



***ASSOCIAÇÃO DE POLITÉCNICOS DO NORTE (APNOR)***  
***INSTITUTO POLITÉCNICO DE BRAGANÇA***

**Using Importance-Satisfaction Analysis in Evaluating Student  
Satisfaction: A Case Study of Economics and Administration  
Faculty of Qafqaz University**

**Hikmat Akhundov**

Final Dissertation submitted to Instituto Politécnico de Bragança  
To obtain the Master Degree in Management, Specialisation in Business  
Management

**Supervisors:**

**Paula Odeta Fernandos**

**Nasimi Kamalov**

**Karim Mammadov**

Bragança, June, 2016.



***ASSOCIAÇÃO DE POLITÉCNICOS DO NORTE (APNOR)***

***INSTITUTO POLITÉCNICO DE BRAGANÇA***

**Using Importance-Satisfaction Analysis in Evaluating Student  
Satisfaction: A Case Study of Economics and Administration  
Faculty of Qafqaz University**

**Hikmat Akhundov**

**Supervisors:**

**Paula Odete Fernandes**

**Nasimi Kamalov**

**Karim Mammadov**

Bragança, June, 2016.

## Abstract

Education is one of the main industries in the world, which needs to focus more than other types of industries. As Mandela said, "Education is the most powerful weapon, which you can use to change the world" ([www.brainyquote.com](http://www.brainyquote.com)). Global economic recession era put serious pressure on private Higher Education Institutions (HEI), which resulted as decrease in the university spending`s budget. Therefore, HEI forced to develop more competitive ways to find new financial resources for rapid technological and organizational changes (Savsar, 2012).

Students are the motive of being of Higher Education. The aim of this study is to implement Importance-Satisfaction Analysis (IPA) matrix to evaluate the student`s satisfaction and assess importance of different attributes in terms of student`s perception. The students that participated in this study enrolled in the present academic year, 2015/2016, in the Economics and Administration Faculty-Qafqaz University.

In order to perform study, survey method applied to collect the data and number of received valid questionnaire were 266. Questionnaire used to collect demographic information of students, identify importance given to each attribute and satisfaction degree of each attribute. Descriptive analysis used to identify profile of respondents, also find satisfaction and importance degree for each attributes. To evaluate differences between groups, built association between variables, find relation between variables and answering to the research hypothesis inferential analysis applied. Moreover, IPA matrix was been used to explore the attributes that needs improvement that perceived as attributes that are more important for the students.

The result showed that generally students are satisfied with service quality offered by HEI-on sample of the Qafqaz University. In addition, research found that there are no differences in overall satisfaction and importance by department, gender, academic year and grade point average. IPA matrix highlighted the main attributes, which performs well, namely Academic Services and Teaching aspects, and in another hand needs to concentrate in Undergraduate program and External Relations. In addition, research found that loyalty of students is very low and there is a negative correlation between loyalty and satisfaction.

**Keywords:** Importance-Satisfaction Analysis, Customer Satisfaction, Service Quality, Higher Education Institution, Students.

## Resumo

A educação é uma das principais indústrias do mundo, que precisa de se concentrar mais do que outros tipos de indústrias. Como disse Mandela, a educação é a arma mais poderosa que se pode usar para mudar o mundo. A recessão económica mundial colocou uma pressão elevada sobre Instituições de Ensino Superior privada (IES), tendo resultado uma diminuição no orçamento. Portanto, as IES têm sido forçadas a desenvolver formas mais competitivas para encontrar novos recursos financeiros para rápidas mudanças tecnológicas e organizacionais (Savsar, 2012).

Os estudantes são a razão de ser do Ensino Superior. Neste sentido, o objetivo deste estudo assenta em aplicar a matriz e Importância-*Performance*/Satisfação para avaliar a satisfação dos estudantes e avaliar a importância que os mesmos colocam aos serviços prestados pela IES. Os alunos que participaram neste estudo encontram-se matriculados no presente ano letivo, 2015/2016, na Economia e Administração Faculdade-Qafqaz University.

Para a realização do estudo aplicou-se um inquérito por questionário tendo sido recebidos um total de 266 respostas. O questionário permitiu recolher informações demográficas dos estudantes, identificar importância dada a cada atributo, bem como a satisfação com cada atributo. A análise descritiva utilizada permitiu identificar o perfil dos inquiridos, também encontrar satisfação e a importância para cada atributo. Para avaliar as diferenças entre os grupos, associação entre as variáveis, relação entre variáveis e responder às hipóteses de investigação recorreu-se a uma análise. Além disso, a matriz IPA foi utilizada para explorar os atributos e quais os que necessitam de atenção, na perspetiva dos estudantes.

Os resultados permitiram concluir, globalmente, que os alunos encontram-se satisfeitos com a qualidade do serviço oferecido pela Universidade Qafqaz. Além disso, verificou-se que não existem diferenças na satisfação global e a importância por departamento, sexo, ano letivo e classificação média. A matriz IPA destacou que os atributos Serviços de docência e Serviços académicos, por outro lado devem concentrar as suas forças nos atributos relacionados com os Cursos e Relações com o exterior. Além disso, constatou-se que a lealdade dos alunos são muito baixos e há uma associação menos entre a lealdade e satisfação.

**Palavras-chave:** Análise da Importância-Satisfação, Satisfação do cliente, Qualidade do serviço, Instituição de Ensino Superior, Estudantes.

## Xülasə

Təhsil sahəsi dünyada digər sektorlardan daha çox diqqət cəlb edən bir sektordur. Mandelanın dediyi kimi "Təhsil dünyanı dəyişmək üçün istifadə edə biləcəyin çox güclü silahdır." (www.brainquote.com) Qlobal iqtisadi tənəzzül dövrü özəl Ali Təhsil Müəssisələrinə böyük təsir etdi və nəticədə universitet büdcəsində azalmalar nəzərə çarpdı. Bunun nəticəsində təşkilati dəyişikliklər etmək və texnoloji yeniliklərdən yararlanmaq üçün universitetlər lazımı maliyyə vəsaitinin tapılması üçün yeni daha rəqabətə davamlı yollar axtarırlar.

Tələbələr Ali Təhsil Müəssisələrinin əsas motividir. Bu araşdırmanın əsas məqsədi, Əhəmiyyət-Məmnuniyyət Təhlilindən (ƏPT) istifadə edərək tələbələrin məmnunluğunu qiymətləndirməkdir. Həmçinin, tələbələrin qavrama baxımından müxtəlif atributların əhəmiyyətinin qiymətləndirilməsidir.

Araşdırmanı həyata keçirmək üçün sorğu metodundan istifadə olunaraq 266 sorğudan nəticə əldə edilib. Sorğu tələbələrin biyoqrafik məlumatlarını müəyyənləşdirmək və hər bir atributun əhəmiyyət və məmnuniyyət dərəcəsini təyin etmək üçün istifadə edilib. Tələbələrin biyoqrafik məlumatını analiz etmək üçün təsviri statistikadan istifadə olunub. Qruplar arasında olan fərqlilikləri, dəyişənlər arasındakı əlaqələndirməni tapmaq üçün və əsas araşdırma hipotezlərini cavablandırmaq üçün təhlili statistikadan istifadə olunub. Bundan başqa, ƏPT matrisindən istifadə edərək inkişafa ehtiyacı olan atributların və tələbələr üçün daha çox əhəmiyyət kəsb edən atributlar müəyyən edilmişdir.

Nəticə göstərdi ki, ümumi olaraq tələbələr Qafqaz Universitetinin təklif etdiyi xidmət keyfiyyətindən məmnundurlar. Həmçinin, aydın oldu ki, ümumi məmnuniyyət və əhəmiyyətdə bölmələr arası, cinsə, tədris ilinə və ümumi qiymət ortalamasına görə fərqlər mövcud deyil. Həmçinin, ƏPT matrisi məmnuniyyət dərəcəsi yüksək olan və daimi investisiya tələb edən, həmçinin əhəmiyyət dərəcəsi yüksək olan və məmnuniyyət dərəcəsi yüksəldilmə imkanı olan atributları ortaya çıxardı. Əlavə olaraq, araşdırma tələbələrin loyallıq dərəcəsinin az olduğunu, hətta məmnuniyyət və loyallıq arasında mənfi əlaqə olduğunu ortaya çıxardı.

**Açırsözlər:** Müştəri Məmnuniyyəti, Əhəmiyyət, Ali Təhsil Müəssisələri, Xidməti Keyfiyyət, Əhəmiyyət-Məmnuniyyət təhlili, Tələbə

## Resumen

La educación es una de las principales industrias en el mundo, que debe centrarse más que otros tipos de industrias. Como dijo Mandela, La educación es el arma más poderosa que puedes usar para cambiar el mundo. La recesión económica global pone una fuerte presión sobre las instituciones de enseñanza privada Superior (IES), lo que dio como resultado la disminución en el presupuesto. Por lo tanto, las IES son obligadas a desarrollar formas más competitivas para encontrar nuevos recursos financieros para los cambios tecnológicos y organizativos rápidos (Savsar, 2012).

Los estudiantes son el motivo de ser de la enseñanza superior. El objetivo de este estudio es implementar la matriz de Importancia-Desempeño/Satisfacción (IPA) para evaluar la satisfacción del estudiante y evaluar la importancia de los diferentes atributos en términos de percepción del estudiante.

Los estudiantes que participaron en este estudio están matriculados en el presente año académico, 2015/2016, en la Universidad de Economía y Administración Facultad-Qafqaz. Para realizar el estudio y recoger los datos fue aplicada una encuesta y recibieron 266 cuestionarios. El cuestionario fue utilizado para recopilar información demográfica de los estudiantes, identificar importancia que se da a cada atributo y la satisfacción del grado de cada atributo. Un análisis descriptivo se utilizó para identificar el perfil de los encuestados, encontrar la satisfacción e importancia para cada atributo. Para evaluar las diferencias entre los grupos, asociación entre variables, relación entre variables y para responder a las hipótesis de investigación se hizo un análisis inferencial. Por otra parte, la matriz de IPA fue utilizada para explorar los atributos que necesita mejorar. Los resultados mostraron que en general, los estudiantes están satisfechos con la calidad del servicio ofrecido por la Universidad Qafqaz. Además, encontraron que no hay diferencias en la satisfacción global y la importancia por departamento, género, año académico y promedio de calificaciones. La matriz IPA señaló que la elevada importancia y satisfacción para los atributos de la Enseñanza y de los Servicios académicos, y por otro lado, deben concentrar sus fuerzas en los atributos relacionados con los Cursos y las Relaciones con el exterior. Además, la investigación mostró que la lealtad de los estudiantes es muy baja y hay una asociación entre la lealtad y satisfacción.

**Palabras clave:** Análisis de Importancia-Satisfacción, Satisfacción del cliente, Servicio de calidad, Institución de Enseñanza Superior, Estudiantes.

## **Acknowledgements**

I would like to express my deepest appreciation to my supervisor Phd. Paula Odete Fernandes because of her support and help, Phd. Nasimi Kamalov and Phd. Karim Mammadov for their help and motivation.

In addition, I want to thank to teachers and supervisors of the Economics and Administrative sciences faculty especially, Etibar Huseynli for his help in data collection process. Moreover, I would like to acknowledge students of the Qafqaz University for filling up the questionnaire and students/members of Quality Statistics Society of Qafqaz University for in the process of data collection.

At the end, I would like to express my sincere appreciation to Erasmus+ International Credit Mobility (ICM) program for its support and opportunity that they gave me to study at the Polytechnic Institute of Bragança.

## **Acronyms**

**H** – Hypothesis

**HEI** – Higher Education Institution

**IPA** – Importance-Performance/Satisfaction Analysis

**M** – Mean

**O** – Objectives

**SD** – Standard Deviation

**SPSS** – Statistical Package for the Social Sciences

**GPA** – Grade Point Average

# Table of Contents

List of Figures .....	viii
List of Tables .....	ix
Introduction .....	1
1. Literature review .....	3
1.1 Introduction .....	3
1.2 Service Quality .....	3
1.3 Measuring satisfaction .....	10
1.4 Measuring Service Quality in HEI .....	13
2. Research Methodology .....	19
2.1 Objectives of the study and research hypothesis .....	19
2.2 Data collection .....	20
2.3 Data analysis techniques .....	22
2.4 Population vs Sample .....	24
3. Presentation and analysis of results .....	26
3.1 Profiles of the respondents .....	26
3.2 Descriptive statistics of the variables in the study .....	31
3.3 Inferential analysis .....	36
3.4 Importance-Satisfaction Analysis and Problematic Areas .....	40
3.5 Suggestions for University Service Management .....	44
Conclusion, Limitation and Future Research .....	46
References .....	48
Appendix .....	53

## List of Figures

<b>Figure 1.</b> Customer perceptions of quality and customer satisfaction.....	12
<b>Figure 2.</b> Expected Service Quality. ....	14
<b>Figure 3.</b> Service Quality Model. ....	15
<b>Figure 4.</b> Importance-Performance Matrix.....	18
<b>Figure 5:</b> Distribution of students` by gender. ....	26
<b>Figure 6.</b> Distribution of students` by age group. ....	27
<b>Figure 7.</b> Distribution of students` by region.....	27
<b>Figure 8.</b> Distribution of students` by study area. ....	28
<b>Figure 9.</b> Distribution of students` by academic year. ....	28
<b>Figure 10.</b> Students` distribution by Academic GPA .....	29
<b>Figure 11.</b> Main source of information about Qafqaz University. ....	29
<b>Figure 12.</b> Is it your first choice to choose Qafqaz University? .....	30
<b>Figure 13.</b> Do you want to continue your study at Qafqaz University? .....	30
<b>Figure 14.</b> Means for Importance and Satisfaction.....	35
<b>Figure 15.</b> Importance-Satisfaction analysis for each attribute (Median=3.64; 4.35).....	42
<b>Figure 16.</b> Importance-Satisfaction analysis for main attributes (Median=3.64; 4.35).....	43

## List of Tables

<b>Table 1.</b> Transition from Goods-Logic to Service-Logic. ....	5
<b>Table 2.</b> Stakeholders of Higher Education Institution.....	7
<b>Table 3.</b> SERVQUAL five dimensions and definition. ....	16
<b>Table 4.</b> Data Analysis Techniques. ....	23
<b>Table 5.</b> Population and sample. ....	25
<b>Table 6.</b> Cross-tabulation of Region and Main Source of Information.....	31
<b>Table 7.</b> Descriptive analysis of Importance attributes. ....	32
<b>Table 8.</b> Descriptive analysis of Satisfaction attributes. ....	34
<b>Table 9.</b> Mean and Standard deviation of main attributes. ....	35
<b>Table 10.</b> Overall Satisfaction. ....	36
<b>Table 11.</b> Overall Satisfaction by Department. ....	36
<b>Table 12.</b> Sample size by gender. ....	37
<b>Table 13.</b> Student`s t-test and Levene`s test to identify differences by gender. ....	37
<b>Table 14.</b> Kruskal-Wallis test to identify differences by study area. ....	37
<b>Table 15.</b> Levene`s test and One-Way ANOVA test to identify differences regarding GPA. ....	37
<b>Table 16.</b> Levene`s test and One-Way ANOVA test to identify differences by academic year. ....	38
<b>Table 17.</b> To identify differences in the Master 1st year student. ....	38
<b>Table 18.</b> Do you want to continue your study in "Qafqaz" University and Satisfaction Cross tabulation. ....	38
<b>Table 19.</b> Phi Test to identify positive association between satisfaction and loyalty. ....	39
<b>Table 20.</b> Kruskal-Wallis test to find differences by region. ....	39
<b>Table 21.</b> Means rank for region. ....	39
<b>Table 22.</b> Correlation between satisfaction and importance. ....	40
<b>Table 23.</b> Levene`s Test and t-Test for identifying differences between Bachelor and Master degree. ....	40
<b>Table 24.</b> Location of each attributes in IPA matrix. ....	41
<b>Table 25.</b> Location of main attributes in IPA matrix. ....	43
<b>Table 26.</b> Results of main Hypothesis. ....	44

## Introduction

The main objective of all companies is to attract new and maintain current customers to develop their business. In this frame, offensive marketing strategies designed to attract new customers, and defensive marketing strategies used to keep the current customer at the company (Erickson, 1993). As the result of growing competition among companies, offensive marketing is very difficult to implement. The cost of attracting the new customer is very high rather than keeping the current customer. In addition, the low growth and high competition are the general characteristics of all industries (Fornell & Wernerfelt, 1987) which makes difficult to attract customers' attention. Therefore, companies need constantly monitor and follow their current customer, understand how company performs from point of customer, are the customers satisfied or not.

As the service provider, Higher Education Institutions (HEI) offer different services to stakeholders of institution and need to have knowledge of the main aspects that influence the decision-making process of potential stakeholders to choose an institution. Since the students are, the main stakeholder of the HEI, institutions need to give more attention to the service quality offered to students; also, satisfaction of the students should be priority.

Taking into consideration the above, main objective of this study is to assess satisfaction of students and importance of different aspects of university services from student's perception. In addition, evaluate quality of different services offered to students. Moreover, study will examine how student's satisfaction and importance of different aspects differs in terms of different demographic profile of students such as age, gender, region, study area.

Evaluation of service quality in higher education is relatively new phenomenon. Research related service quality and customer satisfaction has been implemented mainly in commercial organizations. However, there is not so many research made on students satisfaction and service quality in higher education. Therefore, literature review section tries to provide description of the main theoretical frame based on scientific papers, specifically highlighting service quality, measuring satisfaction and measuring service quality in HEI. In addition, this section provides different models for evaluating service quality in HEI.

In research methodology section, primarily research objectives defined and hypothesis determined; further data collection process, data analysis techniques and sampling explained. Data collected using survey method, which includes 42 main questions that categorized to evaluate importance and satisfaction of eight different aspects. In order to know profile of respondents nine questions asked. Sample included 266 questionnaire received from population that consist of 1 322 students.

To analyze data and to answer to the objective of the study and research hypothesis descriptive, inferential and Importance-Satisfaction Analysis used.

In the last section, frequency analyze applied to analyze respondent's profile. Descriptive analysis used to find mean and standard deviation of satisfaction and importance dimension. In addition, to find average satisfaction rate and average importance rate for each latent variables. To analyze all research hypothesis inferential analysis used as a tool. In addition, inferential analysis used to investigate differences, association and relation between variables.

Overall, to know profile of respondents and analyze research objectives descriptive analysis will be applied. To analyze the research hypothesis inferential and IPA matrix will be used. For complete and concise presentation of the results, different tables, figures, diagrams and detail descriptions are used. All the results found from analyses were summarized in the conclusion part of master thesis, which presents the most important findings of this work.

# **1. Literature review**

## **1.1 Introduction**

In this section of study, it is going to be reviewed literatures to discuss information of different researchers. In particular, this section seeks uncover and critically analyze concepts from key authors, relevant theories and models, which will help to deeply understand service quality concept, its characteristics and importance, service in higher education institutions (HEI) and etc.

Main ideas assembled under three main sections: Service Quality (Section 1.2), Measuring Satisfaction (Section 1.3) and Measuring Service Quality in HEI (Section 1.4). Service quality section starts comparing service and goods, which is the main ideas in economics then concentrates on defining service in the context of HEI. This is followed by the discussion on stakeholder`s of HEI and definition of service quality concept. Later, determined perceived service quality and service quality concept in HEI. Within this section, debate circles around service quality. In the second Measuring Satisfaction section, attempting to understand importance of satisfaction, uncover loyalty and will focus on relationship between service quality and satisfaction. Finally, in the third section of Measuring Service Quality in HEI section, the study point out the different models for assessing service quality as SERVQUAL, HEDPERF, Perceived Service Quality models. In addition, explore Importance-Performance analyses, which the study will use.

## **1.2 Service Quality**

Intersection between students and HEI is more complex than before. Anticipation of today`s students make challenges and creates new opportunities for HEI. Today`s student expect lifelong learning which forces Higher Education Institutions to apply new methods and technologies (Danjuma & Rasli, 2012). At this point, quality of education stands out. Students compare universities by offered service quality. It means that if the university wants to be a leader

in the education industry, it should give qualified services. The quality of services that university apply differentiate it from its competitors.

### **1.2.1 Services vs Goods**

Goods and Services are the main ideas in economics. Significant difference of service and physical goods are the because of their tangible and intangible factors. On the one hand, goods are the objects or products that have been produced, transported, stored and sold. On the other, service produced within the customer consumption period and service is individualistic action. According to the view of Grönroos (1984) services are also like products which needs more consumer involvement in the process of consumption. He argues that during the process of buyer-seller interaction, so many different activities will get attention of consumer for evaluation. However, he argues that goods should not be treated as services (Gronroos, 1978). Process of goods starts with the manufacturing process, which later sold to customer. Then, bought goods consumed by customer. However, service firstly sold to customer, then produced, at the end consumed by customer (Berry, Zeithaml, & Parasuraman, 1985). In their research Parasuraman, Zeithaml and Berry (1985) defined three specification of service as intangibility; heterogeneity; inseparability.

- Intangibility: For the truth, majority of services are intangible. The service cannot be seen, tasted, felt even some of them cannot be touched. The service cannot be tested before buying for quality assurance. Furthermore, it cannot be illustrated or displayed.
- Heterogeneity: Service differs from customer to customer even service purchased today could be different from yesterday's. There could be difference between same service produced by different producer which makes service heterogeneous.
- Inseparability: Production and consumption of goods mostly occurs in different places. However, most services purchased whenever they produced. Consumer or producer cannot separate production of service from its purchase.

Previously, goods were produced more than services because the assessment of service's quality was harder than goods quality. However, nowadays, all big economies producing virtually more services and exchanging them more than goods (Vargo & Lusch, 2008).

In their research Vargo and Lusch (2004, p.5) brought new concept to marketing literature on goods and services. According to this study, they suggest that goods-centered view primitively propose following:

1. The purpose of economic activity is to make and distribute things that can be sold.
2. To be sold, these things must be embedded with utility and value during the production and distribution processes and must offer consumer the superior value against other offers.
3. The firm should set all decision variables at a level that enables it to maximize the profit from the sale of output.

4. For both maximum production control and efficiency, the good should be standardized and produced away from the market.
5. The goods can then be inventoried until it is demanded and then delivered to the consumer at a profit.

Furthermore, service companies always want to improve their service better serv their customers. The service-centered view sees marketing as a continuous learning process and according to them service-centered view concentrates on the following issues:

1. Identify or develop core competences, the fundamental knowledge and skills of an economic entity that represent potential competitive advantage.
2. Identify other entities (potential customers) that could benefit from these competences.
3. Cultivate relationships that involve the customers in developing customized, competitively compelling value propositions to meet specific needs.
4. Gauge marketplace feedback by analyzing financial performance from exchange to learn how to improve the firm's offering to customers and improve firm performance.

(Vargo & Lusch, 2004, p. 5).

In their further research, Vargo and Lusch (2008, p.258) have offered six different way of transitioning from Goods-Logic to Service-Logic, which can be seen in Table 1.

**Table 1.** Transition from Goods-Logic to Service-Logic.

<b>Goods Logic</b>	<b>Service Logic</b>
Making Something (Goods or services)	Assissting customer in their own value-creation processes
Value as produced	Value as co-created
Customers as isolated entities	Customers in context of their own networks
Firm resources primarily as operand	Firm resources as operant
Customers as targets	Customers as resources
Primacy of efficiency	Efficiency through effectiveness

Source: Vargo and Lusch (2008, p.258).

In short, it can be infered that in their nature service and goods are different. Although, there are little similarities regarding both of them offered for gaining profit, offered by organization, differences from view of customer and firm more than similarities.

### **1.2.2 Higher Education as a Service**

Higher Education occurs after secondary education and it is an optional level of formal learning. This type of education delivered at universities, academies, institution and colleges. Successful completion of higher education program results in the awarding of diplomas, certificates. Higher education includes teaching, research, etc. Higher Education in most countries refers to Bachelor and Master degree or Doctor of Philosophy.

For the management of Higher Education Institutions it is necessary to apply market-oriented strategies and principles, which used in profit-making institutions (Deshields, Kara, & Kaynak, 2005). Institutions perceive the importance of higher education as a service, therefore putting attention on satisfying student needs and meeting their expectations (Deshields, Kara, & Kaynak, 2005). According to the views of Oldfield and Baron (2000, p.86) higher education can observe as a “pure” service. Institutions should be more service oriented and act with their students as a customer for satisfying their needs (Gruber, Fub, Roediger, & Glaser-Zikuda, 2010). There are debate among researchers that students are customer or not. Introduction of tuition fees changes status and attitude of student to customer and expectation of them as other consumer of service sectors (Temizer & Turkyilmaz, 2012).

There is a competition in higher education market and quality of services delivered differentiate an institution from their competitor. As the service provider, higher education institutions needs to provide service that exceeds students expectation, which does not automatically rather, it should be intentionally managed.

### **1.2.3 The Stakeholder of HEI**

Emphasizing the qualification of Higher Education Institution as a service, it is important to stress that Higher Education Institution, like other organizations, have many different stakeholders with several interest and needs.

Definition of stakeholder and its meaning creates a big dilemma among researchers that what kind of entity should be stakeholder. For better understanding stakeholder in the context of higher education, primarily it is important to define stakeholder. Common sense seems to dictate that groups, people, institutions, organizations, natural environments are generally could be potential or actual stakeholder (Mitchell, Agle, & Wood, 1997). First and early definition, which is very important today, ensured by Freeman (1984, p.46) as: “Any group or individual who can affect or is affected by the achievement of the organisation objectives.”

For the truth, universities have complicated stakeholder environment. When it comes to the stakeholder of Higher Education, Chris and Simms (2010) in their research found that main stakeholder group of university are the students, which are followed by local businesses. Next identified group of stakeholder is the staff of university. Common sense seems to dictate that stakeholder divided into two group: internal and external stakeholder. Personnel and students are the internal, while partners are external stakeholder of universities (Kettunen, 2014).

Higher Education Institutions have to satisfy the requirement of various stakeholders. Specifically, Gruber, Fub, Roediger and Glaser-Zikuda (2010) argue that each stakeholder has her own particular need which, tends to different view of quality. Because, the customer supplies only some part of the universities funding, management of stakeholder is the complex thing for the universities.

When public support for the private Higher Education Institutions decreases, significance of external stakeholder increases (Benneworth & Ben, 2010). For the Higher Education Institutions, essential thing is not only to detect their stakeholder but classify and rank them. To identify, which partners and customers are important for the future success, for the mission of the university (Kettunen, 2014). When it comes to the topic of stakeholders of Higher Education Institutions`, most of the researchers agree with the stakeholders of HEI as described in Table 2.

**Table 2.** Stakeholders of Higher Education Institution.

<b>Group</b>	<b>Stakeholder characteristic</b>
Students	Pays tuition fee, gets education service, get advantage of administrative services, pay ancillary services as accommodation, food.
Parents	Decides from whom to take the service, pays for the service, usually main person for contact.
Research sponsorship	Provides budget for purchasing information or activities to create services or products
Society	Gets advantage of services, pays indirectly via tax
Job Market	Purchases service or product
Academics	Benefits from the research activities of the teaching staff.
Accreditation Units	Controls products or service design and checks service offer
Staff/Teaching staff	Controls and supports products or service offer.

Source: Sahin (2009, p. 107).

Identifying the main stakeholder of the HEI are very difficult (Cuthbert, 1996). However, according to the view of different researchers, student is the primary and important stakeholder of the Higher Education Institutions. Beside the students are main stakeholder of universities, they already play a key role in delivery and production process of service (Hill, 1995). The satisfaction rate of students and parents is comparable to the prestige of the university and related with expected income and employment after graduation (Moraru, 2012). Therefore, universities should take into consideration student's expectation while building strategic development plans and policies. Aim of universities is to take part in top positions in university ranking, basically, increasing student satisfaction to highest point and decrease dissatisfaction rate to minimum and consistently become preferred by the student (Sahin, 2009).

This part of study endorse that there are many different stakeholders in higher education. However, the main focus group for this study is the student as the leading stakeholder of the Higher Education Institutions.

#### **1.2.4 Defining Service Quality**

Improving service quality by the using technology companies can provide competitive advantage. Therefore, gaining more market share, increasing number of customer and high profitability could be results of high service quality offered to customer. The term "quality" as Berbulescu (2015, p.1924) referenced in his research (Piturca & Popovici, 2011)- "performances

that an organization providing services can achieve and arises from the contribution of all activities directly or indirectly related to the conception and development of the service". According to the view of Baron, Harris and Hilton (2009) "Service quality is the single most researched area in services marketing to date".

Description of quality according to Peter Drucker (1985) is not what producer puts in product or service but it is something customer gets out and is willing to pay for. Lewi and Booms (1983) explained service quality as a unit of measurement of how service delivered to customer and how it met with the expectation of customer. Zeithaml, Berry, and Parasuraman (1988) in their research mentioned service quality as the difference between consumer perception and expectation. Service quality concept should be approached from the view of customer because they have different assessment, conditions and values.

As the suggestion of Parasuraman, Zeithaml and Berry (1985) there are 10 determinants of service quality as: Reliability, Responsiveness, Competence, Acces, Courtesy, Communication, Credibility, Security, Understanding/Knowing Customer, Tangibles. They also mention that some of determinants can be combined. Moreover, according to the study of Berry, Parasuraman and Zeithaml (1988, p. 37) service quality assessed by customer comparing expectation to actually what they get and defined, could be combined into the 5 determinants of service quality as :

- Tangibles: Facilities, physical equipment, personal appearance;
- Reliability: the ability to perform the desired service dependably, accurately and consistently;
- Responsiveness: the willingness to provide prompt service and help customers;
- Assurance: employees` knowledge, courtesy and ability to convey trust and confidence;
- Empathy: the provision of caring, individualized attention to customers.

Therefore, it was a need to build a model of service quality that can describe how the customer perceives service quality. "When we know this and the components of service quality, we will be able to develop service-oriented concepts and models more successfully" (Grönroos, 1984, p. 36). Although, there are so many definition of service quality according to various researcher, there is a common expression that researcher admit on that. Service quality is not same concept for all consumers. For some consumers quality could be expected the specification of the product or service, for others it could be the comparison of product or service with competitors. According to perception, needs and want of consumer service quality could be different. In other words, it is individual and subjective which cannot be define once upon a time and continue life-long. Therefore, companies use to continuously monitor and measure their service quality based on their customer`s perception, since they all agree that they can learn truth about themselves only from customers.

### **1.2.5 Perceived Service Quality**

“Perceived service quality is the result of the consumer’s comparison of expected service with perceived service.” (Parasuraman, Zeithaml, & Berry, 1985, p. 47). According to this view, consumer compare the expectation of service quality that is prior to receiving service with their own perception, which is the actual received service. If the expectations of customer met, then perceived service quality can be satisfactory, on the contrary, if the expectation of customer unmet then satisfaction will be less. In addition, if the service is more than expectation, in that case customer perceived service quality can be more than satisfactory (Berry, Zeithaml, & Parasuraman, 1985). According to the study of Clemes, Gan, Kao and Choong (2008) there is a relation between overall satisfaction and perceived service quality.

Perception of service quality is different according to various parties. In the Section 1.2.3 it was concluded that different stakeholder’s perception about service quality are not same as institutions perception, which results failure in the evaluation of service quality. Furthermore, Cuthbert (1996) suggest in his research that expectation of students are differ according to different years and monthes.

### **1.2.6 Service Quality in HEI**

The concept of service quality in Higher Education has become important issue for institutions. As the increase in the demand of higher education, competitors also increased in higher education market. Therefore, for gaining competitive advantage, increasing number of customer and at the result improving the profitability, institutions need better service quality, which can differentiate them from competitor. Literature related to service quality in higher education is not develop as for the other service organizations. Many of the researcher focused on the commercial services (Parves & Wong, 2010). On the other hand, institutions also need to understand that they are in competitive market and needs student for surviving (Oldfield & Baron, 2000). To define quality, institutions turned their focus to internal resources, evaluation of these resources such as service in the library, the number of faculties, etc. Due to high competition, cost-efficiency, responsibilities and service inducement forced institutions to shift their focus to the quality of service, which encourage to use efficient allocation and use of resources and to produce satisfied graduates that can be employable (Koslowski, 2006). According to the view of Harvey and Green (1993) quality was used in different five way in debate related to higher education: “perfection, excellence and fitness for purpose, transformation and value for money and how quality can contribute to various functions that education can claim to influence”. (Maguire & Gibbs, 2013, p.41).

## **1.3 Measuring satisfaction**

### **1.3.1 Importance of Satisfaction**

Today globalization affect the economies all over the world. Organization focus point changing from profit maximization to maximize the profit through the customer satisfaction (Seth, Deshmukh, & Vrat, 2005). When consumer or customer is pleased with the goods or services, it has called satisfaction. Customer happiness is the main signal of customer satisfaction. Evaluating customer satisfaction is very hard, because it is the human feelings.

Nowadays delivery of service as important as process. The concept of loyalty and satisfaction of student have attracted much interest in recent years and turn out as one of the major goals of all educational institutions. The main motivation for the growing emphasis on student satisfaction is that increase in the student satisfaction leads to a stronger competitive position resulting in attracting future students and keeping the existing ones (Temizer & Turkyilmaz, 2012). Satisfaction of the students should considered as the priority by the institutions due to intensive competition among competitors, internationalization spirit and day-by-day increase in the expectation of the students towards higher educational institution (Sudharani, Ravindran, & M, 2012). Furthermore, from research perspective, education institutions sector represents a very interesting discipline to examine, because one would to know the level of education provided and satisfaction of students.

The researches highlights that satisfaction is comparing level of expectation and perceived performance. Expectation of student can start before they enrolled to institution; therefore, it is important for researcher firstly to define what the students expect from higher education institution (Palacio, Meneses, & Perez, 2002). In contrary, many researchers believe that satisfaction is the level of expectation and perception during university years. However, many researcher faces problem of creating definition for the student satisfaction because, many studies focused on commercial customer satisfaction therefore, there is a big question that to put student as customer or not (Hom, 2002).

### **1.3.2 Loyalty**

Loyalty is the customer behavior and attitude to differentiate one brand from others due to satisfaction with this brand, comfort, familiarity with the brand or because of performance of the brand. Loyalty is the part of defensive marketing strategy, which focus on holding current customer and gaining more profit from them. On the contrary, offensive-marketing strategies focuses on gaining new customers. Nowadays so many organization wants to establish loyalty program with their customer, which encourages customer to shop from same brand consistently. There are two main objective of the loyalty due to firms want to establish. Firstly, increase sales revenue by raising customer purchase and second one is to make hard bond with the customer (Uncles, Dowling, & Kathy, 2002). There are two critical factors for the loyalty. Primary is the

emotional extension to the product or service, which was high compared to other market alternatives. Next one is to repeat purchase (Griffin, 1995). Features of loyal customers could be summarized as follow:

- Price sensitivity of loyal customers are less;
- Serving to loyal customers are cheaper;
- Loyal customers give affirmative recommendation on their most-loved brand;
- Loyal customer don't buy product of other company's;
- Loyal customers repurchase.

The main goal of any companies is to make profit and increase profitability over times. Loyalty of customer is one the way to achieve this goal. Loyal customer keep in touch with their favorite firms for years and spend large share of their budget to company.

In higher education, to establish loyal customers, institutions requires to establish good relationship with the students who provides financial base for the higher education institutions. Specifically, for gaining competitive advantage student loyalty is the main strategy because, finding new students are more expensive than keeping existing ones (Rofas-Mendez, Vasquez-Parraga, Kara, & Cerda-Urrutia, 2009). It apparently assumed that loyal student may compensate after graduation as alumni or may continue their next study at the same institute. Indicators of loyal student specification could be:

- Student ready to recommend higher education Institution;
- Student ready to choose same higher education institution again;
- Student ready to recommend the study programme of institution.

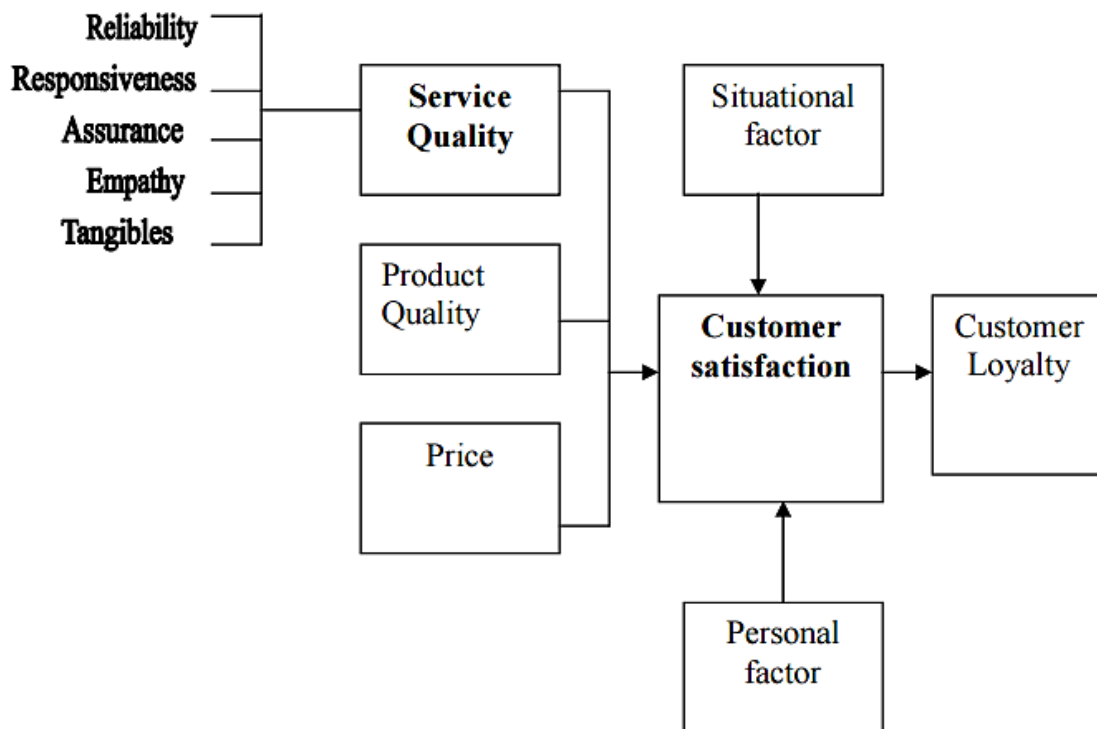
According to research of Jones and Sasser (1995) while satisfaction rate increases customer loyalty also tends to increase. Therefore, to create loyal customers and keep those customers over time, it is necessary to satisfy the customer needs and wants.

### **1.3.3 Relationship between Service Quality and Satisfaction**

Service quality as defined by Parasuraman, Zeithaml and Berry (1988) is the difference of customer expectation and their perception of service. Main objective of service quality is to satisfy needs and wants of customers. Evaluation of service quality will show that offered services are good or not, is customer satisfied or not. In this context, it shows that service quality is the determinant of satisfaction. In addition, empirical study of Spreng, Mackenzie and Olshavsky (1996) suggest that there is a relationship between service quality and satisfaction. Specifically, authors argued that as a result of good service quality satisfaction obtained.

Relating to customer satisfaction and service quality, researchers have been more accurate. Satisfaction and service quality have common things, but satisfaction covers more broader concept. Service quality focuses on dimensions of services, satisfaction includes additionally price, product quality (Wilson, Zeithaml, Bitner, & Gremler, 2008).

The below Figure.1 shows the relationship between satisfaction and service quality. According to view of the author “service quality is a focused evaluation that reflects the customer’s perception of reliability, assurance, responsiveness, empathy and tangibility while satisfaction is more inclusive and it is influenced by perceptions of service quality, product quality and price, also situational factors and personal factors” (Wilson, Zeithaml, Bitner, & Gremler, 2008).



**Figure 1.** Customer perceptions of quality and customer satisfaction.

Source: Wilson, Zeithaml, Bitner and Gremler (2008, p.79).

Parasuraman, Zeithaml and Berry (1985) pointed in their research that while perceived service quality is high, customer satisfaction will also increase. Most of the researcher agree with this idea that there is a gap between customer expectation and the perceived value of the customer. When this gap decreases, in other words, when the perceived value exceeds expectations then customers of certain product or services will be satisfied. However, when customer’s perceived value does not meet with expectations in that case customers will be dissatisfied. In addition, with the dissatisfied customers it would be very hard for the organizations to survive in competition based economy. Therefore, to gain high satisfaction rate from customer, to establish loyal customers organization depends on offering high quality of services.

In the context of higher education, in order to satisfy stakeholders it is necessary to provide high quality services, primarily to students, which are the main stakeholder of higher education institutions. In addition, it is important to understand how different aspects of services affects satisfaction of students regarding service quality. Moreover, research on student satisfaction and service quality proved that different service quality dimensions such as tangibility,

responsiveness, reliability, assurance and empathy have a big relationship with the student satisfaction (Hasan, Ilias, Rahman, & Razak, 2008).

## **1.4 Measuring Service Quality in HEI**

Scientists and scholars show intense effort to evaluate precisely service quality and better figure out its necessary antecedents and result in order to set up methods for accurately improving quality to catch up competitive advantage and make customer loyalty (Abdullah, 2006). Furthermore, so many distinction arise among researchers regarding the measurement of service quality (Abdullah, 2006). Parasuraman, Zeithaml and Berry (1985) view`s are that service quality are very difficult to describe. This is because of intangibility of service, for the consumer it more easy to evaluate goods quality than service.

There is less tools for evaluating students satisfaction in HEI. However, as students have taken fee payer and higher education as service provider, it could applied the tools which were developed for commercial organization to the education industry.

### **1.4.1 Models for assessing Service Quality**

To gain competitive advantage organization needs to use latest technology to collect information about market demands and exchange it among organizations and aim of this exchange is to increase knowledge about service quality (Seth, Deshmukh, & Vrat, 2005). Managers and researchers always tend to know detail about components of service quality for the customer satisfaction, to increase profitability. Notion of models tries to identify and show the relationship, which, exist between main factors (Ghobadian, Speller, & Jones, 1994).

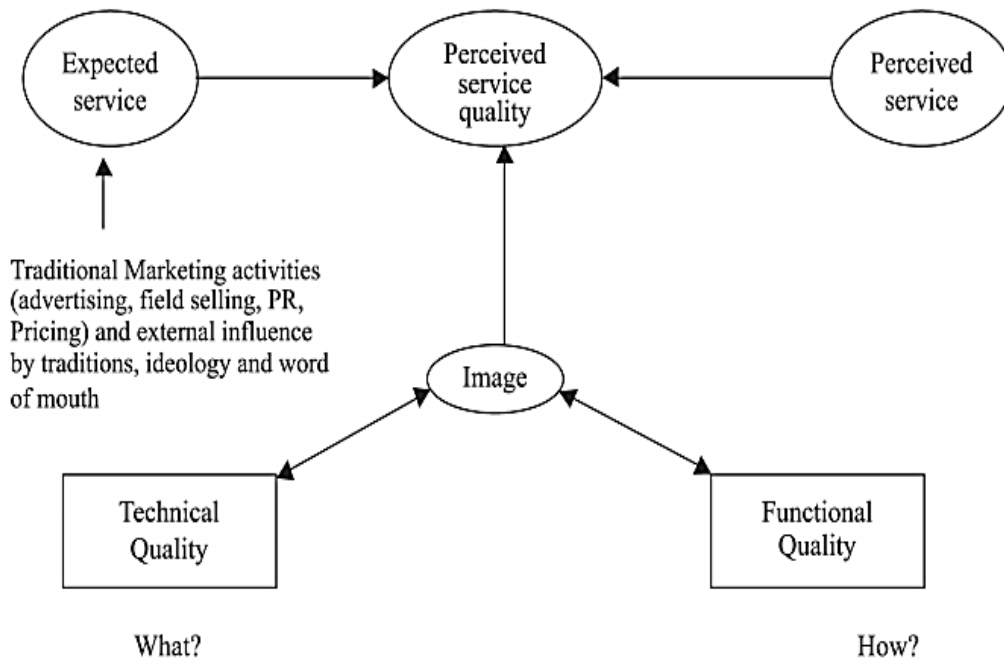
There is many models, which helps to assess service quality. GAP model`s (Parasuraman, Zeithaml, & Berry, 1985) authors` suggest that service quality is the difference between customer expectation and performance along the quality dimension. They developed service quality model according to analysis of GAP model. In the GAP model researcher found several gaps in service marketer`s side as:

- Consumer expectation-management perception gap;
- Management perception-service quality specification gap;
- Service quality specifications-service delivery gap;
- Service delivery-external communications gap;
- Expected service-perceived service gap.

According to the "*Attribute service quality model*", (Haywood-Farmer, 1988) writer point out that organization which offer services has superior quality if it satisfies customer expectation.

### 1.4.2 The Perceived Service Quality Model

Grönroos (1984) suggests that expected service and perceived service are the two dependent variables of perceived service quality. Author argues that customer puts expected service vs perceived service and in the result perceived service quality comes across. For satisfying customer the author suggest to match perceived service with the expected service. The author defined “technical quality”, “functional quality” and “image” as three components of service quality.



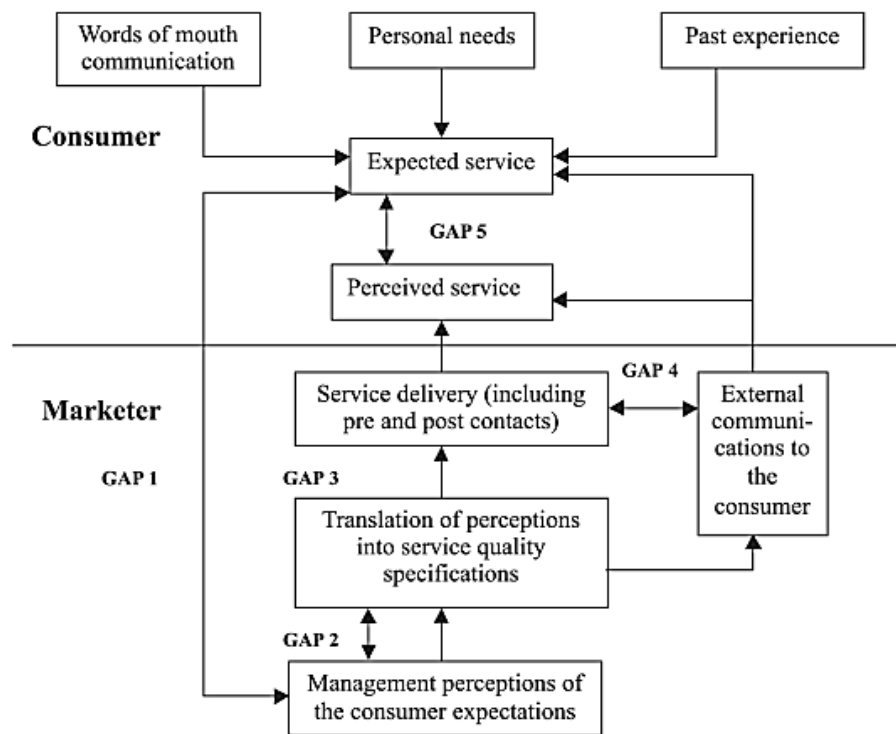
**Figure 2.** Expected Service Quality.

Source: Grönroos (1984, p. 40).

Technical quality is, what consumer receives at the end of the interactions with the firm (Grönroos, 1984). However, author suggests that technical quality is not count of total quality, which consumer perceives. Consumer also affected by the way in which technical quality offered to him (Grönroos, 1984). Way of transferring technical quality is the functional quality-how the consumer gets the service. The organization cannot hide behind the brand or distributor. When customer buys service, she is able to see company and its resources. Therefore, company image is also important thing for better service quality. At all, it can be said that technical quality is, what provided during the process as knowledge, tangibles, etc. that can be easily evaluated by customer and seller. On the contrary, functional quality relates to how the service provided to customer and how behaviors affected to customer, which is more difficult to evaluate (Grönroos, 1984).

### 1.4.3 The SERVQUAL model

The SERVQUAL model suggested by Parasuraman, Zeithaml and Berry (1985) in which proposed that service quality is the difference between expectation of customer and their perception. SERVQUAL model developed on the base of GAP analysis. As in the shown Figure 1, there were five gaps suggested. According to this view service quality is the difference between perception expectation. Authors have an idea that perceived service quality is relying on the size of the gap between expectation and perception. Whenever, gap is small level of service quality is high.



**Figure 3.** Service Quality Model.

Source: Parasuraman, Zeithaml and Berry (1985, p. 47).

In their study, Parasuraman, Zeithaml and Berry (1985) suggested 10 components of service quality. Later, Berry, Parasuraman and Zeithaml (1988) decreased this components into five dimensions (see Table 4). The SERVQUAL model included 22 items, asking expectations related to service quality of organization from the customers. The model combined with the five dimensions.

Application of SERVQUAL model in most of organization is appropriate (Parasuraman, Zeithaml, & Berry, 1988). In the context of higher education different researchers applied SERVQUAL model to evaluate satisfaction of students. Yousapronpaiboon (2014) found in his research that students' expectation in higher education did not meet in Thailand. On the contrary, Donlagic

and Fazlic (2015) found that there is a negative gap between students` expectation and perception of service quality.

**Table 3.** SERVQUAL five dimensions and definition.

<b>Dimensions</b>	<b>Definition</b>
Tangibles	Physical facilities, equipment and appearance of personal
Reliability	Ability to perform the promised service dependably and accurately
Responsiveness	Willingness to help customers and provide prompt service
Assurance	Knowledge and courtesy of employees and their ability to inspire trust and confidence
Empathy	Caring, individualized attention the firm provides its customers

Source: Parasuraman, Zeithaml and Berry (1988, p. 23).

#### **1.4.4 The SERVPERF model**

SERVPERF model developed by Cronin and Taylor (1992) to criticize SERVQUAL model. In their research, authors maintain main objective that current operationalization and conceptualization of SERVQUAL model is insufficient. As the second objective writer mention empirically to examine relationship between consumer satisfaction and service quality (Cronin & Taylor, 1992). SERVPERF model or "performance-only measures" refers to service quality and evaluates only consumers` perception of the performance of organization or service provider. On the contrary SERVQUAL model examines gap between consumers` expectation and perception.

Result of emprical study reported that reliability and validity offered by SERVPERF model better than SERVQUAL, which shows that expectation could be ignored (Cronin & Taylor, 1992). However, in response of Parasuraman, Zeithaml and Berry (1994) suggested that for the validity SERVQUAL performs as well as SERVPERF model on each criteria. In addition, the result of their study suggested that SERVPERF model perform better than SERVQUAL but recommended to use gap model because of better diagnostic capacity.

Taking into consideration all these studies, the research will focus on the collecting data of students` perceptions, not the expectation at all.

#### **1.4.5 HEDPERF model**

SERVQUAL and SERVPERF model developed and applied in the non-educational sector. Using these models in the higher education for evaluating perceived service quality may not be suitable (Abdullah, 2006). The author suggest that there are less study for identifying service quality

determinants in HEI, therefore developed HEDPERF model. For developing this model, author took SERVPERF model as a base, assimilated perception-only approach.

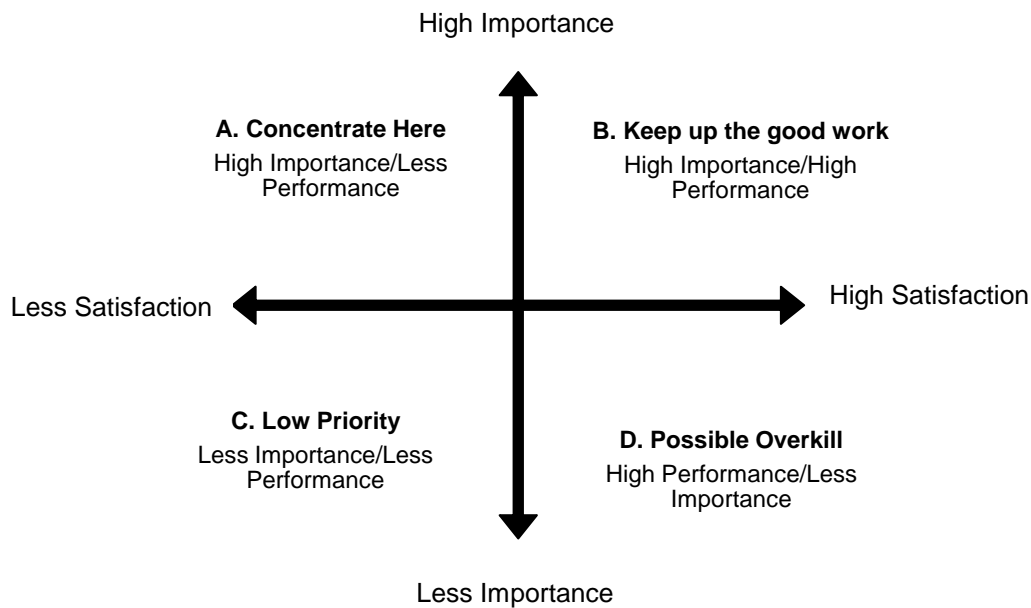
#### **1.4.6 Importance-Performance/Satisfaction Analysis**

For increasing customer overall satisfaction Importance-Performance Analysis is the useful and simple techniques, which can help managers to explore the attributes that can be improved (Silva & Fernandes, 2011). Martilla and James (1977) to evaluate elements of marketing program found Importance-Performance Analysis (IPA). Authors suggest that for developing marketing strategies, IPA provides useful information. For instance, which features an organization needs to invest more resources and identifies features that take more resources than others do. In addition, Martilla and James (1977, p.79) argue that “It is a low cost, easily understood technique that can yield important insights into which aspect of the marketing mix a firm should devote more attention as well as identify areas that may be consuming too many resources”. Further, IPA model identifies aspects that performance is low and requires improvement also which aspects important for customers. In addition, IPA tool specifies aspects, which has high effect on customer satisfaction.

The IPA tool acknowledge satisfaction as the factor of two components: Importance of the products or services offered by and performance of organizations in providing these services (Martilla & James, 1977). In other words, it evaluates satisfaction of customer according to two factors: Importance of aspects from view of customer and Performance of these aspects. After, separately showing the importance and performance, IPA tool demonstrate overall satisfaction.

This tool classifies different aspects into four categories for setting priorities. The four categories are: “Concentrate here”, “Keep up the good work”, “Low priority”, “Possible overkill”, which are shown in Figure 4. Each quadrant offers different strategies for the management in order to identify weaknesses for improving to get high customer satisfaction.

- Quadrant A. “Concentrate here” quadrant represents area in which attributes are important and performance could be improved. Producing maximum results constructive action should be concentrated.
- Quadrant B. “Keep up good work” quadrant indicates competitive advantage of product or service and strengths. Attributes situated in this area performing well and need continued investment (Sever, 2015).
- Quadrant C. “Low priority” quadrant illustrate that attributes are not performing well, but is not considered important for the customer. Therefore, management should not extremely focus on this area.
- Quadrant D. “Possible overkill” quadrant illustrates that attributes in this area less important for customer, but performs very well, satisfaction of customer good.



**Figure 4.** Importance-Performance Matrix.

Source: Martilla and James (1977, p. 78).

There are four stage included in IPA tool. First stage is to define the aspects to measure. In the second stage, required to separate performance and importance measures. Next stage is to calculate means for importance and performance of each aspect and scheme on the vertical and horizontal axes of the matrix. In the fourth stage, analyze importance-performance grid (Deacon & Du Rand, 2012).

Importance-Satisfaction analysis improved on the base of Importance-Performance Analysis. Importance-Performance/Satisfaction analysis made confusion among researcher`s because of littler differentiation between performance and satisfaction. Main distinction was that satisfaction could be used instead of performance. Are these definitions give same meaning or they are different? Baker and Crompton (2000) states that previously performance and satisfaction have been used interchangeably. Therefore, authors explained differentiation as performance evaluates providers` output on the contrary satisfaction examines visitors outcome. Common sense seems to dictate that satisfaction become main assessment for service quality. Therefore, performance exchanged with satisfaction (Tonge & Moore, 2007; Aktas, Aksu, & Çizel, 2007).

IPA tool used for evaluating student satisfaction in HEI by many researcher (Silva & Fernandes, 2011; Ford, Joseph, & Joseph, 1999 and etc.).

## **2. Research Methodology**

After reviewing literatures related to service quality, satisfaction and different models for assessing service quality in HEI, in this section, represented methodologies used to point out study. This section divided into four parts. First, part will show aim and objectives of the study. Main questions should be answer: What is the aim of this study? What is going to be done in this study? What is the objective of the study? How is going to do? Then, research hypothesis will be defined. In the second part, it will be explained procedures for collecting data, reliability of collected data. Data collection process will be explained. Methods that was used to collect data. Later, in the third part, it will be clarified the techniques for analyzing data. At the end, population and final sample size will be shown and explained.

### **2.1 Objectives of the study and research hypothesis**

Researchers suggest that fundamental purpose of the research is to find answers to the questions with the application of scientific source. In literature review part presented so many different views of different researcher`s. The previous section has raised so many questions and numbers of objectives, these objectives are being studied and answered in this research. The primary purpose of this study is to explore students` perceptions of service quality and their satisfaction rate. Aim of this research is to find how different aspects important for Economics and Administrative sciences and Industrial Engineering department of Qafqaz University, by the perception of undergraduate and master students and do they satisfied or not? In addition, to evaluate satisfaction rate of students according to the different aspects. Does the student satisfaction varies based on different aspects or not? Which aspects more important for the students and which of them are less important? Additionally, study examined whether there is a relation between different demographic factors and aspects.

After noticing aims of the study now, turn to define the main objectives of the study. Specific objectives of the research are the following:

- (O<sub>1</sub>): To assess importance of different aspects in terms of student`s perception.
- (O<sub>2</sub>): To determine student`s satisfaction according to different aspects.
- (O<sub>3</sub>): To reach overall satisfaction of student`s within the given service in terms of different aspects.
- (O<sub>4</sub>): Identifying satisfaction dissimilarities in students` perceptions of service across different departments.
- (O<sub>5</sub>): To give suggestions to the management of university to improve service quality provided to students.
- (O<sub>6</sub>): Identify loyalty of students.
- (O<sub>7</sub>): Identifying positioning of each attributes in IPA matrix.

The findings from this study will fill the gaps related to students` satisfaction and importance of different aspects perceived by students.

Based on the objectives of the study main research hypothesis (H) of the study are:

- H<sub>1</sub>: There are differences in overall satisfaction and importance by gender.
- H<sub>2</sub>: There are differences in overall satisfaction and importance by study area.
- H<sub>3</sub>: There are differences in overall satisfaction and importance regards overall grade point average (GPA).
- H<sub>4</sub>: There are differences in overall satisfaction and importance by academic years (Bachelor and Master Degree).
- H<sub>5</sub>: There is a positive association between overall satisfaction and loyalty.
- H<sub>6</sub>: There are differences in overall satisfaction and importance related to region.
- H<sub>7</sub>: There is a positive relationship between the satisfaction level and importance level.
- H<sub>8</sub>: Main attributes will be positioning in quadrant B, "Keep up the good work" in IPA matrix.
- H<sub>9</sub>: There are differences in overall satisfaction and importance between Bachelor and Master Degree.

## **2.2 Data collection**

To collect data for investigating quantitative research, questionnaire method used for collecting primary data. The data collected during March and April in 2016, in the second semester of 2015/2016 academic year. For conducting research, Qafqaz University has chosen as a target organization. Qafqaz University is located in Khirdalan city, Azerbaijan. Further, study choose Economics and Administrative science faculty that consists of seven departments and Industrial Engineering department as sample. To collect data there were two possible way to choose: online data collection or paper-based data collection. However, Shawver, et al. (2016) in their

research argued that there are many disadvantages of online data collection. Firstly, researchers` lack of control over the environment where study is being taken. There is a possibility that respondent answer wrongly regarding to demographic questions, or can take the survey more than one time. On the contrary, in the paper based data collection study completed inside the class with the supervision of the teachers. Therefore, for this study paper based data collection method chosen. It would be very hard to supervise students while completing online survey.

### **2.2.1 Design of Questionnaire**

For selecting different determinants of students satisfaction, the study choose previous literature as a base (Joseph & Joseph, 1997; Alves, 1998; Pike, 2004; Silva & Fernandes, 2011). Questionnaire consists of two parts. In the first part nine demographic questions asked from the respondents (see appendix).

- a. Quality of General Aspects: Which includes questions about Modern facilities, clean facilities, Sport facilities, Cultural activities, Association of students.
- b. Quality of Library: Easy access to shelves, Ways of consulted rapidly, Warmth of its staff, Interest in solving the problems of student.
- c. Quality of Computer Laboratory facilities: Availability of laboratories and computer facilities, Ability to use after classes, Existence training in computer tools.
- d. Quality of Social Services: Financial aid for students, Existence of medical support to students, Availability of accommodation for students, Existence of canteens, Knowledge of rules and procedures, Trust and safety in services, Information service completion, Interest in solving the problems of student, Simple rules and procedures, Warmth of its staff.
- e. Quality of Academic Services: Simple procedures, Knowledge of rules and procedures, Interest in solving problems of student, Trust and safety in service, Information service completion, Quick response, Warmth of its staff.
- f. Quality of Teaching Aspects: Friendliness of the teachers, Personalized attention, Easy communication with teachers, Clarity and precision in the exposure of knowledge, Scientific expertise of teacher, Fair assessment, Advice the basic bibliography
- g. Quality of Undergraduate Programs: Updated content, Several career opportunities
- h. Quality of External Relations: Getting the internships, Exchange programs with foreign universities, Conferences and seminars, Internet connection

Before, starting to collect data explanation about research given to administrative of faculty, make clear that why the data are required. Then, for completing questionnaires supervisors provided clear and unambiguous instruction for the students. After completing all questionnaires by the students, all data entered to SPSS for analyzing.

First part of questionnaire included questions about demographical details. In the second part questions were related to satisfaction and importance of different aspects. Questions are asked to find out students` opinions or attitudes to given situation.

All questions in the second part were measured with the a five-point Likert scale:

- For Satisfaction dimension: 1 - Strongly Disagree; 2 - Disagree; 3 - Neither Disagree nor Agree; 4 - Agree; 5 - Strongly Agree.
- For Importance dimension: 1 - Very unimportant; 2 - Unimportant; 3 - Neither important nor Unimportant; 4 - Important; 5 - Very Important.

## 2.2.2 Reliability

“Reliability is concerned with the consistency of test results over groups of individuals or over the same individual at different times” (Smith & Albaum, 2013). Reliability as a term means how “repeatability” or “consistency”. For measuring reliability of the scale, there are three methods: test-retest, alternative forms and internal consistency (Smith & Albaum, 2013). In the research, used internal consistency method. In which, should be calculated Cronbach`s alpha. If Cronbach`s alpha:

$\alpha > 0.9$  it can concluded that questionnaires reliability is very good.

$0.9 > \alpha > 0.8$  it can concluded that questionnaires reliability is good.

$0.8 > \alpha > 0.7$  it can concluded that questionnaires reliability is reasonable.

$0.7 > \alpha > 0.6$  it can concluded that questionnaires reliability is weak.

$\alpha < 0.6$  it can concluded that questionnaires reliability is inadmissible.

It was applied reliability test for the satisfaction questions on SPSS software, which the number of questions is 42. According to the result of test, Cronbach's alpha is equal to 0.939, which is more than 0.9 that shows reliability of questions related to importance dimension is very good. In addition, Cronbach`s alpha for the satisfaction dimension is equal to 0.946, which is also more than 0.9 that show reliability is very good.

## 2.3 Data analysis techniques

According view of Catherina and Gretchen (1995) data analysis is processing mass of collected data and bringing of this data to order and structure. It is unsettled, enigmatic, lengthy and attractive process. The responses were been analyzed by using different statistical approaches with the help of SPSS statistics software version 23. After, completing questionnaire, all questionnaires been coded and were entered into an SPSS spreadsheet for analyzing. In respondent profile questions, “yes” and “no” answers questions as coded “1” and “2”

respectively. In addition, other closed questions type coded with the numbers and added to SPSS.

Table 4 highlights objectives, research hypothesis, and the techniques were used to analyze the data.

**Table 4.** Data Analysis Techniques.

<b>Label</b>	<b>Objectives or Research Hypothesis</b>	<b>Data analysis technique</b>
<b>O<sub>1</sub></b>	To assess importance of different aspects in terms of students` perception.	Frequency tables
<b>O<sub>2</sub></b>	To determine students` satisfaction according to different aspects.	Frequency tables
<b>O<sub>3</sub></b>	To reach overall satisfaction of students` within the given service in terms of different aspects.	Mean and Standard Deviation
<b>O<sub>4</sub></b>	Identifying satisfaction dissimilarities in students` perceptions of service across different departments.	Mean and Standard Deviation
<b>O<sub>5</sub></b>	To give suggestions to the management of university to improve service quality provided to students.	IPA Matrix
<b>O<sub>6</sub></b>	Identifying loyalty of students.	Graph with relative and absolute frequencies
<b>O<sub>7</sub></b>	Identifying positioning of each attributes in IPA matrix.	IPA Matrix
<b>H<sub>1</sub></b>	There are differences in overall satisfaction and importance by gender.	t-Student test
<b>H<sub>2</sub></b>	There are differences in overall satisfaction and importance by study area.	Kruskal-Wallis test
<b>H<sub>3</sub></b>	There are differences in overall satisfaction and importance regards overall grade point average (GPA).	One-Way ANOVA test
<b>H<sub>4</sub></b>	There are differences in overall satisfaction and importance by academic years (Bachelor and Master Degree).	Bachelor Degree: One-Way ANOVA test Master Degree: Mean and Standard Deviation
<b>H<sub>5</sub></b>	There is a positive association between overall satisfaction and loyalty.	Phi test
<b>H<sub>6</sub></b>	There are differences in overall satisfaction and importance related to region.	Kruskal-Wallis test
<b>H<sub>7</sub></b>	There is a positive relationship between the satisfaction level and importance level.	Pearson Coefficient Correlation
<b>H<sub>8</sub></b>	Main attributes will be positioning in quadrant B, "Keep up the good work" in IPA matrix.	IPA Matrix
<b>H<sub>9</sub></b>	There are differences in overall satisfaction and importance between Bachelor and Master Degree.	t-Student test

In order to analyze demographic profile of respondents will be used descriptive analysis, which will show absolute and relative frequencies. To conduct average satisfaction and importance

rate for each latent variables will be used frequency analysis. In addition, mean and standard deviation will be calculated for each variables of satisfaction and importance.

Inferential analysis will be used to examine hypothesis test. According to type of data different tests will applied. If data is parametric in that case t-test, if data is non-parametric Kruskal-Wallis test will be applied. Seeing differences between two independent sample t-test will be used. Kruskal-Wallis test will be used to determine if there are differences between more than two samples. In addition, Importance-Satisfaction Analysis will be applied which explained Section 1.4.6.

To show the results on the IPA matrix median will be used for the satisfaction and importance dimension.

## **2.4 Population vs Sample**

The research survey held in Qafqaz University, Baku, Azerbaijan. There are mainly two reasons that Qafqaz University have chosen. First, wanted to know satisfaction of students with the university also, data collection was convenient in this university. Population consist of students from one faculty of Economics and Administrative sciences, which includes six department (International Relations, Business Administration, Public Administration, World Economy, Finance and Accounting and Audit) also one department of Industrial Engineering.

In Table 4 it is shown that population consist of 1 322 students from bachelor and master degree of Economics and Administrative sciences faculty and Industrial Engineering department. Master degree contains 99 students, 1 223 students are from bachelor degree. It was impossible to examine all population, so it was decided to select the random sample. Questionnaires distributed with the help of teachers during their classes, which covered all departments and academic years. Specifically, want to mention that every respondent belonging to population had equal opportunity to be included into the sample. Only the students of second-class master degree students excluded from sample because, in the 2<sup>nd</sup> year master degree students were not attending to classes, they were working on their dissertations.

Sample size refers to the process used to determine how many elements of the population should be included in the sample. The questionnaire contains 42 elements, therefore for each element it should been answered by minimum five respondent, which makes totally 210 respondents. Sample consists of 266 respondent, which is more than required sample size. Sample size calculated assuming confidence level of 95%, and confidence interval (margin of error) is 5.37%. A confidence level refers to the percentage of all possible samples that could be expected to include the true population parameter. In addition, confidence interval is used to express the degree of uncertainty associated with a sample statistic. Significance level for the study is 0.05. In the table.5, population and final sample could be seen. In addition, for each department and for each year number of students could be observed from Table 5.

**Table 5.** Population and sample.

Study Area	Year	Population		Final Sample	
		N	%	n	%
International Relations	1 <sup>st</sup> year	29	2%	1	0.4
	2 <sup>nd</sup> year	32	2%	2	0.8
	3 <sup>rd</sup> year	28	2%	0	0
	4 <sup>th</sup> year	35	3%	1	0.4
Business Administration	1 <sup>st</sup> year	60	5%	15	5.7
	2 <sup>nd</sup> year	55	4%	20	7.6
	3 <sup>rd</sup> year	40	3%	16	6.1
	4 <sup>th</sup> year	55	4%	15	5.7
	Master 1 <sup>st</sup> year	72	5%	8	3.0
Public Administration	1 <sup>st</sup> year	40	3%	14	5.3
	2 <sup>nd</sup> year	46	3%	16	6.1
	3 <sup>rd</sup> year	20	2%	9	3.4
	4 <sup>th</sup> year	33	2%	6	2.3
World Economy	1 <sup>st</sup> year	51	4%	2	0.8
	2 <sup>nd</sup> year	64	5%	15	5.7
	3 <sup>rd</sup> year	35	3%	8	3.0
	4 <sup>th</sup> year	58	4%	2	0.8
	Master 1 <sup>st</sup> year	12	1%	0	0
Finance	1 <sup>st</sup> year	56	4%	2	0.8
	2 <sup>nd</sup> year	66	5%	4	1.5
	3 <sup>rd</sup> year	59	4%	17	6.4
	4 <sup>th</sup> year	44	3%	0	0
Accounting and audit	1 <sup>st</sup> year	28	2%	7	2.7
	2 <sup>nd</sup> year	25	2%	11	4.2
	3 <sup>rd</sup> year	22	2%	7	2.7
Industrial Engineering	1 <sup>st</sup> year			11	4.2
	2 <sup>nd</sup> year			16	6.1
	3 <sup>rd</sup> year	242	18.3%	15	5.7
	4 <sup>th</sup> year			15	5.7
	Master 1 <sup>st</sup> year	15	1.13	9	3.4
<b>Total</b>		<b>1322</b>	<b>100%</b>	<b>264<sup>1</sup></b>	<b>100%</b>

Source: Author's own calculation.

<sup>1</sup> Sample consists of 266 respondents. However, two of them did not mention their academic year. Therefore, when the result analyzed 264 respondent found.

### 3. Presentation and analysis of results

This section introduces the study findings from a sample of 266 questionnaires about student satisfaction in Economics and Administrative sciences faculty and Industrial Engineering department. This section consists of five parts. The first section (Section 3.1) examines profiles of respondents. Specifically, addresses age, gender, study area, academic year, source of information about university, region of student and other demographic questions about students. In order to classify the single variables, frequency tables were used. In the second section (Section 3.2) descriptive analysis was used to describe results of data.

#### 3.1 Profiles of the respondents

According to analysis of students' profile, as shown in Figure 5 number of male students are twice more than female students. 69.92% of sample is male students, which consist of 186 students. 30.08% of sample is female students, which consists of 80 students.

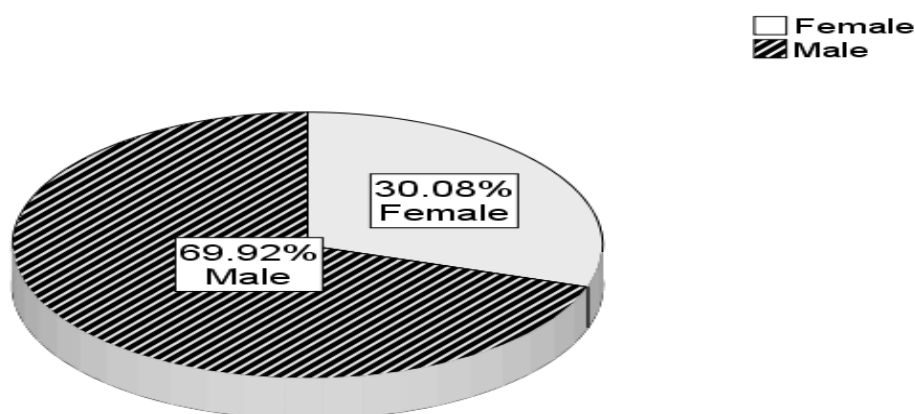
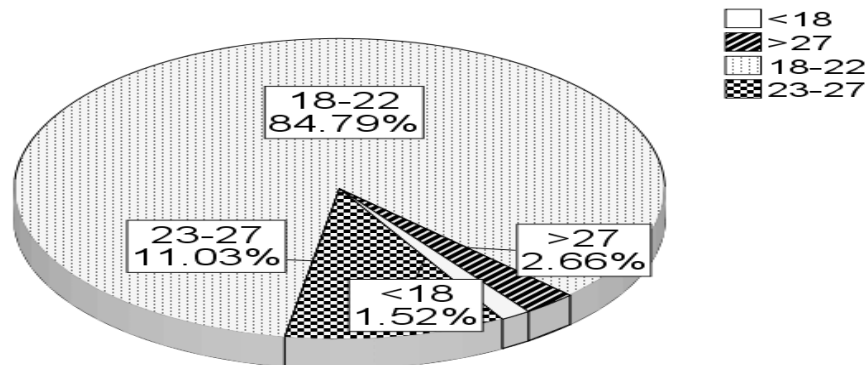


Figure 5: Distribution of students' by gender.

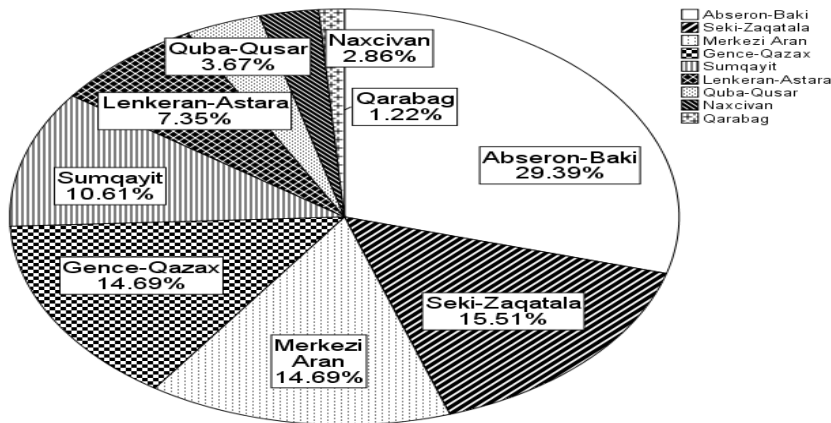
This study is dominated by the 18-22 age group that makes up 84.79% of the sample, which is 223 students, followed by the 23-27 age group that makes up 11.03% of the sample, which consists of 29 students. Students,

whose age is more than 27 makes 2.66% of sample, which consist of 7 students. Smallest part of students` age is less than 18 that makes 1.52% of sample and contains 4 students which can be seen in Figure 6.



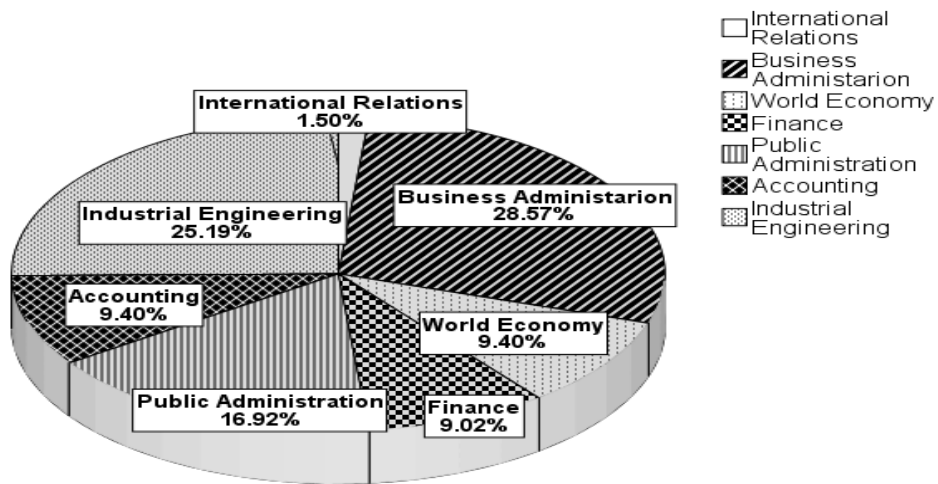
**Figure 6.** Distribution of students` by age group.

Azerbaijan divided into 9 region and from each region, there is a student studying in Qafqaz University. Study highlights that 29.39% (72) of students are from Absheron-Baku region, which followed by Shaki-Zaqatala with the 15.51% (38). Students from Markazi Arran and Ganja-Gazakh region each account 14.69% (36). The 10.61% (26) students are from Sumqayit, 7.35% (18) are from Lankaran-Astara region. The 3.67% (9), 2.86% (7), 1.22% (3) of students are from Guba-Gusar, Nakhcivan and Karabakh region-which could be observed from Figure 7.



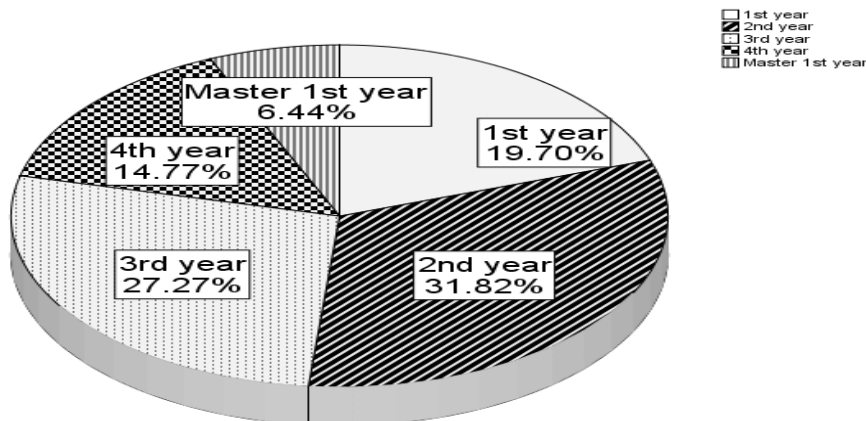
**Figure 7.** Distribution of students` by region.

Respondents who participated in this study are from different department. As highlighted in Figure 8, about 28.57% (76) of students from Business Administration department, 25.19% (67) are from Industrial Engineering, 16.92% (45) from Public Administration. World Economy and Accounting each contains 9.4% (25 for each department) of respondents, 9.02% (24) from International department and 1.5% (4) from Finance department. The findings show that Business Administration and Industrial Engineering are the biggest departments, which participate in this research.



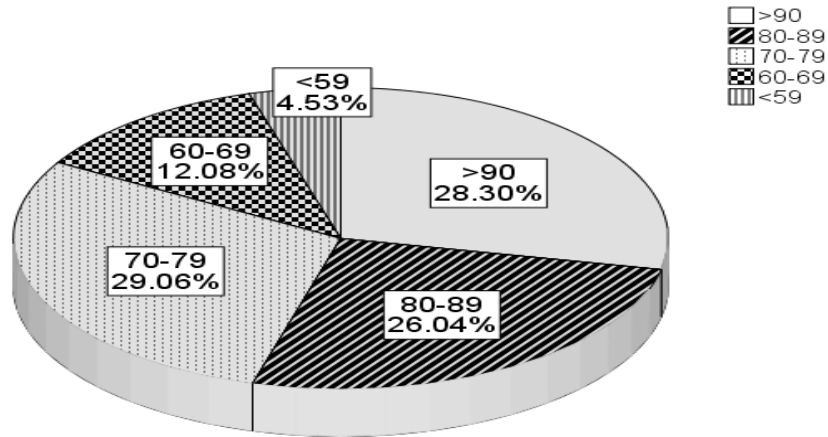
**Figure 8.** Distribution of students` by study area.

Research have done among Bachelor and 1<sup>st</sup> year Master students. Master 1<sup>st</sup> year students represents 6.44% (17) of the sample. Bachelor 1<sup>st</sup> year student`s represents 19.70% (52), 2<sup>nd</sup> year represents 31.82% (84) of the sample. Bachelor 3<sup>rd</sup> year students represent 27.27% (72) and 4<sup>th</sup> year students represents 14.77% (39) of sample, as is possible to see in Figure 9.



**Figure 9.** Distribution of students` by academic year.

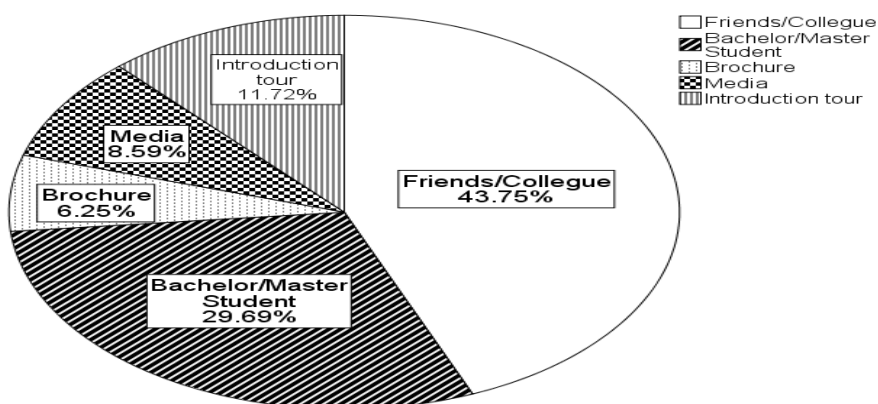
Academic GPA is one of the main indicator of students overall grade. In this study, divided academic GPA into five groups, which is shown in Figure 10. 29.06% (77) of students` participated in survey has academic GPA in between 70-79, which is followed by 28.30% (75) that is more than 90. 26.04% (69) of students GPA is between 80-89, 12.08% (32) of them is between 60-69. Only 4.53% (12) respondents GPA is less than 59.



**Figure 10.** Students` distribution by Academic GPA

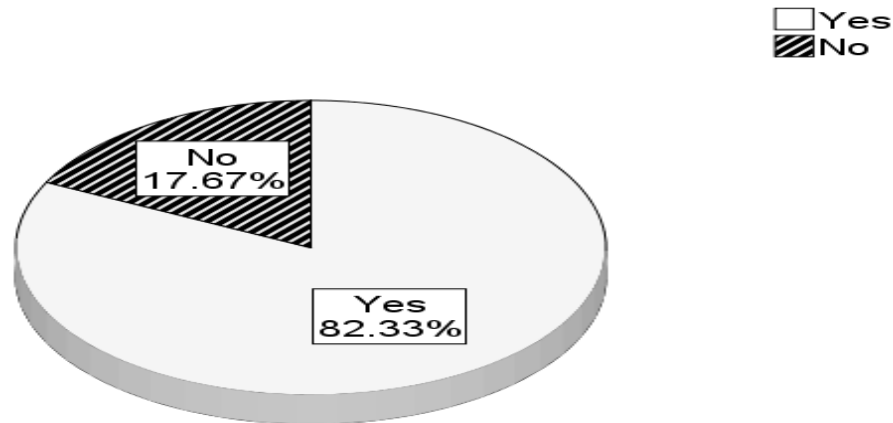
Asked from students` their main source of information about Qafqaz University. This questionnaire included five answers as seen in Figure 11:

- Friends/College: 43.75% (112) of respondents argued that they heard about Qafqaz University from their friends or colleague.
- Bachelor/Master Student: This is the current students of Qafqaz University and 29.69% (76) of respondents argued that their main information source was the current students of Qafqaz University.
- Introduction Tour: Every year University management invites different High schools or preparation courses to university and gives them information about university. In the context of introduction tour, 11.72% (30) of respondents argued their main source of information about Qafqaz University.
- Media: 8.59 % (22) of students argued their main source of information as media.
- Brochure: 6.25% (15) of students` suggested that their main source of information was the brochure, which printed by Qafqaz University.



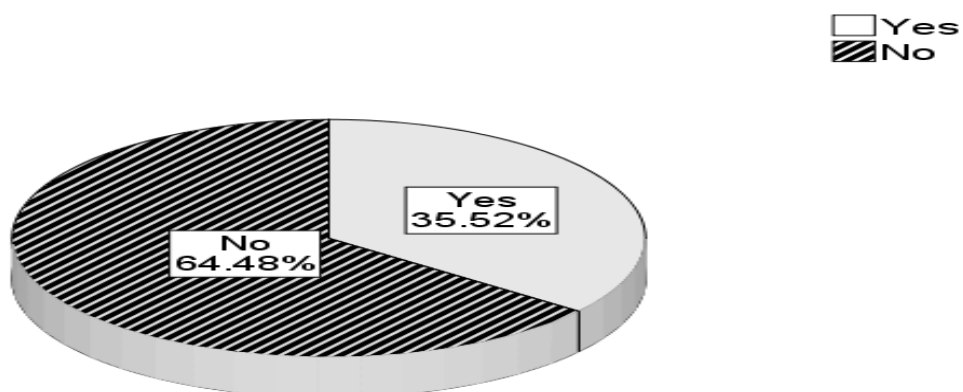
**Figure 11.** Main source of information about Qafqaz University.

Next question was that in university entrance exam, was it your first choice to choose Qafqaz University or not. Qafqaz University offers 10% discount if students writes Qafqaz University in the first place of their choice. As it seen in Figure 12, 82.33% (219) of students answered “Yes”, which means that they wrote Qafqaz University as the first choice. On the contrary, 17.67% (47) of students answered “No” which means Qafqaz University was their second or later choice.



**Figure 12.** Is it your first choice to choose Qafqaz University?

Last question related to students` profile was that do you want to continue your study in Qafqaz University. From Figure 13, it can be seen that majority of respondents (64.48%) answered that they don`t want to continue their study at Qafqaz University. 35.52% answered that they want to continue their study at the same university. Consequently, it arises question about loyalty, which is the new research topic that should be studied in future. Because, the result shows that majority of students are not loyal but doesn`t exactly shows the reason and the causes for lower loyalty.



**Figure 13.** Do you want to continue your study at Qafqaz University?

In order to answer to O<sub>6</sub>: “Identifying loyalty of students.” From the Figure 13, it could be concluded that students are not loyal to Qafqaz University. Because, majority of students mentioned that they don`t want to continue their study in Qafqaz University, which is two times more than students who wants to continue their next study in Qafqaz University.

### 3.2 Descriptive statistics of the variables in the study

In order to describe relationship between two variables Cross-tabulation method used. Cross-tabulation made to find relation between regions of students and their main source of information about university. From the Table 6, it could be observed that from all region word of mouth advertising is more encouraged students to choose Qafqaz University. In addition, Introduction tour is also effective way of advertising in Sumqayit, Ganja-Gazakh and Markazi Aran region, which shows more or less 20 % for the source of information.

**Table 6.** Cross-tabulation of Region and Main Source of Information.

Region	Main source of information					Total
	Friends/ Colleague	Bachelor/ Master Students	Brochure	Media	Introduction Tour	
<b>Absheron-Baku</b>	32 46.4%	24 34.8%	0 0.0%	7 10.1%	6 8.7%	69 100.0%
<b>Sumqayit</b>	10 40.0%	3 12.0%	2 8.0%	4 16.0%	6 24.0%	25 100.0%
<b>Guba-Gusar</b>	6 66.7%	2 22.2%	0 0.0%	1 11.1%	0 0.0%	9 100.0%
<b>Lankaran-Astara</b>	8 44.4%	6 33.3%	1 5.6%	3 16.7%	0 0.0%	18 100.0%
<b>Ganja-Gazakh</b>	13 38.2%	9 26.5%	3 8.8%	2 5.9%	7 20.6%	34 100.0%
<b>Shaki-Zagatala</b>	21 55.3%	9 23.7%	3 7.9%	2 5.3%	3 7.9%	38 100.0%
<b>Markazi Aran</b>	9 25.7%	12 34.3%	5 14.3%	2 5.7%	7 20.0%	35 100.0%
<b>Nakhcevan</b>	1 14.3%	6 85.7%	0 0.0%	0 0.0%	0 0.0%	7 100.0%
<b>Karabakh</b>	1 50.0%	1 50.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%
<b>Total</b>	101 42.6%	72 30.4%	14 5.9%	21 8.9%	29 12.2%	237 100.0%

To answer to the O<sub>1</sub>: “To assess importance of different aspects in terms of student’s perception” also know the performance value on the institution part mean (M) and standard deviation (SD) were calculated. The result of calculation presented in Table 7. For all the attributes, mean score is more than 4.20, which shows according to student’s perception all the aspects are important. The attribute considered the most important were external relations (M=4.51; SD=0.714), which is followed by teaching aspects (M=4.47; SD=0.721) and undergraduate program (M=4.39; SD=0.884) according to the perspective of students. The least important attribute was the general aspects (M=4.20; SD=0.684).

In the external relations attribute, the most important sub attribute considered exchange programs with foreign universities (M=4.56; SD=0.846), on the contrary the least important sub- attribute was conferences and seminars (M=4.41; SD=0.912). Regarding to teaching aspect, sub-attribute clarity and precision in the exposure of knowledge (M=4.68; SD=2.579) was the most important according to perception of the students. The least important sub-attributes was personalized attention (M=4.29; SD=0.884). Concerning undergraduate program, several career opportunities (M=4.55; SD=0.866) was the most important sub-attributes according to student’s perception, whereas updated content (M=4.24; SD=1.08) was less important.

**Table 7.** Descriptive analysis of Importance attributes.

Item	1	2	3	4	5	Mean	SD
	n (%)	n (%)	n (%)	n (%)	n (%)		
<b>1. General Aspects</b>						<b>4.20</b>	<b>0.684</b>
1.1 Modern Facilities	6(2.3)	1(0.4)	23(8.9)	76(29.6)	151(58.8)	4.42	0.854
1.2 Clean Facilities	4(1.5)	1(0.4)	8(3.1)	64(24.6)	183(70.4)	4.62	0.712
1.3 Sport Facilities	11(4.2)	14(5.3)	71(27.1)	94(35.9)	72(27.5)	3.77	1.044
1.4 Cultural Activities	5(1.9)	9(3.4)	38(14.5)	96(36.6)	114(43.5)	4.16	0.930
1.5 Association of Students	6(2.3)	12(4.7)	37(14.5)	88(34.4)	113(44.1)	4.13	0.985
<b>2. Library</b>						<b>4.33</b>	<b>0.768</b>
2.1 Easy access to shelves	18(6.9)	12(4.6)	39(14.9)	73(27.9)	120(45.8)	4.01	1.189
2.2 Ways of consulted rapidly	4(1.6)	6(2.3)	15(5.8)	76(29.5)	157(60.9)	4.46	0.832
2.3 Warmth of its staff	5(1.9)	6(2.3)	20(7.7)	67(25.8)	162(62.3)	4.44	0.879
2.4 Interest in solving the problems of student	11(4.3)	3(1.2)	14(5.5)	58(22.7)	169(66.3)	4.45	0.975
<b>3. Computer Laboratory facilities</b>						<b>4.34</b>	<b>0.826</b>
3.1 Availability of laboratories and computer facilities	8(3.1)	7(2.7)	25(9.7)	69(26.8)	148(57.6)	4.51	0.910
3.2 Ability to use after classes	8(3.1)	7(2.7)	25(9.7)	69(26.8)	148(57.6)	4.33	0.978
3.3 Existence of training in computer tools	6(2.4)	13(5.3)	27(10.9)	71(28.7)	130(52.6)	4.24	1.006
<b>4. Social services</b>						<b>4.27</b>	<b>0.700</b>
4.1 Financial aid for students	17(6.4)	4(1.5)	36(13.5)	62(24.5)	134(53)	4.15	1.150
4.2 Existence of medical support to students	3(1.2)	11(4.3)	22(8.6)	61(23.8)	159(62.1)	4.41	0.903
4.3 Availability of accommodation for students	7(2.8)	6(2.4)	32(12.7)	55(21.8)	152(60.3)	4.35	0.980
4.4 Existence of canteens	22(8.6)	15(5.9)	16(6.3)	54(21.2)	148(58)	4.12	1.306
4.5 Knowledge of rules and procedures	8(3.1)	7(2.8)	40(15.7)	92(36.2)	107(42.1)	4.11	0.981
4.6 Trust and safety in services	6(2.3)	4(1.6)	25(9.7)	65(25.2)	158(61.2)	4.41	0.901
4.7 Information service completion	6(2.4)	10(3.9)	35(13.7)	75(29.4)	129(50.6)	4.22	0.984
4.8 Interest in solving the problems of student	7(2.7)	13(5.1)	14(5.5)	54(21.2)	167(65.5)	4.42	0.996
4.9 Simple rules and procedures	11(4.3)	7(2.8)	43(17)	77(30.4)	115(45.5)	4.10	1.059
4.10 Warmth of its staff	3(1.2)	6(2.4)	22(8.7)	55(21.7)	167(66)	4.49	0.843
<b>5. Academic services</b>						<b>4.35</b>	<b>0.695</b>
5.1 Simple procedures	5(2)	8(3.2)	31(12.6)	87(35.2)	116(47)	4.22	0.929
5.2 Knowledge of rules and procedures	5(2)	1(0.4)	44(17.8)	79(32)	118(47.8)	4.23	0.897
5.3 Interest in solving problems of student	5(2)	1(0.4)	23(9.3)	59(24)	158(64.2)	4.48	0.841
5.4 Trust and safety in service	4(1.6)	6(2.5)	26(10.7)	65(26.6)	143(58.6)	4.38	0.892
5.5 Information service completion	4(1.6)	8(3.3)	21(8.6)	72(29.4)	140(57.1)	4.37	0.894
5.6 Quick response	1(0.4)	6(2.4)	33(13.3)	66(26.6)	142(57.3)	4.38	0.835
5.7 Warmth of its staff	3(1.2)	8(3.2)	21(8.5)	65(26.2)	151(60.9)	4.42	0.869
<b>6. Teaching Aspects</b>						<b>4.47</b>	<b>0.721</b>
6.1 Friendliness of the teachers	6(2.4)	4(1.6)	15(5.9)	49(19.2)	181(71)	4.55	0.863
6.2 Personalized attention	0(0)	13(5)	35(13.6)	75(29.1)	135(52.3)	4.29	0.884
6.3 Easy communication with teachers	2(0.8)	5(2)	23(9)	68(26.7)	157(61.6)	4.46	0.802
6.4 Clarity and precision in the exposure of knowledge	6(2.4)	19(7.5)	64(25.1)	165(64.7)	1(0.4)	4.68	2.579
6.5 Scientific expertise of teacher	2(0.8)	12(4.7)	22(8.6)	54(21.1)	166(64.8)	4.45	0.893
6.6 Fair assessment	4(1.6)	7(2.8)	15(5.9)	45(17.8)	182(71.9)	4.56	0.851
6.7 Advice the basic bibliography	4(1.6)	7(2.8)	32(13)	71(28.9)	132(53.7)	4.30	0.916
<b>7. Undergraduate Program</b>						<b>4.39</b>	<b>0.884</b>
7.1 Updated content	13(5.2)	5(2)	32(12.7)	59(23.5)	142(56.6)	4.24	1.088
7.2 Several career opportunities	6(2.4)	4(1.6)	15(6)	48(19)	179(71)	4.55	0.866
<b>8. External Relations</b>						<b>4.51</b>	<b>0.714</b>
8.1 Getting the internships	8(3.1)	2(0.8)	19(7.5)	46(18)	180(70.6)	4.52	0.908
8.2 Exchange programs with foreign universities	4(1.6)	7(2.8)	14(5.5)	47(18.6)	181(71.5)	4.56	0.846
8.3 Conferences and seminars	5(2)	7(2.7)	24(9.4)	61(23.8)	159(62.1)	4.41	0.912
8.4 Internet connection	7(2.7)	5(2)	15(5.9)	41(16)	188(73.4)	4.55	0.901

Note: 1-Very Important; 2-Unimportant; 3-Neither Important nor Unimportant; 4-Important; 5-Very important

Analyzing the previous table, and respecting to service quality in academic service, analyses highlighted that interest in solving problems of student (M=4.48; SD=0.841) was the most important sub-attributes which followed by warmth of it staff (M=4.42; SD=0.869). However, knowledge of rules

and procedures (M=4.23; SD=0.897) and simple procedures (M=4.22; SD=0.929) were the less important sub-attributes according to student's perception. Availability of laboratories and computer facilities (M=4.51; SD=0.910) is the most important sub-attributes in the computer laboratory facilities attributes in which existence of trainings in computer tools (M=4.24; SD=1.006) was least important for students perception. The most important services related to library was the ways of consulting rapidly (M=4.46; SD=0.832) and interest in solving problems of student (M=4.45; SD=0.975), whereas easy access to shelves was the least important for the student perception. Regarding social services quality warmth of its staff (M=4.49; SD=0.843), existence of medical support (M=4.41; SD=0.903) and interest in solving problems of the student (M=4.42; SD=0.996) were the main important sub-attributes students noted. Knowledge of rules and procedures (M=4.11; SD=0.981) was the least important. Related to general aspects, which showed the least important attribute according to student's perception; while clean facilities (M=4.62; SD=0.712) highlighted most important sub-attributes, association of students (M=4.13; SD=0.985) considered the least important.

To answer to the O<sub>2</sub>: "*To determine student's satisfaction according to different aspects*" Mean (M) and standard deviation (SD) calculated for each attributes and sub-attributes, which represented in Table 8. According to the result, only satisfaction with academic services (M=4.27; SD=0.700) was more than four, which followed by satisfaction of teaching aspects (M=3.80; SD=0.848) and other attributes with the mean of less than four. The least satisfaction rate was for the undergraduate program (M=3.36; SD=1.155) and computer laboratory facilities (M=3.31; SD=1.060). Mean for the satisfaction attributes vary between 3.31 and 4.27, which suggests that, in general students of Economics and Administrative Sciences faculty and Industrial Engineering department are satisfied with the service quality of Qafqaz University.

Highly satisfied sub-attributes for academic services were simple procedures (M=3.89; SD=2.790) and warmth of its staff (M=3.82; SD=1.217). However, quick response (M=3.42; SD=1.233) and interest in solving problems of student (M=3.42; SD=1.252) were the least satisfied sub-attributes for the students. Regarding to teaching aspects, friendliness of the teachers (M=4.02; SD=1.123) sub-attribute showed highest satisfaction rate. Despite that, personalized attention (M=3.66; SD=1.165) demonstrated least satisfaction rate from the point of students. Concerning library, warmth of its staff (M=4.26; SD=0.984) sub-attribute represented high satisfaction rate on the contrary easy access to shelves (M=3.05; SD=1.488) had the lowest satisfaction rate. In this point, wants to mention that, in the library it is prohibited for students access to the shelves, looking for the books and ordering done over the internet or intranet and students could took the books 15 min. after the ordering. However, this decreased satisfaction rate of students significantly. Relating to general aspects, most of students satisfied with the clean facilities (M=4.45; SD=0.791) but sport facilities (M=3.05; SD=1.141) represented least satisfaction rate. Satisfaction rate for the sub-attributes of social services vary between 2.81 and 3.97.

**Table 8.** Descriptive analysis of Satisfaction attributes.

Item	1	2	3	4	5	Mean	SD
	n (%)	n (%)	n (%)	n (%)	n (%)		
<b>1.General Aspects</b>						<b>3.64</b>	<b>0.722</b>
1.1 Modern Facilities	10(3.9)	18(7)	73(28.4)	104(40.5)	52(20.2)	3.66	1.003
1.2 Clean Facilities	3(1.2)	4(1.5)	19(7.3)	82(31.5)	152(58.5)	4.45	0.791
1.3 Sport Facilities	29(11.3)	44(17.1)	97(37.7)	58(22.6)	29(11.3)	3.05	1.141
1.4 Cultural Activities	10(4)	26(10.3)	82(32.4)	84(33.2)	51(20.2)	3.55	1.048
1.5 Association of Students	24(9.3)	30(11.7)	63(24.5)	86(33.5)	54(21)	3.45	1.211
<b>2. Library</b>						<b>3.76</b>	<b>0.866</b>
2.1 Easy access to shelves	62(24.2)	34(13.3)	45(17.6)	59(23)	56(21.9)	3.05	1.488
2.2 Ways of consulted rapidly	9(3.5)	10(3.9)	49(19)	84(32.6)	106(41.1)	4.04	1.036
2.3 Warmth of its staff	8(3.1)	7(2.7)	30(11.7)	76(29.6)	136(52.9)	4.26	0.984
2.4 Interest in solving the problems of student	18(7.1)	27(10.7)	42(16.7)	74(29.4)	91(36.1)	3.77	1.245
<b>3. Computer Laboratory facilities</b>						<b>3.31</b>	<b>1.06</b>
3.1 Availability of laboratories and computer facilities	22(8.6)	29(11.3)	70(27.2)	70(27.2)	66(25.7)	3.50	1.228
3.2 Ability to use after classes	34(13.5)	34(13.5)	51(20.3)	80(31.9)	52(20.7)	3.33	1.313
3.3 Existence of training in computer tools	33(13.3)	47(19)	71(28.6)	58(23.4)	39(15.7)	3.09	1.258
<b>4. Social services</b>						<b>3.51</b>	<b>0.770</b>
4.1 Financial aid for students	63(25.4)	33(13.3)	66(26.6)	57(23)	29(11.7)	2.82	1.350
4.2 Existence of medical support to students	12(4.7)	41(16.1)	70(27.6)	79(31.1)	52(20.5)	3.46	1.127
4.3 Availability of accommodation for students	11(4.4)	14(5.6)	47(18.7)	79(31.5)	100(39.8)	3.97	1.099
4.4 Existence of canteens	75(29.4)	41(16.1)	42(16.5)	51(20)	45(17.6)	2.81	1.498
4.5 Knowledge of rules and procedures	19(7.5)	16(6.3)	74(29.1)	83(32.7)	62(24.4)	3.60	1.144
4.6 Trust and safety in services	14(5.5)	10(3.9)	49(19.2)	88(34.5)	94(36.9)	3.93	1.101
4.7 Information service completion	16(6.4)	16(6.4)	68(27.3)	78(31.3)	71(28.5)	3.69	1.142
4.8 Interest in solving the problems of student	29(11.6)	33(13.3)	64(25.7)	72(28.9)	51(20.5)	3.33	1.266
4.9 Simple rules and procedures	19(7.7)	16(6.5)	68(27.4)	87(35.1)	58(23.4)	3.60	1.141
4.10 Warmth of its staff	14(5.7)	14(5.7)	44(17.8)	86(34.8)	89(36)	3.90	1.127
<b>5. Academic services</b>						<b>3.64</b>	<b>1.009</b>
5.1 Simple procedures	11(4.5)	18(7.3)	72(29.1)	70(28.3)	75(30.4)	3.89	2.790
5.2 Knowledge of rules and procedures	14(5.8)	20(8.2)	78(32.1)	70(28.8)	61(25.1)	3.59	1.122
5.3 Interest in solving problems of student	23(9.4)	35(4.3)	60(24.5)	70(28.6)	57(23.3)	3.42	1.251
5.4 Trust and safety in service	17(6.9)	14(5.7)	44(18)	97(39.6)	73(29.8)	3.80	1.138
5.5 Information service completion	19(7.7)	18(7.3)	58(23.5)	85(34.4)	67(27.1)	3.66	1.175
5.6 Quick response	23(9.4)	32(13.1)	62(25.4)	73(29.9)	54(22.1)	3.42	1.233
5.7 Warmth of its staff	18(7.3)	17(6.9)	47(19.2)	71(29)	92(37.6)	3.82	1.217
<b>6. Teaching Aspects</b>						<b>3.80</b>	<b>0.848</b>
6.1 Friendliness of the teachers	11(4.3)	18(7.1)	36(14.2)	77(30.4)	111(43.9)	4.02	1.123
6.2 Personalized attention	13(5.1)	30(11.8)	62(24.4)	75(29.5)	74(29.1)	3.66	1.165
6.3 Easy communication with teachers	13(5.2)	30(12)	37(14.8)	83(33.2)	87(34.8)	3.80	1.188
6.4 Clarity and precision in the exposure of knowledge	13(5.2)	10(4)	54(21.6)	93(37.2)	80(32)	3.87	1.073
6.5 Scientific expertise of teacher	15(6)	13(5.2)	48(19.2)	94(37.6)	80(32)	3.84	1.114
6.6 Fair assessment	18(7.1)	21(8.3)	51(20.2)	85(33.7)	77(30.6)	3.72	1.189
6.7 Advice the basic bibliography	14(5.8)	19(7.9)	57(23.6)	80(33.1)	72(29.8)	3.73	1.141
<b>7. Undergraduate Program.</b>						<b>3.36</b>	<b>1.155</b>
7.1 Updated content	36(14.5)	17(6.8)	71(28.5)	79(31.7)	46(18.5)	3.33	1.265
7.2 Several career opportunities	26(10.5)	28(11.3)	74(29.8)	69(27.8)	51(20.6)	3.37	1.227
<b>8. External Relations</b>						<b>3.45</b>	<b>0.960</b>
8.1 Getting the internships	30(11.9)	25(9.9)	73(29)	73(29)	51(20.2)	3.36	1.246
8.2 Exchange programs with foreign universities	19(7.6)	24(9.6)	70(28.1)	69(27.7)	67(26.9)	3.57	1.200
8.3 Conferences and seminars	11(4.3)	7(2.8)	63(24.8)	83(32.7)	90(35.4)	3.92	1.049
8.4 Internet connection	64(25.4)	35(13.9)	55(21.8)	50(19.8)	48(19)	2.93	1.456

Note: 1-Strongly Disagree; 2-Disagree; 3- Neither agree nor disagree; 4-Agree; 5-Strongly Agree

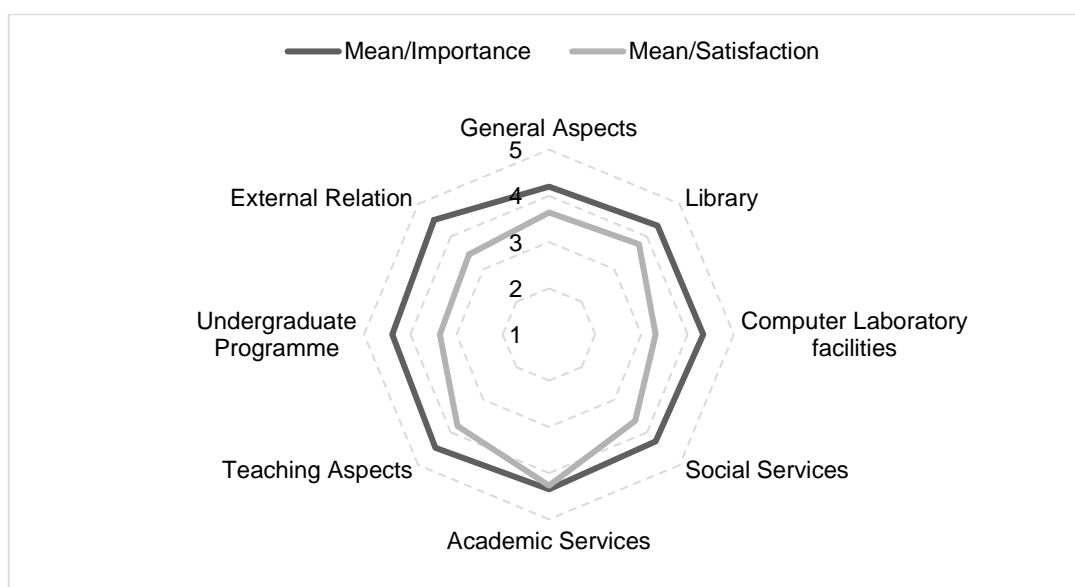
Highest satisfaction rate determined for the availability of accommodation for the students (M=3.97; SD=1.099) and trust and safety in services (M=3.93; SD=1.101). However, students could be said dissatisfied with the service quality of financial aid for students (M=2.82; SD=1.350) and existence of canteens (2.81; 1.498). Conferences and seminars (M=3.92; SD=1.049) indicated highest satisfaction rate in external relations attribute while internet connection (M=2.93; SD=1.456)

demonstrated dissatisfaction according to students. In the undergraduate program attribute, several career opportunities (M=3.37; SD=1.227) sub-attribute indicated higher satisfaction rate than updated content (M=3.33; SD=1.265). Concerning computer laboratory facilities attributes, availability of laboratories and computer facilities (M=3.50; SD=1.228) showed highest satisfaction rate. However, existence of training in computer tools (M=3.09; SD=1.258) demonstrated lowest satisfaction rate from the students.

**Table 9.** Mean and Standard deviation of main attributes.

Attributes	Importance			Satisfaction		
	Mean	Standard Deviation	Ranking	Mean	Standard Deviation	Ranking
General Aspects	4.20	0.684	8. <sup>o</sup>	3.64	0.722	4. <sup>o</sup>
Library	4.33	0.768	6. <sup>o</sup>	3.76	0.866	3. <sup>o</sup>
Computer laboratory facilities	4.34	0.826	5. <sup>o</sup>	3.31	1.060	8. <sup>o</sup>
Social services	4.27	0.700	7. <sup>o</sup>	3.51	1.009	5. <sup>o</sup>
Academic Services	4.35	0.695	4. <sup>o</sup>	4.27	0.700	1. <sup>o</sup>
Teaching aspects	4.47	0.721	2. <sup>o</sup>	3.80	0.848	2. <sup>o</sup>
Undergraduate Program	4.39	0.884	3. <sup>o</sup>	3.36	1.155	7. <sup>o</sup>
External Relations	4.51	0.714	1. <sup>o</sup>	3.45	0.960	6. <sup>o</sup>

From the Table 9 can be observed importance and satisfaction mean for each attribute. Mean for the importance vary between 4.20 and 4.51, for the satisfaction mean vary between 3.31 and 4.27. Table shows that External Relations showed highest importance rate but General Aspects represented lowest importance rate. Regarding to Satisfaction Academic Services showed highest satisfaction rate where Computer laboratory facilities showed lowest satisfaction rate.



**Figure 14.** Means for Importance and Satisfaction.

From the Figure 14 mean for each attribute of importance and satisfaction could be observed. For all mean attributes of importance shows higher rate than satisfaction. The least difference observed in mean of academic services regarding importance and satisfaction. However, overall importance and satisfaction rate shows satisfactory result.

To answer to the O<sub>3</sub>: “To reach overall satisfaction of student`s within the given service in terms of different aspects.” calculated mean and standard deviation of overall satisfaction. From the Table 10, it was concluded that overall, students of Economics and Administrative Science faculty and Industrial Engineering department are satisfied with the service quality offered by Qafqaz University.

**Table 10.** Overall Satisfaction.

	n	Mean	Standard deviation
Overall Satisfaction	264	3.5884	0.681

In order to answer O<sub>4</sub>: “Identifying satisfaction dissimilarities in student`s perceptions of service across different departments”, Mean and standard deviation calculated and represented Table 11. From the table it could be seen that mean for overall satisfaction by each department vary between 3.342 and 3.846. Highest satisfaction rate demonstrated in Public Administration (M=3.846; SD=0.691) department, which followed by World Economy (M=3.726; SD=0.466). The least satisfaction rate showed in International Relations (M=3.342; SD=0.191) department.

**Table 11.** Overall Satisfaction by Department.

Departments (n)	Mean	Standard Deviation
Business Administration (76)	3.546	0.689
World Economy (25)	3.726	0.466
Finance (24)	3.485	0.817
Public Administration (45)	3.846	0.691
International Relations (4)	3.342	0.191
Accounting (24)	3.585	0.527
Industrial Engineering (66)	3.461	0.721

The result showed that there is no significant dissimilarities in student`s perceptions of service across different department.

### 3.3 Inferential analysis

Regarding to answer to the H<sub>1</sub>: “There are differences in overall satisfaction and importance by gender”. While study had parametric data, it is necessary to check assumed distribution and assumed variance. Two independent samples will be examined, therefore t-student test applied. In order to interpret t-test for equality of means the sample data should have normal distribution or sample size should be equal or more than 30 and scores should have homogeneous variances.

In Table 12, it clarifies that for the overall satisfaction and overall importance sample size more than 30, which proven to apply Student`s t-test. For examining homogeneous variances Levene`s test applied. Levene`s test uncovered that for both sample in overall satisfaction and overall importance variances were assumed equal. Significance level of overall satisfaction 0.259 and overall importance 0.342, which is more than 0.05 and corroborate to use of Student`s t-test (Table 13).

**Table 12.** Sample size by gender.

	Gender?	n	Mean	Std. Deviation
Overall Satisfaction	Female	80	3.6289	0.6185
	Male	184	3.5708	0.7074
Overall Importance	Female	80	4.3895	0.5128
	Male	186	4.3260	0.5706

The Table 13 shows that p-value for overall satisfaction is 0.525, for overall importance 0.392, which are more than 0.05. Therefore, there are no differences exist in overall satisfaction and importance by gender. In addition, the main hypothesis do not corroborated.

**Table 13.** Student`s t-test and Levene`s test to identify differences by gender.

	Levene's Test		Student`s t-test	
	Test value	p-value	Test value	p-value
Overall Satisfaction	1.280	0.259	0.636	0.525
Overall Importance	0.906	0.342	0.858	0.392

To answer to the H<sub>2</sub>: "*There are differences in overall satisfaction and importance by study area*". Firstly, One-Way ANOVA test applied because there are seven areas, which is more than two sample. However, normality test had violated because sample size for some study areas were less than 30. Therefore, non-parametric Kruskal-Wallis test applied.

From Table 14, it seems that p-value for overall satisfaction and overall importance is more than 0.05. Which means that there is no differences between study area related to overall satisfaction and overall importance. The result shows that main hypothesis do not corroborated.

**Table 14.** Kruskal-Wallis test to identify differences by study area.

	Test value	p-value
Overall Satisfaction	10.994	0.089
Overall Importance	11.688	0.069

In order to answer H<sub>3</sub>: "*There are differences in overall satisfaction and importance regards overall grade point average (GPA)*". One-Way ANOVA test applied. Since the n>30 it was assumed that sample follows normal distribution. Then Levene`s test applied and it was found that homogeneity was not violated as seen in Table 15.

**Table 15.** Levene`s test and One-Way ANOVA test to identify differences regarding GPA.

	Levene`s test		One-Way ANOVA test	
	Test value	p-value	Test value	p-value
Overall Satisfaction	1.660	0.176	0.602	0.614
Overall Importance	0.267	0.849	0.759	0.518

From the Table 15 it seems that p-value for overall satisfaction and overall importance is more than 0.05. Which means that main hypothesis not corroborated. In addition, there are no differences in overall satisfaction and importance regards GPA.

To answer to the H<sub>4</sub>: “*There are differences in overall satisfaction and importance by academic years (Bachelor and Master Degree)*”. One-Way ANOVA test applied to examine differences in bachelor degree, mean and standard deviation for master degree. Since the sample follow normal distribution n>30 and to find homogeneity Levene`s test applied and found that there was homogeneity as seen in table 16.

After applying One-Way ANOVA, it was founded that p-value for overall satisfaction and overall importance is more than 0.05 as shown in Table 16. The result demonstrate that there are no difference between in overall satisfaction and overall importance in bachelor degree. Therefore, main hypothesis not corroborated.

**Table 16.** Levene`s test and One-Way ANOVA test to identify differences by academic year.

	Levene`s test		One-Way ANOVA test	
	Test value	p-value	Test value	p-value
Overall Satisfaction	1.767	0.154	4.165	0.070
Overall Importance	1.304	0.274	0.516	0.672

For the master degree students to find differences exist in overall satisfaction and overall importance firstly Shapiro-Wilk test applied to check the normality. From the table 17 it was observed that both variables followed normal distribution. After finding normality, t-Student test applied in order to answer hypothesis. The result related to master degree showed that p-value is less than 5 percent which results that hypothesis is corroborated. However, hypothesis related to bachelor degree was not corroborated, which demonstrated that overall the H<sub>4</sub> is not corroborated.

**Table 17.** To identify differences in the Master 1st year student.

	Shapiro-Wilk test	t-Student test (p-value)
Overall Importance	0.976	<0.001
Overall Satisfaction	0.847	<0.001

To answer H<sub>5</sub>: “*There is a positive association between overall satisfaction and loyalty*”. Phi test applied. To apply the Phi test it needed to calculate median for the satisfaction variable. Because, loyalty was qualitative question, satisfaction data transferred to qualitative data.

**Table 18.** Do you want to continue your study in "Qafqaz" University and Satisfaction Cross tabulation.

		Satisfaction		Total
		1*	2**	
Do you want to continue your study in "Qafqaz" University?	Yes	25	67	92
	No	105	61	166
Total		130	128	258

Note: \*, 1 means low satisfaction; \*\*, 2 means high satisfaction.

Therefore, calculation showed that median for the satisfaction was 3.5952. Rate, which is more than 3.5952 defined as high satisfaction while less than 3.5952 defined less satisfaction.

From the Table 18 it observed that 25 students whom have low satisfaction rate want to continue their study in Qafqaz University. However, 61 students who has high satisfaction rate don't want to continue their study in Qafqaz University.

According to the result in Table 19 p-value is less than 0.05 that means that main hypothesis not corroborated also test value showed minus result, which means that when satisfaction increases loyalty of student decreases.

**Table 19.** Phi Test to identify positive association between satisfaction and loyalty.

	Test value	p-value
Phi test	-0.346	<0.001

To answer to the H<sub>6</sub>: “There are differences in overall satisfaction and importance related to region”. Kruskal-Wallis test applied because the sample size not normally distributed and n<30.

The Table 20 shows that p-value is less than 0.05. The result shows that there are differences in overall satisfaction and overall importance related to region and main hypothesis corroborated.

**Table 20.** Kruskal-Wallis test to find differences by region.

	test value	p-value
Overall Satisfaction	17.842	0.022
Overall Importance	19.102	0.014

From the Table 21 difference between overall satisfaction and overall importance related to region can be seen. For the overall satisfaction the highest mean rank for Karabakh region, which is followed by Quba-Qusar and the lower mean rank is for the Nekhcevan region. Although, highest mean rank for the overall importance for the Karabakh region, followed by the Lankaran-Astara region. The lowest mean rank is for the Ganja-Gazakh region.

**Table 21.** Means rank for region.

Region	Overall Satisfaction		Overall Importance	
	n	Mean Rank	n	Mean Rank
Absheron-Baku	72	132.53	72	125.87
Sumqayit	26	127.40	26	141.04
Quba-Qusar	9	154.50	9	147.89
Lankaran-Astara	18	99.97	18	150.97
Ganja-Gazakh	35	118.61	36	92.17
Shaki-Zagatala	38	99.91	38	104.96
Markazi Aran	36	137.65	36	123.67
Nakhcevan	7	60.50	7	142.50
Karabagh	3	172.67	3	200.33
<b>Total</b>	<b>244</b>	<b>-</b>	<b>245</b>	<b>-</b>

To answer to the H<sub>7</sub>: “There is a positive relationship between the satisfaction level and importance level”, Pearson Coefficient Correlation test applied to find correlation between satisfaction and importance level.

In Table 22, the result showed that p value is less than 0.05 for both overall satisfaction and overall importance. The result shows that the main hypothesis corroborated.

**Table 22.** Correlation between satisfaction and importance.

	Overall Satisfaction	
Overall Importance	Pearson Correlation	0.290**
	p-value	<0.001
	n	264

\*\* . Correlation is significant at the 0.01 level (2-tailed).

To answer to the H<sub>9</sub>: “There are differences in overall satisfaction and importance between Bachelor and Master degree” Levene`s test firstly applied to test the normality. The test showed that variables did not follow normality as seen in the table 23. In the next step Independent Samples t-Student test applied and from the result it was observed that p-value is less than 5 percent. Therefore, hypothesis is corroborated, which means that there are differences in overall satisfaction and importance between Bachelor and Master degree.

**Table 23.** Levene`s Test and t-Test for identifying differences between Bachelor and Master degree.

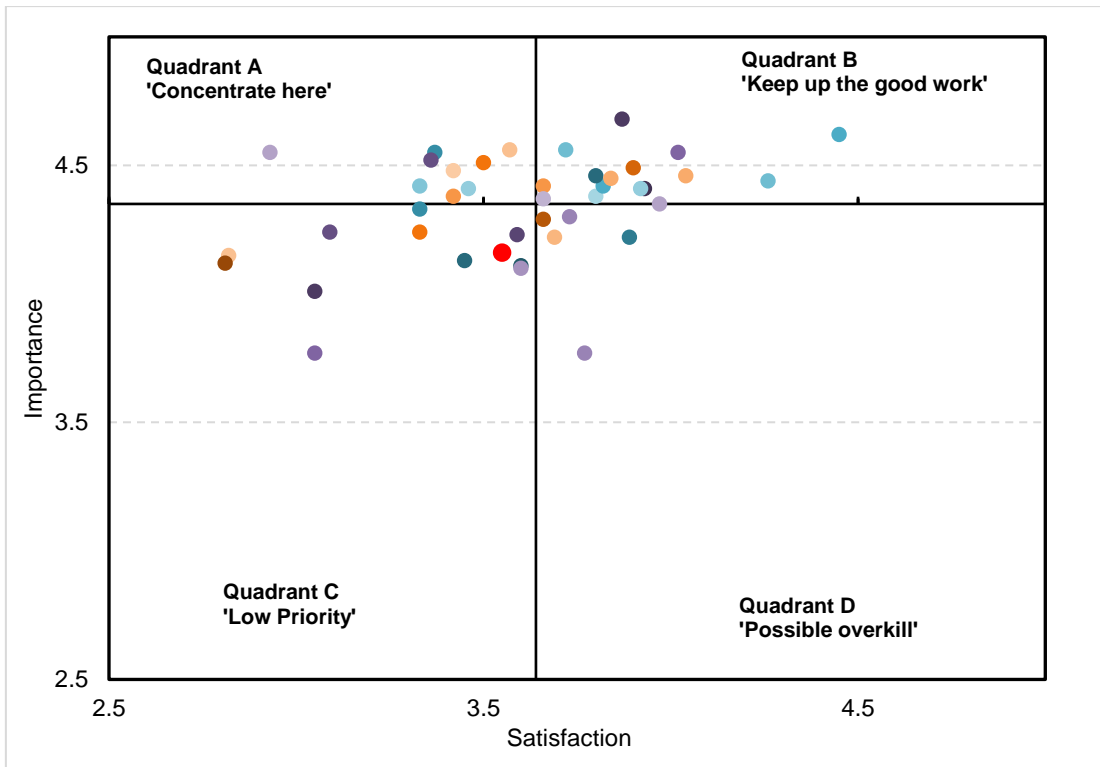
	Levene`s test		t-Student test	
	Test value	p-value	Test value	p-value
Overall Importance	4.424	0.036	-5.042	<0.001
Overall Satisfaction	9.020	0.003	-3.814	<0.001

### 3.4 Importance-Satisfaction Analysis and Problematic Areas

To answer to the O<sub>7</sub>: “Identifying positioning of each attributes in IPA matrix” it was calculated median for the importance and satisfaction attributes. Then, plotted each attribute on IPA matrix. After plotting each attribute on IPA matrix, result showed that 14 attributes positioning in the Quadrant-C “Low Priority”, (see Table 24) the result illustrates that attributes in this area less important for the students also these attributes showed less satisfaction rate. Attributes like modern facilities, warmth of its staff in Quadrant-B “Keep up the good work” illustrates that attributes positioning in this area are important for the students and the students satisfied with this attributes. Clean facilities attribute in this area showed highest importance and satisfaction rate. In order to continue performing well with these attributes institution needs to put continues investment. Eight attributes such as availability of accommodation, personalized attention positioned in Quadrant-D “Possible Overkill” illustrates that attributes in this area is not so much important for the students but satisfaction rate showed that students are satisfied with this attributes. The least attributes, seven of them are positioning in Quadrant-A “Concentrate here”. Attributes in this area illustrates these attributes such as interest in solving problems of students, getting internship, career opportunities are important for the students. However, the attributes in this area showed less satisfaction rate moreover, attribute like internet connection illustrated dissatisfaction rate.

**Table 24.** Location of each attributes in IPA matrix.

Attributes	Importance		Satisfaction		Quadrant
	Mean	SD	Mean	SD	
Modern Facilities	4.42	0.854	3.66	1.003	Quadrant-B
Clean Facilities	4.62	0.712	4.45	0.791	Quadrant-B
Sport Facilities	3.77	1.044	3.05	1.141	Quadrant-C
Cultural Activities	4.16	0.930	3.55	1.048	Quadrant-C
Association of Students	4.13	0.985	3.45	1.211	Quadrant-C
Easy access to shelves	4.01	1.189	3.05	1.488	Quadrant-C
Ways of consulted rapidly	4.46	0.832	4.04	1.036	Quadrant-B
Warmth of its staff	4.44	0.879	4.26	0.984	Quadrant-B
Interest in solving the problems of student	4.45	0.975	3.77	1.245	Quadrant-B
Availability of laboratories and computer facilities	4.51	0.910	3.50	1.228	Quadrant-A
Ability to use after classes	4.33	0.978	3.33	1.313	Quadrant-C
Existence of training in computer tools	4.24	1.006	3.09	1.258	Quadrant-C
Financial aid for students	4.15	1.150	2.82	1.350	Quadrant-C
Existence of medical support to students	4.41	0.903	3.46	1.127	Quadrant-C
Availability of accommodation for students	4.35	0.980	3.97	1.099	Quadrant-D
Existence of canteens	4.12	1.306	2.81	1.498	Quadrant-C
Knowledge of rules and procedures	4.11	0.981	3.60	1.144	Quadrant-C
Trust and safety in services	4.41	0.901	3.93	1.101	Quadrant-B
Information service completion	4.22	0.984	3.69	1.142	Quadrant-D
Interest in solving the problems of student	4.42	0.996	3.33	1.266	Quadrant-A
Simple rules and procedures	4.10	1.059	3.60	1.141	Quadrant-C
Warmth of its staff	4.49	0.843	3.90	1.127	Quadrant-B
Simple procedures	4.22	0.929	3.89	2.790	Quadrant-D
Knowledge of rules and procedures	4.23	0.897	3.59	1.122	Quadrant-C
Interest in solving problems of student	4.48	0.841	3.42	1.251	Quadrant-A
Trust and safety in service	4.38	0.892	3.80	1.138	Quadrant-D
Information service completion	4.37	0.894	3.66	1.175	Quadrant-D
Quick response	4.38	0.835	3.42	1.233	Quadrant-C
Warmth of its staff	4.42	0.869	3.82	1.217	Quadrant-B
Friendliness of the teachers	4.55	0.863	4.02	1.123	Quadrant-B
Personalized attention	4.29	0.884	3.66	1.165	Quadrant-D
Easy communication with teachers	4.46	0.802	3.80	1.188	Quadrant-B
Clarity and precision in the exposure of knowledge	4.68	2.579	3.87	1.073	Quadrant-B
Scientific expertise of teacher	4.45	0.893	3.84	1.114	Quadrant-B
Fair assessment	4.56	0.851	3.72	1.189	Quadrant-B
Advice the basic bibliography	4.30	0.916	3.73	1.141	Quadrant-D
Updated content	4.24	1.088	3.33	1.265	Quadrant-C
Several career opportunities	4.55	0.866	3.37	1.227	Quadrant-A
Getting the internships	4.52	0.908	3.36	1.246	Quadrant-A
Exchange programs with foreign universities	4.56	0.846	3.57	1.200	Quadrant-A
Conferences and seminars	4.41	0.912	3.92	1.049	Quadrant-D
Internet connection	4.55	0.901	2.93	1.456	Quadrant-A



- Modern Facilities
- Sport Facilities
- Association of Students
- Ways of consulted rapidly
- Interest in solving the problems of student
- Ability to use after classes
- Financial aid for students
- Availability of accommodation for students
- Knowledge of rules and procedures
- Information service completion
- Simple rules and procedures
- Simple procedures
- Interest in solving problems of student
- Information service completion
- Warmth of its staff
- Personalized attention
- Clarity and precision in the exposure of knowledge
- Fair assessment
- Updated content
- Getting the internships
- Conferences and seminars
- Clean Facilities
- Cultural Activities
- Easy access to shelves
- Warmth of its staff
- Availability of laboratories and computer facilities
- Existence of training in computer tools
- Existence of medical support to students
- Existence of canteens
- Trust and safety in services
- Interest in solving the problems of student
- Warmth of its staff
- Knowledge of rules and procedures
- Trust and safety in service
- Quick response
- Friendliness of the teachers
- Easy communication with teachers
- Scientific expertise of teacher
- Advice the basic bibliography
- Several career opportunities
- Exchange programs with foreign universities
- Internet connection

**Figure 15.** Importance-Satisfaction analysis for each attribute (Median=3.64; 4.35).

To answer H<sub>8</sub>: “Main attributes will be positioning in quadrant B, “Keep up the good work” in IPA matrix”, mean rating for satisfaction and importance calculated (see Table 23), they are plotted on two-dimensional, four quadrant matrix (see Figure 15). For importance, dimension median was 4.345 and for satisfaction dimension median was 3.64. The result showed that main hypothesis not corroborated. Because, only two attributes positioning in Quadrant-B.



**Figure 16.** Importance-Satisfaction analysis for main attributes (Median=3.64; 4.35).

From the Table 25 result shows that in the “Keep up The Good Work” area two main attributes located. This illustrates that for the attributes Academic Services and Teaching Aspects are very important for the students and this area shows high satisfaction rate for the attributes. This means that university management should invest more on this attributes in order to keep up the good work. Undergraduate Program and External Relations positioned in Quadrant-A, which showed high importance level and less satisfaction level. In order to get maximum results management of university should concentrate on this attributes to increase satisfaction rate. The Social Services and Computer laboratory facility attributes positioning in Quadrant-C, which means that services in this area shows high satisfaction rate but these services are less important for the students. Moreover, General Aspects and Library positioning in Quadrant-D illustrates that attributes in this area is less important for the students and satisfaction rate is low for this attribute.

**Table 25.** Location of main attributes in IPA matrix.

Attributes	Importance		Satisfaction		Quadrant
	Mean	SD	Mean	SD	
General Aspects	4.20	0.722	3.64	0.684	Quadrant-D
Library	4.33	0.866	3.76	0.768	Quadrant-D
Computer laboratory facilities	4.34	1.06	3.31	0.826	Quadrant-C
Social services	4.27	0.700	3.51	0.778	Quadrant-C
Academic Services	4.35	1.009	4.27	0.695	Quadrant-B
Teaching aspects	4.47	0.848	3.80	0.721	Quadrant-B
Undergraduate Program	4.39	1.155	3.36	0.884	Quadrant-A
External Relations	4.51	0.960	3.45	0.714	Quadrant-A
<b>Median</b>	<b>4.35</b>	-	<b>3.64</b>	-	-

Table 26 shows the results for the research hypothesis. Out of nine hypothesis 2 hypothesis corroborated, others did not corroborated.

**Table 26.** Results of main Hypothesis.

<b>Label</b>	<b>Hypothesis</b>	<b>Result</b>
<b>H<sub>1</sub></b>	There are differences in overall satisfaction and importance by gender.	Not corroborated
<b>H<sub>2</sub></b>	There are differences in overall satisfaction and importance by study area.	Not corroborated
<b>H<sub>3</sub></b>	There are differences in overall satisfaction and importance regards overall grade point average (GPA).	Not corroborated
<b>H<sub>4</sub></b>	There are differences in overall satisfaction and importance by academic years (Bachelor and Master Degree).	Not corroborated
<b>H<sub>5</sub></b>	There are a positive association between overall satisfaction and loyalty.	Not corroborated
<b>H<sub>6</sub></b>	There are differences in overall satisfaction and importance related to region.	Corroborated
<b>H<sub>7</sub></b>	There are a positive relationship between the satisfaction level and importance level.	Corroborated
<b>H<sub>8</sub></b>	Main attributes will be positioning in quadrant B, "Keep up the good work" in IPA matrix.	Not corroborated
<b>H<sub>9</sub></b>	There are differences in overall satisfaction and importance between Bachelor and Master degree.	Not Corroborated

### 3.5 Suggestions for University Service Management

To answer to the O<sub>5</sub>: "To give suggestions to the management of university to improve service quality provided to students", it can say that in general students of Economics and Administrative Sciences faculty and Industrial Engineering department are satisfied with service quality offered by Qafqaz University. Also, importance rate of different attributes illustrated that all attributes are very important. However, there are some areas, which showed dissatisfaction like internet connection, existence of canteens and financial aid for the students.

For the providing financial aid will be difficult for the university management but from the second semester of 2015/2016 government issued new legislation to give financial aid for the students who gets high ranking in the class and this will hopefully increase satisfaction rate. Dissatisfaction related to internet connection and existence of canteens need to make research and find exact problems, which decrease satisfaction of students related to these attributes.

In addition, it is necessary for the management of the university to investigate the exact problems regarding to loyalty of students. Furthermore, undergraduate program and External relations showed lowest satisfaction degree, which is illustrated high importance degree. Therefore, these aspects should be improved. For the undergraduate program contents should be updated frequently, management should force teachers to use new content. Lessons should not be just theoretical, it should also add practical information such as visits to companies, inviting managers from commercial companies in order to give seminars. Regarding to External relations, university management should

increase internships in university or in other companies. Because, attribute as internship showed low satisfaction rate. In addition, university should focus on exchange programs with other universities, specifically, universities which located in Europe. Moreover, internet connection was the one attribute which showed dissatisfaction degree. In order, to solve this problem and increase quality of internet inside the university, Wi-Fi connection speed should be increased and access to the internet should be safe and easy in every place inside the university.

Overall, few areas need improvement. If the university management will solve these problems, it will increase satisfaction rate of students.

## **Conclusion, Limitation and Future Research**

Martilla and James (1977), in order to improve and analyze business strategies developed importance-Performance analysis. Since development of Importance-Satisfaction Analysis, Analysis has been applied to different areas. This tool is helpful and very simple to use for identifying strengths and weaknesses of Higher Education Institutions.

Therefore, the study in Qafqaz University used IPA matrix to evaluate students satisfaction related to service quality. This study has identified the importance of different aspects in terms of student`s perception; determined student`s satisfaction according to different aspects; evaluated overall satisfaction of student`s within given service in terms of different aspect. In addition, identified if there is a dissimilarities in student`s perception from different department. It also identifies differences in overall satisfaction and overall importance in the context of gender, study area, GPA and academic years. Moreover, determines if there is an association between loyalty and student`s satisfaction, if there is a relationship between satisfaction level and importance level.

The findings show that all attributes of service quality are very important to student`s satisfaction, but External Relations, Teaching Aspects and Undergraduate Program are relatively more important attributes of service quality in Qafqaz University. Interestingly, the findings show that students are satisfied with the all attributes of service quality; academic services, teaching aspects and library rate more highly relative to other attributes.

The findings suggest that there is a positive relationship between the importance and satisfaction of different attributes. The study shows that there are no differences in overall satisfaction and importance related to region. In addition, it identified that there are no differences in overall satisfaction and importance regarding to gender, study area, GPA and academic years. However, interesting part of the result illustrated that there is a negative association between student`s loyalty and overall satisfaction in Economics and Administrative sciences faculty and Industrial Engineering department. Furthermore, study shows that clean facilities, warmth of staff, interest in solving problems of students, existence of medical supports to students, also quick response, friendliness of teachers and having several career opportunities are very important and very satisfying attributes of service quality offered by university. Although, attributes like internet connection, financial aid for students and existence of canteen showed high importance, result regarding to satisfaction uncovered that students are not satisfied with the service quality of these attributes. In general, students are very satisfied with the service quality of very important attributes.

Limitations of the research were that there is less research regarding application of Importance-Satisfaction analysis in Higher Education Institutions. Although, there is a plenty of research evaluates relationship between customer satisfaction and service quality, most of these research takes into consideration commercial businesses. In addition, far distance also was the main limitation for this research.

For the future research, it will be interesting to make research regarding student`s satisfaction and loyalty to identify why there is a negative association between loyalty and satisfaction. In addition,

taking into consideration some other factors such as tuition fee, location of university also exploring advantage and disadvantage of studying in private university will give more detailed data regarding to student`s satisfaction in Higher Education Institutions.

## References

- Abdullah, F. (2006). Measuring service quality in higher education: HEdPERF vs SERVPERF. *Marketing Intelligence and Planning*, 24(1), 31-47.
- Aktas, A., Aksu, A., & Çizel, B. (2007). Destination choice: An Important Satisfaction Analysis. *Quality & Quality*, 41(2), 265-273.
- Alves, H. (1998). O Marketing das Instituições de Ensino Superior: O caso da Universidade. *Master Thesis in Management, University of Beira Interior, Portugal*.
- Baker, D., & Crompton, J. (2000). Quality, Satisfaction and behavioral intentions. *Annals of Tourism Research*, 27(3), 785-804.
- Baron, S., Harris, K., & Hilton, T. (2009). *Services marketing: text and cases*. Basingstoke: Palgrave Macmillan.
- Benneworth, P., & Ben, J. (2010). Who matters to universities? A stakeholder perspective on humanities, arts and social sciences valorisation. *Higher Education*, 59(5), 567-588.
- Berbulescu, A. (2015). Quality culture in Romanian Higher Education. *PROCEDIA Social and Behaviorual Sciences* 191, 1923-1927.
- Berry, L., Parasuraman, A., & Zeithaml, V. (1988). The Service-Quality Puzzle. *Business Horizons*, 36-43.
- Berry, L., Zeithaml, V., & Parasuraman, A. (1985). Quality counts in services, too. *Business Horizons*, 44-52.
- Brunat, E. (2006). The importance of higher education to attract investment and contribute to sustain economic growth and competitiveness in Kaliningrad. *Baltic Rim Economic*.
- Catherina, M., & Gretchen, R. (1995). *Designing Qualitative Research*. . New York: Thousand Oaks, CA: Sage Publications.
- Chris, C., & Simms, C. (2010). Stakeholde analysis in higher education: A case study of University of Portsmouth. *Policy and Practice in Higher Education*, 14(1), 12-20.
- Clemes, M., Gan, C., Kao, T.-K., & Choong, M. (2008). An empirical analysis of customer satisfaction in international air travel. *Innovative Marketing*, 4(2), 49-62.
- Cronin, J., & Taylor, S. (1992). Measuring Service Quality: A Reexamination and extension. *Journal of Marketing*, 56(3), 55-68.
- Cuthbert, P. (1996). Managing service quality in HE: is SERVQUAL the answer? *Managing Service Quality*, 6(2), 11-16.
- Dabholkar, H. (1996). Consumer evaluations of new technology-based self-service operations: an investigation of alternative models. *International Journal of Research in Marketing*, 13(1), 29-51.

- Danjuma, I., & Rasli, A. (2012). Imperatives of service innovation and service quality for customer satisfaction: Perspective on higher education. *Social and Behavioral Sciences* , 347-352.
- Deacon, A., & Du Rand, G. (2012). An Importance-Performance Analysis of the Catering Component of a Higher Education. *2nd Advances in Hospitality and Tourism Marketing and Management Conference*. Corfu Island, Greece.
- Deshields, O., Kara, A., & Kaynak, E. (2005). Determinants of business student satisfaction and retention in higher education: applying Herzberg's two-factor theory. *International Journal of Educational Management*, 19, 129-139.
- Donlagic, S., & Fazlic, S. (2015). Quality assessment in higher education using the Servqual model. *Management*, 20(1), 39-57.
- Drucker, P. F. (1985). *Innovation and entrepreneurship*. New-York: Harper & Row.
- Erickson, G. M. (1993). Offensive and Defensive Marketing: Closed-Loop Duopoly strategies. *Marketing Letters* 4(4), 28-295.
- Ford, J., Joseph, M., & Joseph, B. (1999). Importance-performance analysis as a strategic tool for service marketers: The case of service quality perceptions of business students in New Zealand and the USA. *Journal of Services Marketing*, 13(2), 171-186.
- Fornell, C., & Wernerfelt, B. (1987). Defensive Marketing Strategy by Customer Complaint Management: A Theoretical analysis. *Journal of Marketing research*, 24(4), 337-346.
- Freeman, E. (1984). *Strategic Management: A stakeholder Approach*. London: Pitman.
- Ghobadian, A., Speller, S., & Jones, M. (1994). Service Quality concepts and models. *International Journal of Quality & Reliability Management*, 11(9), 43-66.
- Griffin, J. (1995). *Customer Loyalty: How to Earn it and How to Keep it*. New-York: Lexington Books.
- Gronroos, C. (1978). A service-Orientated Approach to Marketing of Services. *European Journal of Marketing* 12(8), 588-601.
- Grönroos, C. (1984). A service Quality Model and its Marketing Implications. *European Journal of Marketing*, 18(4), 36-43.
- Gruber, T., Fub, S., Roediger, V., & Glaser-Zikuda, M. (2010). Examining student satisfaction with higher education services: Using a new measurement tool. *International Journal of Public Sector Management*, 23(2), 105-123.
- Harvey, L., & Green, D. (1993). Defining quality. *Assessment and Evaluation in Higher Education*, 18(1), 9-34.
- Hasan, H. F., Ilias, A., Rahman, R. A., & Razak, M. Z. (2008). Service Quality and Student satisfaction: A case study at Higher Education Institutions. *International Business Research*, 163-175.

- Haywood-Farmer, J. (1988). A conceptual model of service quality. *International Journal of Operation and Production Management*, 60, 19-29.
- Hill, F. (1995). Managing service quality in higher education: the role of the student as primary consumer. *Quality Assurance in Education*, 3(3), 10-21.
- Hom, W. (2002). Applying Customer Satisfaction Theory to Community College Planning of Student Services. *iJournal*, 2-15.
- Jones, T., & Sasser, E. (1995). Why Satisfied Customers Defect. *Harvard Business Review*, Issue. November-December, 88-99.
- Joseph, M., & Joseph, B. (1997). Employers' Perceptions of Service Quality in Higher Education. *Journal of Marketing for Higher Education*, 8(2), 1-13.
- Kettunen, J. (2014). The Stakeholder Map in Higher Education. *International Proceedings of Economics Development and Research*, 78(7), 34-38.
- Koslowski, F. (2006). Quality and assessment in context: a brief review. *Quality Assurance in Education*, 14(3), 277-288.
- Lewis, R., & Booms, B. (1983). "The Marketing Aspects of Service Quality" in Emerging Perspectives on Services Marketing. *American Marketing*, 99-107.
- Maguire, K., & Gibbs, P. (2013). Exploring the notion of quality in quality higher education assessment in a collaborative future. *Quality in Higher Education*, 19(1), 44-55.
- Martilla, J., & James, J. (1977). Importance-Performance Analysis. *Journal of Marketing*, 41(1), 77-79.
- Mitchell, R., Agle, B., & Wood, D. (1997). Toward a theory of stakeholder identification and science: Defining the principle of who and what really counts. *Academy of Management Review*, 22(4), 853-886.
- Moraru, L. (2012). Academic internal stakeholder condition: a comparative approach. *Procedia - Social and Behavioral Sciences*, 69, 54-72.
- Oldfield, B., & Baron, S. (2000). Student perceptions of service quality in a UK university business and management faculty. *Quality Assurance in Education*, 8(2), 85-95.
- Palacio, A., Meneses, G., & Perez, P. (2002). The configuration of the university image and its relationship with the satisfaction of students. *Journal of Educational Administration*, 40(5), 486-505.
- Parasuraman, A., Zeithaml, A., & Berry, L. (1988). SERVQUAL: A multiple-item scale for Measuring Consumer Perceptions of Service Quality. *Journal of Retailing*, 64(1), 12-40.
- Parasuraman, A., Zeithaml, V., & Berry, L. (1994). Reassessment of expectations as a comparison standard in measuring service quality: implications for further research. *Journal of Marketing* 58, 111-124.

- Parasuraman, A., Zeithaml, V., & Berry, L. (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. *Journal of Marketing*, 49, 41-50.
- Parves, S., & Wong, Y. (2010). Service quality in higher education – a review and research agenda. *International Journal of Quality and Service Sciences*, 2(2), 259-272.
- Pike, S. (2004). The Use of Repertory Grid Analysis and Importance-Performance Analysis to Identify Determinant Attributes of Universities. *Journal of Marketing for Higher Education*, 14(2), 1-18.
- Piturca, A., & Popovici, A. (2011). Quality Assurance – Major Requirement of the Romanian Higher Education. *Proceedings of 3rd International Conference Institutional Strategic Quality Management in Higher Education "ISQM 2011 Sibiu"* (pp. 309-316). Romania: Proceedings of 3rd International Conference Institutional Strategic Quality Management in Higher Education "ISQM 2011 Sibiu".
- Rofas-Mendez, J., Vasquez-Parraga, A., Kara, A., & Cerda-Urrutia, A. (2009). Determinants of Student Loyalty in Higher Education: A Tested Relationship Approach in Latin America. *Latin American Business Review*, 10, 21-39.
- Sahin, A. (2009). Assessing Service Quality in Faculty of Education via Student Satisfaction Scale. *Hacettepe University Journal of Education*, 37, 106-122.
- Savsar, P. M. (2012). Quality Assurance and Management. In P. Trivellas, P. Ipsilantis, I. Papadopoulos, & D. Kantas, *Challenges for Quality Management in Higher Education- Investigating Institutional Leadership* (pp. 104-128). Rijeka: InTech.
- Seth, N., Deshmukh, S., & Vrat, P. (2005). Service quality models: a review. *International Journal of Quality & Reliability Management*, 22(9), 913-949.
- Sever, I. (2015). Importance-performance analysis: A valid management tool? *Tourism Management*, 48, 43-53.
- Shawver, Z., Griffith, J., Adams, L., Evans, J., Benchoff, B., & Sargent, R. (2016). In examination of the WHOQOL-BREF using four popular data collection methods. *Computers in human behaviour*, 55, 446-454.
- Silva, F., & Fernandes, P. (2011). Importance-Performance Analysis As A Tool In Evaluating Higher Education Service Quality: The Empirical Results Of ESTIG(IPB). *Creating Global Competitive Economies: A 360-Degree Approach*, 306-314.
- Smith, S., & Albaum, G. (2013). *Basic Marketing Research. Analysis and Results*. Provo, Utah: Qualtrics Labs, Inc.
- Spreng, R., Mackenzie, S., & Olshavsky, R. (1996). A re-examination of the determinant of customer satisfaction. *Journal of Marketing*, 60(3), 15-32.

- Sudharani, D., Ravindran, D., & M, M. (2012). Students' Expectation, Perception and Satisfaction towards the Management Educational Institutions. *Procedia Economics and Finance*, 401-410.
- Temizer, L., & Turkyilmaz, A. (2012). Implementation of student satisfaction index model in higher educational institutions. *Procedia - Social and Behavioral Sciences*, 3802-3806.
- Tonge, J., & Moore, S. (2007). Importance-satisfaction analysis for marinepark hinterlands: A Western Australian case study. *Tourism management*, 28(3), 768-776.
- Uncles, M., Dowling, G., & Kathy, H. (2002). Customer Loyalty and Customer Loyalty Programs. *Journal of Consumer Marketing*, 98(6), 1-36.
- Vargo, S., & Lusch, R. (2004). Evolving to a new Dominant Logic for Marketing. *Journal of Marketing* 68, 1-17.
- Vargo, S., & Lusch, R. (2008). From good to service(s): Divergences and convergences of logics. *Industrial Marketing Management*, 37, 254-259.
- Wilson, A., Zeithaml, V., Bitner, M., & Gremler, D. (2008). *Services Marketing, Integrating Customer focus Across the firm*. Berkshire: McGraw-Hill Education.
- Yousapronpaiboon, K. (2014). SERVQUAL: Measuring higher education service quality in Thailand. *Procedia - Social and Behavioral Sciences*, 116, 1088-1095.
- Zeithaml, V., Berry, L., & Parasuraman, A. (1988). Communication and Control Processes in the Delivery of Service Quality. *Journal of marketing*; 52, 35-48.

## Appendix

### First part of questions

**Part I:** Please answer the following questions marking with the option that it considers most appropriate to your opinion:

1. Gender.
  - A) Female
  - B) Male
  - C) 60-69
  - D) <60
2. Age.
  - A) <18
  - B) 18-22
  - C) 23-27
  - D) 27>
3. Study Area.
  - A) Business Administration
  - B) World Economy
  - C) Finance
  - D) Public Administration
  - E) International Relations
  - F) Accounting
  - G) Industrial Engineering
4. Academic year
  - A) 1st year
  - B) 2nd year
  - C) 3rd year
  - D) 4th year
  - E) 1th year master
5. Academic GPA
  - A) >90
  - B) 80-90
  - C) 70-79
6. Which region are you from?
  - A) Absheron-Baku
  - B) Sumgayit
  - C) Guba-Gusar
  - D) Lankaran-Astara
  - E) Shaki-Zagatala
  - F) Markazi Aran
  - G) Ganja-Gazakh
  - H) Karabakh
  - I) Nakhcevan
7. Main info source about Qafqaz University?
  - A) Friends/Colleague
  - B) Bachelor/Master Students
  - C) Brochure
  - D) Media
  - E) Introduction tour
8. Do you want to continue your study at Qafqaz university?
  - A) Yes
  - B) No
9. Is it your first choice to choose Qafqaz University?
  - A) Yes B) No

### **Part II: Analyses of the Importance & Satisfaction of services in faculty of Economics and Administrative sciences of Qafqaz University, in the student`s perspective**

Please answer the following questions marking with an **X** the option that it considers most appropriate to your opinion using the following scales:

**Degree of Importance:** 1 - Very unimportant; 2 - Unimportant; 3 – Neither important nor unimportant; 4 - Important 5 - Very Important

**Degree of Satisfaction:** 1 – Strongly Disagree; 2 – Disagree; 3 – Neither agree nor disagree; 4 – Agree; 5 – Strongly Agree

Item	Importance Level					Satisfaction Level				
	1	2	3	4	5	1	2	3	4	5
<b>1. General Aspects</b>										
1.1 Modern Facilities										
1.2 Clean Facilities										
1.3 Sport Facilities										
1.4 Cultural Activities										
1.5 Association of Students										
<b>2. Library</b>										
2.1 Easy access to shelves										
2.2 Ways of consulted rapidly										
2.3 Warmth of its staff										
2.4 Interest in solving the problems of student										
<b>3. Computer Laboratory facilities</b>										
3.1 Availability of laboratories and computer facilities										
3.2 Ability to use after classes										
3.3 Existence of training in computer tools										
<b>4. Social services</b>										
4.1 Financial aid for students										
4.2 Existence of medical support to students										
4.3 Availability of accommodation for students										
4.4 Existence of canteens										
4.5 Knowledge of rules and procedures										
4.6 Trust and safety in services										
4.7 Information service completion										
4.8 Interest in solving the problems of student										
4.9 Simple rules and procedures										
4.10 Warmth of its staff										
<b>5. Academic services</b>										
5.1 Simple procedures										
5.2 Knowledge of rules and procedures										
5.3 Interest in solving problems of student										
5.4 Trust and safety in service										
5.5 Information service completion										
5.6 Quick response										
5.7 Warmth of its staff										
<b>6. Teaching Aspects</b>										
6.1 Friendliness of the teachers										
6.2 Personalized attention										
6.3 Easy communication with teachers										
6.4 Clarity and precision in the exposure of knowledge										
6.5 Scientific expertise of teacher										
6.6 Fair assessment										
6.7 Advice the basic bibliography										
<b>7. Undergraduate Program.</b>										
7.1 Updated content										
7.2 Several career opportunities										
<b>8. External Relations</b>										
8.1 Getting the internships										
8.2 Exchange programs with foreign universities										
8.3 Conferences and seminars										
8.4 Internet connection										