outcome, work relevance and student happiness being what it is, but we believe it is a key factor. The data supports our thoughts which we also believe make a lot of sense. Based on this data, it looks like the students rate their education as better when it is more specialized instead of generalized.

Summary: *We believe that having a wide variety of specializations and electives will benefit students and make them feel like they can choose their specific desired direction and thus have more specific competencies. NHH has the most specializations, and have the highest scores in Studiebarometeret. Of course, this cannot solely be attributed to number of specializations, but we believe it is a contributing factor.*

Summarizing connection 5.1.2 - program characteristics and students' perception

We believe that the program characteristic *admission* and *specialization* influence work relevance, learning outcome and student happiness, which the data supports. Even though none of these findings are definite and the sole reason, we believe they are important factors. Due to the lack of data it is difficult to say anything solid about WIL, even though we believe it too affects work relevance, learning outcome and student happiness.

5.2 Input and output variables

Comparing input to output variables, we will both look at how the academic resource base affect the output, but more in depth look at how the program characteristics predict output through unemployment, work relevance, learning outcome, and overall satisfaction. This is interesting because if there are possible trends, the Business Schools can better predict graduates' success in the labor market. Then, they will be able to readjust what they do to better equip students to succeed.

5.2.1 Academic resource base and candidates' experience

Here, we look at the third connection, the connection between academic resource base at the university and how the candidates perceive their education both six months and two-three years after finishing their education. This is interesting because it shows trends in what the Business School wants to focus on, and trends in what the candidates wish they would have gotten and how relevant their education has been.

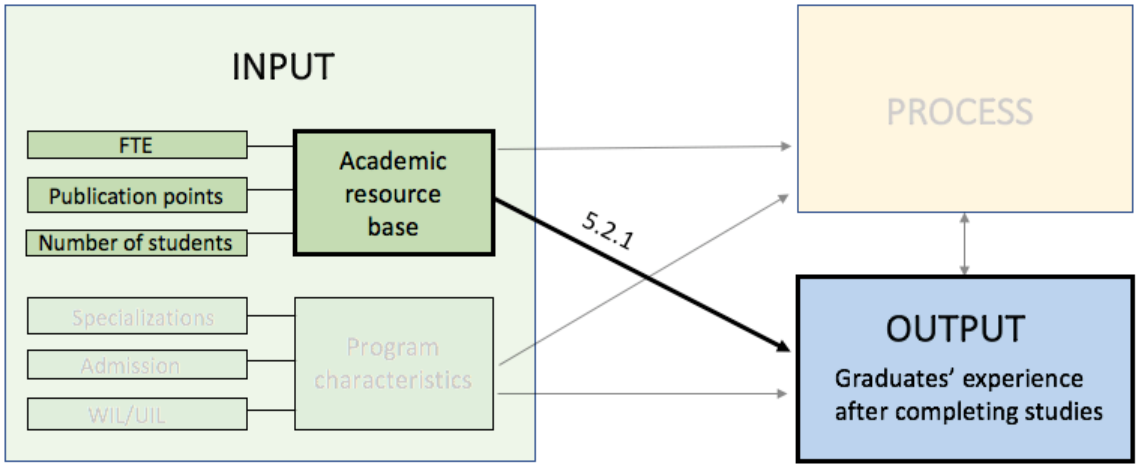

Figure 25: Connection between input and output (1)

5.2.1.1 Students/FTE compared to Kandidatundersøkelsen

The reason we want to look at students/FTE and compare it to output is because they all match. We cannot necessarily consider it a correlation, but it is fascinating nonetheless. From 2010-2016, master's students/FTE has almost doubled at HH-UiS, while it has stayed relatively stable at NHH. At BI, the students/FTE has also stayed relatively stable, with only a slight increase.

Using the data from Støren (2018), we see that across the board, HH-UiS has a higher unemployment rate than NHH. In 2015, HH-UiS had an unemployment rate of 14,3%. This high number is most likely due to the oil crisis because many previous students from HH-UiS continue to live in Rogaland – the oil capital of Norway. Furthermore, Støren (2018) also looks at the amount of people who feel underemployed or have an irrelevant job. In total, 18,8% from HH-UiS feel maladjusted compared to 9,7% at NHH. This is of course not because HH-UiS has doubled its students/FTE, but it is interesting to see that the trends go the same way.

When it comes to former students 3 years after graduating who feel like their education provided them with sufficient skills and knowledge for their current job the gap in the data is quite large. BI has the highest satisfaction rate of 66%, NHH right below with 64% and HH-UiS is at the bottom of 12 schools in Norway with 44%. This is good news for BI, gives NHH something to strive for, and is quite unfortunate for HH-UiS. In 2010, HH-UiS had the lowest number of students per FTE – as low as 5,25 students per FTE. The school is also considerably smaller than both BI and NHH. Over the six-year period measured in the data, BI has the highest number of students. Considering that they are also the most satisfied with their competence from their education, it is difficult to draw any conclusions.

Summary: *We see some indications that students/FTE line up with unemployment and work maladjustment, but it is difficult to draw any conclusions. BI and NHH score high on gained competence from education, while HH-UiS scores the lowest. We thought students/FTE would have a larger impact than it is perceived to have.*

5.2.1.2 PP/FTE compared to candidates' overall satisfaction

The PP/FTE has previously been discussed and analyzed, but to repeat the data, HH-UiS has a steady, but then rapid increase in PP/FTE, where both PP and FTE increases over the period of 2010 to 2016. They have the most rapid increase. To quickly mention BI, even though they did not partake in Kandidatundersøkelsen, they also have a steady increase, and almost doubles their PP/FTE in 2016 and their PP almost doubles too. NHH has stayed pretty consistent until the new rules came in 2015 – a good indicator for all schools that their papers are of high quality. During the first two years of the new rules, NHH almost doubled their PP/FTE, while their FTE stayed stable and it has only had a slight increase over the past 6 years.

Because we do have data on what the students feel regarding their overall satisfaction, it is worth quickly mentioning because it is interesting to see if they have a realistic image of the work life. Our previous analysis shows that there is a negative connection between PP/FTE and overall student happiness. We do not think that it is the sole reason, but it could be an important indicator. Generally speaking based on Kandidatundersøkelsen, business students are happy with their education. NHH had the highest satisfaction rate of 68% "highly satisfied", and UiS had the lowest scores of 50% "highly satisfied" – a large difference. Both Studiebarometeret and Kandidatundersøkelsen show the same trends. Why is that? How much each FTE publishes can affect the quality of the education and therefore also the satisfaction. This is of course not the only thing affecting the satisfaction of the student and previous student perception of their education

Summary: *An increase in PP/FTE corresponds with a decrease in both student happiness and the happiness of the previous students. This is only an interesting point as we would argue that it is not a direct result of how high PP/FTE is.*

Summarizing connection 5.2.1 - academic resource base and students' perception

Looking at gap three in isolation is difficult because you compare very detailed data to a more general survey. We think that it is interesting that the data of PP/FTE and students/FTE align with the data regarding unemployment, work relevance and the satisfaction with the competence gained during their education, but we cannot necessarily say that one causes the other. There could be indications, but looking at the academic resource base alone is not sufficient. This is why we also need to look at the program characteristics, the second part of input variables.

5.2.3 Program characteristics and candidates' experience

This is the fourth connection in our conceptual model and we look at how program characteristics may affect candidates' experiences that are presented in Kandidatundersøkelsen. As in 5.1.2, we look at admission levels, number of specializations and work-integrated learning. Here, we compare these characteristics to how candidates rate their work relevance, learning outcome and satisfaction in regard to their education.

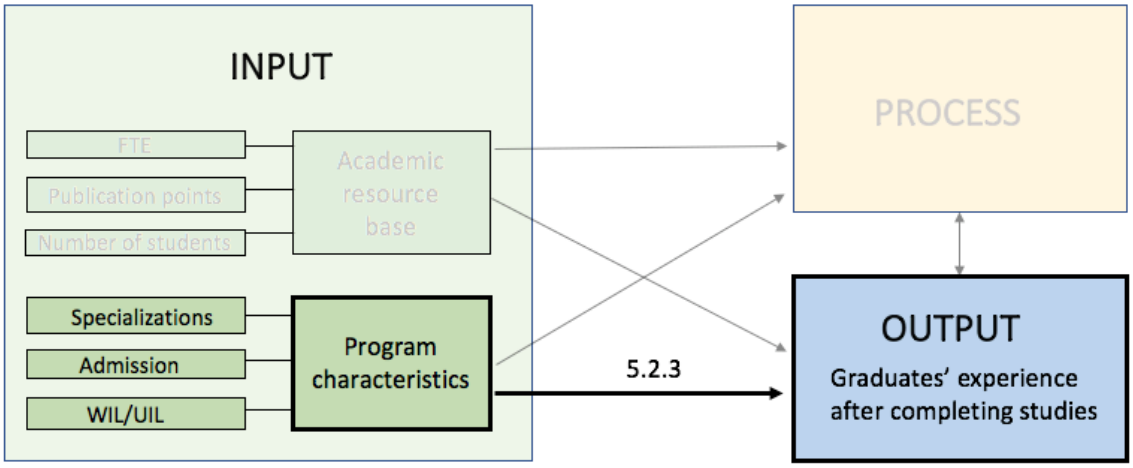

Figure 26: Connection between input and output (2)

5.2.3.1 Admission compared to Kandidatundersøkelsen

As previously discussed under 5.1.2.1, the level of admission can indicate the general academic standard for a specific educational program. It is fair to believe that a higher admission level and a high GPA among students, result in students that are motivated and hard-working, and thus, candidates that are the same. To repeat, NHH has the highest GPA (4,1/5) of the schools we compare, and HH-UiS has the lowest (3,06/5). Similarly, NHH candidates are also the ones who look at their education as the most work relevant and UiS candidates the least. Additionally, they have the highest share of candidates, along with BI, that has gotten a relevant job. This could of course be coincidental, but could also have a logical explanation. We don't have an overview of how well the students are doing in terms of grades, but you would think that students that manage to get into a Business School with a high admission GPA also manage to do well throughout their studies as their academic level is generally high. Logically, working hard with courses would make you better prepared for the labor market and consequently, it looks as though admission levels do have an effect.

Additionally, the reasoning above could explain why NHH candidates feel that they get to utilize their skills and knowledge to a higher degree. They are marginally above BI and quite a lot above UiS. Even though learning outcome is dependent upon universities and lecturers as well, traits of the individual is perhaps the most important. A high level of admission and thus, a high academic level of candidates, can be a part of the explanation of a high learning outcome.
Grades are becoming more and more important in the recruitment process, and this may be a part of the explanation of why NHH candidates experience lower unemployment rates and maladjustment than for example UiS candidates.

Summary: *Based on the differences in admission GPA for the three schools, and the fact that the highest admission level belongs to the school who also have the highest learning outcome, work relevance and satisfaction along with a low unemployment rate after graduating, we feel that this is reason to believe that admission do have an effect.*

5.2.3.2 WIL compared to Kandidatundersøkelsen

It is interesting to see whether linkages between university and the industry actually do have an effect on how candidates look back on their education. As mentioned, NHH and BI offer internships, and we choose to look at this as a type of practical training. HH-UiS do not have a similar offer, and it is therefore natural to wonder if this can give reason for the differences in both candidate assessments and how their work situation is after graduating.

The results in Kandidatundersøkelsen show that contact with the labor market can actually reduce unemployment and maladjustment, and it also increases the share of students that manage to finish their education within the given timeframe. As stated before, we do not know the number of students that have been partaking in practical training at NHH and BI, and we are therefore aware that it is somewhat farfetched to really draw these links. However, BI and NHH that have a higher degree of university-industry linkages, do have lower unemployment and maladjustment and they also have a higher percentage of students who finish their degree on time compared to UiS. They also have a generally higher level of relevant work after graduating and they are more satisfied with their education both in general and in terms of learning outcome and getting to utilize their skills.

Summary: *Kandidatundersøkelsen show that practical training during studies can decrease unemployment and maladjustment, in addition to having a positive effect on completion. NHH and BI do have internships and they have the lowest unemployment, the highest share that has relevant jobs and view their learning outcome to be higher compared to UiS. Thus, this indicates a positive effect of WIL.*

5.2.3.3 Specializations compared to Kandidatundersøkelsen

To repeat, one would think that having many specializations within the master's program in Business and Administration would lead to a higher learning outcome and satisfaction, both as students and as candidates. Our assumptions still stand, and similar to our beliefs that students will benefit from having more choices and the ability to better tailor their education, we believe that this will influence candidate assessments and opportunities after graduating as well. Better diversification would give candidates more specific competence, something that would make it easier for employers when looking for certain skills. Having a more general program profile would lead to a more identical mass of candidates, and it is harder to stick out in the recruitment process, but one can also claim that they can be more versatile in the labor market.

NHH has, by far, the highest number of specializations, and they are also the candidates that have the highest learning outcome in terms of utilization of skills and they also have a high percentage of candidates in relevant jobs. Additionally, they are generally highly satisfied with their education. One of the reasons as to why these candidates are in a better position compared to UiS candidates can possibly be attributed to their program structure and the number of specializations and electives. BI is generally only marginally below BI, but UiS is substantially below on most variables. HH-UiS have only 4 specializations, and the results in Kandidatundersøkelsen may indicate that this is a contributing negative factor. The fact that NHH candidates can gain expertise and sharpen their knowledge within a certain discipline to a larger extent can in other words be positive when entering the labor market.

Summary: *The three schools that we aim to compare differ in many ways, and number of specialization is an area where these differences become apparent. This gives an indication of how general the program is or to what degree the students can go more in depth in a certain field. NHH who has the highest number of specializations also view their education to be more work relevant, they are more satisfied, less unemployed and maladjusted, and their job is relevant. We believe that the opportunity to choose electives and thus build your education more freely has a positive effect.*

Summarizing connection 5.2.3 - program characteristics and candidates' experience

Looking at the existing information about the various schools in terms of program characteristics, we feel that there is a recurring pattern or connection between these characteristics and how candidates assess their completed education. When it comes to program characteristics, NHH has the highest admission GPA level, they have internships and they have the highest number of specializations. As for candidates' experience, NHH is consistently above in their scores on almost all variables that we have examined. To compare, HH-UiS has the lowest admission GPA level, they do not offer any form of internships, and they have the lowest number of specializations. They also have the lowest score on almost all variables. Taking all this into account, it is fair to assume that there is a connection between the variables, that the Business Schools' offering and the academic level of students affect how candidates perceive their education after graduating.

5.3 Process and output variables

This is the fifth and last connection in our conceptual model, and it symbolizes the connection between process variables and output variables. In other words, we will look at how students perceive work relevance, learning outcome and satisfaction while still in the educational process, and compare those results to how candidates perceive the same variables both six months and two-three years after graduating. This section doesn't really look at effects per se, at least not to the same degree as the previous sections. Rather, we examine whether there are differences or gaps within our two categories of dependent variables, that is, to see if the way individuals perceive their education before and after graduating differ in any way.

5.3.1 Students' perception and candidates' experience

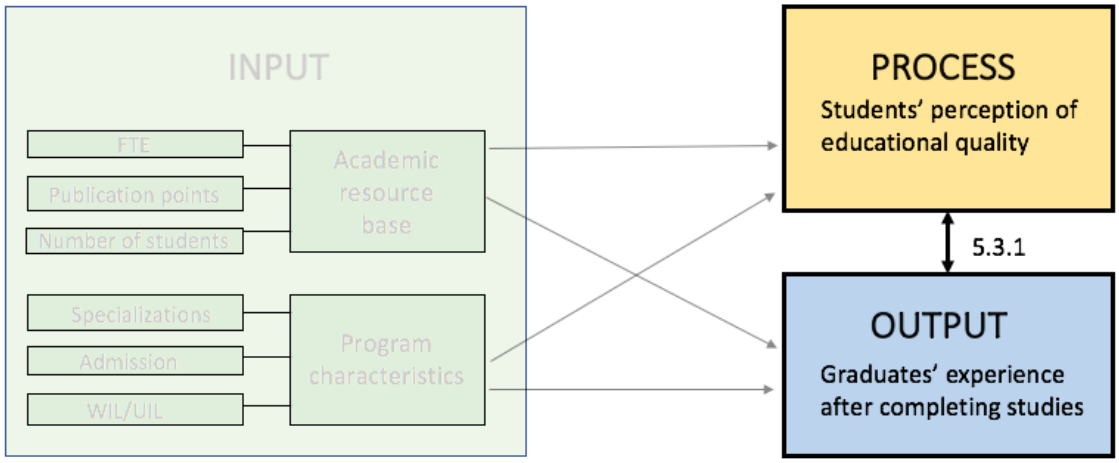

Figure 27: Gap between process and output

5.3.1.1 Comparing work relevance

Both Studiebarometeret and Kandidatundersøkelsen measure work relevance, that is, how relevant the education is and to what extent they feel their education can be applied in the labor market. The main difference here is that the survey among students measure the *perceived* work relevance, i.e. how the educational program prepares students for the life of work after graduating, and the survey among candidates measure how work relevance actually *is* six months and two-three years after graduating. Thus, it is interesting to see if there are any gaps or connections between the two surveys and their results regarding work relevance.

It is difficult for students to really assess how relevant their education is as they have not yet transitioned from studies to work-life, and many have limited work experience. This is shown quite clearly when we compare the surveys. When it comes to the perceived work relevance by students, the overall average for business and administration students was 4,1 in 2017 and 4,3 in 2015, which is relatively high. Six months after graduating, 48% of candidates within business and administration were highly satisfied with the level of work relevance. As the variables in Studiebarometeret is measured on a scale from 1-5 and Kandidatundersøkelsen is measured in percent, it is hard to directly compare the two. Even though the measures are different, it would mean that 48% of the candidates had chosen the value 4 or 5[13] when ranking work relevance. Thus, this would indicate that students are somewhat more satisfied with the work relevance of their education than candidates are.

As table 12 shows, NHH students rank their education to be more relevant for the area that they want to work in and work opportunities in general with a value of 4,6 and 4,7 in 2017, respectively. BI is 0,4 points below on both area relevance and work opportunities. HH-UiS has the lowest score here as well, 0,6 below on area relevance and 0,7 below on work opportunities. This is interesting when we look at how they perceive their studies three years after graduating. Looking back, NHH candidates are still the most satisfied with work relevance and BI is marginally below by 1 percentage point and UiS is 9 percentage points less satisfied. This is also reflected in the share of candidates that have gotten a relevant job. These numbers are consistent with the ones already presented, even though the differences are marginal. Still, it shows that a higher share of NHH and BI candidates have a relevant job a short period of time after graduating compared to UiS.

Summary: *Based on the results from the two surveys, we can see an indication that Business and Administration students view their education to be more work relevant than candidates. Both NHH students and candidates are on top in terms of work relevance, while both UiS students and candidates are on the bottom.*

[13] Like Støren (2016), we consider 4 and 5 as satisfied in Studiebarometeret.

5.3.1.2 Comparing learning outcome

Just like work relevance, learning outcome is measured in both Studiebarometeret and Kandidatundersøkelsen. Additionally, candidates in Spesialkandidatundersøkelsen were asked which of the indicators within learning outcome that they wish their education valued and fostered to a higher degree. The individual schools were also asked to what extent they felt they got to properly utilize their acquired skills and knowledge in their current job, and this should naturally coincide with their assessment of learning outcome.

Candidates in Kandidatundersøkelsen are the most satisfied with theoretical knowledge and the ability to work independently. On the other hand, they were the least satisfied when it comes to work-specific skills and oral communication. This was also the case when candidates viewed their education after two-three years. They felt that some indicators in particular, such as practical knowledge, work-specific skills and oral communication, should be weighted more. Looking at the same questions in Studiebarometeret and how students perceive the indicators of learning outcome to be, the results are quite similar. There are not huge differences between the three Business Schools, but a recurring pattern is that UiS is below both BI and NHH. However, they all rank theoretical knowledge, cooperation and working independently the highest, which is similar to Kandidatundersøkelsen.

Work-specific skills stand out in the results from Studiebarometeret, and this is the indicator that scores the lowest for all schools. Oral communication is not really that low when assessed by students compared to candidates. Here, HH-UiS actually score 0,1 points above NHH and BI has the highest score of 3,8. The reason that candidates are less satisfied with oral communication is perhaps because they have entered the work force and see what type of skills is actually needed. It is fair to assume that there is much more use for oral communication in terms of presentations and meetings when entering the labor market than they initially thought as students. When comparing Studiebarometeret and Kandidatundersøkelsen, it looks as though candidates rank many of the indicators slightly higher than students do. A possible reason for this is that learning is a so-called cumulative process, that is, it oftentimes increases as time goes by and new experiences are made. After finishing a master's degree and subsequently getting to put that degree to use, one may perceive the learning outcome as higher in hindsight.

The way students and candidates view their learning outcome can also be reflected in the extent they feel they get to utilize their skills. Candidates from UiS are quite remarkably below both BI and NHH. As a matter of fact, they are 22% and 20% below BI and NHH respectively, and this difference is relatively large in this context. In other words, students and candidates from UiS view both their learning outcome and skill utilization the lowest out of the three. Through a logical reasoning, this may indicate that the higher your learning outcome is as both student and candidate, the more likely you are to use these skills sufficiently when getting a job.

Summary: *The results in the different surveys were quite similar, and there is consensus among candidates and students when it comes to learning outcome. However, candidates are slightly more satisfied in general which can possibly be attributed to changes in time and experiences. UiS are the least satisfied with learning outcome, and they are also the ones who feel that they do not get to utilize knowledge and skills to a particularly high degree.*

5.3.1.3 Comparing overall satisfaction

The results from Studiebarometeret regarding the overall satisfaction demonstrate the educational quality from a student perspective. NOKUT concludes that Norwegian students are generally very satisfied with their education, and the big differences are clearer when asking for specifics. NHH students is definitely the most satisfied among the schools we compare, and they actually stand out on a national basis when looking at students regardless of educational program.

Overall satisfaction comprises all the results from Studiebarometeret presented above such as work relevance and learning outcome among others, and thus, it is not surprising that HH-UiS students are less satisfied with their educational institution as they are generally the least satisfied on all variables. BI has a tendency of being somewhere in between, and this is the case here as well. Due to them not being included in Kandidatundersøkelsen and that Spesialkandidatundersøkelsen doesn't measure satisfaction, it is unfortunately not possible to directly include BI in the comparison. For candidates, there are not large differences when compared to students. NHH is still the most satisfied, and 73% are 'highly satisfied' with their educational institutions as opposed to UiS where 41% answered the same. In other words, the results from the two surveys coincide.

Summary: Norwegian students in general are quite satisfied with their education. NHH students stand out as particularly satisfied, both compared to business schools and at a more overall level. HH-UiS students are less satisfied. These results highly coincide with the results from Kandidatundersøkelsen, and we can thus state that there is no visible gap between satisfaction for students and candidates.

Summarizing gap 5.3.1 - students' perception and candidates experience

Looking at the fifth connection/gap and its components in detail, we see that students have a tendency to view their education as more work relevant. On the other hand, candidates are generally more satisfied with the learning outcome. This can be because they can better assess work relevance when they have actually transitioned from studies to the labor market, and due to the fact that individuals evolve and that learning is a cumulative process. There is no significant difference when it comes to overall satisfaction for students and candidates.

6.0 DISCUSSION

In this chapter, we are going to discuss our findings and relate them to existing, relevant theory on the subject. We decided to divide our discussion in three to get a more holistic picture of the connections and gaps that we examine. Hence, we avoid too much repetition and make our arguments stronger. First, we discuss the possible connection between the Business Schools' academic resource base, students' perception and candidates' experience and see how this corresponds with the theory we have included in the second chapter. Next, we do the same for program characteristics, students' perception and candidates experience. Finally, we discuss the possible gap between students' perception and candidates' experience.

6.1 Is there a connection between the academic resource base, students' perception and candidates' experience?

When looking at how aspects of the academic resource base can indicate educational quality and how it affects both students and candidates, it is interesting to see how these effects or connections align with existing theory.

6.1.1 FTE, publication and its impact on students and candidates

To become a Business School, you must satisfy demands by the Norwegian Ministry of Education. There are many international demands, and the desire to be academically accredited is high – especially in an increasingly global world. Norway is not exempt from this and neither is HH-UiS (Handelshøyskolen på UiS, 2017). As a comparatively small school, these are high demands to satisfy and it may be that in the yearning to excel internationally, the students may have been 'forgotten'. We see much more clearly in both BI and NHH's strategy plans that they also want to gain international accreditations and international reputation (Handelshøyskolen BI, 2018c; NHH, 2018b), but they also have a much higher FTE to spread the workload on. Sometimes there is help in the sheer number of FTE to both specialize and work more effectively.

We believe that *more is better than less* when it comes to FTE. Because it is very important to understand, we will quickly repeat; FTE means that you add up the work of all the hours of teaching and research by the professors. Because they work different amounts, it is common practice to add them up to a 100% position, which means 1 FTE. Meaning if two people work 50% each, this adds up to 1 FTE. As the DBH database shows, HH-UiS has an FTE of 38,2, and this is substantially lower than both NHH's 177,2 FTE and BI's 272,9 FTE in 2016.

All Business Schools have, to different degrees, core classes that everyone must take. Beyond that, having the equivalent of 38,2 full time workers in a Business School means that the school cannot be as specialized and cannot have as many specializations due to the low FTE. When the FTE workers in addition are pushed (or prefers) to publish articles, there are few FTE left to focus on the student. The 38,2 FTE is additionally spread out over both the business bachelor's and master's students. To push this further, the number of FTE we are left with is low – too low. We do not know how much FTE time is spent on teaching, connecting with students and preparing good teaching – all seen as important value adding activities in the value chain by Hutaibat (2011), but we can imagine that the number of FTE is too low to be spread out over the 1095 students that HH-UiS were registered to have in 2016. To somewhat exaggerate, only having 38,2 FTE at HH-UiS is too little for a Business School that wants to be taken seriously and associated with educational quality.

We believe that a possible consequence of having a low FTE is seen in learning outcome at HH-UiS where they systematically score lower than both BI and NHH on almost all ten areas measured in Studiebarometeret. Also, HH-UiS has had a rapid increase over the past 6 years in PP/FTE. This is likely to come at the cost of something else – most likely the students. Arguably, it appears that HH-UiS have failed to apply the mindset of Rathee & Rajain (2013) when it comes to looking at their students as customers. To have satisfied customers, in this case students, and being oriented towards the market will lead to higher student retention, student satisfaction and increased rates of graduation (Guilbault, 2018). According to Massy (2016), this is an incentive for all institutions of higher education, at least it should be for HH-UiS due to their students' decreasing satisfaction and 47,7% of students completing on time.

Furthermore, based on the unemployment data from Kandidatundersøkelsen (2018), we see consistently higher unemployment, underemployment, irrelevant jobs and maladjusted graduates at UiS than at NHH (BI was not a part of this survey). As mentioned, Massy (2016) argues that an important factor in both the business world and for universities is the *market response* as part of the business model. Based on the data in Kandidatundersøkelsen and the decreasing work relevance from HH-UiS students in Studiebarometeret, we begin to question whether or not HH-UiS has considered the market response? Based on our data collection and analysis, we would argue that HH-UiS, in their desire to increase PP/FTE, has forgotten about the fact that the students need to become employable in the work force. After all, employability is an important

indicator of educational quality and the employability of graduating students is strongly related to the overall quality of the educational institution from which they have graduated (Vaaland & Ishengoma, 2016).

According to Massy (2016), *student value proposition* is called *customer value proposition* in the business world, and we believe that HH-UiS would greatly benefit from looking at the students more as customers than what they currently do. A business with rapidly decreasing overall customer satisfaction would implement actions to turn this around. Shouldn't it be the same for institutions of higher education? Based on both students/FTE, perceived work relevance and learning outcome we see little or no indications of this effort – at least none that has had an effect on what is measured by NOKUT. By looking at students as customers, an increased reputation would be expected which logically would lead to students with higher GPA applying, and again, this would lead to a student mass with more base knowledge. A positive snowball effect.

It appears to be the case that BI and NHH manages the balance between *student value proposition* and *institutional value proposition* better than HH-UiS. That is, to create value for both their 'customers' and for themselves as an organization. According to Massy (2016), academics view research in terms of number of publications as the main 'calling' for a university. Apparently, this will 'contribute to the intellectuality of society'. Should success really be measured by looking at publications? Shouldn't it rather be measured in the share of graduates who get a job, the retention rate and student satisfaction? HH-UiS is a prime example. They publish a lot for their size, and their students are consistently the least satisfied of the schools that we compare. After all, shouldn't the customers' satisfaction be in focus? We all know the strength of word of mouth and the impact it may have for new students.

Naturally, Business Schools, and other educational institutions for that matter, view research as a vital part of what Pathak & Pathak (2010) refers to as *operations* and *outbound logistics* – turning professors and researchers into skilled resources and being publicized in academic journals. This is seen as value-adding activities in terms of output from teachers. However, what good does it do to publish great research when they 'forget' about making *students* into skilled resources and focusing most of their daily operations around research? One can raise the question whether this is the case for HH-UiS with their steady increase in PP/FTE and the students' relatively low percentage of completion, decreasing satisfaction and learning outcome.

It is however important to emphasize that focusing on research is not a *bad* thing. As Hovdhaugen et.al (2016) state, publications/citations are viewed as an indicator of quality as well – as something that is unique and outstanding. Our point is that balance is key, and we believe that a recipe for success lies in publishing research and still managing to cater to the students' needs as they are both value adding activities for the institution – and ultimately, they also add value for the students (Pathak & Pathak, 2010). To manage this balance, that is, to manage teaching and research as successfully as possible, time and staff are some of the critical issues that need to be taken into account (Hutaibat, 2011).

6.1.2 Is it all about the students?

Over the past 6 years, the number of master's students at HH-UiS has increased from 137 to 375, an increase of 173,72% - arguably, a very large increase. When looking at *student recruitment* in Hutaibat (2011), it could be that the large increase in the student mass has made it difficult for HH-UiS to maintain a high level in many of the aspects considered in the model such as tutoring, supervising and career placement. We see this in the decreasing perceived work relevance and learning outcome. Looking at both BI and NHH, they have had a relatively stable number of master's students over the same time-period. They also have a much more stable (and higher) level of perceived work relevance and learning outcome. This difference is noteworthy.

Based on Pfeiffer & Fong (2004), a normal pitfall of academic institutions is that they become too focused on academia, which leads to graduating students of mediocre quality. They also start pushing irrelevant business research into the academic world because data collection is simple, and it gains the university both publication points and funds from the government. We have not looked into what types of research the different Business Schools publish due to the mere size of the matter, but there are still indications that HH-UiS may have gone into the pitfall of focusing too much on academic research and using their limited "leftover" time to teach and make the students ready for the business world – a common hazard according to Pfeiffer and Fong (2004). Again, managing this balance is crucial.

It is difficult to measure how relevant the teaching is because, as Matsouka & Mihail (2016) describes, the student does not necessarily know what he or she needs to know. However, based on Støren et. al (2018), we can see that 2-3 years after graduating from the Business Schools,

66% from BI, 64% from NHH find that they experience sufficient utilization of skills and knowledge in current job. This is quite high and the highest of all the schools in the research (UiB comes second with 65%). This means that what they learned matches what they need to know and that the skills they have gained have equipped them for their job. At UiS, the data shows something quite different. Based on recent graduates at UiS as a whole, we see that they come out at the bottom of all the universities with 44% in both sufficient utilization of skills and of knowledge. We are careful not to compare this too much because UiS as a whole is at the bottom and it does not say anything specific about HH-UiS, but based on the data from Studiebarometeret, we raise the question of whether HH-UiS's ratings would be much better standing apart from UiS.

6.2 Is there a connection between program characteristics, students' perception and graduates' experience?

Based on the highly visible differences in both program characteristics and the assessment of both students and candidates at the Business Schools we compare, it is interesting to discuss these differences further in light of theory.

6.2.1 Specialization and its effect on students and candidates

We have previously asked; what is it about NHH that makes all the data favor them highly? We went as far as asking "what is in the water" at NHH that makes it so good? We believe one of the elements is their specializations and possibility of electives combined with the possibility to have work integrated learning. World-wide, 35% of the skills lacking in recent graduates are "hard skills" according to Manpower (2014). By having specializations and good electives, the Business Schools may be closing the skills gap. We would argue that this means that NHH is closing the gap we clearly see at HH-UiS. To a larger degree, we argue that NHH and BI view the *market response* in the business model by Massy (2016) as more worthwhile and valuable than HH-UiS. Simply put, NHH and BI see what the work force (market) needs, and to a larger extent, they manage to create students to fit the market as the model describes as sustainable. According to Hutaibat (2011), one should view the industry as a customer as well, and it is therefore important to foster the right skills and knowledge that the industry needs, thus increasing the students' employability. As mentioned before, higher employability will to a large degree be attributed to the quality of the educational institution (Vaaland & Ishengoma, 2016)

Even though we do not look at what the employers seek from recent graduates, research shows that there is a large skills gap where 72% institutions of higher education believe that graduates are ready for the labor market while employers are at 42% (Mourshed et. al. 2012). This 30-percentage point difference is quite a large gap. We see that Business Schools such as NHH who have many specializations, with good options of elective courses within each specialization, score lower on all levels of both unemployment, underemployment, irrelevant jobs and maladjusted graduates (Støren et.al, 2018). A reason for this may be that both the specializations and electives lead to more employable students, assuming the specializations are relevant. At business schools such as HH-UiS where the electives are the same across the specializations, we see a much larger gap in student happiness, unemployment and how equipped they feel in the work force.

6.2.2 Admission as a sign of educational quality

When it comes to admission, NHH clearly has the highest incoming grades with a 4,1 compared to a 3,5 at BI and 3,06 at HH-UiS in 2017. Furthermore, NHH also have the lowest number of students/FTE, while BI has the highest. According to Hovdhaugen et.al. (2016), indicators of quality in higher education include GPA level for admission, students/FTE and publications/citations. Our analysis shows that NHH consistently score the highest on all these, except students/FTE (where you want a low number), in which NHH has the lowest of the three schools that we have looked into.

We would argue that another element that is "in the water" at NHH is the quality of the student. This may refer to both their previous knowledge, their willingness to work hard and maybe even the facilitators' motivation to spend time creating good lectures and more closely follow the students. GPA level for admission is seen by Hovdhaugen et.al. (2016) as an example of an indicator of quality in education that is defined as both unique and outstanding, and as a specific standard. Simply put, learning builds upon previous learning and it is fair to assume that having a high GPA when entering the program will increase the chances of maintaining a high academic level throughout the degree. Fossland et.al (2013) place admission into one of the areas that define educational quality, namely admission quality. In other words, having higher admission levels can indicate better prerequisites of the students and a subsequent higher academic level in the program and thus, higher quality.

As for completion within normal time, UiS has 47,77%, BI has 74,36% and NHH has 78,53% who complete their education on schedule. This is an example of an understanding of educational quality as efficiency and economy shown by Hovdhaugen et. al. (2016). It is conspicuous that UiS is considerably lower than both BI and NHH. We believe that, just as theory says, this is a very good indicator of quality. When the degree is of low quality, it is fair to assume that other options become more attractive. Consequently, the job they already have, does not sound so bad after all. The low percentage of completion can also be attributed to what the school demands from their students and how they manage to motivate them to finish their degree. It may be that the students – to a larger degree, not only *see that the grass is greener on the other side*, but that they take action to get away from the *patch of grass (Business School)* they are currently on.

In the case of HH-UiS, it does not cost a lot to get into the school in terms of admission level and they also have a decreasing rate of overall student satisfaction. Hence, it will be 'easier' to drop out. In all master's programs, you will have a base dropout rate, just like there is a base unemployment rate. Sometimes students cannot complete within normal time, maybe due to pregnancy, illness or other factors. However, we believe this to be about the same at all schools. This is however one of the issues that the Norwegian ministry of Education view as important, and they stress the significance for universities to offer students with an education that motivates students to complete their studies (Kunnskapsdepartementet, 2016).

According to Massy (2016), there are five important traits to attract and satisfy students; attaining a degree, getting into a selective institution (a school with good reputation and high entrance requirements), life changing experiences, socialization and the "college experience", being a part of "something big" that can increase the knowledge pool, course work and extracurricular activities. A limitation to our paper is that we talk little about socialization. However, many of the other aspects Massy mentioned can be found at NHH and to a certain degree at BI and this can probably help explain why their students and candidates consistently view their education to be of better quality.

Using Massy's (2016) five traits for *student value proposition*, it becomes evident that there are large discrepancies between the Business Schools. At NHH, there are high academic entrance standards, they have a high number of students studying abroad (227 students in 2017) – which is arguably a new and potentially life changing experience. Furthermore, they have a large number of students, many specializations and relevant electives within each. Comparing this to

HH-UiS, they have the lowest GPA entrance scores and few students studying abroad (8 students in 2017). Their student mass is increasing, but comparatively, it is still low. As previously mentioned, they have four specializations, with the same electives available for all students regardless of specialization. Using NHH as a benchmark, it is clear that on many levels, HH-UiS has a lot to stretch for. Here, there is a lower percentage that get a degree within a normal time frame, they have the lowest GPA level, few travel abroad and they do not offer internships. It is worth questioning if this can explain their trouble of satisfying their students. However, considering that HH-UiS became a Business School in 2011, they have come a long way, but may need to recalibrate to move forward, if indeed educating excellent professionals is what they strive for.

6.2.3 How does the business school prepare the student for the life of work?

Previously, Business Schools only had to compete with other Business Schools in the country, maybe even only in a given area. However, they now have to compete with Business Schools from around the globe. One of the ways universities work towards standing out is through *university-industry linkages* or UIL (Vaaland & Ishengoma, 2016). Most relevant for students is *work-integrated learning* which equips the student to an easier and more smooth transfer to the workplace and ensures relevant work experience (Jackson, 2015; Taylor & Govender, 2017). Kandidatundersøkelsen shows that contact with the labor market can reduce unemployment, underemployment and maladjustment. Both BI and NHH offer internships, while HH-UiS does not. Again, going back to the number of previous students who feel sufficiently prepared for their current job, BI and NHH are at the top with 66% and 64% respectively, while UiS is at the bottom with 44%. There seems to be a link.

A student that is studying to become a doctor who has real work experience doing for example knee surgery, will arguably feel better equipped both in skills and knowledge to perform a knee surgery as a part of their job. To repeat this to redundancy; a pilot who has read all the theories, knows all the parts of the plane, read all the articles about flying – but have never actually flown, is less equipped in his or her first job as a pilot. Arguably, one can say that it is the same with business students. Students who have not only read theoretically about finance, but actually been in an organization and done some of the tasks that for example a financial analysist does, is more equipped to do this later in their job. We believe WIL is crucial for students. Further, we argue that many business students have no idea what they are getting into and have really no idea what the jobs that they apply for really entail. Knowing how to perform a correlation analysis in

STATA is *very* different from knowing how to do an overall analysis of the profitability of a firm, present it to the board and then implement measures from it.

We would argue that students with WIL experience naturally feel more equipped in their first job. Not only to perform tasks, but we believe the contacts they gain while interning in an organization is essential for future employment. We see this in the unemployment statistics, perceived work relevance by the student and also students' perceived learning outcome. As the labor market is ever-changing and employers value practical skills related to the job, incorporating WIL into the program can be a great tool and a benefit for students that will eventually enter the labor force. More specifically, those completing WIL of some form, for example an internship, will experience improvements in several skills that are important for employability (Jackson & Collings, 2017; Taylor & Govender, 2017).

Additionally, candidates at NHH and BI perceive their degree as more work relevant than UiS as a whole. This aligns with what Støren (2016) states, that collaboration between businesses and higher education can lead to both work relevance and higher quality. An essential role of a Business School is *career placement* which Hutaibat (2011) argues is a large part of the value chain of higher education. By getting students effectively into the labor market, new students will see the school as more attractive. The ultimate goal of most students getting their master's degree in business is to get a job. Because this is their goal, making sure students get employed will lead to more satisfied customers (students), which will lead to new customers wanting to get their product (degree) from the Business School (Massy, 2016).

Here we see that both NHH and BI are almost none-comparable to HH-UiS on just about all areas measured. We would claim that NHH and BI have to a larger extent understood the work place and that they more actively work to both connect with their 'customers' through lectures and more actively collaborate with them and as a result, they get their students more successfully into the labor market (Jackson et. al., 2017).

6.3 How does students' perception and graduates experience differ?

In the discussion sections above, we have talked about connections, but in this section, we will discuss whether there are gaps, or differences, between students and candidates. Because the data is difficult to compare, and as we do not find any visible gaps when it comes to overall satisfaction for students and candidates when looking at existing data, this will not be further

discussed. However, we want to look into learning outcome and work relevance and the possible differences found between students and candidates, and see if this is supported by relevant theory.

6.3.1 The gap in learning outcome between students and candidates

In our analysis, we found that candidates generally perceive their learning outcome to be higher than students do, although a few variables were lower. As mentioned previously, a higher learning outcome for candidates can probably be attributed to learning being a cumulative process, and it is fair to assume that a candidate that for example have gotten a job and worked there for a while after graduating will continually learn and get a better sense of what businesses actually demand in terms of skills and knowledge. It is then easier to look back on their studies and think of the learning outcome as higher as they have gotten the chance to further learn, evolve and apply it in real life. Based on this, it can be difficult to discuss and examine the gap in learning outcome as one should naturally think that a low assessment of learning outcome as students would persist. However, based on the reasoning above, it somewhat makes sense that candidates generally think of learning outcome as higher.

In Studiebarometeret, NOKUT measure learning outcome as an umbrella term that comprise several indicators such as reflections, theoretical knowledge and critical thinking, cooperation, oral communication, written communication, innovative thinking and lastly – working independently. Using Cunningham & Villaseñor's (2016) study, we would consider these to be *soft skills.* The other skills – work-specific skills, knowledge about research and experience in research are arguably *hard skills*. Both students and candidates are least satisfied when it comes to hard skills – and a recurring pattern is that work-specific skills are considered to be the indicator both groups rank the lowest. However, theoretical knowledge, cooperation and working independendtly have high scores both in Studiebarometeret and Kandidatundersøkelsen.

Assessing the educational quality after transitioning into the labor market can also make it easier to see what you *have not* learned sufficiently, such as oral communication that will be discussed below. In other words, as Matsouka & Mihail (2016) state, it is hard for students to really know what they need to know and it is therefore easier to really assess learning outcome when having transitioned from student to candidate. As they further argue, one could say that students'

perception of learning outcome would be higher if employers collaborated more with educational institutions in order to develop specific skills. Jackson (2015) argue that the skills that can be improved through such collaboration are team work, professionalism, technical expertise and communication.

In Studiebarometeret, HH-UiS consistently score below BI and NHH on all levels measured, except oral communication in which the score is actually higher than NHH. Oral communication is considered to be low by both students and candidates, even though it is actually ranked lower by candidates. As we stated in the analysis, this can be because candidates can better view their skills in terms of communication when they have entered the work force. This also aligns with the highly visible gap for communication according to Matsouka & Mihail (2016). Here, communication is considered very important by employers, and the survey showed that there was a 62 percentage-point difference in terms of what skills they seek and what they believe graduates have.

In the survey conducted by Manpower (2014) of 37 000 employees in 42 countries, Norway included, the largest skills gap was unsurprisingly hard skills at 35%. As mentioned above, we can see the same in both Studiebarometeret and Kandidatundersøkelsen as these are the traits that students are the least satisfied with and that candidates to a large degree would have wanted their education to be more focused on. On the other hand, 19% of the skills gap was in soft skills which include teamwork, honesty, punctuality, interpersonal skills, work attitude, responsibility and negotiation (Cunningham & Villaseñor, 2016).

According to Matsouka & Mihail (2016), some of the largest gaps between employee skills and what is expected of them is referring to learning orientation, extra effort, teamwork, integrity, communication, professionalism and many other qualities. The gap presented here is quite notable, and even though this research was done in Greece, one can draw similarities. The exact order and magnitude of the difference might however vary in Norway. Further looking into Kandidatundersøkelsen, candidates that have a Master in Business and Administration in Norway score the lowest on practical competence, high on theoretical knowledge and relatively low on work-specific skills. This means that the candidates wish they had gained more practical competence and that their theoretical knowledge is sufficient. One can therefore say that the gap in soft skills is not that evident when we look at the assessments by students and candidates and it is rather hard skills that both groups consider as low. It is probably harder to assess soft skills

as they are highly personal and not that related to the institution per se. Hard skills represent the largest gap, and these skills are arguably easier to improve for educational institutions. The fact that only 7% of employers say that they are cooperating with higher education to align the curriculum to the skills needed is quite alarming and the importance of this type of cooperation is yet again established.

It is interesting to see that students' perception and candidates' experience align when it comes to certain traits within learning outcome. One could therefore argue that Business Schools focus more on theoretical knowledge than practical, work-specific competence, which is also reflected in the study by Matsouka & Mihail (2016). They argue that this can become more balanced by cooperation between businesses and universities. Again, going back to Støren et. al (2018), BI and NHH score the highest, while UiS as a university is at the bottom. Without being able to draw definite conclusions, it is worth noting that the schools who have the highest scores in perceived learning outcome also feel sufficiently prepared for their current job in regard to skills and knowledge in addition to feeling that they get to utilize their skills.

6.3.2 The gap in work relevance between students and candidates

The previous chapter in this thesis ended with the conclusion stating that our data indicate students' tendency to view their education as more work relevant than candidates. In other words, there appears to be a gap between the two groups when it comes to this variable. The fact that work relevance actually goes *down* to some extent after completing studies can be seen as a warning sign for educational institutions. Are they really preparing their students sufficiently for the labor market? We believe that there are several efforts to be made, and the most evident one is the incorporation or improvement of work-integrated learning as a part of the educational program.

Even though both BI and NHH offer internships as a part of their master's degree in Business and Administration, this is an offer for students above a given academic level, and it is not a mandatory 'course' that all students must take. Kandidatundersøkelsen showed that practical training (in this case internships) during the course of education can have a significant, positive effect for candidates that have entered the labor market. However, WIL is a multifaceted concept, and we believe that educational institutions – and hence, their students and candidates, will benefit greatly from an expansion of this offer. As Jackson (2015) states, students will be better

equipped and have increased employability, and as a result, they will function optimally in the work environment. As mentioned previously in this thesis, our society is ever-changing and due to the fact that practical skills are highly valued by employers, a new kind of knowledge is required (Taylor & Govender, 2017).

WIL comes in many forms, and besides internships, there are no 'official records' of other offers present at the schools that we compare, but the 'word on the street' is that there are generally more and tighter links to the industry in both NHH and BI compared to HH-UiS. According to Jackson & Collings (2017), WIL can be virtual consulting, industry-based projects, work placement and a paid year during university. To engage in these types activities can have benefits for all the WIL stakeholders – both students, institutions and organizations. In other words, internships for a small fraction of the student mass is not sufficient to gain the full benefit of work-integrated learning.

The existing gap between students and candidates when it comes to work relevance can possibly be closed if each school took measures and broadened their offer, even though it is probably the most 'critical' for HH-UiS as their offer and probably also their effort can be argued to be the equivalent to the bare minimum. We believe that WIL should be included as a mandatory part of the educational program as its benefits has repeatedly been confirmed. Arguably, Business Schools should know by now that linkages to the industry are of great importance, and we believe that the fact that NHH (and BI) do have stronger links can help explain why their students and candidates are consistently more satisfied both when it comes to work relevance during and after studies and utilization of skills in their job. Additionally, they have a lower unemployment rate compared to HH-UiS.

When comparing unemployment to the data above, one can see that UiS score substantially higher than NHH in unemployment, underemployment and irrelevant jobs (BI was not a part of this survey), according to Støren (2018). Along the same lines – unemployment over time shows that, generally speaking, UiS is above NHH except in 2013 when UiS actually scored 8 percentage-points below NHH. We can see trends that show similarities between perceived work relevance and unemployment, but due to the lack of specified data, we are unable to draw definite conclusions. However, as Støren (2018) argue and to some extent prove, including certain forms of WIL in the program can help reduce unemployment and maladjustment.

Bluntly speaking, where there is work-integrated learning for students, there is subsequent lower rates of candidate unemployment. Why is that and what creates this gap? We believe that there of course are more factors than WIL alone, but looking specifically into this, we see that schools such as HH-UiS who have a broader, more theoretically based focus, also have a higher unemployment rate. A reason for this gap in the latter years may be the oil crisis and the fact that HH-UiS is located right in the center of this. However, the share that get a relevant job and the unemployment rates are, according to Hovdhaugen et.al (2016), also indicators of quality in higher education under the category of relevance. We therefore suggest that WIL, which is present at both BI and NHH, will help students and their employability, improve candidates' assessment of work relevance and ultimately, heighten the educational quality of the institution.

We have asked the question – do candidates and students differ when it comes to their assessment of work relevance? As discussed above, the answer is yes. Even though the difference between them is probably relatively marginal, it does however say something about the transition from studies to the labor market, and it gives an indication that candidates experience their educations' work relevance differently than they probably would have when still enrolled in the program. As we have stressed throughout this thesis, we are aware that the links and gaps we look at are not mutually exclusive, and there are of course other factors that contribute to a given result. On the other hand, we think that there is some truth to it as there are too many factors aligning for it all to be coincidental. As we have stressed already, but can't really emphasize enough; students learn differently in other settings in terms of knowledge, skills and behavior. Therefore, integrating WIL into the education can strengthen both their willingness to learn and their attractiveness. This can lead to more work-related confident candidates, which again can help reduce candidate unemployment (Taylor & Govender, 2017).

7.0 MANAGERIAL IMPLICATIONS

Through this data collection, analysis and comparisons, we believe that we have gained some valuable insights into some of the aspects that increases quality in higher education and gives value to the students. We would like to offer some practical suggestions for implementation to Business Schools interested.

7.1 The balance between research and teaching

Throughout the data we see that increasing publication points per FTE at the exponential rate that HH-UiS has done have led to our conclusion that it has negatively impacted the students. We believe that deciding to do good academic work and publish articles at an increasing rate is very important for all universities in order to gain accreditations and international reputation. However, our recommendation is that the Business School decide to increase number of publications by a set percentage over a 5-year period. This should be measured in publication points FTE, because it gives better indications of how much is published rather than by looking at publication points alone. Furthermore, the rate set by the Business School would depend on what stage of maturity the Business School is in and their overall number of publication points.

The three Business Schools we have looked at all have around 1,6 PP/FTE in 2016. We believe that the reason the effect is different is both due to the size of both publication points and FTE at BI and NHH and their stage of maturity as compared to HH-UiS. We believe that BI and NHH benefit from economies of scale when it comes to their size.

7.2 Integrate businesses in students' education

Our collected data and subsequent analysis indicates that the Business Schools that integrate WIL as part of the students' education feel more prepared for the labor market. We believe this is quite logical. We would recommend that Business Schools integrate an internship as a possible elective or even mandatory course, and that they incorporate real businesses into the curriculum and education to a larger degree. Furthermore, theory shows how Business Schools went from being trade schools to having a more academic focus. It is interesting to see the benefit for students if Business Schools shifted their focus more towards a 'trade' focus.

We would to a certain degree recommend that Business Schools keep the academic focus, but that some of the Business Schools – and from our research, maybe most notably HH-UiS, would

focus more on practical – hands-on knowledge. If academic focus and practical trade focus are on opposite sides on a balance board, we would say that HH-UiS would benefit from moving a little more towards the trade side. To clarify, we do not recommend that any Business School becomes a trade school, but that maybe in the strive to gain international academic validation, some schools have put too much focus on this area.

7.3 Criteria for admissions

Upon review of admissions criteria at HH-UiS, BI and NHH, we see generally high standards. However, this recommendation is in general for all Business Schools. Data shows that 53,000 students graduate with a masters' degree in Business and Administration – from Norway alone. A 36% increase from 2006 – 2015. This is *a lot* of students. Too many we would argue. We believe that higher admissions criteria should be set. From a Business School perspective, it may be attractive to have the highest number of students. Nevertheless, we see through our data that a steep increase in students without the proper measures to account for the enlarged student mass can negatively impact all areas of student satisfaction. We believe that HH-UiS is an example of this. The Business School should set a 3-5-year plan of the increased number of Business students they expect, and the measures needed to properly educate them.

Furthermore, we would argue that national guidelines should be set. We believe that through the current system, too many masters' students within Business and Administration graduate every year. This may lead to a general decrease in the overall quality of the education. Therefore, the student competence probably goes down at most schools, maybe with the exception of NHH and BI. Because so many universities and colleges can add master's in Business and Administration to their degree selection, the quality and competence that the businesses need may not be present. This can weaken the worth of the degree. We believe that the same has happened to the bachelor's degree in Business and Administration. So many people have the degree that it has lost it worth in a sense. Implementing standards in admissions that are above the bare minimum would be beneficial for the Business School, maybe not in the first year of implementation, but over time.

7.4 Expanding the students' skill set

As we are master's students within Business and Administration ourselves, we have naturally been looking for jobs. Without having any research on it, only through our own experience, we see that most employees want recent graduates with good or excellent written – and oral skills. We believe that there are benefits to having presentations and open discussions that simulates a real working environment that prepares the student sufficiently for the labor marked. Likewise, it would benefit the students if the written assignments to a larger degree revolve around real-life businesses, their challenges and opportunities.

Furthermore, some firms highly desire students who have been in an international exchange program. We believe it benefits both the student, and in most cases, it can help improve English proficiency skills and give the student a new zest for their academic work. It can broaden their perspective, help them gain important cultural perspectives on both host – and home country. They can learn "best practices" and become more attractive as an international employee. Massy (2016) also argues that it can draw new students to the Business School and be a factor in achieving satisfied customers (students).

8.0 FURTHER RESEARCH

Due to the limitations of this paper in terms of time and resources, we want to make some suggestions for further research on this topic because we think it is an important subject worth both the research, but most importantly – the discussion and subsequent change. These are the aspects that we would have wanted to investigate, but due to the large extent of the matter, we will leave this for someone else.

- We only compared three Business Schools. For a better analysis, including more Business Schools will give more variables and more data for comparison.
- We also had problems getting all the necessary data from BI. We believe BI is important to include because it gives insight into the private/public Business School debate (not mentioned in this paper). We recommend calling BI and continue to call BI until the necessary data had been collected.
- We briefly mentioned the social importance – being a part of something larger and having a good study environment. We believe this is very important, although hard to measure. It is not included in the paper, but recent letters to the editor at DN.no shines light on social issues at NHH not captured in the overall student happiness or the input data. This has led to quite a lot of debate, especially because the data from Studiebarometeret favors NHH highly and there are few indicators to say otherwise (Lund, 2018; Oterholm, 2018).
- We have talked about the quality of the education, without being able to go in-depth into what the facilitators actually teach. Reviewing the material, it is difficult to measure the requirements within each class and how relevant it is. Nonetheless, it is important, and deserves further research. Also, it would be interesting to see if the data shows that having more students in each class affects the students. We believe this would be of benefit in further research, but too extensive for our paper unfortunately.
- When looking at the data for FTE we were unable to figure out where the FTE actually spends his or her time. It would be interesting to see both the background of each employee – to see whether they have a work relevant background or an academic background and how much time is spent teaching, preparing the teaching and teaching related activities compared to research related ones. Is it beneficial that everyone should do both? Further research could help answer that question.

- Because Kandidatundersøkelsen only covers UiS as a whole, and not HH-UiS, it would be both interesting and beneficial to see data on candidate happiness and fit in the work place. That would shed some more light on the quality of their business degree.

9.0 CONCLUSION

In this chapter, we will draw conclusions based on the data we have presented, and the analysis and discussion that we have compiled in previous chapters. Here, we present the main conclusion where we look at the bigger picture and repeat the links between different aspects that we have introduced throughout this thesis. Again, we emphasize that the conclusions we make are based on indications and trends, not hard facts. Thus, we are not able to state any definite conclusions. However, we have many interesting findings and indications of effects that we will summarize below.

There is an increased number of students graduating with masters' in business degrees in Norway– so many that some articles are calling a bachelor's degree the new high school diploma. With increased competition, the question of the quality of the Business School arises. What makes students best prepared for the labor market? This is the essence of our thesis. What impact does the Business Schools have on the students' future? We have compared and analyzed HH-UiS, BI and NHH to gain perspective and overview of connections and gaps.

We have examined indicators of quality in Business Schools by looking at the possible relationships between input, process and output variables. The empirical emphasis of this thesis has been to look at secondary data regarding students, FTE, publication points in addition to data describing some of the program characteristics. We have compared this to the students' perception of their education and both the recently graduated candidates in addition to 3 years after completed studies.

Through our secondary data analysis and comparison of three Business Schools, we have gained insight into what characterizes educational quality. We see that the academic resource base and program characteristics are highly determinative when it comes to quality, and the magnitude of quality is reflected in what students and candidates experience. Looking at input as the independent variable gives us the opportunity to examine its positive (and negative) effects. Hence, we are able to draw connections and see the influence these variables have.

When looking at the academic resource base, the data shows that publication points per FTE have a negative effect on perceived work relevance and overall student satisfaction while it does not have a very large effect on perceived learning outcome. We see that the negative effect is

different depending on the school. Generally speaking, HH-UiS is impacted the most, while NHH is the most stable. Furthermore, the data on students per FTE shows that negatively affect perceived work relevance, learning outcome and overall student happiness at HH-UiS while NHH is stable or slightly decreasing. We believe the reason that HH-UiS is most likely impacted the most by this is both due to their small size of FTE and their early stage of maturity.

The trends shown at HH-UiS are decreasing at a high rate. Maybe it is an overstatement to call it alarming, but taking the customer (student) value proposition seriously, any business would take appropriate measures to counter these downward facing trends. However, it may be that our interpretation of HH-UiS is too unfavorable. We are comparing a 7-year-old Business School to Business Schools that have decades of more experience and are quite a lot larger. With the small amount of FTE, they have managed to increase their publication points per FTE a lot, and they have a relatively good student per FTE which is impressive since the student mass have more than doubled over the past 6 years.

Looking at program characteristics for each Business School, we see that more options in regard to specializations and higher quality of the student has a positive effect on students' perception of the educational quality and the unemployment data upon completion of the studies. Throughout this thesis, NHH is consistently favored by the available data. We believe that this can be largely attributed to program characteristics. The high admission requirements at NHH in addition to the large amount of specializations and possibility to get relevant work experience mirrors the NHH students' positive ratings. Based on this, it is fair to assume that these traits are characteristics of educational quality. The opposite is mirrored at HH-UiS with relatively low admission requirements, few specializations and little to no possibility to get relevant work experience. This connection is conspicuous, and it supports our assumptions.

Based on our data and comparison, HH-UiS comes out as the school where decreasing rates of students' perception of education quality is the trend. We see this mirrored in Kandidatundersøkelsen and Spesialkandidatundersøkelsen. We see that they are rated relatively lower on both hard – and soft skills, which we believe is a large reason for the gap when students enter the work life. This can also be seen in how pleased the candidates are with their skills and knowledge utilization in current job, even though this is for UiS as a whole. Furthermore, Studiebarometeret and Kandidatundersøkelsen show that students are relatively good at assessing their own education's work relevance when comparing it to unemployment data. The

study shows that students, generally speaking, feel ill-prepared for their job in regard to skills and knowledge, and employees feel that newly graduates lack both hard and soft skills.

One of the most evident issues that has been revealed in this thesis is the lack of cooperation between the Business Schools and the labor market. The fact that NHH and BI have internships and generally stronger ties to the business world can help explain their overall higher ratings. We have continuously stressed the importance of WIL, and the need for it to be implemented and improved is clear when it comes to how work relevance is perceived to be lower by candidates after graduating. Implementing such measures can mitigate this gap. Additionally, work-specific skills are considered low by both groups that we have examined, and hard skills are the skills that employees lack the most. In other words, cooperating more closely with the labor market and adjusting curricula to the skills needed by employers is highly important and should be taken seriously. This is however a mutual responsibility for both institutions and the labor market. In other words, the labor market also needs to be a part of customizing educational programs to make sure that their future employees hold the skills and knowledge necessary.

It is clear through our thesis where we asked whether input, process and output variables are indicators of quality at Business Schools that the simple answer is – yes. Yes, it does matter what school you attend and what this school can offer. It may however not solely be attributed the quality of the Business School, but also the quality of the student. Our comparisons of connections and gaps shows that good Business Schools often attract good students, which has a positive snowball effect. Many of the input variables have a large and we believe – tightly knit and intertwined impact on both the process and the output in our conceptual model.

We want to raise the question – are Business Schools preparing students for todays' business world? We believe – not enough. Even though there are measures that decrease the size of the gap from student to employee, we believe it would be beneficial for the Business School to work towards further closing this gap and strengthen the positive effects that we have witnessed the input variables to have. One of the goals of universities and colleges is also to prepare the students for the business world of "tomorrow". It will be interesting to see if the students who now graduate will have the necessary skill-set to keep up with the changes of the future. In an increasingly global world where competition is greater than ever, and changes occur at an exponentially faster pace, maintaining a high educational quality in Business Schools is paramount.

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