

## SERVICE QUALITY AND UNIVERSITIES

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### ABSTRACT

*This paper is based on four studies which was conducted between 2004 and 2007 and is divided into four sections. The first sections deals with the research question whether there is a difference in expectations among students between different departments. The results of the study suggest that students at the Faculty of Economics and Business Administration are more likely than others to work along with their studies, and they are more likely than others to have based their choice of studies on higher income potential in the future. The second section focuses on the effect of competition on expectation, perception and loyalty of university students. The findings indicate that the expectations of students at the Faculty of Economics and Business Administration do not differ considerably from the expectations of students in other faculties. However, their perception of service quality does differ somewhat and practically always in such a way that business students rate it lower than do students of other faculties. The third section focus on whether students' expectations and perception of service quality are effected by whether they study at private universities or state universities. The results of the study suggest that students at private universities are more demanding, are more satisfied with the service that they receive, and are more loyal to their university than the students at state universities are. The fourth sections focus on the question whether students in research-based master's studies deem it important to have the opportunity to conduct or participate in research and whether there is a difference in the attitudes of different students groups. The key findings of the study are that students in research-based master's programs at so called practical departments are less interested in research than other students. However, they are more interested than other students in working on applied projects for firms and organizations.*

**Keywords:** Service Quality, Loyalty, Segmentation, Universities.

### 1. INTRODUCTION

This paper is based on four studies which were conducted in the years between 2004 and 2007. The main focus is on the following research questions:

1. Is there a difference in expectations among students?
2. Does competition influence the perception, expectation and loyalty of students?
3. Are students' expectations and perception of service quality affected by whether they study at private or state universities?
4. Do students in so called practical programs find it more important to work on projects for firms and organizations than to conduct or participate in research?

The paper is divided into four sections which focus on those research questions. The first section deals with the questions whether there is a difference in expectations among students between different departments. The survey was submitted to a total of 1398 newly registered students in autumn 2003. 574 responded which is 41% response rate but the study was on Icelandic only and therefore international students were unable to take part. The focus is on students at the Faculty of Economics and Business Administration and whether those students have different expectations than other students. In the chapter there is also a discussion on concept of service, the key qualities of service and what elements differentiate service from material goods. It is also pointed out that service quality is not a measurement of a single dimension but rather as a construct based on the interaction of several dimension, such as the attitude of the staff and the qualities of facilities.

The second section focuses on the effect of competition on expectation, perception and loyalty of university students. The survey followed up on a survey that was conducted in autumn 2003, and is discussed in the first section, when these same students were starting their university studies. The survey

was submitted to all second-year students at the University of Iceland, a total of 1200 students. Of those 462 responded, which is around 40% response rate. When the numbers have been adjusted to account for international students, since the survey was in Icelandic only, the response rate was around 50%. In this section there is also a discussion about how and why universities are in fact service providers.

In third sections the focus is on whether students' expectations and perception of service quality are effected by whether they study at private universities or state universities. The survey was submitted to a convenience sample of a second-year business student's at five universities, University of Iceland, University of Akureyri, Technical University of Iceland, University of Reykjavik and Bifröst University. When the study was conducted all those universities did offer a bachelor's programs in business administration. The survey was administered in-class to students taking second-year courses, selected in cooperation with instructors at each university. The total number of responses was 304 and the response rate equal to 60% of all registered second-year students at each university. The response rate varied between schools, from 50% where it was lowest to 80% where the highest response rate com from. A modified version of SERVQUAL instrument was used which consists of 27 questions. This section's also deal with the concepts loyalty and customer relationship and whether loyalty should be viewed as behavior only or also as an attitude.

The fourth sections focus on the question whether students in research-based master's studies deem it important to have the opportunity to conduct or participate in research and whether there is a difference in the attitudes of different students groups. The study is based on a survey that was submitted to all graduate students at the University of Iceland in the spring semester of 2007. A total of 1500 students were invited to participate in the study and of those 529 did answer which is 36% response rate. This section's also discuss two definitions of competition, industry point of view and the market point of view. The industry point of view is criticized for relatively narrow definition of competition and markets will lead to organizations' defining themselves too narrowly and thus miss possible opportunities or threats in other markets by definitions. The market point of view sees competition as those who are satisfying the same or similar needs. Thus the University of Iceland is competing not only with other universities, but with everything that takes up people time and fulfill same or similar needs.

## **2. DIFFERENT NEEDS AMONG STUDENDS**

The University of Iceland is the oldest and largest university in Iceland with a student body of around 14.000. Each autumn between 1200 and 1300 new students are enrolled and in the autumn of 2004 a survey was submitted to the newly registered students. The objective of the study was three-fold:

- to better understand the decision to embark upon university study
- to better understand the decision to study at the University of Iceland
- to better understand what expectations students have towards their course of study

The survey was submitted to a total of 1398 newly registered students, of which 574 responded, or 41%. Whereas the study was submitted in Icelandic only the international students, who number around 200, were unable to take part. Thus around 1200 students had the chance to take part in the study and based on the 574 responses, that gives a response rate of 48%, or around half of all newly registered students. This discussion will focus on whether newly registered students at the Faculty of Economics and Business Administration have different expectations than other students. The Faculty of Economics and Business Administration is among the largest faculties at the university, with around 1200 students. It is divided into two departments, the Department of Economics and the Department of Business Administration. The majority of the faculty's students are enrolled in the Department of Business Administration, where they can specialize in areas such as finance, management, or marketing.

The first section of this chapter discusses service. It outlines the concept of service, the key qualities of service, and what elements differentiate service from material goods. It is important to regard provision of higher education as service, and furthermore, it must be realized that the service provided by a university extends far beyond academic teaching (Sevier, 1996). The second section covers service quality. The

concept is explained and it is pointed out that service quality is not a measurement of a single dimension but rather is a construct based on the interaction of several dimensions, such as the attitude of the staff and the facilities. The third section discusses measurement of service. In particular, it covers the dimensions of service, i.e. reliability, responsiveness, empathy, assurances, and tangibles. It is essential that measurement of service quality adequately cover these dimensions of quality. The fourth section discusses expectations. Knowledge of expectations is an important prerequisite for an effective assessment of service quality. The qualities that matter the most to the service users must be identified and evaluated. The fifth section identifies the qualities that characterize business students and how they differ from students in other fields.

## 2.1 Service

In recent years the environment of university education has undergone dramatic changes. The number of colleges and universities has grown, as has the ratio of students seeking college or university education. Thus the trend in Iceland seems similar to what is happening elsewhere, in terms of financing the university, the possible excess supply of study programs, and the increased awareness among the users as to their right to receive good service (Wright, 2003). As Sevier (1996) has pointed out, the product that a university offers its students is much more than just the academic teaching. The so called product consists of the teaching element, the social element, some physical elements, and even some spiritual experience. Of particular concern is the considerable change in the colleges' and universities' attitude towards the students. Students are now considered key stakeholders in education. Therefore it is vital that their views are considered when improving the university (Williams, 2002).

Most, if not all, business is based on providing a solution to someone, who then can use that solution to his or her own advantage. These solutions can take various forms. Sometimes they are products, sometimes service, and sometimes something totally different, such as a place, people, or ideas (Kotler, 2001). Service has been defined in many ways and, for the sake of simplicity, we can define service as plan, process, and performance (Lovelock, 1999). Here "plan" refers to service most often being a promise, i.e. someone plans to do something for someone else. The delivery of the service usually takes some time and thus involves actions that form a process. Finally, the quality of service is assessed based on performance, often the performance of employees. A more detailed definition of service has been offered by Zeithaml and Bitner (1996) in their first book on service. There they define service thus:

"Services include all economic activities whose output is not a physical product or construction, is generally consumed at the time it is produced, and provides added value in forms that are essentially intangible concerns of its first purchaser".

According to this definition it is apparent that studies and education are in principle service. When colleges and universities appeal to students, they do so based on plan, the studies themselves are a process, lasting a number of years, and students assess the quality of the service based on the performance of instructors, other staff and of course their own performance.

The main tasks of those that run companies or organizations that primarily offer service are different from those tackled by the directors of companies or organizations whose output is tangible goods (Berry, 1993). The main difference, and the most important one, lies in the fact that the service is intangible (Zeithaml, 2003). As service first and foremost is performance or action rather than a thing, it cannot be seen, tasted, or touched the way tangible goods can. Education is essentially an intangible process that cannot be stored in the stock-room, cannot be patented, and cannot be shown or tested in advance. The second key characteristic of service is heterogeneity (Fisk, 2000). Two "service products" will never be exactly alike. The staff member who delivers the service is often viewed by the customer as the service itself. Staff performance can vary from one day to the next and even from one hour to the next. The instructor is not always in the same mood, his form may vary and thus he may not always attain his set objectives. The same can be said about the students, their form may vary as well as their preparation, making them respond differently to the instruction. An important consideration here is that attending lectures is only one part of the education. A number of other important factors come into play, such as

access to library services, book store, cafeteria, or information. The third key characteristic of service is inseparability (Zeithaml, 2003). While most goods are first produced, then sold, and finally used, service usually is first sold, then implemented and used at the same time (Lovelock, 2001). By registering for a course or study program, a student has made a commitment for the future, and then the instruction is delivered. The student thus undergoes the instruction and often plays an important and active role in class by taking part in discussions or presentations of the topic. The same reasons make advance production impossible. Perishability is the fourth key characteristic of service. It underscores that service cannot be stored, saved, resold, nor returned (Zeithaml, 2003). An empty seat in the lecture hall cannot be used as an extra seat for the next lecture. The supply of service beyond the demand cannot be used at a later time when demand may increase and service that does not meet one's expectations cannot be returned. For a student, it could be an interesting option, for example, if a poor class session could be returned and replaced by a better one. Perishability enhances the importance of assessing demand and coordinating the supply. In education it is important to assess how many students will take part in a certain course, to hire instructors to teach, and to guarantee that the group has the appropriate venue and equipment.

## **2.2 Service quality**

The consumer's perception of service quality is essential. If what is on offer is primarily service, the deciding factor is how the customer evaluates the quality of the service. Even in instances where a combination of goods and services is on offer, the most important factor in the overall evaluation of what is delivered may be service quality.

It must be determined what exactly customers are evaluating when they assess service quality. Parasuraman and associates (1985) laid the foundation for what has been used to measure service quality when they introduced the SERVQUAL. Parasuraman (1988) developed the instrument further and many have developed and adapted the method to special situations (Finn, 2004). Brady and Cronin (2001) emphasize that service quality cannot be measured as one element, but that three dimensions must be analyzed for a single action of service. The three dimensions emphasized by Brady and Cronin are outcome quality, interaction quality, and physical environment quality. When the quality of the performance is assessed, it is mainly based on whether the required service has been delivered. In the case of higher education the key factor is the value of the degree and the options that it opens for the student upon graduation. As the quality of the interaction is measured it must be considered how the service is delivered. For education it is important how the student feels during his studies. Here issues like the relationship with the teacher, the attitude of the teacher and other staff, the efficiency of the service and the willingness of the staff to solve the student's problems. The quality of physical elements must also be considered. This involves the environmental conditions of the recipient during the service delivery. In education, this involves the teaching facilities, facilities for study and reading, and other facilities. Thus it is not enough to graduate students with a good degree; it also matters how, and under what conditions.

This has also been emphasized by a number of researchers. Grönroos (1984) defined, for example, two types of service quality; technical quality, which measures WHAT is provided, and functional quality, which measures HOW the service is provided. Bitner (1993) introduced the concept of evidence of service, which is based on the three new P's in the marketing mix used for service, people, process, and physical evidence. All of this reveals that a simple evaluation of the satisfaction with some particular service really provides limited information as to what could be improved.

### **2.2.1 Measuring service quality**

Based on their research, Parasuraman and associates (1988) identified five dimensions of quality, reliability, responsiveness, assurance, empathy, and tangibles. Each dimension consists of independently measurable factors.

Reliability can be defined as the ability to consistently and correctly provide the promised service. A study by Zeithaml and associates (1990) suggests that this dimension most often is the most important one to customers. However, other studies suggest that it depends both on the type of service and on the culture, which dimension is most important in each instance. Thus a connection between quality dimensions and Hofstede's cultural dimensions has been established by Furrer and associates (2000). Responsiveness can be defined as the willingness to assist the customer and give her the service needed. Assurance can be defined as the knowledge and courtesy of staff, along with the ability of the company and the staff to convey competence and credibility. Empathy can be defined as the level of care that the company shows its customers. What is important in this instance is that the customer be treated as an individual rather than an object or a number on a list. Tangibles can be defined as all the things related to the service, such as physical facilities, equipment, appearance, and other materials.

Many methods have been devised in order to evaluate the quality of higher education. Some are based on SERVQUAL (see Oldfield and Baron, 2000; Lampley, 2001; Smith, Smith and Clarke, 2007) while others are more focused on the perception part (see Abdullah, 2006; Yu, Hong, Gu and Wang, 2007; Angell, Heffernan and Megicks, 2008). Harvey (2001) has used and developed a method, the SSA or Student Satisfaction Approach, which measures many aspects of the education and emphasizes the prioritization of improvements by mapping the results to an importance and satisfaction grid. Noel-Levits has designed a method, the SSI, or Student Satisfaction Inventory, which assesses numerous aspects of the students' higher education experience. Both of these methods assume that students' views are important to the university and both assess perception and importance. Importance is in effect assessment of expectations (Zeithaml, 2003). Thus it must be determined which aspects are of importance when the quality of some service is assessed. What is of key importance in one type of service may be of little or no importance in another. Thus it is commonly claimed that the most important subject of service measurement is to identify what is to be measured and to assess the comparative weight of those factors (Hays, 1998).

Despite the increased attention directed towards the concepts of service quality and customer satisfaction, there still seems to be some tendency to view satisfaction and quality as the same concept. Satisfaction is a much broader concept than service quality, which is primarily based on certain dimensions or qualities of service. Thus service quality is an important factor that influences customer satisfaction, but other factors come in to play as well, for example, personal elements, facilities, price, and quality of goods (Parasuraman, 1994).

### **2.2.2 Expectation**

As most have some knowledge of expectations and their nature, it is crucial for those that organize service to have a deep and substantial knowledge and understanding of expectations (Zeithaml, 1996). Thus it bears mentioning that when the Malcolm Baldrige National Quality Award is granted, special consideration is paid to how well the candidates know their customers' expectations (Walker, 2000). The current study is based on the view that the quality of the service can hardly be assessed if the expectations are not known. Service expectations can be divided in two (Zeithaml, 2003 and Lovelock, 2001). Desired service is what the customer hopes to receive, i.e. the desired performance of the service provider. Adequate service is the service that the customer deems acceptable and satisfactory. If the provider's performance falls below this level, the customer deems the service unsatisfactory. Some research has focused on whether customers have the same expectations towards all companies in the same field (Cadotte, 1987). Most results suggest that this is not the case, i.e. expectations may be the same for a particular section of the field, but they differ when the entire field is considered. Thus it can be expected that students have different expectations towards university studies and that those expectations are affected both by what the university promises and by what the student pays, in terms of tuition (Christensen, 2004).

The gap between desired service and adequate service is termed the zone of tolerance. The recipient of some particular service will accept some deviations from desired service. Performance within the zone of tolerance will not arouse any interest as everything is as can be expected. Therefore this gap has

sometimes been called the apathy zone (Heskett, 1997). Performance that lies outside of this zone will, on the other hand, cause some reaction. If the service outperforms our expectations by far, we will be pleased and may even recommend the service. If it falls below our expectations, below the zone of tolerance, we will be displeased; we will want to file complaints and we may even criticize the service among our friends.

The issue presented is quite complex. The tolerance towards the same level of performance varies among the users of the same service. Expectations are influenced by a number of factors, such as psychological state, personal needs, short-term importance, options, perception of one's own role, the situation, and predictable performance (cf. Zeithaml 2003, Palmer 2001, Grönroos 2000, and Doole 2005).

But why is it important to know the students' expectations? If one assumes that the students' attitudes towards the education are important, it is also important to know what ideas and requirements they have regarding the education. Expectations can be measured in a number of ways, e.g. by asking the respondents to indicate the importance (Zeithaml, 2003, and Hays, 1998). Assessment of expectations thus is an underlying factor for the assessment of perception and plays an important role in the prioritization of improvements (Williams, 2002). Furthermore, it is important to realize that groups have different expectations, that is, do not consider the same elements important. Therefore it is interesting to study the differences in expectations between student groups at the University of Iceland, especially since the tendency is to view the student body as a homogenous group that is offered similar or comparable service.

### **2.3 Expectation of newly registered students**

This section outlines a study conducted among all newly registered students at the University of Iceland in the autumn of 2004. The objective of the study is three-fold:

- to better understand the decision to embark upon university study
- to better understand the decision to study at the University of Iceland
- to better understand what expectations students have towards their course of study

A quantitative survey was used, and the questions divided into four sections. Nine questions related to the decision to commence university studies, fourteen questions related to the decision to study at the University of Iceland, thirteen questions related to expectations towards the course of study, and nine questions related to demographics.

The questionnaire was published in WebSurveyor and the newly registered students were sent an e-mail encouraging them to take part in the survey. Data collection started on 14 September and ended on 30 September, when 574 students had responded. Twice during that period a reminder was e-mailed to those who still had not responded. It is worth noting that in the first four days just under 50% of the total number of responses had already been received. After each reminder the response rate jumped. However, it can be assumed that with this method those who intend to respond at all will do so quickly. Others will react to the reminder, but very few will respond without a reminder when five days have passed since the survey was sent out. Once all the data had been collected they were entered into SPSS for further analysis. ANOVA and non-parametric tests, like Chi-square, were used for statistical analysis. Only those results will be discussed that are statistically significant at the 5% level. Upon determining statistical significance, the Tukey test was performed to determine between which groups the difference was significant.

A total of 1398 newly registered students received the survey. Of that total 574 responded, or 41%. When the number of registered international students is subtracted from the total number, since the survey was in Icelandic only, the response-rate rises to just under 48%. It can thus be assumed that around half of all newly registered students took part in the survey. The ratio of students from the Faculty of Economics and Business Administration was just under 15%, or 86 students. That is around 60% of the newly

registered students at the faculty in autumn 2004. The response rate for the Faculty of Economics and Business Administration corresponds well with the university as a whole.

The results for business students differed from the results for other newly registered students on some key issues. The following section further explores those differences.

The first section of the survey asked questions related to the new students' decision to enter university studies. The students were asked to indicate to what extent they agreed or disagreed with particular statements using a five-point Likert-scale where 1 indicates 'strongly disagree' and 5 indicates 'strongly agree.'

Of special interest in this section, and related to the topic, is the response to the statement: "The prospect of higher income in the future greatly influenced my decision to enter university studies." The results show that business students (4.44) along with law students (4.64) and engineering students (4.57) reported much greater agreement with this statement than students in other faculties. Furthermore, business students stood out when it came to the statement: "I could select from two or more universities when deciding where to study." In this instance, business students tended to agree more (3.38) than students from the Faculty of Humanities (2.43) or the Faculty of Science (2.43). This result can be traced to the fact that students have the choice between several universities that teach Business Administration, while that is not the case for many other fields of study.

When students are asked about their plans to work along with their studies, a difference is revealed, showing that newly registered business students intend to work significantly more during their studies than other students. Over 12% of business students plan to work more than 20 hours per week along with their studies. Students in other faculties plan to work much less and in some faculties the students do not plan to work at all along with their studies.

The questions in the second section of the survey asked about the decision to enroll at the University of Iceland. Again, the students were asked to indicate to what extent they agreed or disagreed with particular statements using a five-point Likert-scale where 1 means 'strongly disagree' and 5 means 'strongly agree.' Of special interest in this section is the response to the statement: "I believe that the University of Iceland offers the best education in the country in my field of study and that is why I selected it." The results are graphed in Figure 1.

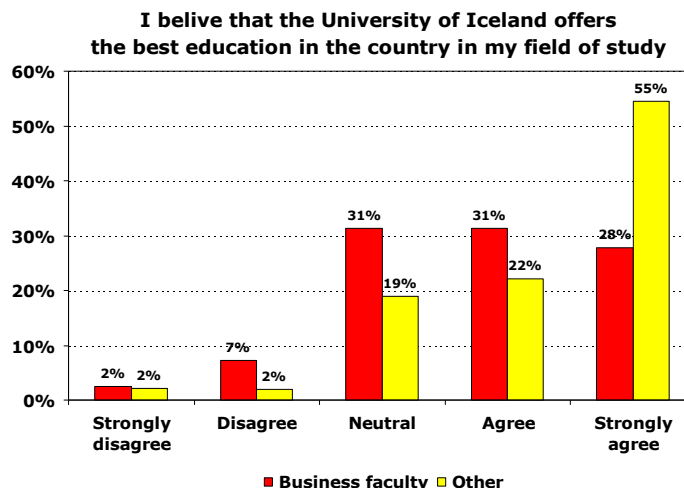


FIGURE 1: THE OPINION OF THE QUALITY OF EDUCATION

The results reveal that students at the Faculty of Economics and Business Administration (3.75) are markedly less likely to agree with this statement than students at the Faculty of Humanities (4.25), Faculty

of Science (4.03), and Faculty of Law (4.61). This suggests that the Faculty of Economics and Business Administration faces much more competition than other faculties. Furthermore, it can be assumed that students at the Faculty of Economics and Business Administration are more demanding since, in general, the more options one has, the less the tolerance (Zeithaml, 2003).

The third section of the survey asked questions related to students' expectations towards their course of study. Respondents were asked to rate the importance of items on a scale from 1 to 5, where 1 indicates 'not important' and 5 indicates 'very important.' When the students were asked about the importance of an "Active social-life" the responses reveal that students at the Faculty of Economics and Business Administration are less likely to consider it important (2.95) than students at the Faculty of Engineering (3.8). Furthermore, when asked about the importance of having "The opportunity to conduct research" the students at the Faculty of Economics and Business Administration consider that less important (3.16) than students at the Faculty of Science (3.79) and students at the Faculty of Social Science (3.72). However, upon being asked about the importance of having "The option to work on projects for companies and organizations," this appears to be more important to business students (3.99) than to students at the Faculty of Humanities (3.52).

The study results suggest that students at the Faculty of Economics and Business Administration differ markedly from other students. They seem to work more along with their studies and they tend to select their field of study more based on higher income expectations than many other students. They were more prepared than other students to seek education at another university and seemed the least convinced that the University of Iceland offered the best education in their field. Social life is not very important to them and they do not place great importance on conducting or taking part in research. On the other hand, they do place greater importance than others on having the opportunity to work on projects for companies and organizations.

These results raise the question whether the programs of study should be organized in the same way in all of the faculties at the University of Iceland. There is considerable variance within the student body and students have very different expectations towards their studies and the service provided them by the university.

### **3. THE EFFECT OF COMPETITION**

The focus in this chapter is a survey that was conducted among students at the University of Iceland in the spring of 2005. The survey followed up on a survey that was conducted in autumn 2004, when these same students were starting their university studies. The main objective of the study was to ascertain whether the increased number of options, i.e. competition, influenced the perception, expectations, and loyalty of the students. The survey was submitted to all second-year students at the University of Iceland, a total of 1200 students. Of those 462 responded to the survey, or around 40%. When the numbers have been adjusted to account for international students, since the survey was available in Icelandic only, the response rate comes out to around 50%. The sample is demographically consistent with the population, in terms of age, gender, and representation of university faculties.

This chapter contains four sections. The first section defines the service concept and demonstrates how higher education actually is service. The second section discusses service quality and methods for assessing quality. The third section presents the study findings, beginning with the study methods and data analysis. The fourth section presents the discussion of the study findings.

#### **3.1 Universities as service providers**

Higher education has gone through vast changes in recent years as noted before. The number of universities has grown, as has the ratio of those seeking higher education. The development in Iceland seems similar to what is happening elsewhere in regards to financing the education, possible oversupply of places and the increased awareness of the users of their right to good service (Wright, 2003). Sevier



(1996) has also pointed out that what the university offers its students is much more than just the education. This includes the social interaction, many physical elements, in addition to other support services. The attitude towards the students has also changed and they are now increasingly viewed as important stakeholders in higher education and therefore their voices must be heard if higher education is to be improved (Williams, 2002).

Service has been defined in many different ways. Zeithaml and Bitner (1996) define service as an intangible real-time process that provides the user with some intangible goods. Lovelock (2001) sees service as intention, process, and performance. Other definitions of service more or less agree with these and show that in essence education is service. Schools appeal to students based on intention, the studies themselves are a process, and students evaluate quality based on the performance of academic and other staff. Therefore it is imperative that the service quality be formally assessed, beyond the teaching evaluations performed for each course.

### 3.2 Service quality and assessment

The application of quality to the service context was driven in part by the early studies of Oliver (1977) and Olshavski and Miller (1972) which were based in turn on early research by Carlsmith and Aronson in 1963 (see Kasper, 2006, pp 183). Based on this it is obvious that application of quality to the management of service is a relatively recent phenomenon and the way it has been achieved is to draw upon and adapt a number of approaches already in use in other contexts. The key point here is that before one can investigate service quality, one need to understand the various definitions and approaches to quality that exist in the wider social and business environment. Garvin (1988) presented five different approaches to understand quality. These different ways of looking at quality are: Transcendent-based, Attribute-based, User-based, Manufacturing-based, and Value-based.

Parasuraman, Zeithaml and Berry (1985) laid the foundation for the so-called SERVQUAL instrument. Through their research, Parasuraman, Zeithaml and Berry (1988) further developed the method and many have since adapted the method to their objectives (Finn, 2004). Since 1985 the three original authors have published a variety of research initiating, developing and improving their original model. The original model was a set of ten dimensions. The research continued into a second phase where the ten dimensions were collapsed into five (Zeithaml, Bitner & Gemler, 2006). These five have become dominant in service quality research and are often referred to as the RATER dimension (Kasper, Helsdingen & Gabbot, 2006):

- Reliability: Ability to perform the service dependably and accurately.
- Assurance: Competence, courtesy, credibility and security.
- Tangibles: Appearance of physical facilities, equipment, and personnel.
- Empathy: Access, communication and Understanding.
- Responsiveness: Willingness to help customers.

In simple terms the SERVQUAL model defines quality as the difference between customers' expectations and perceptions of the service delivered. What this method emphasizes is the measurement of the perception of service received, and of the importance of individual attributes of service. For each service dimension and for the total service, a quality judgment can be computed according to the following formula:

$$\text{Perception} - \text{Expectation} = \text{Service Quality}$$

$$P - E = Q$$

In this view service is not a single construct, but can be divided into various dimensions. Thus Brady and Cronin (2001) conceptualize three dimensions, outcome quality, interaction quality, and physical environment quality. Bitner (1990) furthermore introduced the concept of evidence of service, or people, process, and physical evidence. Therefore it is clear that a simple assessment of whether a client is

satisfied with a service does not provide significant information and is not likely to lead to any improvements in that service. Christensen (2004) and associates have adapted the SERVQUAL instrument to assessing business schools. The questionnaire used in this study is partly based on this work.

Disconfirmation has had a huge impact upon service quality and has subject to a series of refinements. The first of these was from Grönroos (1982) who presented a variant model of service quality. The key contribution here was to identify what he termed technical quality and functional quality. Technical quality refers to a dimension which describes what the customer gets as the outcome of their interaction with the organization. Functional quality refers to a dimension which describes the process by which the technical quality is delivered to the customer.

### **3.3 Effects of competition on expectation, perception and loyalty**

A survey was submitted to second-year students at the University of Iceland in spring of 2005. This survey followed up on a study that was conducted in autumn 2003, when these same students were starting their studies. This section reports the results of a gap analysis, which focuses on the gap between the perception of the quality of service and the importance or expectations of that service. The SERVQUAL instrument is used, asking the respondents to both rate their attitude towards certain service attributes and also to rate their importance.

The objective of the study is to determine the attitude of the students as a whole, and furthermore, to assess whether those studying at faculties that face considerable competition show a different attitude from other students. The focus is both on perception and expectations or importance, but of consideration is also whether the competition affects loyalty. At the University of Iceland the faculty that is most directly affected by competition from other local higher education institutions is the Faculty of Economics and Business Administration (E&B). Therefore this faculty is selected for seeking responses to the research questions; the sample is thus divided in two, responses from E&B students and responses from other students.

Also reported are the results of an assessment of other services provided by the university, such as the registration office, university web-system "UGLAN", and the student counseling centre. Finally, results are reported on students' overall satisfaction, whether they would recommend studies at the university, and whether they would select this university again, if they were starting their studies at this time. Those two last questions address student loyalty to the university. For all of these questions we look at whether there is a significant difference between E&B students and other students.

The survey was sent to just under 1200 students and 462 responses were received, or around 40%. When the numbers had been adjusted to account for the international students who received the survey and for those who had quit their studies, it can be assumed that around half of all second-year students responded to the survey.

A modified version of the SERVQUAL instrument was used and the questions were entered into the web-program WebSurveyor. All second-year students were sent an e-mail and reminders were sent out twice. Each time a reminder was sent out the response rate jumped, suggesting that when this method is used, i.e. web-survey, that those who are going to respond at all will do so immediately, or soon, after they read the e-mail.

The questionnaire contains four sections. In the first section students are asked to indicate their attitude towards sixteen statements, representing certain service components or its provision. The statements are:

1. Social life at the university is very active?
2. My studies provide me the opportunity to work on research
3. My studies provide me the opportunity to work on projects for companies and organizations

4. The faculty provides up-to-date equipment for use by its students
5. The physical facilities adequately satisfy my needs
6. The staff, academic and administrative, is professional
7. Materials associated with faculty services (such as brochures, course materials or web page) are visually appealing
8. When an academic staff member has promised to do something by a certain time, they do so
9. Services are performed right the first time
10. I have confidence in faculty staff
11. Staff of the faculty are always polite to me
12. Academic staff have the knowledge to answer my questions relating to the provision of my course
13. Academic staff are willing to give students individual attention
14. Administrative staff have the knowledge to answer my questions relating to policy and procedures for students
15. Faculty staff are friendly towards students
16. Materials associated with course delivery are available when I need them

The second section asks the students to rate the importance of the sixteen statements listed in the first section. This is intended to reveal that these issues are not equally important for students and to underline the importance of delivering on those issues that are important to students, and to give priority to improvements in areas that rank high on importance but are seen as performing inadequately. Here importance is used as a measurement for expectations since other research show strong correlation between the importance and expectations.

The third section contains six questions. The first three ask about the students' attitudes towards the registration office, the university web-system, and the student counseling centre. The fourth question inquires about overall satisfaction, the fifth one concerns the likelihood that the respondent would recommend studies at University of Iceland, and the sixth one asks about the likelihood that the respondents would select University of Iceland again if they were starting their studies at this time. The fourth section of the questionnaire regards the respondents' demographics and background, i.e. age, gender, faculty, and pace of studies, and is primarily intended for statistical analysis.

Upon completion of data collection, all data were entered into SPSS for analysis. ANOVA and non-parametric statistics, such as Chi-square were used for statistical analysis. Difference is considered significant at p-value less than 0.05. The statistically significant scores are reported in parentheses in the discussion of findings.

The results for questions in sections one and two are presented in radar-charts, which display the results for all of the service questions and their importance at the same time. Perception is measured on a five-point Likert scale where 1 indicates 'strongly disagree' and 5 indicates 'strongly agree.' Importance is also measured on a five-point Likert scale where 1 indicates 'low importance' and 5 indicates 'high importance.' The gap between scores on performance and on importance is the actual service gap. A large gap typically indicates inadequate performance on an important aspect, and the larger the gap, the more critical are improvements. Here the scores for E&B students and the scores for other students are displayed in one chart.

Figure 2 shows a comparison of the scores for E&B students and the scores of students from other faculties. When the expectation scores for both groups are plotted on the chart the emerging patterns follow a similar path, showing a significant difference on one item only, opportunities to work on projects for companies and organizations. E&B student rate this item as more important than do students from other faculties. These findings suggest that competition does not significantly influence students' expectations.

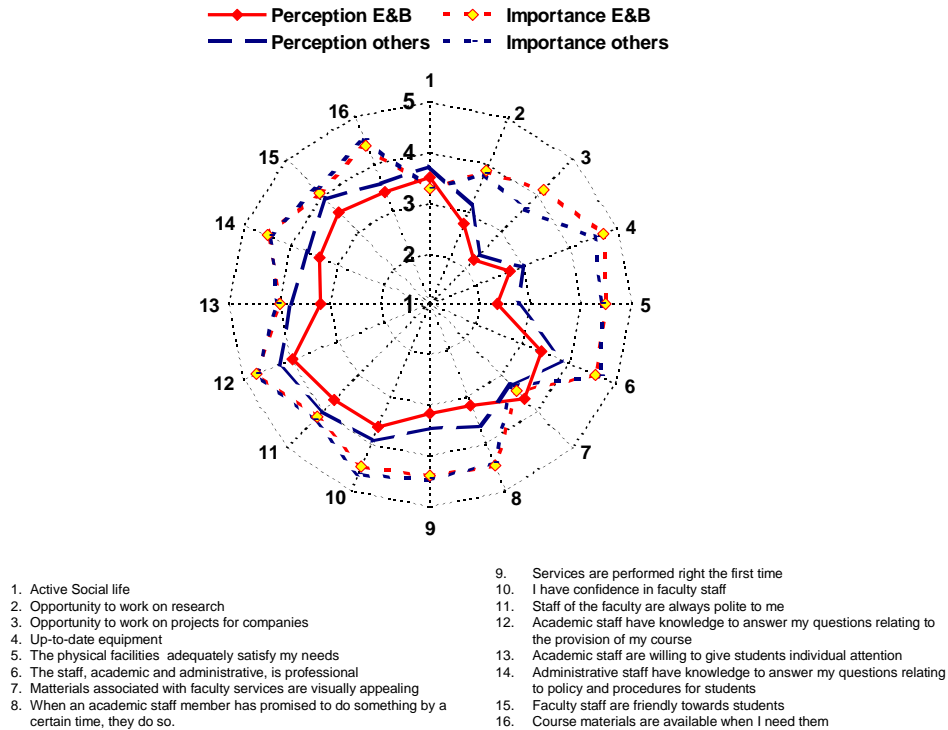


FIGURE 2: PERCEPTION AND IMPORTANCE OF SERVICE ATTRIBUTES

When comparing the results on perception, it is clear that students from other faculties rate all of the items, except item 7, higher than do E&B students. The score on item 7 is 3.65 for E&B students while it is 3.29 for other students. All the other items are rated lower by E&B students than by other students, a statistically significant difference in some cases.

E&B students consider themselves to have fewer opportunities to work on research (2.73) than do other students (3.1). They are more dissatisfied with the physical facilities (2.33) than are students of other faculties (2.75), and they rate the professionalism of the staff lower (3.41) than do other students (3.87). E&B students also disagree more (3.17) than other students (3.61) with the statement that when academic staff members have promised to do something, they do so. E&B students furthermore see academic staff as less willing to give students individual attention (3.17) than do students of other faculties (3.76). E&B students furthermore agree less (3.54) with the statement that all faculty staff is friendly towards students than do students of other faculties (3.93). These findings suggest that competition significantly affects students' perception of service received.

The next three questions address overall satisfaction and loyalty. The questions were as follows:

1. Overall, how satisfied are you with your studies at the University of Iceland?
2. How likely are you to recommend studies at the University of Iceland?
3. If you were applying for studies now, how likely would you be to select studies at the University of Iceland?

All of these questions receive a lower score by E&B students than by students from other faculties. On two of the questions the difference is statistically significant, questions 2 and 3, which both address loyalty. Figure 3 shows a comparison of the results for question 2, how likely are you to recommend studies at the University of Iceland, where E&B students are less likely (3.83) than are students of other faculties (4.28) to recommend studies at the University of Iceland.

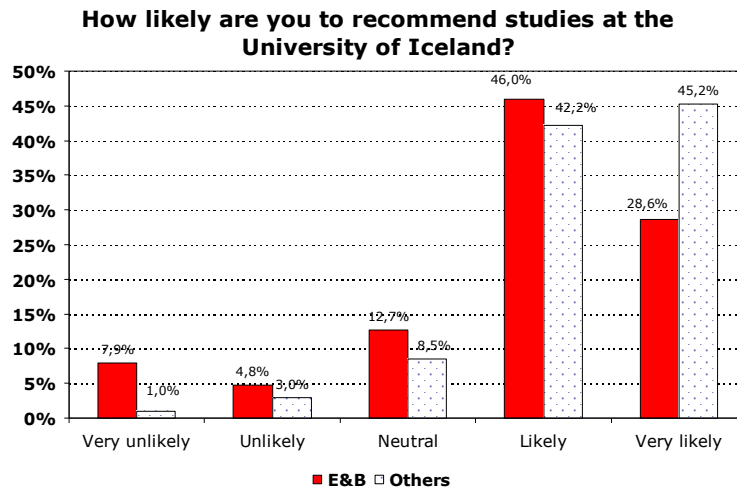


FIGURE 3: HOW LIKELY ARE YOU TO RECOMMEND STUDIES AT THE UNIVERSITY?

Figure 3 shows that just under 75% of E&B students are likely to recommend studies at the University of Iceland while over 87% of students of other faculties are likely to recommend studies at the university. When asked about the likelihood that they would again select studies at the University of Iceland if they were applying for studies at this time, E&B students are significantly less likely (3.03) to do so than are students of other faculties (4.32). Less than 43% of E&B students consider it likely that they would select the University of Iceland again were they applying for studies at this time. Students of other faculties rate this likelihood at over 86%. These findings indicate that competition and increased options significantly affect loyalty. The findings furthermore suggest that those university faculties that face increasing competition in the future must improve their performance to sustain students' satisfaction.

The findings indicate that the expectations of students at the Faculty of Economics and Business Administration do not significantly differ from the expectations of students from other faculties. However, their perception of the service performance differs, almost always in such a way that E&B students rate the performance lower than do other students. This suggests that supply of other study options serves to lessen tolerance.

The findings for questions on loyalty also indicate that increased supply of other study options works to lessen loyalty as E&B students are less likely to recommend studies at the University of Iceland, and less convinced than other students that they would select the University of Iceland if they were applying for their studies at this time.

#### 4. PRIVATE UNIVERSITIES VERSUS STATE UNIVERSITIES

Higher education in Iceland has undergone considerable changes in the past few years and for a while five different universities offered bachelor's programs in business administration (in 2005). Three of these universities are state universities while two are private universities. The state universities only charge registration fee, € 500 per year, and receive subsidy from the government. The Private universities charge the student for tuition fees (from € 2.850 to € 5.250 per year) and receive the same government subsidy as the state universities do.

The chapter focuses on the question whether students' expectations and perception of service quality are affected by whether they study at private or state universities. There is also an examination on whether students at private universities are more loyal to their universities than students at state universities are. The chapter is divided into four sections. The first sections discuss broadly pricing and competition in marketing. Competition is a core concept in marketing but is not easily defined, nor is there general

agreement to what the concept of competition refers. The second section deals with loyalty and customer relationships, which are also core concepts in modern marketing. Here loyalty is viewed as a combination of behavior and attitude. The third section presents the study findings and at the fourth section is a discussion about the results.

#### **4.1 Pricing and competition**

Competition is a core concept of marketing. This concept is not easily defined, nor is there general agreement regarding to what the concept of competition refers. The conventional definition of competition is based on an industry point of view, that is, companies or organizations that offer the same kind of service or product are seen as being in competition (Kotler, Armstrong, Saunders and Wong, 2001). Based on this definition different sectors or markets can be defined, such as the automobile market, cinema market, financial market, or the university market. In line with this definition the actions of one player in the market can affect the demand for another player's products in the same market.

According to this definition other schools or universities that offer the same or similar education are in competition with the University of Iceland. These could be schools and universities that are based abroad, but because of the travel distance, cost, and effort needed, only a minority of students elects to study abroad. Universities in Iceland include the University of Akureyri, the University of Reykjavik, Bifröst University, and the Technical University of Iceland, which was merged into the University of Reykjavik in 2005. While the students at the University of Reykjavik pay tuition fees, those students who started their studies at the Technical University of Iceland before the merger pay only the minimum registration fee, comparable to what the students at the University of Iceland pay. These universities are in active competition with the University of Iceland since the programs of study that they offer are in the same fields as the programs offered by the University of Iceland. Potential students thus have a choice between two universities, and sometimes three.

This relatively narrow definition of competition and markets has faced some criticism many years ago (Levitt, 1960). As a consequence of this narrow definition, companies may come to define themselves too narrowly and as a result fail to notice some opportunities or threats that are in other markets. A solution to this problem would be to adopt a market point of view definition of competition which entails that companies that satisfy the same needs are in competition (Andreasen and Kotler, 2003). Based on this definition of competition, the University of Iceland faces competition from any organization that satisfies the same or similar needs; those who at first do not seem to be in any competition may in fact be in direct competition (Cravens and Piercy, 2003). Surveys of students at the University of Iceland have shown that students' expectations are not all the same (Gudlaugsson, 2006).

Price affects how people perceive service (Zeithaml, 1988). Price is thus often viewed as an indicator of quality, affecting people's overall satisfaction (Parasuraman, Zeithaml and Berry, 1994; Cronin, Brady and Hult, 2000). Price also has an influence on customers' expectations, lowering the tolerance for any deviations from expected service (Zeithaml, 1988; Chen, Gupta and Rom, 1994; Schlissel and Chasin, 1991; Brucks, Zeithaml and Naylor, 2000). These reasons warrant a study of whether variations in price, i.e. tuition fees, affect the perception of service and, furthermore, whether the price has any effect on loyalty.

#### **4.2 Loyalty**

Loyalty and customer relationship are two key concepts of modern marketing (Zinkham, 2001). The importance of building a loyal customer base is founded on the view that normally it is more cost effective to retain current customers than to seek new customers (Zeithaml, Parasuraman and Berry, 1990). The concept of loyalty in marketing theory is closely related to the concept of relationship in those theories (Moller and Halinen, 2000). A customer who receives good service and is satisfied with it is more likely to be loyal to that service, either through buying that service again, or through recommending it to others (Boulding, Kalra, Staelin and Zeithaml, 1993). Customers' loyalty and satisfaction can furthermore be

increased if any mistakes that may have occurred during the service process are dealt with appropriately (McCollough, Berry and Yadav, 2000; Zeithaml, Berry and Parasuraman, 1993; Grönroos, 1990).

Considerable research has focused on methods to build a loyal customer base (Christopher, Payne and Ballantyne, 1991; Gummesson, 2002; Griffin, 1997), and no less emphasis has been focused on why customers become loyal to certain companies, products, or brands (Gwinner, Gremler and Bitner, 1988). Loyalty can be viewed based on behavior only, such as repeated purchase. This approach can be problematic though, as many repeat purchases are the result of a lack of alternatives. It is also necessary to consider the cost of switching brands; the customer must determine that the effort needed, and possible cost, of switching to a different service provider is greater than the possible reward of that switch.

Loyalty could also be viewed as a combination of behavior, repeat purchases, and attitude, the customer likes the company and is prepared to recommend it to others. Customers can also have a very positive attitude towards certain products or services even though they are not able to buy or use those for some reason. It should also be pointed out that in some instances repeat business from the same customer is not desirable. For example, it would not be desirable to have the same student repeat the same course again and again. It would, however, be desirable that this student be prepared to recommend the service, i.e. the program of studies.

#### **4.3 Perception, importance and loyalty**

This study seeks to answer the research question;

“How does the form (private versus state) of universities affect perception, importance and loyalty of business students?”

For a while five different universities offered bachelor's programs in business administration. Three of these universities are state universities, the University of Iceland, the University of Akureyri, and the Technical University of Iceland, while two are private universities, the University of Reykjavik and Bifröst University. The state universities do not charge tuition fees; students pay a €500 registration fee for each school year and the university receives a government subsidy of a set amount per active student. The private universities charge the students for tuition fees in addition to receiving the government subsidy of a set amount per active student. The tuition fees charged by the private universities vary. The fee per school year at the University of Reykjavik amounts to €2.850 while it amounts to €5.250 at Bifröst University (in year 2005).

This study classifies as state universities those universities that do not charge for tuition, and as private universities those universities that do charge for tuition.

To address the research question, the following hypotheses are set forth:

- H1: The expectations/importance of students at private universities is higher than those of students at state universities.
- H2: Students at private universities are more satisfied with the service provided than are students at state universities.
- H3: Students at private universities are more loyal to their university than students at state universities are.

The questionnaire was submitted to a convenience sample of second-year business student's at all five universities. The survey was administered in-class to students taking second-year courses, selected in cooperation with instructors at each university. The total number of responses was 304 and the response rate was equal to 60% of all registered second-year students at each university. The response rate varied between schools, from 50% where it was lowest to 80% where the highest response rate came from.

A modified version of the SERVQUAL instrument (Parasuraman, Zeithaml and Berry, 1988) was used, but this questionnaire has been modified to measure quality at business schools (Christensen, 2004). The questionnaire has been adapted to fit Icelandic circumstances and consists of 27 questions. Although the instrument has been widely criticized, the Cronbach alpha for perception scale was 0,945 and for importance scale it was 0,952. Therefore the instrument used in this survey seems to have good internal consistency.

The results indicate that students at private universities are more demanding than students at state universities. An independent-sample t-test was conducted to compare the mean score for importance between state universities and private universities. There was significant difference in score for state universities (SU = 4.2, SD = 0.53) and private universities [PU = 4.5, SD = 0.36;  $t(290) = -4.66$ ,  $p = 0.000$ ]. This supports hypothesis 1, that students at private universities are more demanding than students at state universities.

The results also suggest that students at private universities are more satisfied with service provided than students at state universities. An independent-sample t-test was conducted to compare the mean score for performance for state universities and private universities. There was significant difference in score for state universities (SU = 3.52, SD = 0.54) and private universities [PU = 4.0, SD = 0.53;  $t(281) = -7.32$ ,  $p = 0.000$ ]. This supports hypothesis 2, that students at private universities are more satisfied with the service provided than students at state universities are.

An independent-sample t-test was conducted to compare the service quality index for state universities and private universities. There was significant difference in score for state universities (SU = -0.69, SD = 0.59) and private universities [PU = -0.48, SD = 0.50;  $t(271) = -2.99$ ,  $p = 0.003$ ]. Based on this it is possible to conclude that the service provided at private universities is better than at state universities.

The results for a question assessing overall satisfaction also suggest that students at private universities (PU = 4.26, SD = 0.74) are more satisfied than students at state universities [SU = 3.83, SD = 0.84;  $t(302) = -4.6$ ,  $p = 0.000$ ]. This is further illustrated in figure 4.

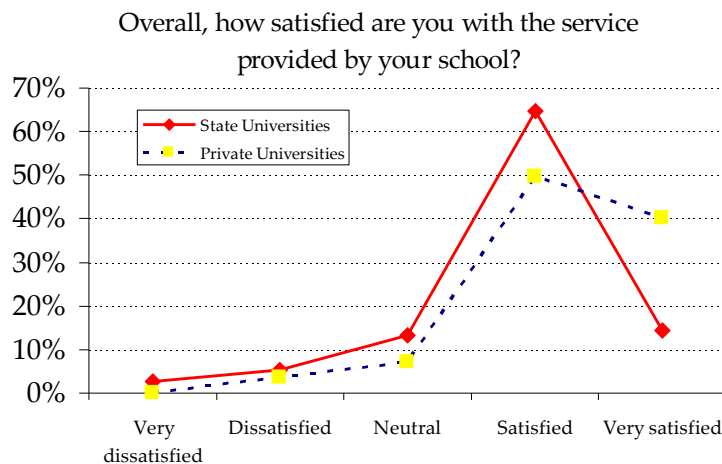


FIGURE 4: OVERALL SATISFACTION WITH THE QUALITY

Two questions were used to measure loyalty. In both cases a modified Likert-scale was used, where 1 was very unlikely and 5 was very likely. The first question was "How likely or unlikely is it that you would recommend studies at <your school>?" An independent-sample t-test was conducted to compare the likelihood of recommending studies for state universities and private universities. There was significant difference in score for state universities (SU = 4.08, SD = 1) and private universities [PU = 4.56, SD = 0.73;  $t(300) = -4.39$ ,  $p = 0.000$ ]. Thus students at private universities are more likely to recommend studies at their home university than students at state universities are.



The second question to measure loyalty was “How likely or unlikely would it be for you to select <your school> if you were starting your studies now?” Students at private universities are more likely to indicate that they would select their university again if they were starting their studies now. There was significant difference in score for state universities (SU = 3.89, SD = 1.1) and private universities [PU = 4.3, SD = 1;  $t(302) = -3.06, p = 0.002$ ].

These results support hypothesis 3, that students at private universities are more loyal to their universities than students at state universities.

The results show support for all three hypotheses. Students at private universities are more demanding, while at the same time they are more satisfied with the service that they are receiving. When the quality index is calculated, the results furthermore indicate that the service provided to students at private universities is better than the service provided to students at state universities. Students at private universities are also more loyal to their university than students at state universities are, as they are more likely to recommend studies at their university and are also more likely to select the same university again if they were starting their studies now.

There are many possible explanations for this. One is that the state universities typically define themselves in a seller's market where the bargaining power lies with the seller, forcing the buyer to adapt to the seller's demands, or in this instance the universities' demands. Conversely, the private universities seem rather to define themselves in a buyer's market, where the bargaining power lies with the buyer, in this instance with the students. It could also be pointed out that the tuition charges afford the private universities more leverage to provide their students with better service, but as has been shown, there is significant difference between the revenue of the state universities and the revenue of the private universities. It is not likely, however, that increased revenue, such as if the state universities started charging tuition fees, would have much effect on the behavior and attitudes of the state universities' staff and faculty towards the students, but that is a focus of frequent complaints by students. Still, increased revenue could open up the possibility of providing students with more personalized service and improving the environment.

## **5. RESERCH OR APPLIED PROJECTS?**

This chapter reports the results of a survey of students in research-based master's studies (MA/MS) at the University of Iceland. The data were gathered in the spring semester 2007, the main aim being to assess the perceptions and expectations of master's students as well as their loyalty to the University of Iceland

The study focuses on determining whether students in research-based master's studies deem it important to have the opportunity to conduct or participate in research and whether there is a difference in the attitudes of different student groups. The hypothesis is proposed that students enrolled in research-based studies at so called practical departments find it more important to work on projects for firms and organizations than to conduct or participate in research.

### **5.1 Research findings**

The following research questions guide the research:

- Are students in research-based master's programs more interested in research or in practical/applied projects?
- Are the attitudes of students in research-based master's programs different from the attitudes of other students?

It is important here to define what constitutes professional studies. The term is here used to refer to studies focusing on teaching applied skills and the faculties of business, law, and engineering typically are considered professional schools.

Based on this definition master's students at the Faculty of Economics and Business Administration, the Faculty of Law, and the Faculty of Engineering are defined as students in professional studies, labeled student group 1, while students in other faculties are labeled as student group 2. The following hypotheses are proposed:

- H1: Student group 1 is less interested in research than student group 2.
- H2: Student group 1 is more interested in working on practical/applied projects for companies and organizations than student group 2.
- H3: Student group 2 is more loyal than student group 1.

The research section is divided into three sub-sections. The first one describes the research methods and design, the second one outlines the data analysis, and the third one reports the findings.

The study is based on a survey that was submitted to all graduate students at the University of Iceland in the spring semester of 2007 a total of 1500 students were invited to participate in the study. The number of respondents was 529 or a 36% response rate.

When the data collection was completed the data were entered into SPSS for analysis. Where there were more than two groups, the analysis of variance, ANOVA, procedure was used to determine whether significant difference existed between the groups. Those results will not be discussed further in this article. A t-test was used to determine whether a significant difference existed between the two student groups (student group 1 and student group 2). Difference is discussed in the results only when it is statistically significant at the 5% significance level.

To determine how important it is to students to participate in research they were asked to indicate that importance on a five-point interval-scale, where 1 represented low importance and 5 represented high importance. The results suggest that students in group 1 deem research less important than do students in group 2. Figure 5 shows that just over 30% of students in group 1 consider it very important to have an opportunity to conduct research, while just over 60% of students in group 2 consider it very important.

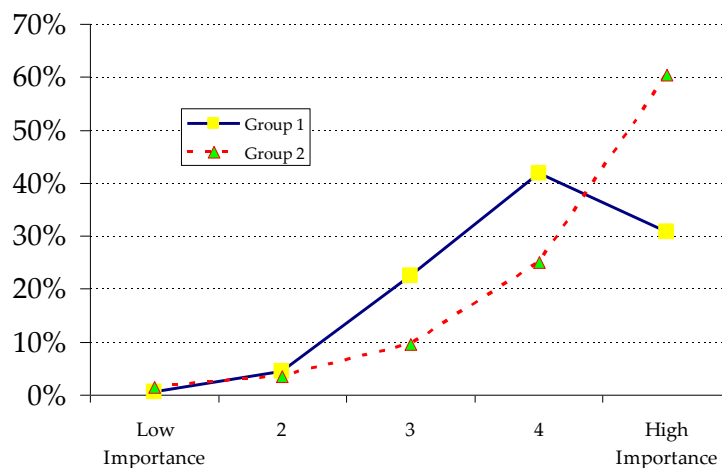


FIGURE 5: THE IMPORTANCE OF HAVING AN OPPORTUNITY TO CONDUCT RESEARCH

The results from a t-test (independent-sample t-test) show a statistically significant difference in the mean score of group 1 ( $G1=3.98$ ,  $SD = 0.87$ ) and of group 2 [ $G2 = 4.4$ ,  $SD = 0.9$ ;  $t(529) = 5.14$ ,  $p<0.001$ ].

This thus supports hypothesis 1, that master's students in faculties offering professional or applied studies (group 1) are less interested in research than students in other faculties (group 2).

To determine how important students consider having the opportunity to work on applied projects for firms and organizations they were asked to indicate that importance on a five-point interval-scale, where 1 represented low importance while 5 represented high importance. The results suggest that students in group 1 deem it much more important to be able to work on such projects than do students from group 2. Just fewer than 43% of students in group 1 deem it very important to have the opportunity to work on such projects while only 27% of students in group 2 deem it very important. The results from a t-test (independent-sample t-test) show a statistically significant difference between the mean score of group 1 ( $G1 = 4.1$ ,  $SD = 0.96$ ) and group 2 [ $G2 = 3.68$ ,  $SD = 1.12$ ;  $t(528) = 4.56$ ,  $p < 0.001$ ].

Thus hypothesis 2 can be supported, that students in master's programs in professional schools (group 1) are more interested in working on practical/applied projects than students in other study programs (group 2).

These results are intriguing when they are considered in relation to students' satisfaction. No statistically significant difference was found in the groups' satisfaction with the opportunities to work on projects for firms and organizations. However, students in the professional schools deem it more important. As a result, the service gap is greater / there is a greater gap in the service towards the students in the professional schools.

## 6. CONCLUSIONS

The paper is based on four studies which were conducted between 2004 and 2007 and is divided into four sections. The main focus is on the following research questions:

1. Is there a difference in expectations among students?
2. How does competition influence the perception, expectation and loyalty of students?
3. Are students' expectations and perception of service quality affected by whether they study at private or state universities?
4. Do students in so called practical programs find it more important to work on projects for firms and organizations than to conduct or participate in research?

To deal with question one a study was conducted among all newly registered students at the University of Iceland in the autumn of 2004. A total of 1398 newly registered students received the survey. Of that total 574 responded, or 41%. When the number of registered international students is subtracted from the total number, since the survey was in Icelandic only, the response-rate rises to just fewer than 48%. It can thus be assumed that around half of all newly registered students took part in the survey. The students at the Faculty of Economics and Business Administration (E&B) were of special interest and the response-rate from those students was around 15%, or 86 students. That was around 60% of newly registered students at the faculty.

The study results suggest that students at E&B differ markedly from other students. They seem to work more along with their studies and they tend to select their field of study more based on higher income expectations than many other students. They were more prepared than other students to seek education at another university and seemed the least convinced that the University of Iceland offered the best education in their field of study. They also do not place great importance on conducting or taking part in research but do place greater importance than others on having the opportunity to work on projects for companies.

These findings raise the important question whether students are one group or many smaller groups or segments with different needs and wants. This question has not earned great focus in the literature but Varey (1993) mention this when he defines the customers of universities and so does Lampley (2001) in his work on different needs of PhD students. Russel (2005) explains the need of designing the service to

the need of international students and Pérez, Fernández, Carrillo and Abad (2007) discuss whether it is possible to use service quality outcome for segmentation in public services. Pinho and Macedo (2008) and Foley (2008) have similar arguments in their researches.

To deal with question two a survey was submitted to second-year students at the University of Iceland in spring of 2005. The objective of the study was to determine the attitude of the students as a whole, and furthermore, to assess whether those studying at faculties that face considerable competition show a different attitude from other students. The focus was both on perception and expectations and also whether competition affects loyalty.

The results suggest that competition does not significantly influence students' expectations but when comparing the results on perception it is clear that students from other faculties rate almost all of the items higher than do E&B students. When comparing questions that address overall satisfaction and loyalty the E&B students score lower in all of them than students from other faculties. These findings indicate that competition and increased options significantly affect loyalty and furthermore suggest that those faculties that face increasing competition in the future must improve their performance to sustain students' satisfaction.

To deal with question three a survey was submitted to a convenience sample of second-year business student's at University of Iceland, University of Akureyri, Technical University of Iceland, University of Reykjavik and Bifröst University. The first three are state universities while the last two are private universities. The survey was administered in-class to students taking second-year courses in autumn 2005. The total number of responses was 304 and the response rate was equal to 60%.

To address the research question the following hypotheses were set forth:

1. The expectation of students at private universities is higher than those of students at state universities.
2. Students at private universities are more satisfied with the service provided than are students at state universities.
3. Students at private universities are more loyal to their university than students at state universities.

The results indicate that students at private universities are more demanding and more satisfied than students at state universities. Two questions were used to measure loyalty. The results indicate that students at private universities are more likely to recommend studies at their universities and more likely to select their university if they were starting their studies now. The results therefore show support for all three hypotheses. Students at private universities are more demanding, while at the same time they are more satisfied with the service that they are receiving. Students at private universities are also more loyal to their university than students at state universities are, as they are more likely to recommend studies at their university and are also more likely to select the same university again if they were starting their studies now.

There are many possible explanations for this. One is that the state universities typically define themselves in a seller's market where the bargaining power lies with the seller, forcing the buyer to adapt to the seller's demands, or in this instance the universities' demands. Conversely, the private universities seem rather to define themselves in a buyer's market, where the bargaining power lies with the buyer, in this instance with the students. It could also be pointed out that the tuition charges afford the private universities more leverage to provide their students with better service, but as has been shown, there is significant difference between the revenue of the state universities and the revenue of the private universities. It is not likely, however, that increased revenue, such as if the state universities started charging tuition fees, would have much effect on the behavior and attitudes of the state universities' staff and faculty towards the students, but that is a focus of frequent complaints by students. Still, increased revenue could open up the possibility of providing students with more personalized service and improving the environment. From those results it seems to be important to develop service culture within the

organization for providing service quality and gaining customer satisfaction at the public sector (see Canic and McGarthy, 2000; Chen, Yu, Yang and Chang, 2004; Voon, 2006; Helgesen and Nettet, 2007).

To address question four a survey was submitted among students in research-based master's studies in the spring semester 2007. The study focuses on determining whether those students deem it important to have the opportunity to conduct or participate in research and whether there is a difference in the attitudes of different student groups. To address the research question the following hypotheses was set forth:

1. Student group 1 is less interested in research than student group 2.
2. Student group 1 is more interested in working on practical project for companies and organizations than student group 2.
3. Student group 2 is more loyal than student group 1.

In student group 1 were students at the Faculty of Economic and Business Administration, the Faculty of Law, and the Faculty of Engineering but those students are defined as students in professional studies. All other students were labeled as student group 2.

The results suggest that students in group 1 deem research less important than do students in group 2 and therefore hypotheses 1 can be supported. The results also suggest that students in group 1 deem it much more important to be able to work on practical projects than do students from group 2 and therefore hypotheses 2 can also be supported. The results are intriguing when they are considered in relation to students' satisfaction. No statistically significant difference was found in the groups' satisfaction with the opportunities to work on projects for firms and organizations. However, students in the professional schools deem it more important. As a result, the service gap is greater, that is, there is a greater gap in the service towards the students in the professional schools.

The key findings are that the results suggest that master's students in the professional schools (the Faculty of Economics and Business Administration, the Faculty of Law, and the Faculty of Engineering) place less emphasis on participating in research than do students at other faculties, and at the same time place greater emphasis on having the opportunity to work on practical/applied projects for firms and organizations than do students in other faculties.

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