



**The Athens University of Economics and Business**

**Doctoral Thesis:**

**Stakeholder Perception of Quality in Higher Education and its Links with  
Societal Culture**

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## **1. Introduction**

Higher Education plays an important role in the social and economic development of a country. It provides knowledge and experience to its students who will soon become Society's employees, employers and leaders. The Greek society is in need of appropriate quality standards in order to improve and produce better results in Higher Education. However, it cannot adopt the right quality tools and standards without first being able to evaluate the level of performance of its Higher Education. If quality cannot be measured how can it be possibly improved?

The first problem connected with quality measurement is that the management of quality covers a broad area and that perceptions of quality differ from person to person (Madu, 1998). Quality is not perceived in the same way by all University stakeholders and there is a considerable variation in their perception (Saad and Siha, 2000). Understanding all about quality leads to the evaluation of its contradictory meanings. This would further lead to different tools, different assessment methods, and thus different practical outcomes.

Higher Education has a range of stakeholders of which students form only one primary group (Chua, 2004). The list of stakeholders can easily be extended to include the government, employers, society, professional bodies and accreditation agencies. Telford and Masson (2005) stress that a better understanding of the quality values of other stakeholders, particularly staff that design and deliver the programs, are extremely vital because they have an impact on student participation. The employers are also key stakeholders who will ultimately benefit from the knowledge and skills of the individuals they employ. Senge (2000) emphasizes that any model for management can succeed only if it is based on the shared values of all stakeholders, particularly the main participants. We therefore need a common framework of shared values from all stakeholders in Higher Education. So, our belief is that the stakeholder influence should be considered when attempting to measure quality in Higher Education.

Another important element is that quality culture in an organization is not expressed only through technical characteristics (quality management handbooks, instruments, tools) but it is also related to values and behaviours. The latter are connected with Societal Culture which affects the way the organization is managed and the way stakeholders behave and perceive

things. Consequently values and behaviours affect both the perception and measurement of quality in Higher Education. As far as we know, the literature with very few exceptions, has failed to adequately ascertain what staff, students and employers, view as the fundamentals of quality in Higher Education and examine whether culture dimensions play a role on the formation of these views. We need to find out whether cultural values affect the way quality is perceived or whether the implementation of quality standards and models is culture free.

It is said that culture is the source of values that people share in a society. As such, culture can be viewed as having effects on multiple features of the University and its environment. We believe that culture has an impact on Higher Education at the institutional level, the society level, on the beliefs and experiences of University leaders, on administrative staff, on academic staff as well as on students' employers.

So, our belief is that the relationship between national culture and quality is of special importance to Higher Education. As supported by Hofstede (2005), forces such as the national language, the national education system or national politics lead to the fact that people within a country feel, think and act similarly. Also, Hall (1987), Hofstede and De Mooij (2002), Steenkamp (2001), and Trompenaars (1996) believe that national culture may be used to determine consumer behavior, expectations and perceptions.

This dissertation seeks to contribute to the debate about the important influence of culture on quality by investigating the influence of national culture and taking into consideration various quality perceptions of different stakeholder groups.

Our basic constraint is that so far there is no objective standard that determines quality in Higher Education. And although the character of quality as a holistic concept in Higher Education is starting to spread (Wirth, 2006; Harvey, 2006), there is lack of empirical research and conceptual frameworks for quality performance in education. The situation becomes more complicated considering the scheme under which Greek Universities perform, being public Institutions, accountable to the Ministry of Education, Lifelong Learning and Religious Affairs and almost exclusively state-funded. These characteristics create a very specific culture for Higher Education which has to be considered and addressed.

This study, therefore, will make an attempt to address the gap in the quality culture literature by proposing a framework for University quality assessment that is based on the cultural values of stakeholders who are involved in the educational process and are directly affected by the outcome of the University. In order to be able to build any framework combining culture with quality our first step will be to clarify the dimensions of quality that the

stakeholders of Higher Education value the most and are also necessary in order to improve the Higher Education system.

In order to cover the research objective above, this dissertation focused on quality perceptions of six stakeholder categories of the Athens University of Economics and Business. Through a survey and interviews with representatives of the respective stakeholder groups, we attempted to reveal distinctive patterns concerning the quality perceptions of Undergraduate students, Master students, International students, academic and administrative staff and employers.

For the investigated Higher Educational context, this study can confirm that national culture is an important determinant of quality perceptions. The identified national perception patterns suggested that in Greek Higher Institutions, national culture can be used as a criterion for Service Quality improvement. The findings of this dissertation provide useful information about the key quality factors for each stakeholder category, about quality gaps in services provided by the Athens University of Economics and Business and about cultural dimensions affecting their quality perception. The key objective is the creation of a quality measurement tool which takes into consideration all stakeholders' perceptions and those cultural factors affecting their perceptions.

This quality framework that addresses the University stakeholders' quality determinants can help develop shared values and quality consciousness within Institutions, and determine the way for a common and accepted quality assessment framework in Higher Education.

## 1.1. Aim and Objectives

On the basis of this background and the discussion presented above, this dissertation seeks to find out more about the relationship between national culture and Service Quality, and its practical implications for Higher Education. The main direction of this research was to investigate the dynamic nature of quality and the different “stakes” of University stakeholders (students, academic and administrative staff, employers) meaning the key quality indicators of each stakeholder category for Higher Education. Then it intended to examine the influence of national culture dimensions on these key quality determinants and develop areas for improvement for the Greek Higher Education system.

The **first objective** is to capture the quality perceptions of the different stakeholder groups according to their role in the educational process. We need to find out the determinants of quality which they consider important and the reasons for which these attributes are important. We will also try to identify characteristic patterns for each stakeholder group.

The **second objective** is to answer the question of whether the quality perception of University stakeholders is affected by Societal Culture dimensions. It is important whether some or all categories are affected by Societal Culture dimensions and whether there is congruence or difference in their cultural perceptions.

The **third objective** is to propose one or more frameworks for managing quality based on specific Service Quality and Societal Culture factors which seem to affect the different University stakeholder categories.

The **fourth objective** is to recommend areas for quality improvement in Higher Education taking as a case the Athens University of Economics and Business.

In order to achieve the above objectives, we formulated theory and literature-based assumptions regarding quality of services and societal perceptions and expectations of the above mentioned stakeholder groups which will inform the basis of our empirical study.

## **1.2. Rationale and Context**

### **1.2.1. The Physical and Institutional Context**

The study has been conducted at the Athens University of Economics and Business (AUEB), the oldest educational Institution of our country in the fields of Economics and Business Administration established in 1920.

First, we have to address the framework under which AUEB operates within the Greek Higher Education environment. In our country all Universities are public Institutions and accountable to the Ministry of Education, Lifelong Learning and Religious Affairs. Universities are almost exclusively state-funded, through budgets or research programs. Universities' laboratories try to increase their resources through research and participation in EU program or programs funded by both the European Union and the ministries of Education and Development.

Another important element is that Universities have little autonomy. This is a result of the State control over University funding but also on the State's prevailing role on the function and operation of Universities. Moreover, Universities do not select their own students or make their own enrolments since Greek students enter in the University via national exams. The ministry of Education, Lifelong Learning and Religious Affairs affects and organizes the function of Greek Higher Institutions in a range of issues such as students' handbooks, salaries of administrative staff and faculty members. This creates a special cultural context, very different from the one existing in the rest of European Universities. This is the reason why thinking of quality in terms of a culture, rather than limiting it to criteria, is of high relevance to the core meaning of quality in Higher Education in Greece.

Moreover, the last few years all Greek Higher Institutions are under constant evaluation from the Hellenic Quality Assurance Agency for Higher Education (HQAA). In order for the Athens University of Economics and Business to comply with the quality criteria set by HQAA it has to go two steps backwards. That means that University's members need to make first a self - evaluation of the Institution and then develop quality improvement actions based on the results of this research. National culture could give important feedback explaining the Service Quality perceptions in this respect. Moreover, identifying Service Quality perceptions of different stakeholders groups could help academic leaders to

implement quality improvement actions which would satisfy both the needs of University stakeholders and the HQAA.

### **1.2.2. The Research Model Context**

The dissertation draws on the theoretical discussion about the concept of national culture and Service Quality, and then passes on field research addressing the six stakeholder categories of the Athens University of Economics and Business. The theoretical discussion will identify a research model which will then be operationalized and tested during the empirical part of the dissertation. The model will be tested against literature findings and results of qualitative and quantitative research which will set the basis for interpretation of the study's findings. We believe that the proposed model will contribute to the relevant knowledge significantly since it will provide an integrated view of quality in Higher Education based on the stakeholder perspective combined with the influence of culture something not yet available in the literature of quality in Higher Education.

### **1.3. Structure of the Dissertation**

The dissertation is structured as follows:

**Chapter one** introduces the research topic, identifies and explains its aim and objectives, and outlines the methodology of this dissertation.

**Chapter two** discusses the existing literature on quality in Higher Education, and proposes the assumptions regarding the first objective of this dissertation. It examines the various issues that comprise the complex, multifaceted concept of quality and its application to the Higher Education sector. In this chapter the debate about the Service Quality concept and its implications for Higher Education will be reviewed. The dimensions of Service Quality will be selected for later application in the empirical part.

**Chapter three** describes the concept of national culture which will be defined and discussed. Various models of national culture will be analyzed and the dimensions of these models will be explained. One major model based on the GLOBE study (Global Leadership and Organizational Behavior Effectiveness project) and its dimensions will be analyzed and used throughout the empirical research. Finally, the relationship between national culture and quality will be addressed in the literature and studies will be presented analyzing this relationship.

**Chapter four** discusses the research approach that underlines this study and presents the methodology that addresses the research questions that have been raised. It also addresses various issues regarding the validity and rigor of the study. The operationalization of the concepts of Service Quality and national culture will be demonstrated. Furthermore, the chapter describes the specific research setting, the design of research instruments and the detailed procedures of the surveying and interviewing process. Finally, the method of data analysis and the limitation of the approach will be presented.

**Chapter five** demonstrates the descriptive data which will be presented and discussed in order to proceed in the next chapter with the research hypothesis testing. Apart from the quantitative data in this chapter we also present the qualitative data which came as a result of the focus groups. These two analyses are proved complimentary and provide a strong base of analysis and discussion in the following chapter.

**Chapter six** presents the hypotheses testing for the whole sample but also for each category of stakeholders. The differences and congruencies in quality and culture dimensions within the stakeholder groups will be examined and discussed thoroughly. Furthermore, models combining Societal Culture with Service Quality dimensions for all (and each) stakeholder groups of the University will be presented.

**Chapter seven** comes with a set of conclusions and recommendations for quality improvement initiatives which have to be taken by the administration of each Greek Higher Institution in the country in order to improve the quality of education. This final chapter concludes with the major findings and the contribution to knowledge made by this dissertation. It also outlines the limitations of this study and the suggestions for further research.

## **1.4 Scope of the study**

The area of the study is Service Quality in Higher Education and the way national culture affects the perceptions of educational quality. It focuses on the results of the assessment of the dimensions of Service Quality and the GLOBE dimensions for Societal Culture from a stakeholder perspective in the University context.

## **1.5 Importance of the study**

The outcome of the study is useful for the management and staff of the faculty to continuously improve the Service Quality of education as imposed by both the Hellenic Quality Assurance Agency for Higher Education (HQAA) and required by the various University stakeholders of the Athens University of Economics and Business (AUEB) taking into consideration the influence of Culture.

## **2. CHAPTER: Literature Review on Quality**

The literature review is organized in two different chapters. Chapter two focuses on the importance of stakeholder's theory and quality management in Higher Education. The stakeholders of Higher Education are defined and their influence is being described within the Higher Education Environment. Then, the application of total quality management models and tools applied in Universities are presented. Subsequently, a debate is introduced about the Service Quality concept, broadly used in quality measurement, and its implication for the University setting. Chapter two is trying to give the frame of quality used and its importance for Higher Education considering the different voices of stakeholder groups.

### **2.1 The Stakeholders Theory and Definition in Higher Education**

#### **2.1.1 The “Customers” of Higher Education**

The literature on who is the main customer of Higher Education services is vast with the focus lying on students themselves. Some people do not consider students as customers of education (Owlia & Aspinwal, 1996) and there is a strong a debate on whether students should be treated as customers. Another group of researchers believe that students may perform one or all roles of buyer, user and partners of education. The survey of Helms and Key (1994) is very interesting as it shows that students strongly identify themselves as the customers in Higher Education and are hesitant to even acknowledge others as possible legitimate customer groups.

The question of whether the student is the customer depends on which aspect of the education process is being investigated. Hau (1991), for example, believes that students are the primary customers for the delivery of the course material, but not for the content of the course.

Another suggestion is that students are not only the prime customers but also the raw material, suppliers, co-processors and products (Harris, 1992). Ewell (1993) pointed out that faculty most often view students as raw materials. Mazur (1996) also believed that instructors don't view students as customers, but rather as raw material being developed into a product for the ultimate customers – industry and society.

Helms and Key (1994) noted that students could be classified as raw material, customer, or even as employees. Hwarng and Teo (2001) recommended Juran's Triple Role concept to clarify the roles of multiple customer groups. Reavill (1998) outlined a product/process model where education of Undergraduates is a process that produces a product: graduates. This model suggested that the customers of Higher Education are the future employers of the students.

Hill (1995) suggests the student is the primary consumer in Higher Education. They cannot be ignored, but neither should they be considered the center of the education universe. Effective education cannot take place without paying attention to students' wants and needs, but neither can it occur by satisfying only these wants and needs.

Although students are generally accepted as the primary customers (Sallis, 1993), other potential customers, like parents, employers, government and society, should be considered (Owlia and Aspinwall, 1996). Owlia and Aspinwall (1997) surveyed 124 people involved in educational quality efforts in the United States, Europe, India and Australia. The results identified students as the primary customer, followed by employers, society, faculty and families in descending order of relative importance.

Customers may be both internal and external, depending on whether they are located within or outside the organization. Downey *et al.* (1994), remark that the primary customer in an educational system is the student who is both an internal and an external customer. While in the system the student is an internal customer participating in the learning process but he becomes an external customer when he leaves the system, functioning effectively in the society. Other external customers include Higher Educational Institutions, business, industry and society.

Madu *et al.* (1994) refer to the different customers and classify them as input customers, transformation customers and output customers. While the parents and students are included as input customers, the faculty is the transformation customer and the corporations and society are the output customers.

Spanbauer (1995) suggests that although students are the primary customers, they may not know what they need to learn. Moreover, they shouldn't be given whatever they request. It is the faculty that can determine the needs of the students and balance those with the needs of other customers. As he remarks customers are of two types:

- (1) External customers (students, employers, the community at large, taxpayers, other educators from different Institutions)

(2) Internal customers (other instructors, service department staff).

Kanji and Tambi (1999) classify the customers of Higher Education into primary and secondary groups on the basis of their locations, i.e. whether internal or external, and the frequency of interactions the Institution has with them. While the educator (as employee), is defined as the primary internal customer, the student (as educational partner), is the secondary internal customer. Similarly, the student is also the primary external customer and the government, industry and parents are the secondary external customers.

According to Cullen et al. (2003) the challenge is to produce a performance evaluation framework that permits the equal expression of legitimate voices, even though they may conflict or compete in some ways. That is to say, there are voices in the form of teachers, administrators, parents, employers, government and society. The needs and views of the various customer groups, whether internal or external, may not always coincide and the best method of resolving different interests is to recognize their existence and to look for issues that unite the different parties.

In reference to all the above, the analysis of the different “customers” of education should help us develop an approach towards understanding their needs and expectations. The category in which a “customer” belongs can vary and is a small issue in respect to balancing customers’ needs and expectations. Their analysis and definition is the first step for the effective implementation of quality initiatives within Higher Education.

### **2.1.2 The Stakeholder Groups of Higher Education**

All researchers and definitions presented before in the various categories of “customers” do not take into consideration the level of impact the organisation has on groups of individuals and the influence those individuals have on the organisation. The different levels of involvement and the “stakes” of certain groups (inside and outside its environment) may affect the organisations in various ways. This conviction has turned the interest of companies from customer analysis to stakeholders’ analysis.

This realization was made clear quite soon also in the environment of Higher Education. Harvey et al. (1992) noted that there are many ways to define quality in Higher Education and that any definition of quality in Higher Education is “stakeholder relative”. They also note that there may be many stakeholders including “students, employers, teaching and non

teaching staff, government and its funding agencies, accreditors, validators, auditors, assessors, and the community at large” each with their own criteria and perspective.

According to Freeman (1984), a stakeholder may be any individual or group of individuals either impacted upon by the company or able to impact on the achievement of its objectives. This is the concept underpinning the Stakeholder Theory. This theory claims that the final results of any activity should take into consideration the returns for all stakeholders involved and not only for owners or shareholders.

In its wider sense, a stakeholder is any identifiable group or individual who can affect the achievement of an organization’s objectives or who is affected by the achievement of an organization’s objectives and includes public interest groups, protest groups, government agencies, trade associations, competitors, unions, customers, and employees. In a narrower sense, stakeholders are any group or individual on which the organization is dependent for its continued survival, such as employees, customers, certain suppliers, key government agencies, and shareholders (Freeman & Reed, 1983). In either case, there is a notion that organizations are inextricably linked with a set of stakeholders, however defined, which together impact the strategy and consequently, the performance, of organizations.

Within the context of public and non-profit organizations, the 1998 study by Eden and Ackerman (Bryson, 2004) identifies stakeholders as individuals or groups that have the power to directly impact on the future of the organization.

According to Jongbloed et al. (2007), the legitimacy of Higher Education to society is increasingly evaluated by the level and quality of Higher Education Institutions’ commitment to their community of stakeholders and is of greater depth than any simple maintenance of contacts. This implies that the organization must seek and adopt means of involving the stakeholders so as to best perceive how the latter value the services provided and how these can be improved.

The main issue of understanding the needs of stakeholders and involving them is based on how critical they are for an organization. This matter has been acknowledged by Savage, Nix, Whitehead, and Blair (1991), who analyzed stakeholders in terms of their potential impact for threat or for cooperation to an organization.

The important factors excluded from the above sayings are that we have to recognize and accept that the different stakeholder’s categories do not represent a homogeneous group. There are different values, and perceptions of quality within each group. For example, governments may consider quality as represented by attrition rates, through entry and

pass/fail percentages, employers may view quality as the skills and attributes developed during the period of study, students may consider quality with reference to their individual development and preparation for a position in society and academics may define quality as knowledge transfer, good academic training and a good learning environment (Vroeijenstijn, 1995). Another issue is that it might be possible to be simultaneously a member of a number of stakeholder groups.

As a result, these categories of stakeholders might have so varying interests and different priorities that a combination of interests might not be possible. That is to say, we might have to choose to satisfy one of these interests over another. The bottom line here is that it is important to articulate and clarify perceptions of quality so that different perspectives and reference points become apparent and can be discussed.

The Stakeholder Theory might prove highly useful to Higher Institutions in their efforts to explain the attention rendered to the various communities found in the Higher Education environment in addition to the relational interaction between a Higher Institution and its communities (Jongbloed et al., 2007). However, Higher Institutions have not yet proven able to either correctly identify the stakeholders involved with the Institution or to concretely establish the needs of each entity and the level of importance to attribute to the respective relationship. There is still much to be done before ensuring that a higher Institution meets stakeholder needs and, within this scope Stakeholder Theory has much to contribute towards completing this task (Dobni & Luffman, 2003).

Identifying the stakeholders' categories in an organization is the first step of quality enhancement. Meeting the needs of these individuals or groups is an important competitive factor for Higher Education Institutions (Dobni & Luffman, 2003). Essentially, this refers to knowing your stakeholders well, finding out what they need and want, what benefits they seek, and so on (Treacy & Wiersema, 1993).

Table 1 which follows shows a description of stakeholder categories and their various members as proposed by Burrows (1999)

**Table 1:** Higher institutional publics

<b>Stakeholder category</b>	<b>Constitutive groups, communities, among others</b>
Governmental entities	Government, boards of management, boards of directors, sponsors, support organizers.
Management	Rectors/ presidents, vice-rectors/ vice – presidents, directors.
Employees	Teaching staff, administrative and support personnel.
Clients	Students, parents, social financing entities, service partners, Employers, employment agencies.
Suppliers	Secondary school Institutions, former students, other Universities and institutes, food providers, insurance companies, service suppliers, utilities.
Competition	Direct: public and private Higher Education establishments. Potential: distance Higher Education Institutions, new alliances. Substitutes: company training programs.
Donors	Individual (including directors, friends, parents, former students, employees, industry, research boards, foundations).
Communities	Interest groups
Government regulators	Ministry of education, support entities, state financing agencies, research boards, and research support bodies, fiscal authorities, social security, patent offices.
Non- government regulators	Foundations, accreditation bodies, professional associations, religious sponsors.
Financial intermediaries	Banks; fund managers, analysts.
Alliances and partnerships	Alliances and consortia, co-financiers of research and teaching services.

(Source: Adapted from Burrows by Mainardes, Alves & Raposo 2010)

As can be seen from Table 1, teaching Institution's stakeholders are both diverse and difficult to quantify. This comes from the fact that each may have greater or lesser influence and represent varying degrees of importance for the Institution. Correspondingly, its top management holds responsibility for clearly defining just who its stakeholders actually are, their needs and their respective importance (Lam & Pang, 2003).

Therefore, an important step in the identification of stakeholders is to map down their influence and manage to build a certain relationship with each entity. Mitchell et al. (1997) set out a theory based on this importance and influence which is entitled Stakeholder Salience. In accordance with this theory, stakeholders vary in terms of power, legitimacy and urgency. The contribution made by the Mitchell et al. (1997) proposal towards a theory for stakeholders has been recognized across the literature. However, its impact has primarily been in modeling the categories of stakeholders rather than in their actual individual identification.

In Higher Education the perception of quality is one of the most important determinants of the attitude towards quality actions, therefore each Institution has to find out how the stakeholders perceive quality before starting an implementation program.

Lomas (2004) investigated the views of a sample of senior managers and academics about the most influential factors in effectively embedding quality in a Higher Institution. His research found out that these categories of stakeholders consider the need for a quality culture, training for new lecturers, continuing professional development and peer review as the most important factors of quality.

Another study which focuses on whether or not academics and students share the same quality values was conducted by Telford and Masson (2005). They found that although lack of congruence in views between staff and students does not necessarily lead to student dissatisfaction, a shared understanding of values is important in order to manage the quality of provision. Morley and Aynsley (2007) explored employers' needs for information on Higher Education quality and standards in the UK.

Examples of the literature clearly support the premise that any model for managing quality would be ineffective unless it is based on an understanding of how to address the expectations of key stakeholders. If there is no consensus about what quality is in Higher Education, it cannot be assessed. If it cannot be assessed quality improvement actions cannot be produced. So further investigation into stakeholders' analysis will provide a basis for policy and quality improvement plans to be undertaken by Educational Institutions.

As a result of the above, the identification of key stakeholders and the analysis of their perceptions are important and rather challenging targets. Through our research we will try to identify the key University stakeholder categories, their quality perceptions and expectations. We will also try to identify the gap between these two levels, meaning the difference between quality expectations and perceptions.

The important research questions arising from the analysis of the Stakeholder Theory are: (a) Does quality mean the same thing to all AUEB stakeholders by means of perceptions and expectations? (b) Does the level of satisfaction from University quality differ from one category of stakeholders to the other?

## **2.2. The Quality Debate in Higher Education**

### **2.2.1 Quality Definition and Theory**

Originally, quality is a concept of the manufacturing sector. It evolved in the beginning of the last century in the course of the introduction of the Statistical Process Control but was further developed by American theorists in Japan and Japanese theorists during the 1970s and 1980s (Gummesson, 1991).

Quality may mean different things to different people. And though a wide variety of meanings and connotations has been attached to it, quality is still a difficult and elusive term to define. Well known quality definitions exist such as fitness for use proposed by Juran (1988), conformance to requirements suggested by Crosby (1979), or excellence proposed by Peters. These definitions mostly referred to the technical quality of product attributes and the quality control in the goods production process (Reeves & Bednaar, 1994). Quality meant conformance to specification (Gilmore, 1974), meeting and/or exceeding customers' expectation (Parasuraman, Zeithaml and Berry, 1985), performance over expectation (Besterfield, 1999), zero defect (Crosby, 1979), products' or services' ability to perform to their intended function without harmful effect (Taguchi, 1986).

Quality dimensions have been classified into various groups by previous researchers such as Gronroos (1990); Lehtinen and Lehtinen (1991); Ghobadian et al. (1994). According to Gronroos (1990), there are three groups of quality dimensions, which are technical quality, functional quality and corporate image. This was also supported by Lehtinen and Lehtinen (1991) who proposed similar quality dimensions such as physical quality, interactive quality and corporate quality.

Pascale (1991) gave an elaborate definition to explain the meaning of quality "Quality can be a compelling value in its own right. It is robust enough to be generalized to products, service standard, and caliber of people. Everyone in every level can do something about it and feel the satisfaction of having made a difference".

The debate on definitions of quality continue, and while there is no single or correct definition, different perceptions of quality are both inevitable and legitimate, and subject to continuous change (Tam, 1999). However, there is some agreement that quality is owned and

determined by stakeholders (Anwyl, 1992; Birnbaum, 1994; Harvey and Green, 1993; Lindsay, 1994; Ruben, 1995).

The traditional period of quality with tools such as quality control, quality assurance and quality audit give space to the new era of total quality management. Within this total quality context, in order to understand quality it is necessary to recognize that it has contradictory meanings that can lead to different assessment methods, and thus different practical outcomes.

Total quality management is a philosophy of management that is driven by the constant attainment of customer satisfaction through the continuous improvement of all organizational processes (Robbins, 1998). It is a management philosophy that seeks to integrate all organizational functions such as marketing, finance, design, engineering, production, customer service, and others focusing on meeting customer needs and organizational objectives (Hashmi, 2000).

The historic development of total quality management was originally developed in the manufacturing sector. While TQM is widely practised, there is little agreement on what it actually means (Heady and Smith, 1995; Lau and Anderson, 1998). The term first appeared in 1961, when it was devised by Feigenbaum, who named it as total quality control (TQC). Beginning from 1950, scholars like Deming, Juran and Crosby, taught, for more than 40 years, quality ideas without using the adjective “total”. In 1988, with the creation of the European foundation of quality management, the importance and value of TQM was stressed to “reach total customer satisfaction”.

Tobin (1990) defines TQM as “the totally integrated effort for gaining competitive advantage by continuously improving every facet of organizational culture”. Feigenbaum (1991) defines TQM as the “total quality control’s organization-wide impact”. Wilkinson and Witcher’s (1991) definition is arguably the most comprehensive:

- Total: every person in the firm is involved (including customers and suppliers);
- Quality: customer requirements are met exactly;
- Management: senior executives are fully committed.

There is the definition that TQM is a global strategic force which aims to achieve several benefits, including improved customer satisfaction, greater employee focus and motivation, reduced waste, and improved overall performance (Juran, 1981)

Oakland (1989), in the same way described TQM as the approach to improve the effectiveness and flexibility of business as a whole. He said “it is essentially a way of organizing and involving the whole organization; every department, every activity, every single person at every level”.

Green (1993), however, believes that quality is a concept and more specifically «the capacity, which whole organizations can be made to have, to continually learn and implement customer wants».

Zairi et al (1994) put TQM in terms of its ultimate goal in operational contexts and presents it as an attempt by organizations to improve structural, infrastructure, attitudinal, behavioral and methodological ways of delivering to the end customer, with emphasis on consistency, improvement in quality, competitive enhancements, all with the aim of satisfying the end customer.

Boaden (1997), remarks that the issue of defining TQM has not been given a great deal of attention, with authors tending to adopt the definition most suited to their views. The debate as to whether TQM really represents a new paradigm has been dealt with by Dean and Bowen (1994) and Grant et al (1994).

Later on, Harvey and Brown (2001) saw in TQM the organizational strategy of commitment to improve customer satisfaction by developing systematic procedures to carefully manage quality output.

Agus (2002) suggests that TQM is the comprehensive efforts to bring significant overall service performances, including cost efficiency, quality customer relations, and increased employee involvement.

The purpose of every organisation is to stay in business, so that it can promote the stability of the community, generate products and services that are useful to customers, and provide setting for the satisfaction and growth of organization members (Juran, 1969; Ishikawa, 1985; Deming, 1986).For this reason, it can be said that TQM strategy is rooted in four interlocked assumptions: quality, people, organizations, and the role of the senior management (Wageman, 1995).Moreover, TQM is not just an organizational management system but a complete change in an organization’s culture and the way people behave at work.

The question that comes to mind after all these definitions is whether quality management theory changes when we pass from the product sector to service sector. Services have some specific characteristics that differentiate them from the manufactured goods. How quality and

total quality management could be expressed and applied in the Higher Education sector? Using service language, the provision of the “service” in the University tends to occur simultaneously with “consumption”. Production occurs starting from the moment the service is ordered and it finishes as soon as the demand is met. The complication doesn’t stop here as the Greek Higher Education system apart from being part of the service sector is also part of the public sector. So when we talk about Greek Higher Institutions we need to apply both the rules both of services and of public sector Institutions.

## **2.2.2 The Nature of Quality in Higher Education**

Quality in Education faces many challenges as it is a more elusive notion than it could be in any other sector. Apart from the intangible nature of Higher Education and the peculiarities of the public sector, literature suggests that ‘quality’ in the University context has different meanings for different stakeholders and their definitions of quality might be contradictory.

Lagerweij and Voogt (1990), lay emphasis on the dynamism of quality and claim that while the concept of quality in education cannot be easily defined in a clear and exact manner, any definition of quality should be expected to change over time, because “it necessarily reflects a Society’s interpretation of educational needs and the intensity of its moral and financial commitment to fulfilling them”. The dynamic and interactive aspects of quality in education is highlighted also by Dahlgaard *et al.* (1995), who define total quality education as the educational culture characterized by increased customer satisfaction through continuous improvement in which all employees and students actively participate.

Within Higher Education, the adoption of the quality control concept and practice cannot be implemented directly because of the nature of the business of education and the educational process itself. The Higher Education (HE) sector is continuously in a state of change being driven by the public, government and economic imperatives. In British Standard 4778, quality management in HE was taken as the totality of features and characteristics of product services (learning process) that bear on its ability to satisfy stated or implied stakeholder expectations (Higher Education Quality Committee, HEQC, 1996).

Barnett (1992) lays emphasis on the need for a clear understanding of what might be included under the umbrella concept of HE, so as to have a conceptual clarity, especially in light of a

number of differing and contrasting concepts about Higher Education that give varying approaches to the definition of quality.

Harvey and Green (1993) recognize the notion of quality as a 'relative concept'. It is relative to the stakeholders in Higher Education: Quality is relative to the user of the term and the circumstances in which it is involved. There is a variety of stakeholders in Higher Education, including students, employers, teaching and non-teaching staff, government and its funding agencies, creditors, validators, auditors, and assessors (including professional bodies) (Burrows & Harvey, 1992). Each of these stakeholders has a different view on quality.

Harvey and Green (1993) proposed five ways of thinking about quality in education. First, quality is regarded in term of excellence. Second, quality is perfection or consistency. Third, quality is fitness for purpose. Forth, quality is value for money and finally, quality is transformation processes that have value-added activities. The framework provided by Harvey and Green (1993) is a rigorous attempt to clarify how various stakeholders view quality.

Barnett (1994) describes the quality debate by different groups of actors in Higher Education as a 'power struggle', where each group tries to fight for their voices to be heard and to be taken into account when assessments of quality are undertaken.

Green (1994), remarks that "different interest groups have different priorities and their focus of attention may be different". That is why according to Green (1994) due to the difficulties in defining quality in Higher Education it is necessary to define as clearly as possibly the criteria that each stakeholder uses when judging quality and take all these competing views into account.

According to Harris (1994), there are three generic approaches to TQM – first, a customer focus approach, where the idea of service to students is fostered through staff training and development; second, a staff focus approach, that is concerned with evaluating and enhancing the contribution of all the members of staff to the effectiveness of the school; and third, a service agreement focus that seeks to ensure conformity to specification at certain key measurable points of the educational process.

Cheng (1996) defined educational quality as the character of the set of elements in the input, process, and output of the educational system that provides services that completely satisfy both internal and external strategic constituencies by meeting their explicit and implicit expectations".

Owlia and Aspinwal (1996), remark that while discussing quality in education, both the market orientation and the measurement pose arguments. The terms “customer” and “market” have also met with resistance from some educators, who argue that they are applicable only to commercial environments (Sallis, 1993).

Mukhopadhyay (2001), remarks that, depending on the goals, the term “quality in education”, has been defined as excellence in education (Peters and Waterman, 1982); value addition in education (Feigenbaum, 1951); fitness of educational outcome and experience for use (Juran and Gryna, 1988); conformance of education output to planned goals, specifications and requirements (Gilmore, 1974; Crosby, 1979); defect avoidance in education process (Crosby, 1979); and meeting or exceeding customer’s expectations of education (Parasuraman *et al.*, 1985).

Srikanthan and Dalrymple (2003) present the four main stakeholders and relate to them the interpretations of quality by Harvey and Green (1993) in the following manner:

- (1) Providers (funding bodies and community at large). Quality is interpreted as “value for money”, as funding authorities are looking for a good return on investments.
- (2) Users of products (e.g. current and prospective students). The interpretation here is one of excellence, as the students want to ensure a relative advantage in career prospects.
- (3) Users of outputs (e.g. the employers). The interpretation of quality is “fitness for Purpose”, as employers look for competencies matching the functions.
- (4) The employees of the sector (academics and administrators). Quality is interpreted as perfection (or consistency), where the behavioral norms are met and the core ethos is upheld in order to achieve job satisfaction.

Deming (1993) suggested that education could be viewed as a system or “a network of interdependent components that work together to try to accomplish the aim of the system”.

The management literature (Slack *et al.*, 2004) identifies three essential components in any system; inputs, process and outputs. Inputs include human, physical and financial resources through factors relating to the students, teachers, administrative staff, physical facilities, and infrastructure. Processes include activities of teaching, learning, and administration. Outputs include tangible and intangible outcomes and value addition through examination results, employment, earnings and satisfaction.

Jaraiedi and Ritz (1994), also refer to these three components as:

- (1) The inputs of the system which are the students, faculty and staff, funding, facilities and the goals of the University

(2) The system which is created and controlled entirely by the elements that compose the system, regardless of the inputs, with some measurable points within; namely, training of personnel, teaching methods, learning, advising, counselling, tutoring, evaluations, infrastructure, etc

(3) The outputs to the system which refer to the product that is generated within the system.

If Higher Education is viewed as a system, then any quality management program must assess inputs, process and outputs, and an evaluation of quality management should also consider the extent to which these three components are measured. Other models of quality such as the process model (Cheng and Tam, 1997) and the quality function deployment model (Hwarng and Teo, 2001) also recognize these three essential components of education. Despite the general support for viewing education as a system, Sahney et al. (2004) suggest that this creates further difficulty in conceptualizing quality because the different component parts of the system have different requirements.

The quality definitions presented above show the rigor of the researchers to conceptualize, systematize and develop the nature of quality in Higher Education. The contradictions and difficulties in reaching a consensus on a general quality definition in both manufacturing and service sector, private and public, finally led to the development of various quality models. Each of these quality models has its own characteristics and a specific way of capturing quality. Many of these models have been used in Higher Education with a different range of performance results. Examples of their performance will be analyzed below through the application of total quality management tools and practices.

The literature highlights TQM as the most widely used quality technique in Higher Education maybe because some working definitions of TQM are so broad that administrators put any quality effort under the TQM umbrella (Sahney et al., 2004). Koch and Fisher (1998) reported that at least 160 Universities in the United States reported TQM activities in 1996. Hwarng and Teo (2001) reported 146 Universities and 66 colleges involved in TQM efforts. One of the studies on the United State's Higher Education suggest that TQM implementation in Higher Education Institutions was influenced by the apparent success derived from the country's manufacturing and industrial sectors during the 1980s (Lozier and Teeter, 1996). Companies such, as Texas Instruments, Xerox, IBM, and Motorola, who were the recipients of the coveted Malcolm Baldrige National Quality Award (MBNQA), were also involved in establishing and developing corporate Higher Education Institutions in the US.

## **2.3 Relevance of Existing Quality Models to Higher Education**

### **2.3.1 The Application of Total Quality Management Theories in Higher Education**

Bryan (1996) describes TQM implementation in the HE context as a comprehensive philosophy of operation in which HE institutional members are committed to continuous quality improvement with a common vision, quality values, attitudes, and principles. The comprehensive definition by Bryan (1996) suggests that every institutional member needs to work as a team to satisfy all customers. However, there is no emphasis on the quality audit and measurement of performance to evaluate the effectiveness of the quality initiative. Crawford and Shutler (1999) made an analysis of the Deming (1986) and Crosby (1986) models in an attempt to relate them to the Higher Education sector. They applied the Crosby model (1984) to suggest the following strategy: focus not on the students' examination results but on the quality of the teaching system used to educate them.

Based on Crosby's and Deming's perspectives, Crawford and Shutler (1999) identified the root causes of the quality system failure in Higher Education as:

1. Weak students (poor input)
2. Lack of focus in teaching system (poor delivery services)
3. Lack of attention paid to performance standards and measurement
4. Unmotivated staff (internal customer satisfaction)
5. Neglect of students' skills (quality potential)

This analysis just concentrates on the student as a customer whereas TQM in Higher Education should concern the customer beyond students (Dahlgaard et al., 1995; Kanji and Tambi, 1999).

Owlia and Aspinwall (1997) noted that TQM efforts are difficult because of 'individualism' among academics, the difficulty of defining the customer, and the fact that academics aren't motivated by 'market issues'. Much of the resistance to TQM in Higher Education focuses on the difficulties of considering students as customers, particularly in instructional settings. Faculty members, in particular, seem to be hesitant to consider student needs when developing Higher Education's instructional product/service. However, the TQM concept of

‘leading’ the customer i.e. helping to shape the customer’s desires, rather than simply reacting to them, seems to be a much more acceptable fit for the Higher Education setting (Ewell, 1993).

The applicability of the TQM philosophy and the theories in the educational sector has, indeed, attracted the interest of many theorists and practitioners (Sherr and Lozier, 1991; Rhodes, 1992; Murgatroyd and Morgan, 1993; Fields, 1994). Numerous studies have shown several examples of the successful use of systematic quality management in several public services (Lagrosen, 1999, 2000). Total quality management (TQM) philosophy has been applied to schools and colleges in the UK, USA, and in Asian countries such as Malaysia (Kanji & Tambi, 1998; Kanji & Tambi, 1999; Barnard, 1999). However, the education sector is not entirely comfortable with the TQM approach (Barnard, 1999).

After reviewing the milestones in quality assurance in UK’s Higher Education, Green (1994) suggests that the main reasons for the need of TQM in UK’s Higher Education Institutions are:

1. Rapid expansion of student numbers against limited public expenditure.
2. The general quest for better public services.
3. Increasing competition within the educational market for resources and students.
4. The tension between efficiency and quality.

Some specific case research on Universities in England supports the claims. Doherty (1994) discovered that the urge for quality initiatives at the University of Wolverhampton was that the Department of Education was concerned about quality and accountability of Universities, which are mainly funded by the government.

The increasing concerns of stakeholders about the drop in student performance, mismatch between graduate skills and jobs, and decline in student funding hold a strong reason for TQM implementation at Aston University (Clayton, 1995).

One of the most famous TQM examples in Higher Education involved Arthur Taylor (a former president of Columbia Broadcasting System, CBS) implementing TQM campus-wide at Muhlenburg College in 1993 (Mihaly, 1995). Despite the large number of Institutions using TQM, surprisingly little has been published analyzing implementation efforts (Koch & Fisher, 1998). Two TQM implementation efforts are highlighted here. The first (De Montfort University) is included for its report on the use of TQM in an academic/instructional setting –

an application much rarer than in administrative or auxiliary areas. The second example (the University of Houston's College of Business) describes the use of a Service Quality measurement tool called SERVQUAL. This technique measures the quality of services and has interesting results on those aspects that customers perceive as most important. For an example of TQM applied to administrative functions of a University see Montano and Utter (1999).

In Australia, government policies on educational reform in the HE sector, such as merges of colleges to become Universities, demand more strategic corporate restructuring. The Royal Institute of Technology, University of Western Sydney (Fulpo and Rosier, 1993), and the University of Central Queensland (Idrus, 1995) decided on TQM implementation to cope with the challenge towards efficiency in resource management, quality and competitive results using more focused objectives.

In Malaysia, the Ministry of Higher Education set up a special department called the Policy and Quality Department to monitor the development of the country's education policy based on TQM principles at all levels. TQM in the Malaysian Higher Education context is strongly influenced by the government policy, and the initiatives would be necessary to cope with the Ministry's main objectives to improve productivity and to expand the HE sector.

Kanji and Tambi (2002) made comparative studies on Higher Education Institutions in the US, UK and Malaysia on the reasons for implementing TQM. The findings managed to list 54 common reasons given by a total of 183 Higher Education Institutions. Some of the unique reasons for the US Institutions are to satisfy industry requirements, to upgrade student performance, and to increase revenue and ensure self-reliance. The unique reasons given by the UK Institutions to implement TQM are the external pressure to improve academic standards, and to raise the teaching profile. Meanwhile, Malaysian Higher Education Institutions gave different reasons, including meeting foreign partners' expectations competing for funds, and pursuing the core business of Higher Education Institutions. The diversity of reasons shows that the justification for implementing TQM in HE Institutions depend on the internal and external conditions of each Institution, and the reasons are critical for strategic planning related to TQM.

The bottom line in all things mentioned above is that the distinctive drive, reason, urge for implementing quality management in Higher Education Institutions is to satisfy stakeholder's expectations. So, we go back again to where we started, indentifying the stakeholders is the first step of quality enhancement in a Higher Institution and meeting the needs of these

individuals or groups is an important competitive factor for Higher Education Institutions (Dobni & Luffman, 2003). As Athiyainan and O'Donnell (1994) highlighted, Higher Education Institutions seeking to assess quality must first identify the institutional characteristics that are most valued by their customers.

In the following section, the most important quality tools, standards and models ever applied in Higher Educational settings are described in order to identify the most important Higher Education quality characteristics.

### **2.3.2 Tools, Standards and Models of Total Quality Management in Higher Education**

The concept of TQM is based on a number of core quality values and attitudes. These core values attached to the definition of TQM are focus on customers, continuous improvement, top management commitment, system and process control, employee involvement, and managerial decisions based on facts (Svensson and Klefsjo, 2006). Most quality literature has termed these as principles, dimensions, elements, critical factors or cornerstones. These principles and core concepts can be regarded as critical success factors as described by Daniel (1961). There is no common ground among researchers on which are exactly the TQM values. Researchers have offered a wide list of principles required for successful TQM implementation such as leadership commitment, total customer orientation and satisfaction, continuous improvement, business process focus, measurement focus, total involvement, training and education, ownership of problems, reward and recognition, error prevention and teamwork, e.t.c.

TQM implementation should start with identifying the quality core values, and then choose the right techniques that support these values, and finally apply tools supporting the techniques rightly. Many scholars believe that the implementation of TQM must involve a cultural transformation of the company (Atkinson, 1990; Deming, 1986; Drummond, 1992; Schildknecht, 1992).

### **ISO 9001 Standard**

ISO 9001 provides a set of standards for process quality improvements that includes 20 elements, including attention to customer requirements; continuous improvement; adherence to applicable regulatory requirements; and management leadership ([www.iso.org](http://www.iso.org)). It is an International quality standard which certifies a ‘process’ not a particular product or service (Schroeder, 2007)

The first University to achieve ISO 9001 certification was the University of Wolverhampton in the United Kingdom in 1994 (Storey, 1994). There are few other examples in the literature of Institutions of Higher Education receiving ISO 9001 certification, particularly in the United States but also in the Philippines, as well as Institutions in Sweden, Singapore, and

Bangladesh. Walker (1997) described implementation of ISO 9001 standards on a University research laboratory in South Africa. This application was unique in that the University's research area has significant interactions with industry, making ISO 9001 certification very relevant for its external clients. Karapetrovic and Willborn (1999) examined implementation in an engineering department in a Canadian University. Within the United States, ISO 9001 certification is beginning to be applied in K-12 education ( primary and secondary education) with the goals of improving customer satisfaction and operational efficiency in the face of funding shortfalls (Miller, 2006).

Buckingham (Times, November 1991) refers to ISO 9000 standards as a “straightjacket” because the translation of the standard when applied to Educational Institutions causes confusion and consternation. On the other side, Oakland (Times, August 1991) says that he has not seen any case of failure of ISO 9000 in Higher Education and that there is no magic about education. Rooney (Times, August 1991) says that ISO 9000 does not impose a bureaucratic standard but it is the interpretation that creates the bureaucratization levels.

## **Quality Function Deployment (QFD) technique**

QFD is becoming increasingly popular in Higher Education because its technique offers a built-in mechanism for dealing with differing customer requirements, and has a specific methodology that leads to implementing changes. It has been described as, “a system for designing a product or a service based on customer demands and involving all members of the organization” (Maddux, 1991). QFD as a method is also used to translate customer requirements and expectations into product or service attributes and quality (Sahney et al., 2004). The QFD process determines and prioritizes customer values so that the voice of the customer can direct the design of the product or service (Pitman et al., 1996).

Mazur (1996) provided a brief history of QFD efforts in Higher Education, beginning with the Mechanical Engineering Department at the University of Wisconsin-Madison in 1991. Mazur (1996) also described various other QFD implementations both in the United States and abroad. Pitman et al. (1996) reported that a pilot study using QFD to improve the MBA program at Grand Valley State University in Michigan showed promising results. Several different ‘customers’ were used in the QFD process, including students, employers of students, and the academic community (via accreditation standards) (Motwani et al., 1996).

So, the application of QFD method proved to be able to include a “stakeholder” orientation and application which continued with Mazur (1996) who describes the use of QFD in developing a senior-level TQM course at the University of Michigan by using different stakeholder groups. Both students (as internal customers) and industry representatives (as external customers) were surveyed to determine the voice of the customer. Apart from that, Sahney et al. (2004) provided a scientific application of QFD in Higher Education including business and engineering Institutions in India. Results showed that this approach helped organizations to ‘understand the factors that the customer understands as constituting quality’ (Sahney et al., 2004).

### **Malcolm Baldrige National Quality Award (MBNQA)**

The Malcolm Baldrige National Quality Award has helped since its creation many United States companies to improve their overall performance. In 1999 both the education and health care categories are introduced.

The Baldrige national award recognizes ‘best quality practice’ by analyzing seven factors in process quality, performance improvement, and business results. Award criteria (listed at [www.baldrige.nist.gov](http://www.baldrige.nist.gov)) include: leadership, strategic planning, customer and market, measurement, analysis and knowledge, human resource focus, process management, business results. The model developed in United States is widely used in all sectors to improve performance.

Since the education category was added to the Malcolm Baldrige National Quality Award competition in 1999, only three Institutions of Higher Education have won. These were the Kenneth W. Monfort College of Business at the University of Northern Colorado, the Richland College (a community college in Dallas, Texas) and the University of Wisconsin-Stout (<http://quality.nist.gov>). Furst-Bowe and Wentz (2006) examined the University of Wisconsin-Stout and how the Baldrige award has affected operations in the five years since the award. They found: ‘greater integration among faculty, staff, and students’ and ‘enhanced campus communication and teamwork’, which are difficult to quantify and link directly to the Baldrige award (Furst-Bowe & Wentz, 2006).

The Baldrige award seems to have a stronger impact and status in industry; however, as more Institutions of Higher Education become involved in the competition, it will become more

well-known in education. The New Jersey Department of Education permits school systems to use the New Jersey Quality Achievement Award criteria based on the Baldrige award criteria as an alternative to its state assessment criteria. Other states develop similar approaches. While the Baldrige process itself is likely to help Institutions to focus on quality improvement, no data currently quantify its value.

## **The European Quality Award and EFQM Excellence Model**

The first European quality model oriented towards the stakeholders' perspective is the European Foundation for Quality Management Excellence Model (EFQM). It refers to criteria and factor dealing with organizational culture and leading the organization from quality to organizational excellence.

The model is based on the premise of "business results achieved through leadership driving policy and strategy, people management, resources and processes" (British Quality Foundation, 1995, p. 5).

The EFQM excellence model can be applied at any level in an organization. Therefore, in a Higher Education setting it can be applied to the whole Institution or to a faculty, school or infrastructure department such as human resources or facilities management. A consortium of UK Universities has implemented the EFQM excellence model while Liverpool John Moore University was awarded in 2009 the finalist prize in the EFQM excellence award level. St. Mary's College in Ireland was a European Excellence Award Winner in both 2001 and 2006. In 2008 the Master of Human Resource Management of the Athens University of Economics and Business achieved distinction in the first level of EFQM and two years later the Master of Marketing and Communication with New Technologies also achieved the same distinction. In 2012, Athens University of Economics and Business receives the same distinction, in the first level of EFQM, for the totality of its services.

Other Greek higher Institutions have also applied for the EFQM excellence model such as the Department of Electronics in the Technological Educational Institute of Thessaloniki. The University of Cyprus Library has also achieved distinction in the second level of the EFQM model in 2009 (Recognized for Excellence level). The Quality Unit of Andalusia Universities (University System in Andalusia is formed by 10 Universities financed by Regional

government) is also engaged with quality implementation through the EFQM excellence model.

### **Service Quality Instrument – SERVQUAL**

Higher Education like many service industries has tried to measure Service Quality through SERVQUAL which is the most widely used Service Quality technique (Sahney et al., 2004). There are many examples of Universities and colleges which used the Service Quality technique to measure quality and we will analyze their application stories further in the literature review. This Instrument is designed to measure consumer perceptions and expectations regarding quality of service in five dimensions: reliability, tangibles, responsiveness, assurance, empathy. Its main goal is to identify where gaps between perception and expectation of customers exist in these five dimensions. By measuring customer expectations and perceived performance, the SERVQUAL method identifies gaps that can be targeted for improvement. Although some have suggested revisions or have criticized the SERVQUAL model (see Anderson, 1995; Grapentine, 1998–1999; Teas, 1993) it remains a valuable tool for Service Quality measurement.

There is a general consensus among authors that a key benefit of using all the models mentioned above is the possibility for HEIs to adopt a strategic approach to quality measurement and management, and to engage in self-assessment against predetermined criteria (see, for example: Cullen et al., 2003; Roberts and Tennant, 2003). Often quality assessment transforms to quality self assessment as a diagnostic tool for performance and quality improvement. There is also agreement that in order for all the previous mentioned models, standards, systems and techniques to work, a number of critical requirements must be met in the implementation of these models. Top-level commitment, a focus on customer delivery and medium or long term strategic objectives are required. Successful implementation also depends on effective leadership and sufficient levels of financial and human resources (Roffe, 1998; Osseo-Asare Jr and Longbottom, 2002; Cruickshank, 2003; Mizikaci, 2006). These requirements go further beyond quality specifications and criteria and have to do with cultural elements. We are entering a new era in quality management for Higher Education which is moving away from a mechanistic to a holistic and cultural view of quality in education. Culture, being a key element in this research, will be described further in our literature as it represents the independent variable of this survey.

We will now proceed with the further analysis of the Service Quality instrument which was used to measure the dependent variable of our research, quality in Higher Education. Service Quality as an instrument was used because of its validity and wide practice throughout the literature. Apart from the Service Quality instrument we used some criteria of the EFQM excellence model which will be further analyzed. Our research questions could be answered by using other tools and methods but we considered these two tools appropriate for our research purposes.

The Service Quality models, applications and dimensions as well as the EFQM quality criteria will be discussed and explained throughout the next sections.

## **2.4 The Service Quality Theory and its Implications for Higher Education**

### **2.4.1 Service Quality Gaps**

There are 19 different Service Quality models available in the extant literature (Seth, Deshmukh and Vrat, 2005). Among the various Service Quality models, the Technical and Functional Quality Model (Gronroos, 1984) and the Service Quality Gap Model, also known as SERVQUAL model (Parasuraman, Zeithaml and Berry, 1985) are the two most commonly quoted Service Quality models in the literature.

While it is important to focus on the gap between customers' expectation of service and their perception of the service actually delivered, since this is the gap that SERVQUAL is designed to investigate, we should also address and measure, one or more of the other four gaps in the delivery of Service Quality on the part of management, employers and customers. The most important gap is that between customers' expectation of service and their perception of the service actually delivered, shown as Gap 5 in Fig. 2.2. This gap represents the potential gap between the customers' desired or expected service and the perceived service that they received. Consequently, closing or minimizing gaps 1 to 4 will result in minimizing Gap 5.

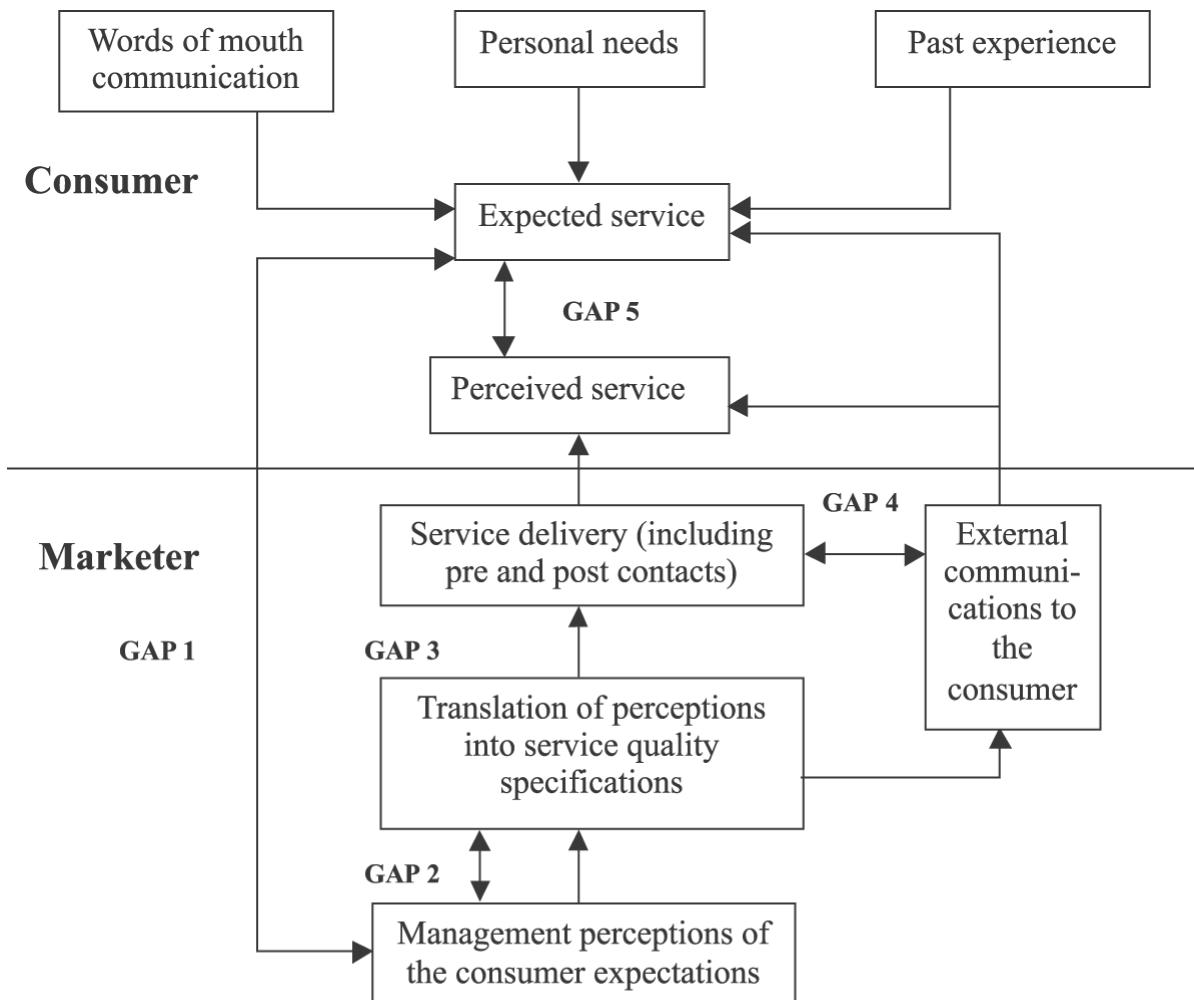
Gap 1 represents the difference between what consumers expect of a service and what management perceives consumers to expect. That means there is Management failure to understand customers' desires for the service. This is also called the understanding gap which is a result of inadequate research into customer needs, poor communication, or inadequate management structure. In this understanding gap a chain reaction of mistakes that are likely to follow are causing wrong human resource training, wrong approach to performance measurement, and also wrong promotion activities.

In Gap 2 management's specifications for service are different from its perceptions of customer expectations. That means that there is difference between what management perceives and consumers expect and the quality specifications set for service delivery. The Management might have understood customer expectation of the service, but fail to translate the understanding into equivalent specifications for service performance. This is also called the design gap and is caused by inadequate commitment to Service Quality, inappropriate goal setting, or management being inexperienced or inadequate in this area.

Gap 3 shows the difference between the service specifications determined and the level of service actually delivered. Even if the management does understand which are the customer service expectations (Gap 1) and does set appropriate specifications for the service standards (Gap 2), the service delivery may still fall short of customers' expectations. This is called the delivery gap or the service performance gap and arises from shortage of resources in key areas, lack of employees' ability and capability, lack of commitment and motivation, inadequate quality control procedures or inadequate role support and attention by the management. That is to say, insufficient attention to support facilities, skills and knowledge development from the management will affect the workers' ability and willingness to perform to the expected quality service standards.

Gap 4 denotes the differences created between delivered service and external communication. Organizations tend to promise more service than they can consistently deliver. This is called the communications gap and it refers to the difference between the actual quality of service delivery and the quality of that service delivery as described in the media and publicity and local and national charters. Customers with high expectations for a certain level of service will be more disappointed or dissatisfied than those with moderate expectations.

Managing Service Quality is concerned with managing the gaps between expectations and perceptions on the part of management, employers and customers. The most important gap is of course Gap 5 which is the gap between perceived quality and expected level of service. This is key determinant of performance evaluation, from the customer perspective. Therefore, employee competency, motivation and right attitudes are very important to ensure quality of service, and adequate facilities and support would create a favorable working environment to produce excellent service performance.



**Figure 1:** the Gap Model

**Source:** Parasuraman et al. (1985)

As presented above, the most widely used and published approach to service-quality measurement is the SERVQUAL instrument developed by Parasuraman, Zeithaml and Berry (1988). As a result, though a number of researchers have provided lists of quality determinants, the best known determinants emanate from Parasuraman and colleagues, who found five dimensions of Service Quality which will be analyzed in the next section.

An important advantage of the SERVQUAL instrument is that it has been proven valid and reliable across a large range of service contexts. The SERVQUAL instrument has been applied in a number of sectors, including financial services, tourism, health care, utility companies, pest control, dry cleaning, fast food, professional services, libraries, information

systems and Higher Education (Hill, 1995; Cuthbert, 1996; Caruana & Money, 1997; Robinson, 1999; Oldfied & Baron, 2000; O'Neill & Palmer, 2001).

It has been used so far in many different ways such as:

- to test the validity and reliability of the scale in specific service environments
- to compare two or more organizations in the same service sector
- To compare two different groups of customers' attitudes in relation to culture.
- To determine the relative importance of the five dimensions in influencing customers' overall quality perceptions.
- To categorize customers into several perceived quality segments on the basis of their individual SERVQUAL scores.
- To identify the existence of gaps between clients' and management perceptions and client expectation and perception of the service offered.

We will now proceed with the analysis of the SERVQUAL dimensions. The contention that Service Quality consists of five basic dimensions (Parasuraman et al., 1988) is according to some researchers questionable and they have suggested that SERVQUAL's dimensions are contextual and not universally applicable (Ekinci & Riley, 1999; Brown et al., 1993; Cronin & Taylor, 1992; Teas, 1993; Bouman & Van der Wiele, 1992; Gagliano & Hathcote, 1994, Kang and James, 2004; Lee, 2005; Fowdar, 2007). Instead, the number and composition of the Service Quality dimensions is probably dependent on the service setting (Brown et al., 1993; Carman, 1990). It has been suggested that for some services the SERVQUAL instrument needs considerable adaptation (Dabholkar et al., 1996) and that items used to measure Service Quality should reflect the specific service setting under investigation, and that it is necessary in this regard to modify some of the items and add or delete items as required (Carman, 1990). Babakus and Boller (1992) claim that the number of Service Quality dimensions is dependent on the particular service being offered. For this reason, after the analysis of the SERVQUAL dimensions we will investigate the adaptation of these dimensions in a Higher Education setting.

## **2.4.2 The SERVQUAL Model Dimensions**

Parasuraman, Zeithmal, and Berry, (1985) identified ten determinants of Service Quality: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding and knowing the customer, and tangibles (facilities, equipment, etc.) In a 1988 study, Parasuraman, et al., refined those 10 factors into five key factors: tangibles, reliability, responsiveness, assurance (knowledge, ability to inspire confidence, competence), and empathy. However, it is not clear whether these Service Quality factors are applicable to all services, including the service of Higher Education. In fact, Cronin and Taylor (1992, 1994) identified situations where the five factors identified by Parasuraman, et al., did not seem to fit other services. However, there seems to be agreement (Cronin & Taylor, 1994; Parasuraman, Zeithmal, & Berry, 1994; Teas, 1994) that the concept of Service Quality factors is a good starting point in measuring Service Quality, though researchers differ on suggested methodology for application.

The SERVQUAL dimensions include (Parasuraman, et. al., 1988)

- Tangibles which refers to the appeal of facilities, equipment and material used by an organization as well as to the appearance of service employees
- Reliability which means that accurate service is provided from the first time without making any mistakes and delivered as promised by the time that has been agreed upon
- Responsiveness related to employees who are willing to help customers and respond to their requests giving them prompt service
- Assurance which is connected with courteous and skilled employees who inspire customers' confidence in the organization and make them feel safe.
- Empathy which has to do with understanding customers' problems and performing in their best interests, giving customers individual personal attention

They discovered that reliability was the most important dimension followed by responsiveness, assurance, and empathy. Tangibles, in contrast, were found to be the least important dimension in customers' service evaluations. However, the claim that these dimensions are generic is contradicted by other authors who argue that adaptations are necessary when they are applied in service sectors other than those examined by Parasuraman

et al. (Knutson et al. 1990, Stevens et al. 1995). Moreover, Cronin and Taylor (1992, 1994) doubt the general validity of these dimensions and stress that they are interrelated and overlapping and that they cannot be operationalized into questionnaire items as proposed by Parasuraman et al. In contrast to this criticism, Johnston et al. (1990) confirmed the validity of the ten initial dimensions, but proposed a refinement adding seven further dimensions and replacing Parasuraman's et al. single tangible dimension by four tangible dimensions: aesthetics, comfort, cleanliness and functionality.

Bojanic (1991) used the five SERVQUAL dimensions but developed a new set of items that better reflected the service under investigation. Freeman and Dart (1993) demonstrated that, in the context of accounting services, Service Quality is a seven-dimensional construct. The common theme is that in every case the dimensions or items proposed by PZB (1988) were changed to better suit the service context. Accordingly it is possible that other dimensions might be important

Gronroos (1998) sees Service Quality as a two-dimensional construct. He introduced the process and outcome dimensions which led to the definition of technical and functional quality. The process dimension describes how the service is delivered and refers to functional quality, whereas the outcome dimension describes what the process leads to and relates to the technical dimension. Furthermore, he introduced the image of the firm as another aspect of the Service Quality concept which could be considered as a third dimension. The image has the function of a filter for Service Quality perceptions influencing perceived Service Quality positively, if the company has a good image, or negatively, if the company has a bad image. Additional Service Quality dimensions are proposed by Lehtinen (1991) who defines four dimensions which refer to the interactive part of the service process (empathetic/non-empathetic, efficient/non-efficient, remote/close, and attentive/non-attentive dimension). Nightingale (1985) suggests dividing Service Quality into service offering (as perceived by the provider) and its components, and received service (as perceived by the consumer). Finally, Gummesson (1991) introduces a dimension that he calls the L (ove)-Factor. It refers to the sympathy and caring of the hotel personnel.

Despite some criticism, the dimensions developed by Parasuraman et al. are the major reference point for contributions on Service Quality. Several researchers regularly apply the five dimensions without any major problems (Gagliano and Hathcote 1994, Johns and Jones et al. 1997). Others use them and adapt them slightly to their special field of research or their service sector of concern (Akbaba 2006, Tsang and Qu 2000). Even Gronroos admits that

“the best measurement instrument is the SERVQUAL model developed by Parasuraman, Zeithaml and Berry.” (1998).

Table 2 compares different models of Service Quality dimensions found in the literature with the list produced by Parasuraman et al. (1985).

**Table 2:** A comparison of Service Quality dimensions models

Parasuraman et al., 1985	Sasser et al., 1978	Haywood – Farmer, 1988	Schvaneveldt et al., 1991	Grönroos 1990	Stewart and Walsh, 1989
Reliability	Consistency		Accuracy	Reliability	Reability
				Trustworthiness	Accuracy
					Mistake – tree
Responsiveness		Timeliness	Responsiveness		Timeliness
Understanding Customers		Diagnosis Advice, guidance Attentiveness			Understanding user’s needs
Access	Availability		Ease of use	Accessibility	Ease of access
Competence		Knowledge Skill		Professionalism and Skill	Competency Knowledge
Courtesy	Attitude	Warmth Neatness Politeness	Emotion	Attitudes and behavior	Courtesy and respect
Communication		Communication			Helpfulness in contact
Credibility		Honest		Reputation and credibility	Credibility
Security	Security	Confidentiality			Security
Tangibles	Condition	Physical facilities	Environment		Surroundings
	Completeness		Completeness		Effective use of technology
		Handling Complaints Solving problems		Recovery	Redress
		Flexibility		Flexibility	Capacity for choice

Despite SERVQUAL's wide application, the various replications undertaken have highlighted a number of areas of both theoretical and psychometric concern (Caruana & Money, 1997). Whilst the quality concepts embedded in SERVQUAL are very important there is still debate concerning the underlying concept of Service Quality and the reliability of SERVQUAL in measuring that quality. Robinson's review (1999) shows as areas of agreement with the SERVQUAL measurement the fact that Service Quality is an attitude and is distinct from customer satisfaction, that perceptions of performance need to be measured, that the number and definitions of dimensions depends on the service context, and that negatively worded statements should be avoided unless the survey is 'short'. (Robinson, 1999, p. 29)

It is generally agreed, however, that the SERVQUAL instrument is suitable for measuring Service Quality because it measures its key aspects. Cronin and Taylor (1992; 1994) argued that SERVQUAL is paradigmatically flawed because of its ill-judged adoption of the disconfirmation model. This was confirmed by Babakus and Boller (1992) who found that the dominant contributor to the gap score is the perception score. The double administrations of perception and expectation questionnaires may lead to boredom and confusion (Bouman & Van Der Wiele, 1992) and may also be deemed too time consuming (Carman, 1990).

Lewis (1993) criticized the use of a seven-point Likert scale for its lack of verbal labeling for points two to six which may cause respondents to overuse the extreme ends of the scale. In relation to the formulation of the SERVQUAL scale, questions have been asked about the Likert scale formulation and the way in which responses to the scale are collected, in particular that it is difficult to collect both expectations and perceptions data reliably.

In other words, there are still issues and varying opinions about the dimensionality of Service Quality and the universality of the five dimensions, (Rust and Oliver, 1994). However, the opinions presented above are significant for the users of SERVQUAL and for all those who wish to understand better the concept of Service Quality. There is still a need for fundamental research into the dimensionality of Service Quality bearing in mind the contextual circumstances, the specific industry and the specific service setting. Moreover, researchers throughout the literature suggest that culture may play a fundamental role in determining how consumers perceive what constitutes Service Quality. That is why we have decided to study

the variable of culture in our research and investigate its relation to Service Quality dimensions.

However, before we incorporate the independent variable of culture in our research we should first apply the SERVQUAL tool and its dimensions in the Higher Education setting in order to better understand their inter relation in this specific University context and adapt the SERVQUAL dimensions accordingly. As previously mentioned, the items used to measure Service Quality should reflect the specific service setting under investigation (Dabholkar et al., 1996), and it is necessary in this regard to modify some of the items and add or delete items as required (Carman, 1990).

### **2.4.3 Application of Service Quality in Higher Education**

This section explores some of the variety of research and practice that are applicable in measuring Service Quality in Higher Education. O'Neill & Palmer (2004) argue that the term "quality" did not exist in the lexicons of most Universities until a couple of decades ago. For the most part this has not been an easy transition with many experts on education still questioning the legitimacy of a customer orientation and whether this approach is well suited. Both the application of Service Quality and total quality management demonstrate the underlying customer orientation to the TQM philosophy and the need for performance measurement.

Regarding instruments used for measuring Service Quality in Higher Education, Firdaus (2006a) claimed "the emergence of diverse instruments of measurement such as SERVQUAL (Parasuraman et al. 1988), SERVPERF (Cronin and Taylor 1992) and evaluated performance (EP) (Teas 1993 has contributed enormously to the development in the study of Service Quality ". Especially the SERVQUAL tool seems to have been used in a wide range of studies at the Higher Education level (O'Neil & Wright, 2002; Sahney et al., 2004; Yang et al., 2006; Smith et al., 2007; Lee & Tai, 2008; Yeo, 2008; Brochado, 2009).

More specifically, three contrasting approaches to the measurement of quality in General Education can be identified. The first approach adapts the servqual instrument (Rigotti & Pitt, 1992; Donaldson & Runciman, 1995; Cuthbert, 1996; Owlia & Aspinall, 1996; Oldfield & Baron, 2000; O'Neill & Palmer, 2001). The second uses methods for assessing the quality of teaching and learning (Entwistle & Tait, 1990; Ramsden, 1991; Marsh & Roche, 1993). The third uses methods for assessing the quality of the total student experience (Harvey et al., 1992; Roberts & Higgins, 1992; Hill, 1995; Aldridge & Rowley, 1997; Gaell, 2000; Watson et al., 2002; Wiers-Jenssen et al., 2002).

Tan (1986) conducted a review of the assessment methods used to assess teaching quality in US Higher Education, in which three types of studies are differentiated: reputational (subject evaluations from 'experts'), objective indicator and quantitative correlate studies.

The literature on student learning reveals many well-validated, if contrasting, questionnaires that highlight important dimensions of quality in education (Hattie & Watkins, 1988; Entwistle & Tait, 1990; Ramsden, 1991; Marsh & Roche, 1993; Pike, 1993; Cuthbert, 1996;

Rowley, 1996). Widely reported and applied methods that focus on assessing teaching and learning include Ramsden's (1991) Course Experience Questionnaire, and Marsh and Roche's (1993) Students Evaluation of Educational Quality instrument. Both methods can be criticized for focusing only on the teaching and learning experience in assessing quality, and neglecting the wider student experience incorporating such aspects as the accommodation situation and social life. Many Higher Education Institutions evaluate aspects of the student experience beyond the quality of teaching and learning (Roberts & Higgins, 1992; Hill, 1995; Harvey et al., 1997; Aldridge & Rowley, 1998).

As Oldfield and Baron (2000) emphasize, Institutions should address the issues of quality, not only through the traditional routes of accreditation, course review, student feedback questionnaires on quality of course delivery and teaching, but also through evaluating what students themselves consider being elements in Service Quality . Moreover, students' perspective is important to begin with, but many other recipients of education should be considered as well.

So far, it is interesting to note the application of SERVQUAL to business schools (Rigotti and Pitt, 1992) and Higher Educational Institutions (Ford et al., 1993; McElwee and Redman, 1993). The extent to which students perceive the level of service performance meets their expectations reflects the quality of service (Zammuto et al., 1996).

Cuthbert (1996) pioneered by examining the applicability of the SERVQUAL scale to measure student perceptions of University-level Service Quality. He initially proposed SERVQUAL as an appropriate instrument for Service Quality measurement in Higher Education. However, when he used SERVQUAL, the results obtained did not turn up to be as good outcomes as expected. The author claimed from the received results that using the SERVQUAL scale to measure University Service Quality seems inappropriate. No analysis was performed to determine whether any of the items in SERVQUAL can be used to predict student satisfaction or any similar dependent variable.

Pariseau and McDaniel (1997) used SERVQUAL to measure quality in two small private business schools, using the same questionnaire for both faculty and students. The research revealed that students and faculty have different perspectives on quality of education, a situation that introduces difficulties as far as the direction of improvement and leads to mutual misunderstanding.

Ruby (1998) demonstrated how the use of SERVQUAL, can be used to study students' satisfaction with four areas of support services hypothetically related to enrolment

management (academic records, admissions, career services, and financial aid). He claimed (p. 339) “this model may not suit all areas of education but it holds promise as a means for evaluating the quality of selected support services”.

Ford et al. (1999) found out the attributes that contribute towards an excellent University. The most important are: reputation, career opportunities, program issues, physical aspects, and location and may become the basis where Universities have to focus their efforts.

Slade et al. (2000) also used the SERVQUAL instrument in order to capture perceptions of Service Quality of students who leave an Institution before completing their studies, and those who stay to finish.

Oldfield and Baron (2000) replicated the Cuthbert (1996) study four years later, using SERVQUAL to measure student perceptions of business and management faculty. They investigated students' perceptions of Service Quality in Higher Education, particularly of the elements not directly involved with the content and delivery of course units, using a performance- only adaptation of the SERVQUAL research instrument. The researchers found that three factors emerge: requisite, essential items that allow students to fulfill their study obligations; acceptable, items that are preferable rather than essential to student development; and functional, items outside the control of the instructor and primarily derived from University rules.

Hughey, Chawla, and Khan (2003) employed the SERVQUAL instrument to measure Service Quality of computer labs, carrying out two studies separated by a 2-year interval. In both studies, the SERVQUAL items load onto three factors: staff, services, and professionalism. The authors conducted several tests to investigate whether gender, academic standing, and time spent in labs influence a student's perception of Service Quality. They found that female students tended to rate the University more highly on the services and professionalism constructs than did their male counterparts.

O'Neill (2003) using SERVQUAL, tried to understand the influence of time on students' perceptions of Service Quality running a longitudinal study. The sample comprised the first year students in two stages: a) prior to the orientation process and b) after one month. He discovered that students' perceptions of quality had deteriorated suggesting Service Quality in Higher Education may be influenced by time.

Then Sahney, Banwet, and Karunes (2004) used the quality function deployment technique to identify the set of minimum design characteristics/quality components that meet the requirements of the students as the customers of the educational system. Their study

attempted to measure student perceptions of Service Quality in Higher Education in India. They showed how the SERVQUAL items can be used in quality function deployment to improve the University's services; no analysis was done to indicate whether any SERVQUAL items can be predictive in nature.

Gibbs's (2004) primary objective was to design and implement the way of measuring the quality of the courses offered by a University department, in order to highlight areas in which additional funds need to be allocated to improve performance. The results indicate areas where the University is failing to meet students' expectations and provide a framework for managers to use and redirect resources.

Faganel and Macur (2005) developed a questionnaire with 18 items describing these 5 dimensions of quality and gave it to focus groups of students. The analysis included students and also professors. SERVQUAL theory was challenged when those 18 items were examined by using factor analysis. In that way the authors have established the most important determinants of quality for students and professors of this faculty.

Zhao et al. (2006) started with elaborating the great significance of carrying out the SERVQUAL instrument in Chinese educational Institutions.

Chua (2004) used SERVQUAL to assess the attitudes of University stakeholders (including students, parents, faculty members and employers). The findings revealed that the dimensions of SERVQUAL are primarily related to the "process" stage of the "Input– Process–Output framework".

Sherry et al. (2004), on the other hand, used SERVQUAL to assess the perceptions of international students (as opposed to local students), with intention to serve better the legitimate needs and expectations of services offered to this group of students. They conclude that SERVQUAL offered useful insights and was a good starting point to measure education quality, but a more in-depth analysis of the areas of concern would be needed.

Baig et al. (2006) highlighted the need for a proper framework of quality in Higher Education due to the growing demand for quality. In any case, listening to and facilitating people to participate in decision making will most probably help a positive result (Oldfield and Baron, 2000).

Firdaus (2006b) used a measuring instrument called HEdPERF, comprising 41 items, to assess Service Quality for the Higher Education sector. His study was made on three Universities in Malaysia and findings confirmed that students' perceptions of Service Quality

can be considered as a six-factor structure consisting of six identified dimensions: non-academic aspects, academic aspects, reputation, access, program issues and understanding.

Barnes (2007) used a modified SERVQUAL instrument to investigate expectations and perceptions of Service Quality among a sample of post-graduate Chinese students at a leading business and management school in the UK. The research findings suggest that the instrument is suitable to use in a Chinese and postgraduate context, and the statements load on the five original SERVQUAL dimensions.

Quinn et al. (2009) studied techniques used to take on the challenges of quality improvement in Higher Education. An examination of representative historical applications of quality techniques was conducted as well as identification of the differences and similarities surrounding quality improvement efforts in each of three service areas typically found in Higher Education: academic, administrative, and auxiliary functions. A comparison of perceptions of Service Quality between the first and final year students suggests that perceptions of Service Quality elements change over a period of study, with “acceptable elements” having increasing importance.

Before the study of Soutar and McNeil (1996) have found that both academic and administrative issues of an Institution are extremely important in determining the performance of students, development of organizational image and quality assurance. The earlier researchers on Service Quality in Higher Education emphasized academic more than administration, concentrating on effective course delivery mechanisms and the quality of courses and teaching (Athiyaman, 1997; Bourner, 1998; Cheng and Tam, 1997; McElwee and Redman, 1993; Palihawadana, 1996; Soutar and McNeil, 1996; Varey, 1993; Yorke, 1992).

According to Wachtel, (1998) students rate their course instructors' performance and the methodology of teaching as the prime indicators in their educational development and successful completion of their studies because the higher the intellectual ability of the instructor the better will be the students 'evaluation (Edstrom, 2008) and consequently higher will be the reliability of the teaching staff (Sproule, 2000). Teachers' ability, excellence, coordination and reasonability greatly influence students' class performance. Students' level of satisfaction increases by working with those course instructors and lecturers who properly handle the assignments, projects, exams and facilitate students' logical reasoning and aptitude development (Dalton& Denson 2009).

Kamal and Ramzi (2002), however, attempted to measure student perception of registration and academic advising across different faculties and other administrative services to assure positive quality service that complements the academic. Their study showed that students are motivated from the academic as well as the administrative efficiency of their Institution. Moreover, the maintenance of other essentials of quality service in education i.e. well managed and updated libraries, security systems, medical facilities, class decoration and facilitation with multimedia and sitting arrangements along with administrative staff's cooperation play a vital role in educational support and development (Dick and Basu 1994). The services quality is mostly enhanced by the cooperation of the administrative staff and the faculty staff with students. The majority of students got demotivated if they found that the staff is not compassionate and kind. According to Hassan et al (2008) an Institution must train its staff members for quality assurance in a way that creates a sense of facilitation by means of coordination, cooperation, compassion and empathy (Jacoby and Chestnut 1978). Spoooreen et al (2007) posited a view that the organizational harmony, teachers' intellectual ability, professional development, transparency in students' evaluation, feedback and training are the important features that mentally develop the students.

From the above we can conclude that the two components which seem to shape the quality figure in many quality studies are academic and administrative functions. Of course these functions were studied in depth and analyzed in more specific quality "variables". Elliot and Shin (2002) for example found that the highly significant variables that appear to directly impact on overall customer satisfaction with University performance are : (1) Excellence of instruction in student's major, (2) Able to get desired classes, (3) Knowledgeable advisor, (4) Knowledgeable faculty, (5) Overall quality of instruction, (6) Tuition paid considered as worthwhile investment, (7) Approachable advisor (8) Safe and secure campus, (9) Clear and reasonable requirements for major, (10) viability of advisor, (11) Adequate computer labs, (12) Fair and unbiased faculty and (13) Access to information.

As we can easily exclude from the references on the use of the SERVQUAL model in Higher Education, this method is frequently used and adopted in the extant literature to evaluate the overall students' perceived Service Quality in the education industry (Russell, 2005). However, there is no consensus in the literature pertaining to the development and definition of the determinants of the overall students' perceived Service Quality in Higher Education. That is to say, there is currently no consensus about the dimensions of Service Quality or the importance of each dimension from the student perspective. Moreover, although numerous

quality assurance mechanisms exist, the level of satisfaction within all stakeholders groups in Higher Education is not addressed in the literature.

As mentioned before, meeting the expectations of stakeholders in Higher Education may be particularly challenging as each stakeholder group may have contradictory priorities and expectations based on their different modes of interaction with the Institution (Mahapatra and Khan, 2007).

It is still the case today that the majority of Universities use different variables, questions and evaluation methods, many of which are developed internally without consideration of reliability or validity (Ramsden, 1991; Cuthbert, 1996; Rowley, 1996, 1997; Oldfield & Baron, 2000). This is an important problem both for quality identification in Higher Education but also for quality measurement and improvement. When different models, methods and variables are used we cannot possibly create a common quality framework and we cannot base our measurement on comparative studies. Moreover, quality development cannot be based on comparable best practices and common improvement initiatives.

After analyzing the different quality studies, we identify the problems of different variables used, of different methods and usually only of the student perspective considered. The SERVQUAL has a considerable amount of study references but it is not used in the same way and with the same determinants each time. For this reason, we will now refer to the most commonly used and accepted Service Quality dimensions and determinants adapted to Higher Education environment. Our aim from the following section is to conclude about those dimensions, applicable to our research method and objectives. These dimensions will shape our dependent variable, which is quality in the Athens University and Economics and Business.

#### **2.4.4 The Service Quality Determinants for Higher Education**

The original five Service Quality dimensions mentioned before are tangibility, responsiveness, reliability, empathy and assurance. In the Higher Education setting these dimensions could be explained as follows:

Tangibles refer to more physical aspects affecting the teaching process. The challenge for Institutions is to ensure that service specifications such as course content, delivery and application meet the expectations of their customers consistently. Support services and facilities should play an equal, if not an even more important role, in contributing to the overall of Service Quality in Higher Education (Parasuraman et al., 1988).

Responsiveness means willingness to provide quality service and a commitment to act in the best interest of students. Institutions should be responsive to the shifting needs of their customers (students) in providing courses and training programs that are relevant in subject matter and teaching approaches.

Assurance is related with student's confidence by performing services in a knowledgeable and professional manner. Customers' willingness to modify expectation of service standards can be appropriately managed through the availability of choices. These should diversify the expectation levels of customers in a way that the shortcomings of one service can be offset by the strengths of another

Reliability is the accuracy and dependability with which the teaching service is provided. Discrepancy between promise and delivery is the problem. Some Institutions tend to oversell their services, leading to grand promises that misrepresent their actual potential and academic readiness.

Empathy is connected with the ability to communicate care and understanding through the interpersonal skills of the teaching staff and student-friendly policies and procedures (mainly those affecting the teaching process). This has implications for the level of individual attention and empathy given to each student inside and outside class. Further, when teachers are expected to assume multiple roles including curriculum writing, stand-up teaching, mentoring, project supervising and administrative responsibilities, the level of Service Quality may become less standardized and desirable over time.

Since education services have very particular characteristics, the SERVQUAL model must be adapted according to the most important determining factors: reliability, tangibility,

responsibility, security and empathy, as proposed by Parasuraman, Zeithaml and Berry (1985). Indeed so far most of the determinants of the overall students' perceived Service Quality in the extant literature are modified or adopted from the SERVQUAL Model (Soutar and McNeil, 1996; Waugh, 2002; Sohail and Shaikh, 2004).

In the literature, a framework of determinants for the overall students' perceived Service Quality in Higher Education is presented taking into consideration the stakeholder influence. In this framework, Service Quality factors can be evaluated based on customer perspective ('outside-in' approach) or the perspective of the service providers ('inside-out' approach) (Hoffman and Bateson, 2006). The 'inside-out' approach assumes that University's academics and leadership set the determinants of the overall students' perceived Service Quality since they know students' needs as well as lecturers' contribution (Sander, Stevenson, King and Coates, 2000).

LeBlanc and Nguyen (1997), Nagata, et. al. (2004) and Sohail and Shaikh (2004) are some of the proponents who adopted the 'inside-out' approach. In the 'inside-out' approach feedback from the students is not taken into consideration (Joseph, et. al., 2005). The 'outside-in' approach considers that the determinants of the overall students' perceived quality is determined based on the feedback from the students and outside consultants (Joseph, et. al., 2005). Joseph, et. al. (2005) assert that "if firms do not know what their own customers desire in terms of service, how can they possibly design programs that match customer expectations of what constitute good service". Determinants such as 'contact personnel', 'quality of librarians', 'access to facilities', curriculum', 'physical facilities, and 'staff responsiveness are part of an 'inside-out' approach to evaluate students' perceived Service Quality (Sohail and Shaikh, 2004; Nagata, et. al., 2004; LeBlanc and Nguyen, 1997);Determinants such as 'reputation of the Institution and academic program', 'amount of recreational activities', and 'cost of courses offered' are based on the 'outside-in' approach to evaluate students' perceived Service Quality (Joseph, et al., 2005; Kennington, Hill and Rakowska, 1996). This approach is very close to the stakeholder approach as the determinants are being decided and applied by the "inside" and "outside" groups of the University.

According to Parasuraman et al., Service Quality dimensions that can be used in the Higher Education are the following:

- 1) Reliability meaning the degree to which a service is fault free,
- 2) Responsiveness is defined as the ability to deal effectively with complaints and continuous improvement through effective management of services,

- 3) Customization refers to how well the Institution can meet customer satisfaction
- 4) Credibility is the extent, to which the service is believed and trusted,
- 5) Competence is skills, knowledge and information necessary to perform the service effectively,
- 6) Access refers to the ease of approachability and contact to achieve the targets and objectives of the Institution,
- 7) Courtesy concerns on the attitude of the staff,
- 8) Security is defined as the capabilities of the Institution to avoid danger, risk and doubt,
- 9) Communication is the approach used by the Institution to interact with its customers,
- 10) Tangibles refer to facilities provided by the Institution in serving good conditions to their customers,
- 11) Understanding customers is defined as how well the Institution can meet the customer's satisfaction including individualized attention

Services quality dimensions were also proposed by Gronroos (1978) but in a different way. He presents the three following characteristics.

- 1) The technical quality of outcome which the customer can measure in an objective manner
- 2) The functional quality of the service encounter which has to do with the interaction between the provider and recipient of a service and is often perceived in a subjective manner
- 3) The corporate image which will influence the perception of the customer towards the image of the Institution. The image depends on the technical and functional quality, price, external communications, and physical locations, appearance of the site and the competence and behavior of the staff (Ghobadian et al., 1994).

Lehtinen and Lehtinen (1992) also proposed three dimensions of Service Quality very close to Gronroos logic. The determinants of this model are:

- 1) Physical quality which refers to the condition of building and enabling equipment.
- 2) Corporate quality organization's image and profile
- 3) Interactive quality which can be defined as the interaction between the Institutions' staff and the customer which avoids miscommunication among them

Owlia and Aspinwall (1996) in an attempt to combine different findings compared the quality dimensions proposed for products, software and services. The presence of common or similar

factors in the three different areas suggests that there should be a set of generalized dimensions defining quality of any output, regardless of its nature. They presented a comprehensive list of Service Quality dimensions together with proposed interpretations for a Higher Education environment. Based on the review of the quality literatures and the context of their study, they developed 30 attributes called “quality characteristics”. These characteristics were grouped into six dimensions named tangibles, competence, attitude, content, delivery and reliability.

**Table 3:** Quality dimensions and their corresponding characteristics in Higher Education

Dimensions	Characteristics
(1) Tangibles	Sufficient equipment / facilities Modern equipment / facilities Easy of access Visually appealing environment Support services (accommodation, sports,...)
(2) Competence	Sufficient (academic) staff Theoretical Knowledge, qualifications Practical Knowledge Up to date
(3) Attitude	Understanding student's needs Willingness to help Availability for guidance and advise Giving personal attention Emotion, courtesy
(4) Content	Relevance of curriculum to the future jobs of students Effectiveness Containing primary Knowledge /skills Completeness, use of computer Communication skills and team working Flexibility of Knowledge, being cross – disciplinary
(5) Delivery	Effective presentation Sequencing of examinations Feedback from students Encouraging students
(6) Reliability	Trustworthiness Giving valid award Keeping promises, match to the goals Handling complaints, solving problems

Source: Owlia & Aspinwall (1996)

They note that the effect of these dimensions is not the same for all the categories of stakeholders. For example all six dimensions are relevant to students, but their applicability to academic staff and employers may be more tenuous because they do not have the same level of contact with the corresponding processes. Employers as the “external customers” of Higher Education value more the capabilities of graduates (dimension 4) as well as the reliability of the Institution to deliver them (dimension 6). On the other hand, academic staff use University facilities (dimension 1), they interact with their colleagues, benefiting from their “competence” (dimension 2), and they care about the “contents” (dimension 4) of the courses they teach as well as the “credibility” (dimension 6) of their Institution.

Based on the discussed literature on total quality management and Service Quality, the author of this dissertation conceptualizes Service Quality as a multi-dimensional construct which can be influenced by several determinants and can be used to identify Service Quality problems. To find out whether national culture has an influence on Service Quality perceptions and expectations, Service Quality will be used as a part of the dependent variable of this dissertation and will be measured for each stakeholder group in the Athens University of Economics and Business.

For the empirical application, apart from the six Service Quality dimensions which will be further defined and used, we also incorporated the first five criteria of the EFQM Excellence model in our dependent variable called “quality”. The analysis of the EFQM Excellence model and the criteria used will be presented in the next section.

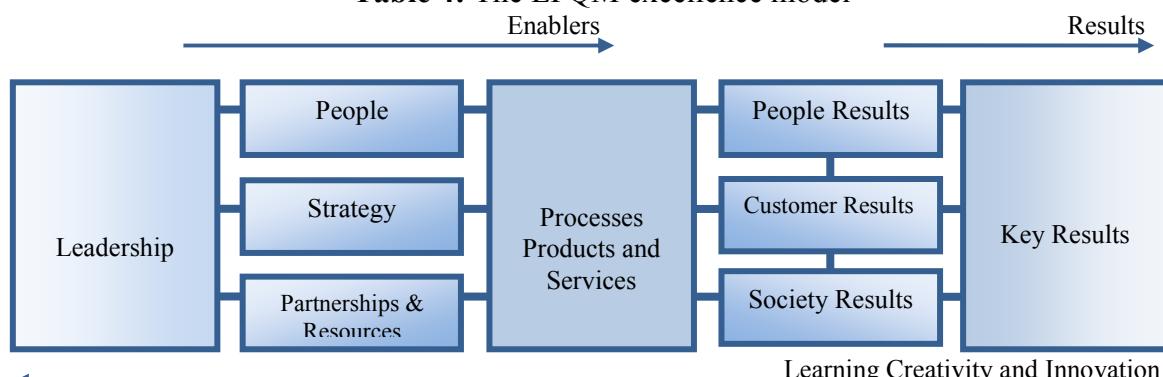
#### 2.4.5 The EFQM Excellence Model Quality Criteria in Higher Education

The best attempt for the adaptation of the EFQM excellence model quality criteria performed by Sheffield Hallam University in 2003. The model was applied fully in a Higher Education context and all its criteria as well as examples of best practices for each criterion were presented. Based on this application and after thorough study we decided to use this model for the purposes of our research.

The use of the model for self-appraisal in Higher Education supports its self - analysis (including the identification of strong points and areas for improvement), and simultaneously provides a source for quality improvement opportunities. Using these opportunities, excellent organizations can improve their quality management system but in the same time they have the opportunity of benchmarking with other higher Institution using the same model. Benchmarking is a very important tool for higher Institution wanting to improve. Moreover the model provides flexibility in the ways of its application and is not limited to static measures imposed by external accreditation organizations.

From the nine criteria of the model we only used the first five called the enablers. These enablers named leadership, strategy, people, partnerships and processes practically present the causes or conditions of quality. These five criteria are the drivers of quality which a Higher Institution should use in order to achieve the relevant quality results concerning its Internal stakeholders (academic and administrative staff) and External stakeholders (students, employers and society). Within the EFQM model, there are also these other four criteria representing organizational results but we didn't use them as they are well represented in our research by the Service Quality dimensions. The model of EFQM is presented in Table 4.

**Table 4:** The EFQM excellence model



Source: Adapted from © EFQM ([www.efqm.org](http://www.efqm.org))

What is of great value is that the traditional quality management values are well incorporated in the enabler criteria of the EFQM model. The following table is a summary of core concepts analyzed by 347 published articles between 1989- 2000 (Llusar, Tena, Puig, Martín, 2009) and demonstrate the adaptation of quality values to the EFQM criteria used in our research.

**Table 5 :** Different views of the core concepts which constitute TQM and their embedding in the TQM framework

TQM care concept				<b>TQM frameworks based on quality</b>
<b>Anderson et al. (1994)</b>	<b>Powell (1995)</b>	<b>Tummala y Tang (1996)</b>	<b>Sila and Ebrahimpour (2002) 8</b>	<b>EFQM criteria (2003)</b>
<b>Customer satisfaction</b>	Closer customer relationship	Customer focus	Customer focus and satisfaction	5. Processes
<b>Visionary leadership</b>	Committed leadership	Leadership	Leadership and top management commitment	1. Leadership
	Adoption and communication of TQM	Strategic quality planning	Management commitment	2. Policy and strategy
<b>Continuous improvement</b>		Continuous improvement	Continuous improvement and innovation	
<b>Process management</b>	Process improvement	Design quality, speed and prevention	Process management	5. Processes
	Zero – defects mentality Flexible manufacturing			
<b>Internal cooperation</b>	Increased training	People participation and partnership	Employee training	3. People
<b>Learning employee fulfillment</b>	Employee Empowerment Open organization		Teamwork Employee involvement Everybody's participation	
<b>External cooperation</b>	Benchmarking			4. Partnership and resources
	Closer supplier Relationship Measurement	Fact-based management	Quality information and performances measurement	
				6. Customer results 7. People Results 8. Society results 9. Key performance results

Source : (Llusar, Tena, Puig, Martín, 2009)

As a result of the above, the previously mentioned studies justify the use of the EFQM quality criteria as part of our quality variable in Higher Education since total quality management values are incorporated in the model. Moreover, we want to point out that given the stakeholder orientation of this research, EFQM has proved to be the first quality model oriented towards the stakeholder's perspective. (see Chapter 2 and Chapter 4)

## **2.5 Quality as the Dependent Variable**

In our attempt to conceptualize and operationalize quality in Higher Education, though few references exist in the literature, we combined and developed many quality criteria, dimensions, elements and factors. We investigated all relevant, “quality criteria” by Harvey et al. (1992), “quality elements” by Spanbauer (1992), “quality criteria” by Jacobson (1992), “teaching dimensions” by Madu and Kuei (1993), curricula design factors” by Izquierdo (1993), “quality features” by Ashworth and Harvey (1994) “, “alumni satisfaction scales” by Hartman and Schmidt (1995), a quality questionnaire by Yorke (1995), and a quality function deployment experiment (Ermer, 1995). Factors detailing curriculum, examinations, staff capabilities and equipment were identified. As previously mentioned, we added to the Service Quality approach the first five criteria of the EFQM excellence model (2003). So based on the literature review studies and after validation by our focus groups later in our research we categorized Service Quality requirements in the following constructs: tangibility, content, attitude (staff), competence (faculty), delivery and reliability. The EFQM determinants were leadership, strategy, people, partnerships and resources, and finally processes. We used the enabler criteria of the model which embrace the processes, structures and means that the organization can use to manage quality (Nabitz and Klazinga, 1999).

All the determinants of both Service Quality and the EFQM excellence model will be further specified and broken down into attributes which allow the measurement of the quality perceptions of the respective stakeholder groups.

We will now describe the conclusion remarks of this chapter before we proceed with the analysis of our independent variable: the Societal Culture.

## **2.6 Conclusions of Quality Literature Review Chapter**

The measurement of quality in Higher Education started with questions on what students want as they were viewed as the most important recipients and customers of Higher Education. This belief changed with the expansion of the Stakeholder Theory which starts to spread by showing to the organizations that customers are not the only ones who get affected and influence an organization.

The Stakeholder Theory was initiated in Higher Education with researchers trying to identify the key University stakeholder groups. The stakeholders in Higher Education include students, teaching as well as non-teaching staff, employers, government and other funding agencies, accreditation bodies and the general community, each with their own criteria and perspectives (Telford and Masson, 2005). Amongst these, the more significant stakeholders are those who either have an effect on the process or outcome of the service or are directly affected by it.

University leaders start to realize that the first step for quality improvement is the identification of all key stakeholder categories in Higher Education. The second step is to balance and manage their needs and expectations. For this to happen, Higher Education needs a quality framework with commonly accepted dimensions. For the creation of such kind of framework there are basic restrictions which we will try to overcome through our research.

The first problem is that literature establishes a serious difficulty in describing and evaluating quality dimensions in Higher Education. In general, there are many quality models that have been applied in Higher Education leading to different assessment methods and results. This assumption becomes very complicated reflecting the intangible nature of Higher Education and its public sector characteristics. The service and public nature of Higher Education makes the creation of a common quality framework vague and elusive.

Moreover, there is clearly a lack of conceptual models of quality management that can be applied effectively to Higher Education including the stakeholder perspective. So our basic concern was to find the right quality measurement tool which will include the various stakeholder groups in Higher Education.

In addition to all these, as we go away from Mastering instruments of quality control or accreditation, the focus now is on understanding that quality development is connected to organizational culture based on shared values. The importance of culture is recognized more

and more by researchers who finally start to attribute to culture the relevant importance and attention. Jean Monnet, an important figure in the European unification process, once said “If I would again start with the unification of Europe, I would start with the culture and not with the economy” (Haas and Hanselmann, 2005). Our second concern becomes the investigation of the relation between quality and culture which will be addressed at the end of the next chapter in the literature review on Societal Culture.

In consideration of all the above, throughout our research we chose as primary internal stakeholders the students, the professors, the administrative staff and the employers of graduates as external stakeholders who are ultimately and directly affected by the outcome of Higher Education. We then used the six Service Quality dimensions with the five EFQM excellence model criteria for our empirical study in order to measure their perceptions and expectations on Higher Education quality. These perceptions and expectations were then combined with the societal practices and values.

The definition of key quality determinants for each stakeholder group in AUEB and the investigation of the relation between societal factors and quality factors for each stakeholder category were our two main goals in this research. We expect to find differences in the way University stakeholders perceive quality and expect specific quality attributes from the University management. We also expect to find different gaps or satisfaction levels while comparing these categories. So, our first research question is whether there are differences in quality perceptions, expectations and satisfaction levels of the various stakeholder groups. Literature has shown serious indications that this stands true. We will have to see whether our University research will confirm such an allegation.

The next question to be analyzed and discussed is whether Societal Culture affects the way these quality judgements occur. If Societal Culture does affect the way quality is perceived and assessed what is the relation between these two constructs? Do all quality dimensions get influenced by the Societal Culture dimensions?

We will now proceed to the third chapter of this thesis addressing the Societal Culture theory and dimensions which made part of the independent variable of our research.

### **3. CHAPTER: National Culture Literature Review**

Chapter three introduces the concept of national culture and its connection to Service Quality. Then national culture will be defined and the reasons for the selection of such a broad cultural concept will be explained. The existing models of national quality and their dimensions will be presented. Moreover, empirical studies will be reviewed that relate national culture to Service Quality. Then the relationship of national or Societal Culture with both Quality Management and Service Quality will be examined based on the literature. On the basis of this review and the theory, assumptions for the empirical part will be formulated in the next chapter, combining both the quality and culture constructs within the Higher Educational Environment.

#### **3.1 Different Types of Culture and the Quality Culture within the Higher Education Context**

Culture is a highly complex construct and there is little agreement amongst management scholars and researchers as to what constitutes this phenomenon and how it should be studied. Kroeber and Kluckhohn (1952), for example, identified more than 160 definitions of the term. Culture is best defined as a shared meaning system (Hofstede, 1980; Kluckhohn, 1954; Schwartz, 1992; Shweder & LeVine, 1984). In metaphorical terms, culture is the software of the mind (Hofstede, 1991). Culture is the source of values that people share in a society. These values are shared and transmitted from one generation to another through social learning processes of modeling and observation, as well as through the effects of individual actions (Bandura, 1986). In the general frame of culture there are different expressions of culture.

##### **Organizational culture**

Organizational culture represents a system of shared values and beliefs that affect organizational members' expectations, and the ways in which they make sense of their organization and its environments, including its competitive landscape (Johnson, 2002; Schein, 1992; Schneider, Smith, & Goldstein, 2000). Organizational researchers also have

utilized a wide variety of culture definitions, although most empirical work has centered on the view of culture as an enduring, autonomous phenomenon that can be isolated for analysis and inter- organization comparison (Alexander, 1990).

These definitions have in common the view that culture consists of some combination of artifacts (also called practices, expressive symbols, or forms), values and beliefs, and underlying assumptions that organizational members share about appropriate behavior (Cooke & Rousseau, 1988; Gordon & DiTomaso, 1992; Ross-man, Corbett, & Firestone, 1988; Rousseau, 1990; Schall, 1983; Schein, 1992; Schwartz & Davis, 1981). Those with an alternative view of culture argue that culture is not something an organization "has" but, rather what the organization "is" (Hawkins, 1997; Meglino & Ravlin, 1998; Riley, 1983; Smircich, 1983). Culture is not a uniform but a diverse phenomenon – organizations usually display several cultures, and amongst them quality cultures, can also be observed

At a practical level, culture may be defined as "the way we do things around here" or "the way we think about things around here" (Williams et al., 1994). The key feature is that culture is taught to new members as the correct way to behave, thus perpetuating organizational survival and growth. (Maull et al., 2001) A widely accepted definition of culture including this feature is: "The pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaption and internal integration, and that have worked well enough to be considered valid, and therefore to be taught to new members as the correct way to perceive, think, and feel in relation to those problems."Schein (1984)

Organizational culture could be a strategic asset for the organization in that it increases the adaptability and fit between an organization and its environment (Kotter, 1992; Peters & Waterman, 1982). Organizational culture is often referred as corporate culture. Johnson and Scholes (1984) define corporate culture as being 'the deeper level of basic values, assumptions and beliefs that are shared by members of an organization'. These values, assumptions, attitudes and beliefs are reflected within an organizational culture. Corporate culture is a combination of widely shared institutional beliefs, values, and the organization's guiding philosophy that is usually stated in its vision, mission, and values statements (Gardenswartz et al., 2003). Similar to national culture, individuals within an organization often view their organization differently. These varying views often align themselves with individuals' levels within the company hierarchy. This results in leaders often having

different views about their corporate culture compared to those in the lower levels in the organization.

## **Quality Culture**

While TQM has separate origins from the culture movement, the two fields have recently converged with the idea that to achieve “excellence” and “quality”, it is necessary either to change or work with the culture of an organization (Lewis, 1996). Implementation of TQM requires changes to the shared assumptions, frames of reference, and understanding that most organizations have developed through interaction with their environment. These changes will impact basic beliefs and values that employees hold about work. (Ngowi, 2000) This is why many companies are now attempting to identify their organizational culture prior to implementing their TQM program. (Maull et al., 2001).

Organizational culture influences people’s actions and behaviors; quality culture creates the necessary conditions for quality to work given this organizational frame. Organizational culture alters people actions in the perceptions of all aspects of their work including quality (Reeves and Bednar, 1994). Consequently, Calori and Sarnin (1991); Sinclair and Arthur (1994); Klein et al. (1995); Lewis (1996), and Corbett and Rastrick (2000) referred to the relationship that exists between the constructs of quality and organizational culture. Research undertaken by Klein et al. (1995), for example, demonstrated that culture has a direct impact on Service Quality. This research used Cooke and Lafferty’s Organizational Culture Inventory scale to quantitatively measure culture and found a positive correlation between perceived levels of quality and the constructive and aggressive/defensive styles of culture (see Cooke and Rosseau, 1988).

Although in the past 25 years, the concept of organizational culture has gained wide acceptance as a way of understanding human systems, only little efforts have been made so far to transfer the concepts to the field of quality culture for Higher Education. Too often instruments and tools are introduced without respecting given cultural situations. As previously mentioned, quality is not expressed only through technical characteristics. The complexity of the factors influencing quality in Higher Education goes far beyond perception about student textbooks, laboratory equipment, and skills of academic and administrative staff.

The importance of culture in understanding TQM is widely supported in the literature. Authors such as Patten (1992), Kim et al. (1995) and Hildebrandt et al. (1991) have all encouraged the acceptance and the recognition of the organizational culture construct within quality management, especially as a primary condition for its successful implementation. Crofton and Dale (1996) highlight the organizational culture problems associated with TQM implementation and the effect that culture can have.

Regarding managing quality, it is essential to know the organization's culture for at least two reasons. First, it is a starting-point for formulating a quality management policy and selecting an appropriate way of implementing it. That is to say, the organization culture can lead through well planned steps to quality culture. The second reason is that some tools are not applicable in some countries because of the specific Societal Culture. For example, in some cultures it will be obvious that the approach of Juran or Crosby will yield success, while in other cultures the approach of Deming will be needed. That is why we cannot simply apply any model brought from abroad just because it is meant to bring quality. Its implementation might not bring the expected result because we didn't take into consideration the national influence.

Organizational culture is only a portion of a broader social culture in which students of administration ought to be interested (Brislin, 1993; Hofstede, 1980; Ralston, Elissa, Gustafson, & Cheung, 1991). That is to say, the most important aggregate of culture is indeed national culture. There is undoubtedly an intimate relationship between national culture and organizational culture. That is why organizations cannot develop an organizational culture that differs substantially from the prevailing cultural factors of the country in which they operate. Quality culture on the other hand is the appropriate conditions and environment needed for quality in Education to foster given a specific national and organizational culture. So these different aspects of culture are all connected with national culture shaping the institutional and community context within which a school is situated by defining predominant value orientations and norms of behavior (Getzels et al., 1968).

To conclude, it is indisputable that Universities and colleges form a key part of national culture. Universities need to identify and understand the national culture in which they function before they are able to create those specific conditions needed for quality to develop in Higher Education. In many ways the attitude of the population to Higher Education, the priorities set for the Universities and colleges and the policies of governments reflect the role expected of the University. It seems like the appropriate quality trip for Higher Education

starts from the quality determinants set by its stakeholder categories, then the identification of societal factors affecting those quality determinants in order for the governments, after all, to be able to foster quality in Higher Education and create a quality culture.

Since national culture seems a very broad and elusive notion we will try to define and analyze its dimensions in the following sections of this chapter. The basic assumption of our dissertation relies on the arguments of Hofstede (2005), Schwartz (1994), Trompenaars (1996), and Steenkamp (2001) stating that culture can be conceptualized on the national level. We will make an attempt to conceptualize national culture with the further aim to observe its effect on the behavior and the perceptions of different stakeholders groups within the Athens University of Economics and Business.

### **3.1.1 Defining National Culture**

National culture is a shared understanding that comes from the combination of beliefs, values, attitudes, and behaviors that have provided the foundation for the heritage of a country. Although national culture is a shared understanding individuals within a nation still have a very wide range of beliefs about their nation. This is called personal culture and is unique for every individual. Personal culture is the shared combination of an individual's traits, skills, and personality formed within the context of his or her ethnic, racial, family, and educational environments. Although there is considerable debate concerning the semantic equivalence of societal and national culture (Agar, 1996), most definitions underline that culture is learned through primary and secondary socialization and that the members of a society share it. Breaking the concept of culture into measurable cultural dimensions facilitates the comparison of practices and values amongst societies.

Assmann (1999) defines culture as a collective memory which leads to the utilization of a common symbol system. This symbol system is only understood and recognized by people who have the same cultural memory. People with a different cultural memory do not understand the symbol system and therefore do not belong to the same culture group. This definition implicitly explains why there are differences between groups that do not share the same history, the same language etc. Nations are a relatively recent phenomenon and do not necessarily comprise a homogenous culture. As Hofstede stresses, "Nations are not the best units for studying culture but they are usually the only kind of units available for comparison and better than nothing." (2003, p. 812). In this context Hofstede also stated that conclusions about differences based on national culture are absolutely valid as long as these differences can be identified.

Nevertheless, even one of the most distinguished anthropologists indicates that there are certain forces which concern all people living in one country. In his book about Indonesia and Morocco, Geertz (1995) remarks that the right way to study a country is learning its language and knowing about the mega-entities in which it is situated, such as its role within former colonial powers or its religious affiliation.

In the management literature the concept of national culture is well established and recognized. Hofstede (2005, p. 4) defines culture as "the collective programming of the mind that distinguishes the members of one group or category from others". He is conscious about the problematic aspects of taking on a broad perspective when talking about culture, but he

also states that integrating forces such as language, national education systems, national army, national political systems, national representation in sports events, a national market for certain skills, products and services lead to the possibility of conceptualizing culture on the national level because these determinants have an influence on the “programming of mind” and make that people within one country think and feel similarly. Schwartz (1994) and Trompenaars (1996) agree with Hofstede and propose a framework to study culture at the national level. They both identify basic societal issues which engage all people regardless of their national background.

The national/societal level of culture is perhaps the most prevalent level in empirical studies of cultural differences. After all, the work of Hofstede (1984) and the more recent GLOBE Study (House, Hanges, Javidan, Dorfman, & Gupta, 2004) equate nationality and culture. A quite important work has been done by researchers in classifying cultures and their value orientations. These models will be analyzed in the next section.

### **3.1.2 Models of National Culture and their Dimensions**

There are at least six models of national culture that continue to be widely cited and utilized in the organizational research literature. These include models proposed by Kluckhohn and Strodtbeck (1961), Hofstede (1980), Hall (1959, 1976), Trompenaars (1993), Schwartz (1994), and House (1999) with his GLOBE associates. Another cultural framework is suggested by Inglehart's World Values Survey – WVS (Inglehart, 1997; Inglehart, Basañez and Moreno, 1998; Inglehart and Welzel, 2005). Each model highlights different aspects of societal beliefs, norms, and/or values and, as such, convergence across the models has been seen as being very limited. Below the six most important models are presented.

#### **Kluckhohn and Strodtbeck**

Based on the initial research by Clyde Kluckhohn (1951), cultural anthropologists Florence Kluckhohn and Fred Strodtbeck (1961) suggested one of the earliest models of culture that has served as a principal foundation for several later models. They proposed a theory of culture based on value orientations, arguing that there is a limited number of problems that are common to all human groups and for which there are a limited number of solutions. They further suggested that values in any given society are distributed in a way that creates a dominant value system. They used anthropological theories to identify five value orientations, four of which were later tested in five subcultures of the American Southwest. Their cultural dimensions referred to the relationship of people with nature, relationship with people, human activities, relationship with time and human nature.

#### **Hofstede**

Without question, Hofstede (1980, 2001) has developed by far the most influential cultural framework, with over 1,100 citations to his work reported in just the decade between 1987 and 1997 (Sivakumar and Nakata, 2001). His value mapping and value dimensions are used as organizing and explanatory constructs in many disciplines. Initially, Hofstede asserted that cultures could be distinguished along four dimensions, power distance, uncertainty avoidance, individualism vs. collectivism, masculinity vs. femininity. Later he added a fifth

dimension based on his research with Michael Bond (1988). The fifth dimension, long-term orientation (Hofstede and Bond, 1988), is the cultural perspective of a long-term vs. a short-term basis. All five dimensions of culture-level values have provided the conceptual impetus for numerous cross-cultural studies.

His model was derived from a study of employees from various countries working for a major multinational corporation and was based on the assumption that different cultures can be distinguished based on differences in what employees value. Though based on 117,000 questionnaires from 88,000 respondents in 20 languages reflecting 66 countries, Hofstede's work has come under some scrutiny. The description of countries on mere four or five dimensions is seen as insufficient, with several important dimensions missing. Hofstede (1980, p.313f.) has admitted: "it may be that there exist other dimensions related to equally fundamental problems of mankind which were not found because the relevant questions simply were not asked". Further, Hofstede has been criticized regarding measurement of his dimensions, equivalence of the meaning of his values in each of the cultures as well as the age of his data, which was primarily collected between 1968 and 1972.

## **Trompenaars**

Building on the work of Hofstede, Dutch management researcher Fons Trompenaars (Trompenaars, 1993; Trompenaars and Hampden-Turner, 1998) presented a somewhat different model of culture based on his study of Shell and other managers over a ten-year period. His model is based on the early work of Harvard sociologists Parsons and Shils (1951) and focuses on variations in both values and personal relationships across cultures. It consists of seven dimensions. The first five dimensions focus on relationships among people (universalism - particularism, individualism - collectivism, specific - diffuse, neutral - affective, achievement- ascription), while the last two (time perspective and relationship with environment) focus on time management and society's relationship with nature.

## **Hall**

Edward T. Hall (1981, 1990), American cultural anthropologist, has proposed a model of culture based on his ethnographic research in several societies, notably Germany, France, the US, and Japan. His research focuses primarily on how cultures vary in interpersonal

communication, but also includes work on personal space and time. Many of the terms used today in the field of cross-cultural management (e.g., monochronic / polychronic) are derived from this work. The cultural dimensions of Hall referred to context of messages, within countries. Space meaning the extent to which people are comfortable sharing physical space with others and time meaning the extent to which people approach one task at a time or multiple tasks simultaneously.

## Schwartz

Schwartz (1994a) has identified seven culture-level dimensions, namely, Conservatism, Intellectual Autonomy, Affective Autonomy, Hierarchy, Egalitarian Commitment, Mastery, and Harmony. Schwartz is known for the ten distinct types of motivational values which have been derived from the universal requirements of human existence and verified in cross-cultural research by Schwartz (1992) and colleagues (e.g., Sagiv & Schwartz, 1995; Schwartz & Bilsky, 1987, 1990; Schwartz & Huismans, 1995; Schwartz & Sagiv, 1995).

The human values identified are: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security. Schwartz (1994b) argued that individual and cultural levels of analysis are conceptually independent. Individual-level dimensions reflect the psychological dynamics that individuals experience when acting on their values in the everyday life, while cultural-level dimensions reflect the solutions that societies find to regulate human actions.

At the cultural level of analysis, Schwartz identified three dimensions: conservatism and autonomy, hierarchy versus egalitarianism, and Mastery versus harmony. Based on this model, he studied school teachers and college students in fifty-four countries. His model has been applied to basic areas of social behavior, but its application to organizational studies has been limited (Bond, 2001).

Inglehart suggests another cultural framework called World Values Survey (WVS) (Inglehart, 1997; Inglehart, Basañez and Moreno, 1998; Inglehart and Welzel, 2005). The survey provides a standardized cross-cultural measure of people's values and goals, concerning politics, economics, religion, sexual behavior, gender roles, family values and ecological concerns. More importantly, by conducting the survey in waves (the first in 1981 – named the European Values Survey, the second in 1990/1991, the third in 1995/96, the fourth in 1999/2001), WVS charts how values are changing and examines how modernization and

tradition interact to shape those changes. A worldwide network of social scientists cooperated in developing the questionnaire and conducting the survey. The entire set of data collected between 1981 and 2001 from representative national samples in 81 societies -- containing 85 percent of the world's population, and based on over 250,000 interviews -- is currently available in Inglehart and Welzel (2005).

### **The GLOBE study**

Perhaps the most comprehensive research conducted to date on national cultural dimensions has been made available by the GLOBE (Global Leadership and Organizational Behavior Effectiveness) Project Team. A distinctive feature of this multicultural project is that values associated with leadership were measured concurrently with ideal and actual leadership behaviors. The House team has identified nine culture-level dimensions: performance orientation, assertiveness, future orientation, humane orientation, institutional collectivism, Family (now in-group) collectivism, gender egalitarianism, power distance, and uncertainty avoidance (House, Hanges, Javidan, Dorfman, & Gupta, 2003). The GLOBE project was initially designed to analyze the relationship between societal values and practices, and leadership effectiveness. Data is provided for 62 cultures, based on a survey of 17,300 middle managers in 951 organizations.

While several of GLOBE dimensions have been identified previously (e.g., individualism-collectivism, power distance, and uncertainty avoidance), others are unique (e.g., gender egalitarianism and performance orientation). Based on this assessment, the GLOBE researchers collected data in sixty-two countries and compared the results. Systematic differences were found in leader behavior across the cultures. Clearly, one of the principal contributions of the GLOBE project has been to study systematically not just cultural dimensions but how variations in such dimensions affect leadership behavior and effectiveness.

Implications of national culture models for this study are presented below in Table 6 which summarizes themes included in each model discussed so far.

**Table 6:** Common themes across models of national culture

Common Themes	Culture Models					
	Kluckhohn Strodtbeck	Hofstede	Hall	Trompenaa rs	Schwartz	GLOBE
<b>Distribution of power and authority</b>		1	1	1	1	2
<b>Emphasis on groups or individuals</b>	1	1		1	1	2
<b>Relationship with environment</b>	2	1		1	1	3
<b>Use of time</b>	1	1	1	1		1
<b>Personal and social control</b>	1	1		1		1
<b>Other themes (see text)</b>			1	2		
<b>Note: Numbers indicate the number of cultural dimensions from the various models fit within each theme.</b>						

Looking closely at all models we can reach some conclusions. Although Hofstede's work was criticized for being superficial and even populist (see for example Baskerville 2003) his work became well known within the field of marketing research and led to the emergence of various other multidimensional concepts of national culture. For instance, Trompenaars (1996) dimensions strongly correlate to Hofstede and in some cases to Triandis (2001).

Contrary to dimensions of Hofstede and Trompenaars which were developed for the business environment, Schwartz' (1994) model is based on a survey about social values carried out among college students in 56 countries. Compared to Hofstede's dimensions, Schwartz' dimensions are poorly cited in the literature. But they show that cultural dimensions are not only applicable within the business environment. A completely different approach of national culture dimensions was proposed by Hall (1984) and Hall and Hall (1990). They concentrated on latent characteristics of culture and identified four bipolar dimensions which refer to implicit communication behaviors. GLOBE offers an alternative perspective to the existing frameworks on cultural dimensions. Compared with the previously discussed frameworks by

Hofstede and Schwartz, GLOBE presents the most current data on cultural dimensions and it does so for a large number of cultures (62 cultures). It clearly distinguishes between societal values and practices, recognizing that both levels of culture may on certain occasions be in conflict.

The next section describes the dimensions of GLOBE which will later be applied in the empirical part. These dimensions were developed by Globe building on previous findings by Hofstede (1980), Schwartz (1994), Smith (1995), Inglehart (1997), and others.

### **3.2 Dimensions of National Culture in the GLOBE Study**

GLOBE is a multi-phase, multi-method project in which investigators across the world are examining the interrelationships between Societal Culture, organizational culture, and organizational leadership. The goal of GLOBE was to develop an empirically based theory to describe, understand, and predict the impact of specific cultural variables on leadership and organizational processes and the effectiveness of these processes. Because cross-cultural research required knowledge of all the cultures being studied a network of 150 Country Co-Investigators (CCIs) was developed, all social scientists or management scholars, from around the world. These scholars coming from 61 cultures representing all major regions of the world were engaged in a long-term series of cross-cultural leadership studies. Project GLOBE applied both quantitative and qualitative methods to provide richly descriptive, yet scientifically valid, accounts of cultural influences on leadership and organizational processes. In parallel with the quantitative analysis, qualitative culture-specific research was being conducted in the same cultures. Quantitative aspects include measurement of Societal Culture, organizational culture, and leadership attributes and behaviors. Qualitative culture-specific interpretations of local behaviors, norms, and practices are being developed through content analysis of data derived from interviews, focus groups, and published media

As a first step to gauge leader effectiveness across cultures, GLOBE empirically established nine cultural dimensions that make it possible to capture the similarities and/or differences in norms, values, beliefs – and practices – among societies. The main assumption were the following :Culture is a set of beliefs and values about what is desirable and undesirable in a community of people, and a set of formal and informal practices to support those values (Javidan and House, 2001). Beliefs are people's perceptions of how things are done in their countries (House et al., 2003) and they are the reported practices in a particular culture (House et al., 2003). Values are people's aspirations about the way things should be done; they are their reported preferred practices (House et al., 2003).

The theoretical base that guides the GLOBE research program is an integration of implicit leadership theory (Lord & Maher, 1991), value/belief theory of culture (Hofstede, 1980), implicit motivation theory (McClelland, 1985), and structural contingency theory of organizational form and effectiveness (Donaldson, 1993; Hickson, Hinings, McMillan, & Schwitter, 1974). GLOBE tried to answer questions concerning those leader behaviors,

attributes, and organizational practices that are universally accepted and effective across all or some cultures. Researchers investigated the way that characteristics of societal and organizational cultures affect different types of leader behaviors and organizational practices.

### **3.2.1. The GLOBE Constructs Definition**

The first six culture dimensions had their origins in the dimensions of culture identified by Hofstede (1980). GLOBE scales measuring uncertainty avoidance, power distance and collectivism dimensions were designed to reflect Hofstede's (2001) dimensions of uncertainty avoidance, power distance, and individual collectivism. However, factor analyses conducted by GLOBE researchers revealed that the dimension of collectivism could effectively be divided into two sub-dimensions: institutional collectivism and in-group collectivism. Whereas in-group collectivism, which reflects the degree to which individuals have pride and loyalty in their families is similar to the dimension of collectivism as typically understood in literature (for instance, Hofstede, 1980, 2001; Triandis, 1989, 1995), institutional collectivism, which reflects the degree to which laws, social programs, or institutional practices are designed to encourage collectivistic behavior, is a form of collectivism that has received limited attention to date (House and Javidan, 2004).

Hofstede's masculinity/ femininity are separated into two distinct dimensions. That is to say, the GLOBE framework modifies the dimensions of Hofstede and develops two new dimensions :( 1) gender egalitarianism; and (2) assertiveness (House et al., 2003).

The framework then adds future orientation, performance orientation, the humane orientation dimension and institutional collectivism. Future orientation has its origins in Kluckhohn and Strodtbeck's (1961) past, present, future orientation dimension, which reflects the temporal orientation of the majority of the population in the society. This dimension has some similarities with, but also some distinctions from Hofstede's (2001) long-term orientation (Ashkanasy et al., 2004). Performance orientation has its roots in the construct of need for achievement (McClelland, 1961). Finally, humane orientation is derived from Kluckhohn and Strodtbeck's (1961) dimension of human nature as good vs. human nature as evil, as well as from work by Putnam (1993) and McClelland (1985).

Collectively, the nine dimensions reflect not only the dimensions of Hofstede's theory but also David McClelland's theories of national economic development (McClelland, 1961) and

human motivation (McClelland, 1985). We believe that the nine core GLOBE dimensions reflect important aspects of the human condition. Dimensions can generate a profile for values and behaviors in a particular society (House et al., 1999). Psychometric analyses indicated justification for grouping the items into scales relevant to the nine core GLOBE dimensions of societies and organizations.

The nine attributes which were identified as quantitative dimensions were: (1) uncertainty avoidance, (2) power distance, (3) collectivism I: Societal Emphasis on collectivism also called institutional collectivism, (4) collectivism II: family collectivistic practices also called as in group collectivism, (5) gender egalitarianism, (6) assertiveness, (7) future orientation, (8) performance orientation, and (9) humane orientation.

These dimensions were selected on the basis of a review of the literature relevant to the measurement of culture in previous large-sample studies and on the basis of existing cross-culture theory. Organizational and Societal Culture items were written for the nine core GLOBE dimensions, described below, at both the societal and the organizational levels. The items were destined to reflect two culture manifestations: institutional practices reported "As Is" and values reported in terms of what "Should Be". So, parallel instruments for societal and organizational culture at the value (should be) and practices (as is) levels were developed.

## **1. Performance orientation**

Performance orientation refers to the extent to which an organization or society encourages and rewards group members for performance improvement and excellence. This dimension includes the future-oriented component of the dimension called "confucian dynamism" by Hofstede and Bond (1988). A key element of performance orientation as a cultural dimension is the nature of the individual's relationship with the outside world (Javidan, 2004). High performance oriented societies tend to value those individuals and groups that produce results and accomplish their assignments (Javidan, 2004).

The GLOBE project found that societies that score high on performance orientation give value to training and development, competitiveness and materialism. They view formal feedback as necessary for performance improvement. They also tend to believe that schooling and education are critical for success, emphasize results more than people, value taking initiative, believe that anyone can succeed if he or she tries hard enough, and values what

people do more than what people are (Javidan, 2004). Societies that have low performance orientation according to the GLOBE study value societal and family relationships more, harmony with the environment, view formal feedback as judgmental and discomforting. They also tend to value who one is more than what one does.

## **2. Uncertainty avoidance**

Uncertainty avoidance is defined as the extent to which members of an organization or a society strive to avoid uncertainty by reliance on social norms, rituals, and bureaucratic practices to alleviate the unpredictability of future events. This dimension reflects Hofstede's (1980) uncertainty avoidance construct. Uncertainty avoidance is the cultural dimension related to the way that individuals in a society respond to vagueness and uncertain situations (Husted, 2002). Uncertainty avoidance refers to the extent to which a society relies on norms and procedures to cover events and situations in their daily lives. Getz and Volkema (2001) argue that in high uncertainty avoidance cultures, people prefer Institutions with well-established norms, rules, policies, and procedures.

Organizations that seek to avoid uncertainty have formal rules and regulations, clear task definitions, and low tolerance for deviation from the rules and norms. On the other hand, organizations with high tolerance for uncertainty are less formal, more flexible, and allow for higher levels of heterogeneity in norms and behavior. Cultures with high levels of uncertainty avoidance are: France, Belgium, Greece, and Portugal. Cultures with low levels of uncertainty avoidance are Denmark, Sweden, and Singapore.

The cultural dimension named "uncertainty avoidance" emerged from the GLOBE research as very important. An alternative way of thinking about uncertainty avoidance is that it's about the extent to which ambiguous situations are felt as threatening. In high uncertainty avoidance societies, people use formality in interactions with others; they are orderly and keep meticulous records. They also rely on formalized policies and procedures, take moderate, calculated risks and they show strong resistance to change. In low uncertainty avoidance societies, people use informality in interactions with others, are less orderly and keep fewer records. They rely on informal norms for most matters and they are not careful when it comes to risk. As a subsequent they also show moderate resistance to change

### **3. In-Group collectivism**

Collectivism means preference for working in teams, subordination of personal goals to group goals, concern for the integrity of the group, and intense emotional attachment to your group. In contrast, individualism emphasizes personal autonomy and independence, adherence to personal goals, and less concern and emotional attachment to the in-groups (Triandis et al., 1988). In this dimension we have a combination of collectivism and individualism which constitutes family collectivism. This dimension expresses the degree to which individuals express pride, loyalty and cohesiveness in their organizations or families. It is also called individual collectivism and refers to the strength of ties within small groups such as family and close friends. In such countries, family members and close friends have strong expectations from each other. In societies that score high on family collectivism, people tend to look after themselves or their immediate families, individual goals take precedence over group goals, people emphasize rationality, individuals are likely to engage in activities alone, and individuals make fewer distinctions between in-group and out-groups (Gelfand et al., 2004). People in such societies tend to prefer tight social frameworks and strong belief in group decisions, and group loyalty is valued over efficiency (Davis and Ruhe, 2003). In high in-group collectivism societies duties and obligations are important determinants of social behavior and a strong distinction is made between in-groups and out-groups. Moreover, people emphasize relatedness with groups and pace of life is slower. In low in group collectivism societies, personal needs and attitudes are important determinants of social behavior and little distinction is made between in-groups and out-groups. People emphasize rationality in behavior and the pace of life is faster.

### **4. Power distance**

Power distance is defined as the degree to which members of an organization or society expect and agree that power should be unequally shared. This dimension reflects Hofstede's (1980) power distance construct. Power distance reflects the relationship between those who have the power and those who do not. In other words this dimension reflects the level of equality in the society.

The findings concerning "power distance" are interesting primarily because they failed to confirm a relationship expected by the researchers.

Countries that are high in power distance tend to expect obedience toward superiors and clearly distinguish between those with status and power and those without (House et al., 2004). Higher power distance societies tend to be differentiated into classes: power is seen as providing social order, relational harmony, and role stability; information is controlled, different groups have different involvement, public corruption is high, and only a few people have access to resources (Carl et al., 2004). High power distance cultures emphasize autocratic or paternalistic behavior, while low power distance cultures prefer participative relations, equal rights, and the use of legitimate rather than coercive power (Hofstede, 1980, 1991; House et al., 2004). Lower power distance societies tend to be more innovative (Hofstede, 1980) and more inventive (Shane, 1992). The GLOBE results show that societal power distance practices are associated with lower economic prosperity, less supportive public and social policies, lower national competitiveness, and less success in basic scientific research (Carl et al., 2004).

In high power distance societies, society is differentiated into classes and power is seen as providing social order. Upward social mobility is limited and resources available to only a few. Public use of information is localized and restricted. In low power distance societies, there is a large middle class, resources are available to almost all and information is widely shared

## **5. Gender egalitarianism**

Gender egalitarianism is the extent to which an organization or a society minimizes gender role differences, inequality and discrimination. The findings for "gender egalitarianism" are significant because it is one of the predictors of the most widely admired characteristic of successful leaders.

Some societies with high levels of gender egalitarianism seek to minimize gender role differences, whereas other societies seek to maximize such differences (House et al., 2004). Societies that score higher on gender egalitarianism tend to have more women in positions of authority, accord women a higher status in society, afford women a greater role in community decision-making, have a higher percentage of women participating in the labor force, and have similar levels of education for females and males (Emrich et al., 2004). GLOBE found

that gender egalitarianism practices are not correlated with any of the three indicators of economic health (economic prosperity, economic productivity, and GNP per capita). In contrast, Emrich et al. (2004) found that gender egalitarianism values were positively correlated with the three indicators. In Higher gender egalitarianism Societies there are more women in positions of authority and less occupational sex segregation. Similar levels of educational attainment for males and females are achieved. These societies afford women a greater decision-making role in community affairs. In low gender egalitarianism societies, however, there are fewer women in positions of authority and there is occupational sex discrimination. A lower level of female educational attainment compared to that of males and there is little or no women decision-making role in community affairs.

## **6. Humane orientation**

Humane orientation is the degree to which individuals in organizations or societies encourage and reward individuals for being fair, altruistic, friendly, generous, caring, and kind to others. This dimension is similar to the dimension labeled “Kind Heartedness” by Hofstede and Bond (1988).

Humane orientation societies are likely to have organizations that allow employees to be tolerant of mistakes (Heals et al., 2004). These societies are friendly and sensitive and value harmony (Javidan and House, 2001). Low humane orientation involves promoting self-interest and lack of consideration. According to the GLOBE findings, less humane orientation is observed in societies that are economically developed, modern, and urbanized (Kabasakal and Bodur, 2004). Furthermore, in societies in which physical conditions and climate create difficulties for well-being, there is higher humane orientation (Kabasakal and Bodur, 2004). High humane orientation societies emphasize caring, compassion, sympathy, and personal relations. In high humane orientation societies the interests of others are important, people are motivated primarily by the need of belonging and affiliation. The members of society are responsible for promoting the well-being of others and child labor is limited by public sanctions. People are urged to be sensitive to all forms of racial discrimination. On the contrary in low humane orientation societies one's own self-interest is important. People are motivated primarily by the need for power and material possessions and the state fails to provide social and economic support for individuals' well-being. Child labor is an issue of low importance and people are not sensitive to any form of racial discrimination.

## **7. Institutional collectivism**

Institutional collectivism is defined as the degree to which organizational and societal institutional practices encourage and reward collective distribution of resources and collective action. Low scores in this dimension reflect individualistic emphasis and high scores reflect collectivistic emphasis by means of laws, social programs or institutional practices.

Cultures that score high on institutional collectivism are integrated into strong cohesive groups: group goals take precedence over individual goals, people emphasize relatedness with the group, individuals are likely to engage in group activities, and individuals make greater distinctions between in-groups and out-groups (Gelfand et al., 2004). However, societal institutional collectivism practices were significantly correlated with economic prosperity, public sector support for economic prosperity, and competitiveness index indicators (Gelfand et al., 2004), whereas societal institutional collectivism values were negatively correlated with economic prosperity, public sector support for economic prosperity, and competitiveness index indicators (Gelfand et al., 2004).

GLOBE project results indicate that institutional collectivism practices are positively correlated with success. In institutional collectivism societies, people prefer working together in collective styles, where cooperation and synergistic behaviours are more prominent than people's personal desires (Hofstede and Bond, 1984; House et al., 2002).

In high institutional collectivism societies members assume that they are highly interdependent and group loyalty is encouraged, even if this undermines the pursuit of individual goals. Rewards are driven by seniority, personal needs, and/or within-group equity and critical decisions are taken by groups. In low institutional collectivism societies members assume that they are largely independent of the organization. There is pursuit of individual goals even at the expense of group loyalty. The society's economic system tends to maximize the interests of individuals. Rewards are driven very largely by an individual's contribution to task success and critical decisions are made by individuals.

## **8. Future orientation**

Future orientation refers to the extent a culture focuses on the future and expresses the degree to which a society encourages and rewards future-oriented behaviors such as planning (Javidan and House, 2001).

High future orientation cultures achieve economic success, have organizations with a longer strategic orientation, have flexible and adaptive organizations and managers, place a higher priority on long-term success, have a strong capability and willingness to imagine future contingencies, formulate future goals, and seek to achieve goals and develop strategies for meeting their future aspirations (Ashkanasy et al., 2004). Conversely, a past-oriented culture might evaluate plans in terms of customs, traditions, or history, but a future-oriented culture would evaluate plans in terms of future benefits (Heals et al., 2004).

Cultures with low future orientation or high present orientation show the capability to enjoy the moment, free from past worries or future anxieties, unwilling to plan a sequence to their desired goals and may not appreciate the warning signals that their current behavior influences negatively (Ashkanasy et al., 2004). The GLOBE project indicates a significantly positive relationship between various economic indicators and the cultural practices of future orientation societies (Ashkanasy et al., 2004). They also show that success in basic science is positively related to future orientation cultural practices, but negatively related to future orientation values (Ashkanasy et al., 2004). These results show that societies may value future orientation to transform their weak capabilities in basic science, but not just to transform their societal and economic conditions (Ashkanasy et al., 2004). The characteristic existing in high future orientation societies is propensity to save now for the future. People emphasize working for long-term success and organizations tend to be flexible and adaptive. Individuals view material success and spiritual fulfillment as an integrated whole. In low future orientation societies, there is tendency to spend now, rather than save. They prefer gratification as soon as possible and organizations are inflexible and maladaptive. Finally, they view material success and spiritual fulfillment as separate, requiring trade-offs.

## **9. Assertiveness**

Assertiveness is the degree to which individuals in organizations or societies are assertive, confrontational, and aggressive in their relationships with others. This dimension is part of the Hofstede's (1980) Masculinity dimension.

Highly assertive societies tend to prefer strong and direct language (Javidan and House, 2001). Less assertive societies prefer a less direct style of communication. Societies that are characterized by assertiveness encourage individuals to be aspiring, competitive, and to struggle for physical success (Javidan and House, 2001). Societies that score higher on assertiveness tend to value assertiveness, dominant and tough behavior, try to have control over the environment, and try to act opportunistically and think of others as opportunistic (Den Hartog, 2004). In high assertiveness societies it is obvious that people value competition, success, and progress. They communicate directly and unambiguously and also try to have control over the environment. They expect subordinates to take initiative and build trust on the basis of calculation. In low assertiveness societies individuals value cooperation and warm relationships and they prefer to communicate indirectly. They also try to be in harmony with the environment, expect subordinates to be loyal and they build trust on the basis of predictability.

After analyzing the GLOBE dimensions it is appropriate to mention that Harry Triandis, one of the giants in cross-cultural research, calls the GLOBE research "the Manhattan Project of the study of the relationship of culture to conceptions of leadership" (2004). The GLOBE study is a major study and, to date, the only study to analyze how leadership is viewed by cultures in all parts of the world. Findings from GLOBE are valuable because they emerge from a well-developed quantitative research design. GLOBE studies provide a classification of cultural dimensions that is more expansive than the commonly used Hofstede classification system. Moreover, the study provides useful information about what is universally accepted as good and bad leadership.

A significant fact about GLOBE's nine cultural dimensions is that each one was conceptualized in two ways: practices or "as is" and values or "should be." The GLOBE research program is directed toward filling a substantial knowledge gap concerning the cross-cultural forces relevant to effective leadership and organizational practices. GLOBE uses multiple measurement methods in order to empirically test which methods are most

meaningful. Moreover, it developed measures of leader attributes that differentiate cultures in terms of perceived effectiveness, as well as leader attributes that are universally endorsed (or rejected) across cultures.

The findings about culture can help leaders understand their own cultural biases and preferences. Knowledge about cultural and organizational norms and practices in the cultures studied can inform the formulation of meaningful prescriptions to manage in other cultures, to set the appropriate strategy and policy and to lead organizational improvement interventions and human resource management practices. Moreover, leaders might be helped to adapt their style to be more effective in different cultural settings.

There was of course some criticism on the fact that globe research does not provide a clear set of assumptions and propositions that can form a single theory about the way culture relates to leadership or influences the leadership process. Also, that GLOBE focuses on what people perceive to be leadership and ignores a large body of research that frames leadership in terms of what leaders do (e.g., transformational leadership, path–goal theory, skills approach). At last while GLOBE provides data on the societal level, it does not do so on the individual level. The items used in the GLOBE project are designed to reflect societal values and practices, not individual values and practices. However, as individuals are socialized through values that are held and behaviors that are practiced in their cultures, it is very likely that they adopt values and practices that are shared among members of their society (Markus and Kitayama, 1991).

After analyzing the dimensions of the GLOBE study and reviewed the critic of this project we will pass to the section that analyzes the relation of national culture with total quality management and more elaborately with Service Quality. Of course, the existing knowledge and findings on the relation of Service Quality with national culture are far from being complete. Therefore, reference will be made to studies that investigate the relationship between national culture and quality management in depth. These studies will provide complementary insights useful for the argumentation of this dissertation.

### **3.3 Societal Culture and Service Quality**

#### **3.3.1 Societal Culture and Quality**

To start with, the relation of Societal Culture to total quality management is of great importance for our research since we have used the TQM values embedded in the EFQM excellence model. The influence of cultural dimensions on Quality Management is not adequately documented in the literature. Although there are other cultural dimensions studies (Schwartz, 1999), the most used dimensions in quality management studies are based on Hofstede (1980), who studied fifty countries along four cultural dimensions: power distance, uncertainty avoidance, individualism, and masculinity.

Kroslid (1999) found that the correlation between the cultural dimensions of Hofstede and the conviction of the value of quality management was insignificant. Mathews et al. (2001) studied quality management practices in the United Kingdom, Finland and Portugal and found differences in quality management that could be related to the cultural dimensions of Hofstede (1997). They found that the dimensions of power distance and uncertainty avoidance were most useful in explaining the differences.

In some studies (e.g. Dahlgaard et al., 1998; Harrington, 1996) different countries are compared and differences are found. Further, several studies relating quality problems to cultural aspects of certain specific countries have been carried out (e.g. de Macedo-Soares and Lucas, 1996; Dawson, 1995; Ngowi, 2000).

A number of studies, such as Lagrosen (2002) show that country cultures differ in their interpretation of quality and that there are statistically significant correlations among a set of quality management values and Hofstede's cultural dimensions (Lagrosen, 2003). Flynn and Saladin (2006) tested later on the relationship between Hofstede's cultural dimensions and the Baldridge Award criteria. They find Quality Management to be especially correlated with collectivism and masculinity. These studies show that country culture is also important to successful Quality Management efforts. The studies mentioned above have used culture as moderator in testing hypotheses on how cultural value dimensions impact QM effectiveness.

We will move a step further and try to test the causal relation between Societal Culture and Quality Management.

Even though Lagrosen's (2002) study finds that country culture influences both if and how Quality Management practices are implemented, the latter influence lacks empirical investigation. However, case studies by Lozeau et al. (2002) find that organizations incompatible with Quality Management values will divert it from quality improvement. Although country culture is not explicitly considered, Lozeau et al. provide a basis to explain culture's influence on Quality Management.

Stefan Lagrosen (2003) extended the previous studies by Winsted (1997), Donthu and Yoo (1998), and Mattila (1999) and gone beyond their limitations by developing and testing a complete set of hypotheses relating each of the five Hofstede cultural dimensions to each of the five SERVQUAL dimensions, as well as introducing three contingent variables in the formulation of the hypotheses. Although most hypotheses were rejected, some important correlations were found. It was found that uncertainty avoidance and individualism-collectivism are the dimensions that mainly affect quality management.

Some literature on culture suggests there are two manifestations of culture: values and behaviors (Hitlin and Piliavin, 2004; Segall et al., 1998). Cultural values differ from cultural behaviors because cultural values are what a society feels is important and what should be (Rokeach, 1973), while cultural behaviors are a society's observable practices and activities (House and Javidan, 2004). The Quality Management literature suggests that cultural values are more important to consider than behaviors because values drive attitudes and behaviors (Detert et al., 2000). In fact, Detert et al. (2003) found specific cultural values to underlie Quality Management, referring to these as Quality Management values. These authors state that when an organization's cultural values are incongruent with Quality Management values, then quality initiatives will not be successful. Kull and Wacher (2010) use the GLOBE cultural dimensions, extending the above literature using a culture-as-moderator approach and testing hypotheses of how cultural value dimensions impact Quality Management effectiveness. The study used the congruence between GLOBE's cultural value dimensions and Detert et al.'s Quality Management values to predict Quality Effectiveness in East Asian countries (China, Korea, and Taiwan). This study is very important as it tries to relate quality values to cultural values.

Detert et al. (2003) supported the existence of specific Quality Management values within eight general types of cultural values. According to them there are eight culture value types

that correspond to Quality Management Values. Kull and Wacker (2010) support these findings as their study results showed positive cultural moderation on quality for future orientation, institutional collectivism, humane orientation, and uncertainty avoidance. Although assertiveness is congruent with the Quality Management value pertaining to results, it is incongruent with two crucial values – cooperation and customer focus – because of its emphasis on individual rewards and focus on internal needs. The same goes for power distance as in a high power distance culture is expected to lower acceptance of Quality Management practices, leading to symbolic implementation and inappropriate usage. The two GLOBE dimensions performance orientation and in - group collectivism have equal positive and negative influences on Quality Management.

Regarding the relation of Service Quality with culture, Anderson and Fornell (1994), Collier (1994), and Horovitz (1987/1990) were the first who called for studies relating these two constructs. Some recently published empirical studies have started to investigate how cultural dimensions influence satisfaction and perceived Service Quality (Donthu and Yoo 1998; Mattila 1999; Winsted 1997). Also, numerous marketing studies report the impact of culture (country of origin of the respondent) on consumer behavior, such as emotional responses to online store atmospheric cues (Davis, Wang, and Lindridge, 2008), diffusion of new products (Steenkamp, Hofstede, and Wendel, 1999), perceptions of product quality (Chebat and Morrin, 2007), attitudes and persuasion (Aaker, 2000), and intention to buy personalized products online (Moon, Chadee, and Tikoo, 2008).

In the service marketing literature, several studies using macro-level analyses highlight the impact of culture on Service Quality perceptions, satisfaction and behavioral intentions (Furrer et al., 2000; Laroche et al., 2004; Ueltschy, Laroche, Tamila, and Yannopoulos, 2004; Ueltschy et al., 2007; 2009), employing either Hofstede's dimensions or nationality/place of birth as a proxy for culture (Laroche et al, 2004; Steenkamp, 2001). The influence of culture on perceived Service Quality is well-established by these studies (Zhang et al., 2008).

One of the precursors in investigating the relationship between national culture and Service Quality is Winsted (1997). Winsted examined how consumers in the United States and Japan evaluate service encounters. She developed behavioral-based service encounter dimensions for the two countries and identified significant cross-cultural differences on these dimensions. The dimensions identified in the United States are civility, personalization, remembering,

conversation, congeniality, delivery, and authenticity. Those identified in Japan are civility, personalization, conversation, concern, and formality.

She identified variations in Service Quality perceptions between Japanese University students, on the one hand, and American University students, on the other, and established dimensions for empirical measurement. She also proposed to apply different measurement techniques when measuring Service Quality perceptions in different national cultures. Her work was pioneering regarding the influence of national culture on Service Quality, but her rejection of objective measurement tools that would hold for all national cultures was later disapproved by most of the researchers. As also pointed out by Mattila (1999), Winsted's study did not provide a theoretical framework relating culture with service encounter satisfaction .

Mattila (1999) examined the impact of culture on customer evaluation of complex services. She provided a framework that adds to Winsted's (1997) study by explaining the cultural differences between Western and Asian customers in terms of individualism versus collectivism, power distance (Hofstede 1980, 1991), and high- versus low-context communication (Hall,1984).

Donthu and Yoo (1998) studied the effect of customers' cultural orientation on their Service Quality expectations. They used Hofstede's dimensions of culture and the dimensions of Service Quality from the SERVQUAL scale to develop and test hypotheses relating the five dimensions of culture with both a measure of the overall Service Quality expectation and the five Service Quality dimensions. However, their study focused on only 6 out of 25 possible relationships between the five cultural dimensions and the five Service Quality expectation dimensions.

A study that concentrates on the development of an objective measurement tool is provided by Furrer et al. (2000). They give insights into the relationship between Hofstede's dimensions and the relative importance of the SERVQUAL dimensions by conducting a survey among US students, International students in the US, and Swiss students. They discovered several interrelations between national culture and Service Quality. Based on these findings Furrer et al. developed the so called Cultural Service Quality Index (CSQI), a measurement instrument which integrates Service Quality and national culture dimensions. However, this instrument measures the importance attributed to Service Quality dimensions at the individual level and relates the results to the individual's score regarding cultural dimensions. Thus, it does not allow for a data analysis that uses national culture as an

independent variable. Furrer et al. consequently group the individuals' alongside certain SERVQUAL dimensions and not alongside national cultures.

Mattila (1999) and Mattila and Patterson (2004) provide useful information about the application of Hofstede's dimensions on Service Quality. In a study about perceptions of service failure of students from US, Thailand, and Malaysia, Mattila and Patterson (2004) found out that the Americans' Service Quality judgments were positively influenced by explanations about external reasons for the failure while the Asians' judgments are not. Their studies have an important limitation as they focus on very large cultural contexts such as the Asian and Western context.

As a result of the above, there is a missing piece in the literature connecting Societal Culture with quality management and especially with Service Quality. The studies performed are very few and even rare concerning the Higher Education setting.

Our study supporting previous findings on the impact of national culture on Service Quality proceeded to a research in order to investigate this relationship in a University environment. We decided to use the GLOBE study as our societal construct since many studies criticize the Hofstede framework (Soares et al., 2007), and urge researchers to consider using other cultural (national) typologies reported in the marketing literature (e.g., Sivadas, Bruvold, and Nelson, 2008; Steenkamp, 2001). So, having the SERVQUAL dimensions adapted to Higher Education and the five enabler criteria of the EFQM excellence model in the position of the dependent variable and the nine dimensions of GLOBE Study in the position of the independent variable we proceed further with the research of their interrelation in various stakeholder categories of the Athens University of Economics and Business.

The next section analyses the relation of Societal Culture and Quality with the six stakeholder categories of the Athens University of Economics and Business.

### **3.3.2 Societal Culture, Quality and University Stakeholders**

Numerous studies (Mandt 1982; Hildebrandt, Bond, Miller, and Swinyard 1982; Behrman and Levin 1984; Hahn, Mabert, and Biggs 1984; Houshyar 1990; Harris 1994) address the issue of whether business schools are adequately preparing students to succeed in today's highly technical and global marketplace.

Taking Students as the first stakeholder category of the Athens University of Economics and Business we can say that student quality needs are certain. They demand knowledgeable and enthusiastic academic and administrative staff who care about their learning, and help them to improve their knowledge. Teachers' ability is one part of the coin as students need also professor's willingness to satisfy the students' educational needs. They value factors such as the stimulation of interest, enthusiasm and the promotion of classroom interaction. These student expectations were proposed by Trigwell (2001) and Ramsen et al (1995) in describing perceptions of good University teaching.

Concerning the industry expectations, Undergraduate students need curriculum and experiences which will provide them with job opportunities. Little research focuses on the link between the business community and students. Most Undergraduate students have little interaction with the business community prior to graduation. They may gain some exposure during work-related experiences such as internships. Students may also interact with business managers briefly during classroom experiences. In general, their relationship with employers during their Undergraduate studies tends to be short in duration and limited in depth and scope.

Some researchers have shown student expectations of their teachers to be biased by factors such as gender, age, University type, mode of study and culture (e.g. Kember & Wong, 2000; Kuther, 2002; Stevenson and Sander, 2002). For us this is a very important assumption as the student stakeholder categories being analyzed in our research (Undergraduate, Master and International students) are different in most of these factors by default. That is to say, Undergraduate students are the younger one (age factor) and Hofstede supported differences between generations are simply “normal attributes of age” (1991, p. 17).

Undergraduate students are not different only by means of age but they have different treatment than Master students in the Greek Higher Education (different mode of study factor). Master students differ not only in “age” but they are in a completely different phase

in their life. As graduates they have more chances to interact with the business community through professional visitors in class and plant tours organized in Master level. Master students have a different academic status as they pay for the education and they are closer to the market place, with a higher stimulation and interaction with employers.

Regarding the International students profile, this stakeholder category has by default a different cultural background. Apart from the different culture effect they have a different time line in their studies which is 6 months to one year in a University they might not have enough time to assess and get an overall estimation of its full activities and services offered. A study examining satisfaction with life among 304 International students at the University of Bergen, Norway found that the majority of students were satisfied and adapted well to living and studying overseas (Sam, 2001). International students are interested in mixing with other cultures and consider it important to learn from their colleagues and staff. The administrative staff and the academic staff help those students who understand the working environment of the University and improve their English ability. In the same way as Master students, International students are treated separately from all the rest of the students. They have their own administrative support, they own classes and facilities.

These different categories of stakeholders will have different perceptions and expectations regarding Higher Education quality because of all the previously mentioned reasons but also because of their different personal values. Ladhari, Pons, Bressolles, Zins (2011) suggest that personal values may affect Service Quality. Their study finds out that seven out of the nine values influence at least one of the five SERVQUAL dimensions.

Literature provides evidence that values determine students' choice of courses (Giacomino and Akers, 1998), differentiate between class behaviors (Warden et al., 2005) and determine ultimate managerial behavior (Yoo and Donthu, 2002). Taking into consideration the literature emphasizing the effects of both personal values (micro- level variables) and cultural values (macro-level variables), was the reasons that directed our research to the examination of the impact of Societal Culture on perceived Service Quality .

In Societal Culture level, we believe that as the country undergoes a deep crisis which turns from economic to ethical, Undergraduate students will value performance orientation in terms of quality. Performance orientation is very eminent now that students feel that their generation will have to lead the country out of the crisis and rebuild systems and structures. Moreover, we believe there will be desire for more humane orientation as during the last year, the behavior of people has changed towards negativity and individualism due to the

economic and ethical crisis. Students being still young and dreamers are eager to fight for the well being of their society. In their attempts they face the denial of old generation to see things in humanitarian way and through unity. So, we definitely believe that their perception of quality will be also highly tied, apart from performance orientation, with humane orientation as well as with the desire for less assertiveness.

Master students as they have already entered the market place and face insecurity in their career path are probably characterized by high uncertainty avoidance. Of course, being in the center of the labor crisis and facing rejection from the market place, themselves, they are high in humane orientation. So we believe that their expectations for quality will be linked with uncertainty avoidance and humane orientation.

International students, coming mainly from highly developed countries like France, Germany and Scandinavian countries, will probably present high level of future and performance orientation as well as high uncertainty avoidance connected to their perception of quality. Moreover, judging by the mass media, International students might interpret the crisis and lack of quality as a failure of the Greek political system and existence of high power distance. So the research questions arising for the student stakeholder categories in AUEB refer to all the quality characteristics that these groups value. Moreover, which are the societal dimensions which affect their perception on University quality? Do the same dimensions affect all three stakeholder categories? Is there one model representing the relation of Societal Culture with quality for all three of them? Do these Societal Culture dimensions relate to all quality dimensions? We will try to reply to these research questions in our study for each stakeholder category but also as a unified group.

Analyzing now the other three stakeholder categories, academic staff, administrative staff and employers, we can say that the relationship between students and the academic community is very strong. Students are exposed to faculty perceptions through their classroom experiences over several years. Pariseau and McDaniel (1997) used SERVQUAL to measure quality in two small private business schools using the same questionnaire for both faculty and students. The research revealed that students and faculty may have different perspectives on quality of education. Pariseau and McDaniel (1997), and Galloway (1998) found that from the teachers' point of view, the largest quality gap of Service Quality is the tangible dimension. Considering that part of the tangibility dimension is the physical working environment for teachers, it is understandable that their expectations might be higher than those of the students and confirm the largest mean quality gap in this dimension. Generally, in literature,

quality gaps for teachers in all the five dimensions are lower than whatever confirmed by students. But if providers are unaware of their failure to meet expectations, the prognosis for improvement is poor (Pariseau & McDaniel, 1997).

In the research of Mosahab et al (2010) for the Service Quality in six public high schools of Tehran, (Iran) professors' results are better than student results. They believe that they are failing to meet expectations to a much smaller degree, since their mean scores are less negative than those of the students. Fisher et al (1998) pointed out that the divergence of opinions between academic staff and students, possibly relates to the intrinsically different roles each group possesses within the University system, including the notion that the role of a University student has become in many respects the roles of a consumer. Academics appear to see their roles more in the broader, longer term context of the Institution and perceive their functions as providers of education and change.

We believe that professors in the Greek University have a clear picture of the missing quality but cannot be strict in their judgments as they recognize the dependency of Higher Education on governmental policies. We believe that academics in the Greek Higher Education value quality culture and they want to invest in the improvement of Higher Education the best way they can. In our Institution, some of the Master programs have used tools of quality such as self assessment as an initiative for academics in order to improve the Master programs performance.

Moreover, through the EFQM self assessment performed in Athens University of Economics and Business important data came to light. Divergence exists not just between academics and students but also within the administrative staff and the students. The administrative staff is involved in managing and operating a wide range of services that facilitate the smooth running of studies on a high level along with an active and vigorous campus life. The problem of divergence might come from the fact that employees overestimate their performance, a tendency that researchers refer to as leniency bias (Nilsen and Campbell, 1993). Another explanation is that employees simply lack the quantity and quality of performance feedback needed to make accurate assessments of their performance (Nilsen Campbell, 1993). That means that administrative staff may not understand what students expect of them. For congruence to occur, employees and customers must share some conception of which dimensions of quality are most salient as well as the relative weights that should be assigned to such dimensions. (Young, Meterko, Mohr , Shwartz, Lin , 2009)

While it is the customer perspective that is paramount for any service organization, studies suggest that employees may differ in their conceptions and expectations of Service Quality in relation to their customers creating a quality gap (e.g., Young et al., 1996; Redfern and Norman, 1999; Parasuraman et al., 1991).

According to a research conducted in 2004 at the Technological Education Institute of Serres in Greece there is an existing gap in the way students and staff regard education quality. This gap consists mainly in differentiations regarding expected and perceived quality but not in the final SERVQUAL scores, which are the differences between perceived and expected quality. That is to say, that administrative staff has greater expectations, but on the other hand, they perceive current educational services to be of a higher level. The experience the staff has gained through education, training and studying in other institutes, or through employment experience enables them to value both their current situation with regards to the ideal University and also their current job, placing their home Institution lower than the ideal but still high enough (Zafiropoulos, Vrana, 2008). Our belief is that the administrative staff in Higher Education will have higher expectations from quality than the rest of the stakeholder categories.

To date, the perceptions of the major stakeholder “employers” on the quality criteria of students (output) and faculty (input) is ignored and left unaddressed. Employers are often criticized for not being clear about what they want from graduates. The basic problem mentioned in the literature is that there is a performance gap in graduate competency levels between what employers find important (and therefore what they would ideally like) and what they experience. Research has focused on identifying gaps between the academic community and the business community regarding perceptions of the importance of various skills necessary for employment (Gilsdorf 1986; Levenburg 1996; McFadden, Jansen, and Towell 1999). Literature reveals that there is a wide gap between the perceptions of industry and faculty on quality. McFadden, Jansen, and Towell (1999) suggest that increased interaction between the business community and the academic community will be a major trend in the new millennium. Prior research has also attempted to identify skills and characteristics employers’ value in applicants (Hakel and Schuh 1971; Powell and Posner 1983; Atkins and Kent 1988; Kanungo and Misra 1992). Many attempts were made to identify what is that employers need from students by means of technical and personal skill (Martell and Carroll’s 1994; Drake, Kaplan, and Stone 1972; Tschorgi 1972; Maes, Welsy and Icenogle 1997;).

However, there are not many surveys investigating what employers and previous graduates of a University think of the educational quality. Lee and Kim (2009) carried out a research in Korea that indicated significant differences in the perceptions of curriculum importance among students and industry professionals in event management. We think that this gap starts from another source and is the difference in perceptions between academics and employers. Academics taking active role during the educational process but also being responsible for the academic curriculum of students need to take into consideration the criteria set by the “industry”. The perception gap between industry and faculty must be bridged to improve the employability of students and enhance the quality of Higher Education. (S.Rajasingh, B.Rajasekaran, 2009).

In Societal Culture level, we believe that the categories of academic, administrative staff and employers will face high levels of uncertainty avoidance due to crisis and the ambivalent working environment. These categories will probably be affected by the power distance dimension as nowadays the games of power in the political scene are intense and they have caused much of trouble in the Greek society. These categories are the recipients of this chaotic climate in both their personal and professional life.

These categories of stakeholders were once in the position of students. They are not anymore carefree; they judge things in a realistic way and expect quality results. So, we believe that these two dimensions will affect the way they perceive University quality.

Of course the research questions remain the same like before with the analysis of student categories. Which are the exact quality characteristics being affected by the various Societal Culture dimensions? Do the same Societal Culture dimensions affect all three stakeholder categories?

Our research hypotheses will be based on the research questions posed in this section but also in the questions posed during the analysis of the literature. These hypotheses will be presented analytically in the next chapter accompanied by our conceptual research model.

### **3.4 Conclusions of Societal Literature Review Chapter**

As it has already been stated above, TQM is customer-focused and revolves around the concept of customer satisfaction (Walsh et al., 2002). Nowadays, this orientation to customer satisfaction gives its place to stakeholder's approach where all various stakeholders groups have "a say" in the organization and affect its actions and deliverables. In order for Higher Education to fulfill these requirements all stakeholder "voices" have to be considered and addressed. However, these stakeholder categories are affected in their perceptions and expectations by the values and the practices of the country in which they live. There are the specific societal attributes that differentiate the culture of one country towards the other. These characteristics need to be identified in order to better understand quality management and apply the relevant quality culture in Higher Education.

The need to decode culture in order to create a quality culture is well supported in the literature. However, the influence of cultural dimensions on quality management is not adequately documented. The few studies presented in the literature, such as the one of Lagrosen (2002, 2003), Flynn and Saladin (2006) and others show that country culture is important to successful Quality Management efforts. Most of the studies used culture as moderator testing hypotheses of how cultural value dimensions impact quality management effectiveness.

We will take a step further and try to test the causal relation between Cultural and Service Quality dimensions as we feel it is the missing part for the awakening of our Higher Education System. University leaders should realize the impact of culture on quality of Higher Education.

Since no studies have addressed the issue of Societal Culture affecting quality management in Higher Education we will proceed with our research investigating this relationship. As mentioned previously in this chapter, we decided to use GLOBE to measure Societal Culture, in contrast to all the above studies which predominantly use Hofstede's results and have been challenged on their reliability and validity (McSweeney, 2002).

Taking into consideration all related literature for quality and culture, we targeted our research to the measurement and analysis of key factors that determine quality for each of the six categories of University stakeholders (Undergraduate and Master students, academics

and administrative staff, employers and Erasmus exchange students). We aimed to see the extent to which quality meets the stakeholders' expectations and their differences in quality perception on both current and desired level of Service Quality. Through the same research, we identified the links of quality with Societal Culture for each stakeholder category. The items of GLOBE study were destined to reflect two levels, like the SERVQUAL perceptions and expectations. The two levels of Societal Culture were institutional practices reported "As Is" and values reported in terms of what it "Should Be".

In our research methodology which will now be presented in Chapter 4 the following issues received special attention:

- The attributes of Service Quality were carefully chosen using qualitative methods.
- The views of six different stakeholders (Undergraduate and Master students, academics and administrative staff, employers and Erasmus exchange students) were included
- Other quality management tools, such as the EFQM Excellence Model, were combined and tested in order to provide accurate results.
- The GLOBE study was used following the advice of various researchers (e.g., Steenkamp, 2001; Soares et al., 2007; Sivadas, Bruvold, and Nelson, 2008;) who state that other cultural (national) typologies reported should be considered apart from Hofstede.

#### **4. CHAPTER: Conceptual Model and Research Methodology**

This dissertation seeks to find out how far national culture can influence the Service Quality perceptions and expectations of the various stakeholder categories in Higher Education and whether national culture can be used as a criterion for Service Quality improvement. To achieve this overall aim the study has formulated theory and literature-based assumptions regarding the Service Quality perceptions of the investigated stakeholder groups that will inform the empirical study.

Through primary research we intended to find out:

- 1) Which criteria are viewed as specifically relevant to quality in Higher Education by academics, students and employers in the Athens University of Economics and Business?
- 2) What differences or similarities exist in the quality perceptions and expectations of the various stakeholder groups?
- 3) What differences or similarities exist in their perceptions of cultural practices and values within the various stakeholders groups?
- 4) What framework(s) for managing quality can be proposed based on the quality and cultural perceptions of all six stakeholder categories?

In this chapter we will present the conceptual framework on which we based our research and the hypotheses set to identify the research questions posed throughout our research analysis.

## **4.1 Research Conceptual Model**

The model on which we based our research is presented in this section. We will explain its features and the logic under which we placed the specific constructs inside the conceptual model circle.

The first allegation that our model presents is that different types of University stakeholders have different perceptions and expectations about quality. The second allegation is that the category of stakeholders in which an individual belongs affects also the way they consider Societal Culture affects institutional quality.

Our three basic constructs in this model are : the various categories of stakeholders, Societal Culture and institutional quality. Societal Culture is separated in two levels representing societal practices and societal values while quality is separated in quality as practiced, quality as expected and the difference between these two constructs representing the quality gap for each stakeholder category.

Starting by our first construct, the stakeholders, we placed them in the bigger green circle in order to show the environment in which societal and quality dimensions interact. We chose six stakeholder categories as more representative of the internal and external stakeholders of our Higher Institution, AUEB.

The categories of the stakeholders chosen are:

- Undergraduate students
- Master students
- Professors
- Administrative staff
- Employers
- International students

Regarding the second construct which is the Societal Culture, it is expressed though nine dimensions which as mentioned in literature review are the following:

- Uncertainty avoidance
- Power distance
- Institutional collectivism
- In-group Collectivism
- Gender egalitarianism
- Assertiveness
- Future orientation
- Performance orientation
- Humane orientation

A combination of these dimensions have a direct impact on University quality which differs according to the stakeholder category we analyze each time. Societal Culture is represented with a big light blue circle which consists of two levels. As mentioned above we have two Societal Culture levels: the one showing how societal dimensions are practiced (the so called “practices”) and another one showing how these dimensions should be practiced (the so called “values”).

Passing to the other circle, on the right, it represents the quality construct which also consists of two quality levels. Quality as practiced is defined by the Service Quality perceptions of the six stakeholder categories and the EFQM quality criteria. The Service Quality perceptions are expressed through six quality dimensions being:

- Tangibles
- Faculty competence
- Staff attitude
- Curriculum content
- Delivery
- Reliability

In the “quality as practiced” construct besides Service Quality dimensions we also use the EFQM quality criteria which represent the current quality conditions of an organization.

These EFQM quality criteria are expressed through the five “enabler” criteria of the EFQM Excellence Model which are presented below:

- Leadership
- Strategy
- People
- Partnerships and Resources
- Processes

As previously mentioned we only used the “enabler” criteria of the model and not the “result” criteria. These “result” criteria are expressed through the Service Quality dimensions of our research model.

Apart from the “Quality as practiced” construct, on the right side of the conceptual model, we also see in the quality circle another smaller circle called the “Quality as expected” construct. This construct is expressed through the expectations of the six stakeholder categories on the six quality dimensions being the same as mentioned before for the “quality as practiced” construct: tangibles, competence, staff attitude, curriculum content, delivery and reliability. In this expectation level we do not have the presence of the EFQM quality criteria as these criteria represent the conditions of existing quality for an organization and not the expected level of quality.

The difference between quality perceptions and quality expectations show the gap of quality for each stakeholder group. This gap could also be translated as the satisfaction level for each Stakeholder category. The bigger the difference between expectations and perceptions the less the satisfaction of stakeholders from quality. This quality gap or satisfaction index differs according to each stakeholder category. In this conceptual model we refer to this difference as “quality gap” in order to put emphasis on the difference between what it is really perceived in relation to what it is expected by the various stakeholders. The same difference it is represented in the societal level between societal practices and societal values. We call the difference between what it is practiced in the society and what should be really practiced as Societal Culture difference.

So, in our conceptual model the differences (practiced and valued, perceived and expected) are represented in the middle of the two light blue circles. One is named “Societal Culture Difference” showing the distance between the two Societal Culture levels and the other one is named “Quality Gap” showing the gap between the two quality levels.

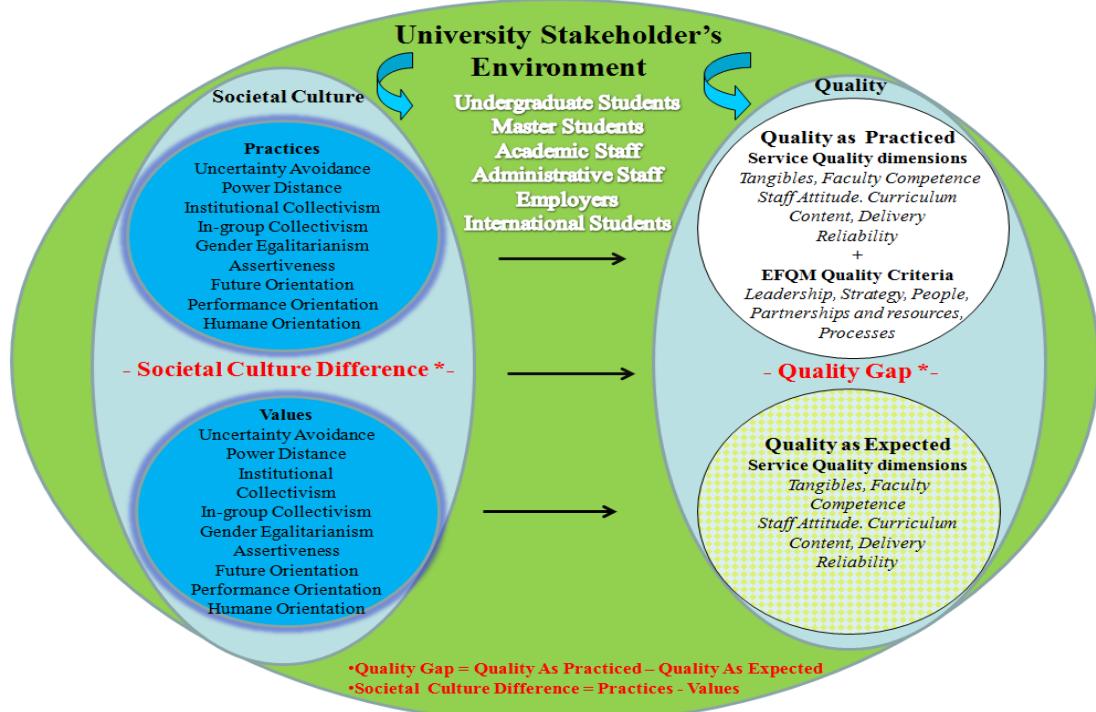
We couldn't introduce the hypotheses in this model since different hypotheses are related with different categories of stakeholders. However there is a general hypothesis which is also the core idea of the conceptual model. The general hypothesis is that the category of University stakeholder that an individual belongs affects the way the relation of Societal Culture with quality is perceived and expected. It is a fact that some stakeholder categories have more similar behavior regarding the relation between Societal Culture and quality but there are bigger or smaller difference within groups which are explained in the following chapters.

Moreover, the relation of Societal Culture with Quality is expressed in three levels for all stakeholder categories:

- a. in the practiced level showing the impact of Societal Culture practices to Service Quality perceptions
- b. the expected level showing the impact of Societal Culture values to Service Quality expectations
- c. in the “quality gap” level showing the impact of the Societal Culture difference (Practices – Values) to Service Quality Gap (Perceptions – Expectations)

**Figure 2:** Research Conceptual model

“The Impact of Societal Culture on institutional Quality through the different eyes of University stakeholders”



All these dimensions and criteria are analyzed further in the methodology part of this chapter. Now we will proceed with the formulation of hypotheses produced by these constructs and their relations. Various models connecting Societal Culture with Quality for different categories of stakeholders will be presented later in the next chapters.

## **4.2 The Formulation of Literature Based Research Hypotheses**

The examination of the existing literature and the resultant research gaps have led to the development of various hypotheses which were finally grouped in three categories.

One category refers to the main issue we need to investigate: the quality perceptions and expectations of University stakeholders. The second category refers to the one issue which is treated with concern the literature and presents high differentiation within the various categories of University stakeholders: satisfaction from University Quality. The last category of hypotheses refers to the main goal of our research which is how Societal Culture dimensions affect Quality dimensions for the various categories of the stakeholders.

The first category of hypotheses referring to quality perceptions and expectations are the following:

**1<sup>st</sup> Category of Hypotheses: *There will be differences in the mean score of current quality perception among the different categories of stakeholders***

Literature Review, as mentioned in the previous chapters, has shown differences among the different stakeholder categories regarding current quality perceptions and expectations.

In our research, we expect big perception gaps between Undergraduate students and Master students since these two categories do not have similar treatment and their educational program is organized and managed differently within the specific institution.

We also expect differences between students and academic staff as it has being confirmed in almost all cases in literature. Moreover we believe high differences will appear between the perception of academics, administrative staff and employers about current quality. The two stakeholder categories being academics and administrative staff have different profile, positions and are managed differently by the University. Moreover, employers are external stakeholders and they can't have the same input and experience about how the University is managed and runned by the inside.

Regarding International students (Erasmus/Socrates Students), we can't make any prediction of similarity or differentiation since we do not have data from previous research or the literature review.

**2<sup>nd</sup> Category of Hypotheses: *There will be differences in the mean score of satisfaction from Service Quality among the different categories of stakeholders***

Being in line with the 1<sup>st</sup> category of hypotheses we believe that the level of satisfaction of Undergraduate students from the University quality of the Athens University of Economics and Business will be lower than Master students. Since literature doesn't refer much to institutional satisfaction within groups such as academics, administrative staff and employers we can't build specific hypotheses for their behavior. However, we believe that the internal stakeholder being students, academics and administrative staff will differentiate from employers which are considered the external stakeholders in the satisfaction level. Employers are meant to be more strict and rigid regarding educational quality.

**3<sup>rd</sup> Category of Hypotheses: *Societal Culture dimensions will affect quality expectations and satisfaction of the various University stakeholders***

The third category of hypotheses refers to the Societal Culture dimensions affecting the perception, expectation and satisfaction from quality for the various categories of stakeholders. This category of hypotheses is the most important one as the issue of Societal Culture has not been thoroughly investigated in literature, in Higher Education setting, and in relation to Quality Management. Moreover, different cultures have been investigated and compared but there is no research comparing so many different groups of the same culture within one organization setting.

We believe that only certain dimensions of Societal Culture will affect the perception of quality of University stakeholders according to our literature review and the Greek Data of the Societal Study in 1996. These dimensions are:

1. Performance orientation
2. Humane orientation
3. Assertiveness
4. Institutional collectivism
5. Uncertainty avoidance
6. Power distance

We also believe that these Societal Culture dimensions do not all affect quality in the same way in all three levels meaning:

- a. in the level of Societal Culture practices affecting Service Quality perceptions
- b. in the level of Societal Culture values affecting Service Quality expectations and
- c. in the satisfaction level relating the Societal Culture difference to Service Quality satisfaction

The Hypotheses set are the following:

***Hypothesis 3.1: The higher the level performance orientation the better the level of quality satisfaction of the various University stakeholders***

***Hypothesis 3.2: The higher the level of humane orientation the better the level of quality satisfaction of the various University stakeholders***

***Hypothesis 3.3: The higher the level of uncertainty avoidance the better the level of quality satisfaction of the various University stakeholders***

***Hypothesis 3.4: The lower the level of power distance the higher the level of quality satisfaction of the various University stakeholders***

***Hypothesis 3.5: The higher the level of institutional collectivism the higher the level of expectation from Quality for the various categories of stakeholders***

After the presentation of our conceptual model and research hypotheses we will now pass to the research methodology section.

## **4.3 Research Methodology**

In this section we will present the methodology which was applied to achieve the overall aim and the research objectives. We start with the design of our research methodology, the sampling frame, and the questionnaire design. Then we proceed with the analysis of our Questionnaire constructs, the sampling method and the pilot study. We also analyze the focus group methodology which we applied before our quantitative study.

### **4.3.1 Research Methodology Design**

In order to achieve the research aim and objectives the author applied two different methods and drew on two different sources for data collection. Powell et al. (1997) in reviewing of evaluation methods suggest that there is merit in both quantitative and qualitative approaches. While quantitative ratings facilitate performance comparability either internally or externally, they generally fail to provide any clear explanation as to why certain ratings are given. Because data is counter-checked from different perspectives and by means of different methods, a higher degree of validity and credibility can be reached both with regard to the collected data and its interpretation (Bechhofer 2000, Greene et al. 2004, and O’Leary 2004). The understanding is also broadened because the research object is explored more comprehensively as the researcher develops a more complete portrait of the social world (Greene et al. 2004).

So, data were first collected by means of a survey and had a quantitative character. Before the quantitative study, we also collected qualitative data through focus groups of the same stakeholder categories we addressed in our research.

The first goal for our focus groups was to adapt the wording of the questions to the context in a language, which the respondents can comprehend. So, the first step was to test out, and refine the wording and understanding of potential survey questions. The second goal was to find out those factors that all the categories considered important for the quality of the Athens University of Economics and Business. In the same way, an attempt to identify societal issues that are of interest to all stakeholders was made. The analysis of the Focus Group methodology is analyzed further in this section. We will now pass to the analysis of our research frame.

### **4.3.2 Research Frame**

We need to clarify from the beginning that we only took data from AUEB as we knew that our sample size will increase due to the many categories of stakeholders taking part. We expected our sample to reach the 1000 respondents and so it did taking into consideration the participants of the focus groups.

Our population was not hard to identify for almost all the categories of University stakeholders except for the employers. The total registrations of Undergraduate, Master and International students were collected from the secretariat of every department. Moreover, the data of registered professors and administrative staff of the Athens University of Economics and Business were provided by the Director of Staff.

Regarding the Undergraduate students we didn't consider the numbers being registered in each Secretariat. What we practically decided to do was to calculate the number of active students with the assistance of administrative and academic staff. It is clear that not all registered students in the University attend lectures. For our research purposes we needed to consider the opinions of students being active in the Institution and the ones who use the various services of the University.

Identifying potential employers who were also graduates themselves was a tougher task as there is no relevant database kept at the University. Through personal contacts, the Career office contacts, the Internship's office database and the Alumni data/base of various student associations in AUEB we managed to track human resource managers and other executives being graduates of the Athens University of Economics and Business. These people by keeping contact with the University are also using the University services at large and are familiar with it. So they are one external category of stakeholders having bonds with the University from the past and continue to use University services. Their opinion and assessment is valuable to us.

We will now pass to the analysis of our questionnaire and the description of its sections, the sampling method, the pilot study and the process undertaken for the focus groups.

### **4.3.3 The Development of the Questionnaire**

Our quantitative research instrument is a structured questionnaire based on literature, focus groups and experts consultation. A quantitative study was conducted which according to Fleury (2006) uses data collection and analysis to answer survey questions and trusts numerical measurement, with the use of statistics to establish a population's behavior standards.

#### **4.3.3.1 Identifying the Constructs**

The questionnaire was divided into four parts in this research. The first part was about the Societal Culture, the second about the Service Quality and the third elaborated features of the EFQM excellence model. There was a fourth part of the questionnaire to identify the demographic information of the respondents such as their gender, age, level of education and stakeholder category.

The first part of the survey questionnaire contained 39 statements on Societal Culture expressing the nine dimensions of Societal Culture. For Societal Culture the levels refer to societal cultural practices and values. The second part of questionnaire referred to 22 attribute statements for Service Quality and dealt with the expectations and perceptions of respondents. Both sets of questions reflect the current situation and the desired state of both quality and society.

For the EFQM quality constructs and the five quality criteria a 24 set of questions reflecting the current quality environment and conditions existing in the Athens University of Economics and Business was used.

Regarding the scale and measurement a 7-point Likert scale ranging from 1: "I totally disagree" to 7: "totally agree" was applied. Respondents were asked to rate the extent to which they agreed or disagreed with each statement of perception on both the Societal Culture and Service Quality. The informants were asked to state their perceptions of items relating to both the nine societal dimensions, concerning how things "are" in their society

and how things “should be” and then their perception on the actual level of quality in their University as well as the desired level of quality in an ideal University.

#### **4.3.3.2 The Service Quality Dimensions**

Starting with the Service Quality instrument, none of the available quality methods and instruments was considered as adequate to completely account for Service Quality in Higher Education (O’Neill and Palmer, 2004). Hence, adapting SERVQUAL to provide a qualitative dimension to the evaluation of Service Quality in Higher Education would be appropriate (Bryslan and Curry, 2001; Cuthbert, 1996; Entwistle and Tait, 1990). So, taking into consideration the initial five Service Quality dimensions of SERVQUAL model, measured through 22 items (Gronroos, 2000), an adapted version of the SERVQUAL scale for Higher Education services was proposed. The attempt to conceptualize and operationalize the quality dimensions in Higher Education was based on a thorough review of literature into Service Quality (Zeithaml et al., 1988; Cronin and Taylor, 1992, 1994; Teas, 1993; Parasuraman et al., 1994; Owlia and Aspinwall, 1997). The Higher Education Stakeholders requirements were categorized under constructs such as:

- Tangibility
- Content
- Attitude (staff)
- Competence (faculty)
- Delivery
- Reliability

This means practically that in the previous five Service Quality dimensions (tangibles, reliability, responsiveness, assurance and empathy) the new construct added is “delivery” which in Higher Education plays an important role.

We will now analyze the meaning and importance of the six Service Quality dimensions extracted from literature as they will make part of our research testing. These dimensions

were also tested through focus groups and were adapted fully in the setting of Higher Education.

1. **Tangibles** refer to the condition of equipments, laboratories and structure as well as the appearance of personnel. The quality and quantity of equipment and facilities such as workshops, laboratories, and library, computer and information systems play a key role in the learning as well as the teaching processes. Support facilities like accommodation, sports centers, Bitner (1990, 1992) asserts that the physical facilities are able to indicate the capabilities and the quality offered by the service based company. The physical facilities of the Institution influence to a certain extent the overall students' perceived Service Quality because students will associate various tangible elements with the services provided by the Higher Education Institution (Russell, 2005; Oldfield and Baron, 2000). Students who spend hours every day in a school are likely to have attitudes toward the school system that are strongly influenced by the physical facilities (Wakefield and Blodgett, 1994).
2. **Competence** (of Faculty) refers to sufficient and highly qualified academic staff. It represents the faculty's teaching ability and skills and whether it possesses sufficient faculty/support staff. Competence is a vital factor in Higher Education as it is related to the knowledge of the academic staff but it is combined with attitude. For both administrative and academic staff the human interaction component is very important. The quality of services is reflected in the task that is carried out by the respective service providers through their interaction with the client in the process of delivering such services (Heskett, 1987; Surprenant & Solomon, 1987). This perspective is also supported by Bitner, Booms and Tetreault (1990). The human interaction component will affect the customer's evaluation process in evaluating the perceived Service Quality (Bitner, et. al. 1990).
3. **Attitude** (of administrative staff) is the degree to which staff is available to respond to students' enquiries. It refers to the communication, caring, and individual attention of administrative staff in understanding students' needs. Responsiveness has been tested by many researchers in the extant literature as one of the important determinants of the overall students' perceived Service Quality (Soutar and McNeil, 1996; Cuthbert, 1996; Pariseau and McDaniel, 1997; LeBlanc and Nguyen, 1997; Ham and Hayduk, 2003; Sohail and Shaikh,

2004). Understanding students and their needs, or “diagnosis” according to Haywood-Farmer (1988), is a prerequisite for advice and guidance.

**4. Course content** which is also known as curriculum and refers to curriculum design and how it can develop and prepare the students for their potential job market. It includes clarity of course objectives, relevance of curriculum to future needs, flexibility of knowledge. Curriculum has been tested by many researchers in the extant literature as a very important determinant of the overall students’ perceived Service Quality (Athiyaman, 1997; LeBlanc and Nguyen, 1997; Sohail and Shaikh, 2004). According to LeBlanc and Nguyen (1997), curriculum refers to the suitability of the academic programs and course content, the number of courses offered, and finally the extent to which the objectives of the academic programs are explained to the students.

**5. Delivery** means the capability of the Institution and its leadership in organizing lectures effectively, the compliance of courses with the module, the fair treatment for all students in all processes (registration, exams, and graduation), providing encouragement and facilitating their life. Students perceive this dimension as ease of contact/access to teachers and administrative staff, effective classroom management, reward structure/recognition for work done, record keeping on performance e.t.c

**6. Reliability** is generally related to the reputation and trustworthiness of an organization as perceived by its customers. Reliability in the Higher Education context can be defined as the degree to which the knowledge, information and skills learned are correct, accurate and up to date. It is highly connected to the feeling of trust created by the Institution to all its stakeholders. Moreover, it is related to the ability of leadership of the Institution to keep promises, handle complaints, and solve problems. It is translated into clearly specified values and aims, consistency of practice, clearly specified policies/guidelines, fairly and firmly-enforced rules and regulations, adherence to course objectives. In Higher Education, while keeping promises relates to the whole Institution, freedom from mistakes and consistency is mainly concerned with teaching processes. McElwee and Redman (1993) related reliability to performing the service (lecture) at a designated time and keeping accurate records of students’ performance;

We will now pass to the analysis of the EFQM quality criteria as they also make part of our dependent variable. The EFQM Excellence Criteria were added in an attempt to connect the dimensions produced from literature review with a practical tool of clear stakeholder perspective. We adapted the criteria in the Higher Education setting with the help of experts and tested them in focus groups sessions.

#### **4.3.3.3 The EFQM Quality Criteria**

The criteria of the EFQM excellence model present the prerequisites that a University should have in order to achieve excellence and these are leadership, strategy, people, partnerships & resources, and processes. We used the enabler criteria of the model which embrace the processes, structures and means that the organization can use to manage quality (Nabitz and Klazinga, 1999). They are analyzed as follows:

**Leadership:** Excellent leaders develop and facilitate the achievement of the mission and vision, develop values required for long term success and implement these via appropriate actions and behaviors, and are personally involved in ensuring that the organization's management system is developed and implemented. (Adapted by the EFQM excellence model, 2003). In a centre of Higher Education, this overall vision may be demonstrated using clear goals shared by all: professors, students and managers. These goals must take shape in all the activities of the University via the strategic planning process (Zink and Schmidt, 1995).

**Strategy:** Excellent Universities implement their mission and vision by developing a clear stakeholder focused strategy that takes account of the relevant Education sector and sector trends. Policies, plans, objectives, targets and processes are developed and deployed to deliver (Adapted by the EFQM excellence model, 2003). Policy and strategy must be put into practice through the deployment of the key processes, suitable policy and staff management, and through the establishment of partnerships (Winn and Cameron, 1998).

**People Management:** Excellent Universities manage, develop and release the knowledge and full potential of their staff at an individual, team-based and University-wide level. They care for, communicate, reward and recognize, in a way that motivates staff and builds commitment to using their skills and knowledge for the benefit of the University (Adapted by the EFQM excellence model, 2003). In the education field, Detert and Jenni (2000) and Osseo-Asare and Longbottom (2002) emphasize the role of training as a key factor and imply the continuous acquisition of new knowledge and skills by all employees.

**Partnerships and Resources:** Excellent Universities plan and manage internal and external partnerships, suppliers and internal resources in order to support its policy and strategy and the effective operation of its processes. During planning and whilst managing partnerships and resources they balance the current and future needs of the University, the community and the environment (Adapted by the EFQM excellence model, 2003). Universities, like any other organization, must optimize the scarce resources they have, and appropriately manage the suppliers of specific inputs which represent a significant cost in budgetary terms (Osseo-Asare and Longbottom, 2002; Pires Da Rosa et al., 2003).

**Processes:** Excellent Universities plan and manage internal and external partnerships, suppliers and internal resources in order to support its policy and strategy and the effective operation of its processes. During planning and whilst managing partnerships and resources, they balance the current and future needs of the University, the community and the environment (Adapted by the EFQM excellence model, 2003). The key processes are considered to be those that have a significant effect on the critical results for a given organization (Kanji and Tambi, 1999). In Universities, these processes are identified by Zink and Schmidt (1995) and Pires Da Rosa et al. (2003) as the processes of administration and service, teaching and learning, and research.

As for the EFQM excellence model, it was initiated in our research because it is a holistic quality model and a non prescriptive framework based on both enabler's criteria and result criteria showing the sequence from quality prerequisites to quality results.

It is our strong belief that apart from assessing quality results (as we tended to do through the application of Service Quality) there is another important level on the quality process. This is the step of controlling whether an organization meets the requirements for quality development and improvement. So, from the EFQM excellence model we used the Self evaluation questionnaire handed in to organizations once they initiate quality in their culture. From the EFQM self assessment questionnaire we only used the five enabler's criteria which as mentioned above are considered the conditions or prerequisites of achieving excellence. That is to say criteria which are related to leadership, strategy, human resource management, partnership & resources and processes.

The answers received on the questions of these five criteria were used to investigate the relationship of the results on Service Quality with the perceived level of quality conditions existing in our Higher Institution. In a few words, to see the relationship between the enablers of the EFQM excellence model and the Service Quality results produced at the Athens University of Economics and Business. The questions of the self assessment questionnaire were adapted to Higher Education context with the assistance of Greek experts on EFQM excellence model, quality assessors and quality standards developers.

#### **4.3.3.4 The Societal Culture Dimensions**

The cultural dimensions were chosen in order to identify those service attributes which are supposed to be strongly influenced by national culture. In the literature, cultural dimensions are not especially designed to measure Service Quality perceptions and expectations. This means that these attributes could not be derived directly from the definition of the national culture dimensions but had to be taken from studies that apply national culture to Service Quality. Studies discussed in the literature review such as those of Furrer et al. (2000), Hall and Hall (1990), Hofstede and de Mooij (2002), Mattila (1999), Mattila and Patterson (2004), and Scarborough (1998), which already applied these cultural dimensions to Service Quality or consumer behavior, were carefully studied. However, we chose to develop the nine cultural dimensions expressed by the GLOBE study.

As mentioned before, these dimensions have already been presented in Greece as Professor Nancy Papalexandris and her research team in AUEB, being part of the GLOBE project, had already carried out a study for the GLOBE project.

We used the same questionnaire, generated primarily with recourse to existing literature on culture theory, interviews and focus groups which was then processed and translated to Greek language by Professor Nancy Papalexandris and her team in 1996.

Since many years have passed since this questionnaire was last used, we checked its understanding and right wording through focus groups of University stakeholders and ended up with small adjustments indicated by those groups. So, the items expressing each dimension were slightly adapted for better fit to the University environment. The nine attributes of Societal Culture identified as our culture dimensions are the following: (1) uncertainty avoidance, (2) power distance, (3) institutional collectivism, (4) in-group

collectivism, (5) gender egalitarianism, (6) assertiveness, 7) future orientation, (8) performance orientation (9) humane orientation. The characteristics of these dimensions are analyzed in depth in the societal literature review (Chapter 3).

The understanding of these dimensions and items were tested in focus groups of different stakeholder categories in order to make sure that the respondents understand what they are asked.

The GLOBE study, as we mentioned above, is important in our research because it establishes the direction of desired change in a culture by focusing on practices "as is" (i.e., societal practice or perceptions of one's society) and values or "should be" (i.e., espoused values concerning one's ideal society). This is important since GLOBE's results showed that the values score in most cases was noticeably different from the practices score. The primary strength of GLOBE research is it didn't make assumptions about how best to measure cultural phenomena. They used multiple measurement methods in order to empirically test which methods are most meaningful.

So, our research model consisted of elements of the SERVQUAL scale in Higher Education, the EFQM excellence model and the GLOBE study dimensions, as presented above.

#### **4.3.3.5 Personal Information**

In the fourth part of our research we ask respondents about their gender, age, education and the category of stakeholder group in which they belong.

The items and the questionnaire in full form are presented in the Appendix.

#### **4.3.4 Validity Testing**

At this point it is appropriate to present our tests for internal and external validity together with the reliability testing that considered as crucial factor for the success of our research.

Validity as a concept refers to the fit between the solution provided by the research and the reality (Amaratunga et al, 2002). Validity is concerned with establishing correct measures for the concepts under study (construct validity), the accuracy of the findings (internal validity) and the extent to which the findings can be generalized (external validity) (Miles and Huberman, 1994). The validity of an account or measure depends on the accuracy with which it represents those features of the phenomena that it is intended to describe, explain or theorise (Hammersley, 1987). Internal validity is concerned with the accuracy of the measure or instrument and whether it actually measures what it is intended to measure. External validity refers to the extent to which findings of a particular study are applicable beyond the immediate sample or outside the specific research setting in which the study was carried out (Riege, 2003). This requires the sample to be representative of the entire population being researched (Stenbacka, 2001). There are some basic sub- categories of validity such as face validity, content validity and structural validity which is the result of Discriminant Validity and Convergent Validity. We addressed all aspects of validity in our research.

To start with, for this particular study it was essential to construct a questionnaire dealing with the multidimensional relation of quality with Societal Culture which would capture all relevant dimensions, complexity and interdependence.

First, as Bang et al. (2000) suggest, we submitted the initial draft of our questionnaire to a panel of five experts requesting feedback on wording, relevance, presentation and face validity of the items included in the questionnaire.

For the part of the questionnaire referring to quality we consulted a panel of quality experts as some of the quality dimensions used in our research have not been often used and we wanted to be sure for our testing. These quality experts were National and European Quality Assessors of ISO standard, the EFQM excellence model, the “Investors in People” model and quality consultants with experience on quality development in Greek and European companies and organizations. For the part of the questionnaire referring to Societal Culture we used a panel of professors involved in the team of Mrs. Papalexandris who took part in the Societal Culture Research of Greece back in 1996.

After the proposed changes, the resulting questionnaire was pilot tested to an initial sample of 40 stakeholders. During the pilot study, the questionnaire was discussed with some of the respondents after they had completed it in order to determine their interpretation of the key terms and statements. The results of the pilot study showed no significant changes to be implemented and after some minor changes, mainly in the wording, the final questionnaire was produced.

The content validity was enhanced by in-depth qualitative exploration. The focus groups data helped to build the various constructs in the questionnaire and to frame the variables and concepts in the right context. This was vital as in large surveys like ours there arises the possibility of existing differences in understanding the various quality and societal notions between the different stakeholder groups. For example, while academics may have common interpretations of a particular quality characteristic, it is possible that students or employers may not have the same interpretation. Differences in perception may also exist between members of the same stakeholder group. For this reason special attention was given to respondents of the same group during the focus groups.

Discriminant validity and Convergent validity were tested through previous researchers who have used our scales and report increased level of Discriminant and Convergent Validity. Discriminant validity and convergent validity are two inter-locking measures which constitute a good way of measuring construct validity. Scales rate high in discriminant validity, which unlike convergent validity measures the extent to which a given scale differs from other scales designed to measure a different conceptual variable. Since we deal with scales that have already been used in the past continuously this is an important element securing their validity. (Nunnally, 1978)

We should stress here that combining qualitative and quantitative methods didn't happen only in order to validate the findings through the use of two different research methods. Qualitative and quantitative findings were both valid and provided complementary insight in our research.

#### **4.3.5 The Pilot Study and the Final Questionnaire**

The pilot study was carried out in January of 2011. The questionnaire was first submitted to a pilot test to identify possible problems and opportunities for improvement. Qualitative validity was tested as mentioned above through the theoretical study, focus groups as well as through expert comments. A pilot survey was carried out through 40 stakeholders to assess the questionnaire clarity and length. So, apart from the focus groups, with the pilot study, we got more feedback on the statements used in the questionnaire in term of clarity and completeness. After carrying out the pilot survey, revisions were made to various questions that were not clear in order to remove all ambiguities. This was necessary to increase the validities of the questionnaires.

An important step at this stage of the analysis is to determine the internal consistency of the questionnaire used. The Cronbach's Alpha technique was used which according to Nunnally (1978) can be conceived as a measure of the inter-correlations between the various constructs used to measure a variable. According to Nunnally (1978), the Cronbach alpha procedure is an estimate of reliability where the score of 0.6 is sufficient. In addition, an estimate over 0.8 is considered to be good (Sekaran, 1992). Reliability tests were conducted for all the items grouped under each dimension and all had high Cronbach's Alpha value well above the cut-off point of 0.6. Cronbach's Alpha values will be presented in detail in Chapter 5 (see 5.3 Reliability Test)

After the pilot study, the questionnaire instrument was applied to a wider sample of the stakeholder population. The questionnaire was administered in Greek except for the International students who received a questionnaire in English for obvious reasons. The questionnaire is presented in the Appendix, at the end of this thesis.

There was no existing data available on the perception of students (Undergraduate, Master, International), administrative, academic staff and the employers (graduates of AUEB) of quality and their perception of the society culture within the Athens University of Economics and Business.

The study aimed at investigating the perception of what the 6 categories of stakeholders perceive as an “excellent University” compared to the perception on the quality of the University’s services they use. At the same time, the study aimed at investigating the level of the Greek culture by means of practices and societal values. That is to say, how the Greek

society is and how it should be. Both constructs, Quality and society, had levels of perception and expectation by means of quality, practices and values.

The data were collected during the second semester of the academic year 2010- 2011 and specifically during the period March to June 2011. Our questionnaires were administered personally to the respondents. With the help of two Undergraduate students our team was visiting classes and administering the questionnaires to all three levels of students (Undergraduate, Master and International). We have chosen courses taking place in rush hours and were entering in class after we have contacted the professors. Professors have administered us enough time to explain the importance of the research, to give guidelines for the completion of the questionnaires and to solve any questions that could appear.

So, Undergraduate, Master and International (Erasmus) students were visited in class and were asked to fill in the questionnaire at the end of a class session. This was to enable the researchers to collect all the completed responses within a short period of time. Any doubts that the respondents might had regarding any questions could be clarified on the spot. The respondents were permitted to ask the researchers for further clarification if they encountered difficulties in understanding the questions. The voluntary nature of the participation was explained verbally as being indicated in the survey questionnaire. The questionnaire completion took approximately 15 minutes.

In addition to the verbal communication with the potential student respondents, a covering Survey Information Sheet was attached together with the questionnaire. The covering Survey Information Sheet informed all student respondents about (1) the importance of their answers for the quality improvement of their higher Institution that (2) that they should not feel obligated, pressured to participate (3) they could receive the results of this survey upon request. Comments were also made during the process of administering the questionnaire survey saying that all information collected would be treated in strict confidentiality and stored securely. At no time would any individual be identified in any reports resulting from this research.

During the same period, March to June 2011, we also reached the Academic and administrative staff of the University. We first contacted them by phone and asked for their availability on contributing in our research with their answers and comments. We then reached them in their offices and working positions according to their interest and availability. We gave detailed clarifications on how the questionnaire is structured and on the importance of the research for the improvement of our University. There was created high

interest by many staff members and so we were finally provided with additional comments while they were filling out the questionnaire.

For employers as explained before the process of gathering data was slightly different and took more time. The period of gathering data from employers reached six months starting by May 2011 till November 2011. We reached them first during the career days, in an external event organized by the career office of AUEB. We then visited them in their offices during the summer period with the beginning of AUEB's summer internship program. The summer period was appropriate for us, after the completion of University's career days, as many AUEB students follow their internship program during that period. We knew we would get more feedback from Managers due to their involvement with AUEB students but also due to their dealing with the administrative services and academic staff for the organization of their internship contracts.

SPSS 19.0 were used to sort, filter, and tabulate data in combination with the use structural equation modeling through Lisrel 8.80 in order to produce accurate results. The findings of this research will now be presented in chapter 5.

#### **4.3.6 Research Design of Focus Groups**

The findings of the focus groups with each stakeholder category were considered important as they validated and enriched the construction of the questionnaire.

As mentioned in another chapter, initial discussions were aimed at producing a series of recollections of stakeholders' experiences in the Athens University of Economics and Business. The respondents were asked to tell a story about a positive or negative incident they experienced throughout their interaction with the University. This information was not used as part of the results of the focus group but it was important to create a quality oriented discussion.

In the second stage each focus group was given the questionnaire constructs and throughout the sessions the participants were encouraged to contribute on both quality and societal level. They were first asked to name what they consider as important on Quality for Higher Education based on the quality constructs of this research and how they view society through the 9 GLOBE dimensions. We also tested their understanding on all 3 sets of questions of the survey.

Main themes with various sub-themes were identified which are discussed for each category in the following chapters. The focus group sessions carried out for each category of University stakeholders (Undergraduate students, Master students, administrative staff, academics, employers and International students). So, we conducted six focus groups consisted of 8-10 representatives as proposed by Belbin (1981, p. 113). The selection of the participants of each stakeholder group followed the above procedure:

Undergraduate and Master students were approached through class visits. The objective and the importance of the research were carefully presented to students who were invited to participate. Luckily, many students considered the subject of the research very important and volunteered to participate. We had to choose 10 of them since we didn't have enough time for many different focus groups of students.

The focus groups of International students included a variety of nationalities and a mix of male and female students. As a result of the small range of International students in the school (180 in total), age was not a factor taken into consideration when selecting the focus group. We also had to make a presentation of the research and its goal in International students' classes as they do not attend the same courses with Greek students.

Concerning the selection of staff, in AUEB there is teaching staff, teaching assistants, special technical staff, and administrative staff. The teaching staff includes lecturers, assistant, associate and full professors. Academic staff was chosen according to their participation in the Quality Assurance Unit of AUEB. That is to say, we chose members of AUEB's academic society engaged with the quality measurement and assurance in their departments according to the Hellenic Quality Assurance Agency standards. Administrative staff members were selected on the basis of their key role in the University, being members of important units in the University. The members of administrative staff chosen make part of support services for all students (Undergraduate, Master and International) at the Athens University of Economics and Business.

Employers who took part in our focus group were graduates from the Athens University of Economics and Business but also current partners with AUEB through their participation in career and traineeship partnership programs. The formation of this specific focus group was carefully thought out as we needed employers who have an idea about the educational services of this Institution but also up to date with University practices. We asked the help of the central office of University traineeship programs to choose few participants according to their experience in order to organize our focus group of graduate employers.

The first goal for our focus groups was to adapt the wording of the questions to the context in a language, which the respondents can identify. So, the first step was to test out, and refine the wording and understanding of potential survey questions. The second goal was to find out those factors that all the categories considered important for the quality of the Athens University and Economics and Business. In the same way, an attempt to identify societal issues that are of interest to all stakeholders was made. Initial discussions were aimed at producing a series of recollections of their experiences at the Institution and the perceived quality of Higher Education services. Specifically, respondents were asked to tell a story about a positive or negative experience they had in their whole experience of education. This was very useful as all participants concentrated their attention upon the subject to be discussed, and were not influenced by a predetermined list of factors (Flanagan, 1954; Herzberg et al., 1959, p. 12).

Each focus group was given the questions of the survey based on the existing literature on quality constructs, the dimensions of the SERVQUAL model, the criteria of the EFQM excellence model and items of the Societal Culture as they were developed in the GLOBE study. Throughout the sessions the participants were encouraged to contribute what they

considered as important on Quality for Higher Education and to depict the society by means of the most important society values and practices they perceive given the nine GLOBE dimensions.

The methodology to analyze the results of focus groups was very complicated and long but it gave us the confirmation of what we considered important and less important, for different categories of stakeholders in both quality and Societal Culture constructs. The analysis of the focus group data helped us enrich an initial framework connecting Quality and Societal Culture in Higher Education. The analyzed outcomes of the focus groups are presented in the last chapter.

#### **4.3.7 Sampling Method**

Regarding the sampling method, we employed the proportional stratified sampling technique and the sample size reached the number of 903 University stakeholders. Participants included 605 Undergraduate students, 110 Master students, 39 administrative staff members, 36 academic staff members, 62 employers, and 51 exchange students in AUEB.

Roscoe (1975) proposes that the appropriate sample sizes for most research to be greater than 30 and less than 500. The student sample was designed to be representative of the active total student population at the University as mentioned previously.

We tried to reach an equal number of students from the various departments of the University but that was not always possible as the number of students in each department differs both in registered but also in actual numbers of students participating in classes. For example in the Informatics or Statistics department the number of students following lectures might be less than 10 while the same classes in Business Administration might be attended by more than 100 students. One criterion strictly followed was that students had to be at least in their 2nd year of studies in order to have a concrete perception of quality in the academic Institution.

We chose to take a 10% of the active Student Community. The same was applied to the categories of administrative staff and academic staff. With the employers category, as mentioned before, we didn't know the total population( graduates who are HR managers) so we tried to reach as many as possible given a time limit of 6 months and with the help of University relevant offices and alumni associations.

#### **4.4 Conclusions of Conceptual Model and Research Methodology Chapter**

Before the primary research could be carried out some methodological steps were undertaken. The first step involved the identification of theoretical models that inform the empirical part. This has been done in the previous chapters, by defining the dependent variable “quality” and the independent variable “national culture”. In this first step, we gave specific importance to analysis of secondary literature which included research topic regarding the relationship between national culture and Service Quality. It revealed substantial knowledge gaps concerning national culture as determinant of Service Quality perceptions. It therefore further justified the research aim of this dissertation. In the Methodology chapter we showed as a result of the identification of theoretical models, the definition and selection of those dimensions of Service Quality and national culture that were used for the measurement of the chosen stakeholders’ groups’ quality perceptions and expectations as well as the relevant societal practices and values.

The second methodological step comprised the formulation of the theory and literature - based assumptions. The procedure of formulating the research hypotheses was described in the first section of the Methodology chapter. These assumptions informed the empirical study and were used to link empirical findings to literature and theory. Our hypotheses were structured by category of stakeholders as their identification and analysis in the research carries a prominent role.

The next step comprised the formulation and analysis of focus groups as a supportive method to our quantitative research. These focus groups were created with a sample of all the stakeholders in the University case example (AUEB) to find out the quality dimensions which considered important to the various categories of stakeholders as well as what they believe it constitutes the Societal Culture.

The last step referred to the development of our research questionnaire which was developed from the established framework of quality and Societal Culture. We presented in the previous sections the items which constitute every dimension and criterion of quality as well as the societal dimensions used in our research to measure quality and Societal Culture in the Athens University of Economics and Business.

As a result of the above, in this chapter, we defined our research hypotheses and developed a process using focus groups to operationalize our culture/quality influence model. Moreover,

we developed a questionnaire which aims to help Higher Institutions undertake a culture/quality assessment prior to any TQM implementation. We will now set out to provide a model which depicts the relation between culture and quality in Higher Education for all University stakeholders. Based on the findings of the forthcoming chapter we will construct our operational model for these stakeholder categories, together as a totality but also separately for each stakeholder category.

## **5. CHAPTER : Statistical Analysis**

This chapter demonstrates the empirical findings of the research. We will first describe the profile of the respondents, the results of the normality and reliability tests and then we will present the descriptive statistics of all research variables for all our stakeholder categories. That is to say, we will present the research data describing both the Service Quality and Societal Culture dimensions for each investigated stakeholder group.

Once this descriptive data is presented we will proceed with the deepest analysis of the research results through hypotheses testing and the development of our research models.

### **5.1 Profile of the Respondents**

The detailed demographic profile of the respondents in terms of stakeholder group, gender, age, and education is being presented in the Appendix within Tables 1-5.

#### **Distribution of stakeholder groups**

The total number of usable questionnaires was as previously mentioned 903. From this total number, the proportion of each stakeholder sample is representative of the actual population. Undergraduate students form of course the largest proportion (n=605, 67%) followed by Master students (n=110, 12, 2%) then employers (n=62, 6, 9%). Academics make part of the 4 % of the sample while administrative staff 4, 3%. International students take 5, 6 % of the total sample. However, just because the total population from which each sample was created is different we present the results in weighted cases as well. When weighted the sample shows Undergraduate student making 1/3 of the sample (35,5) while Master and International students making the other 1/3 (36%) while academics, administrative staff and employers making the last third with 33,6 %.

#### **Gender of respondents**

Around 63.8% of the respondents were female and 36.1% were male/ In the first stakeholder category of Undergraduate students the male respondents represented 35.7 percent of the total

respondents while the female respondents represented 64.1 percent. This is a normal phenomenon because most of the students in the Athens University of Economics and Business are female. The same picture is seen in the Master and International student's category where the male respondents make part of the 31,8% and 31,4 % of the sample respectively comparatively with the female respondents.

In the administrative staff category the percent of female respondents is even higher with females taking part of 76,9 % of their category. This is definitely not the case in the academic staff category where male respondents take 58,3 % of the sample. This is considered normal as there is a bigger percentage of male academics than female in the Athens University of Economics and business. The proportion of male respondents is slightly lower than the female staff representing a 46,8% in the employers category where the percents between female and male seem more balanced.

### **Age of respondents**

The biggest part of our sample consists of students. 75% of them are under 25 years old. Moreover, since the category of Master students, administrative staff and some employers is composed by young people it is normal to have almost 20% of these categories in the age group of 25 to 35. There is no doubt that in the category 36- 45 there are mostly academics and some employers. In the categories 46-55 and over 56 there are also individuals of these two categories.

### **Educational level of respondents**

Regarding the Education, 71% of our sample have high school degree which is normal since Undergraduate students form the majority of the total sample. The percentages of 17,6 and 1,3 for higher and Technological education is also justified as most of the Master students and the administrative staff have a University degree. The two final categories of Master and PhD taking a 10% percent of the total sample is comprised mainly by employers and Professors.

## **5.2 Normality Test**

Before we start any kind of parametrical test we will have to test the normality of our variables by checking two actual measures: kurtosis and skewness. Skewness is a measure of symmetry, or more precisely, the lack of symmetry. Kurtosis is a measure of whether the data are peaked or flat relative to a normal distribution. These two measures will not only be measured for the univariate variables but also for the new ones being created. According to George and Mallery (2003) the distribution of a variable is considered normal when these two measures are in between (-1,+1). Relative normal result within the interval (-2, 2) are also been accepted but with caution (Bai & Serena, 2005). Table 6 is presented in the Appendix with the figures of these two measures. Given the results of the analysis made we can freely consider all our variables as normal. We then checked the mean, median and mode for all dimensions of Service Quality, Societal Culture and their differences separately. Judging by the results of Table 6.1 to 6.1.7 (in the Appendix) we easily conclude that the mean, median and mode are almost likely the same. This means that the data were approximate to a normal distribution.

### **5.3 Reliability Test**

Cronbach's Alpha is a measure of internal consistency and measures how well a set of items measure a single construct. If the inter-correlations are high, then the items are indeed measuring the same underlying construct. The minimum standard for these measures in the social sciences is 0.71 (Bryman & Cramer, 1995) but some researcher consider variations in this value.

According to George and Mallery a value over 0,9 is excellent, a value over 0,8 is very good and a value of 0,7 is good as well. Values over 0,6 can also be accepted with 0,6 being considered as the limit for a scale to be accepted. Any value under 0,5 is not accepted.

In our research all the constructs were tested for the consistency reliability. Our results indicated that the Cronbach's alpha for all our constructs were well above 0.6 as recommended by George and Mallery (2003).

The Service Quality difference (named satisfaction in our research) was measured by computing the difference between the rating respondents assigned to expectations and perceptions statements (Expectation–Perception). The same difference reliability tests were performed for the variables produced by the difference between the rating respondents assigned to societal practices and societal values statements (Values – Practices). Consequently, all the variables existed and those new expressing their differences were measured for reliability. From the information presented below in tables 7 to 9, we can conclude that all dimensions had a Cronbach's Alpha value well above the cut-off point of 0.6 as shown.

#### **Internal consistency of the Quality Part of the Questionnaire**

The Cronbach's Alpha value for the Service Quality part of the questionnaire is, in the expectations part, 0.884, in the Perceptions part, 0.861 and in their difference variables 0.869. Regarding the EFQM quality criteria the total Alpha is also very high 0.903. Such a high figure indicates that this part of the questionnaire is a good indicator of what the researcher wants to investigate. The Cronbach's overall value of the variables combining Service Quality perceptions with EFQM quality criteria is 0.906.

**Table 7:** Summary of Cronbach's Alpha value by Service Quality dimensions

Service Quality Dimensions		Cronbach's Alpha		
		Expectations	Perceptions	Difference Satisfaction
1.	Tangibles	0.743	0.729	0,745
2.	Faculty	0.800	0.853	0.841
3.	Staff	0.718	0.786	0.784
4.	Content	0.685	0.792	0.771
5.	Delivery	0.760	0.673	0.711
6.	Reliability	0.806	0.846	0.845
<b>COMBINED</b>		0.884	0.861	0.869

**Table 8:** Summary of Cronbach's Alpha value EFQM criteria

EFQM criteria	Cronbach's Alpha
<b>1. Leadership</b>	0.825
<b>2. Strategy</b>	0.83
<b>3. People</b>	0.825
<b>4. Partnerships and Resources</b>	0.770
<b>5. Processes</b>	0.829
<b>All criteria Combined (EFQM)</b>	0.903
<b>All Service Quality dimensions &amp; EFQM criteria combined ( Quality NOW)</b>	0.918

So, the Cronbach's alpha for the quality constructs ranged from the lowest of 0.673 (delivery perception) to 0.918 (the total alpha estimation for the EFQM criteria and Service Quality perceptions combined).

## **Internal consistency of the Societal Part of the Questionnaire**

The Cronbach's Alpha overall value for the Societal Culture part of questionnaire referring to practices is 0.671 while for values is 0.631. The Alpha overall value resulted by their difference dimensions is 0.677. So, the results show that the scores of the Cronbach's alpha for the Societal Culture constructs exceeded the preferable scores of 0.60 and this indicates that the measurement scales are stable and consistent in measuring the constructs. Table 9 presents some of the mentioned results.

**Table 9 :** Summary of Cronbach's Alpha value by Societal Culture dimensions

Societal Culture Dimensions	Cronbach's Alpha		
	Values	Practices	Difference Variable
1. Uncertainty avoidance	0.831	0.753	0.843
2. Assertiveness	0.611	0.702	0.689
3. Future orientation	0.616	0.615	0.855
4. Power distance	0.721	0.702	0.805
5. Institutional collectivism	0.642	0.816	0.809
6. In group collectivism	0.645	0.601	0.611
7. Performance orientation	0.706	0.730	0.720
8. Gender egalitarianism	0.723	0.664	0.729
9. Humane orientation	0.889	0.904	0.722
<b>COMBINED</b>	0.631	0.671	0.677

### 5.3.1 Factor Analysis

The next step after having defined the Cronbach's Alpha for each dimension of quality, Societal Culture, and the difference variables of both Societal Culture and quality is to proceed with a confirmatory Factor Analysis. This analysis will secure that the previously mentioned dimensions can be used for our research modeling and testing.

The Confirmatory Factor Analysis (CFA) is a special form of *factor analysis*. It is used to test whether measures of a construct are consistent with a researcher's understanding of the nature of that construct (or factor). In contrast to exploratory *factor analysis*, where all loadings are free to vary, CFA allows for the explicit constraint of certain loadings to be zero. CFA allows the researcher to test the hypothesis that a relationship between observed variables and their underlying latent constructs exists. Through Confirmatory analysis we increase the credibility of the analysis of our results. For the testing of the so called "fitness" there are many indicators however we will use the two most important and popular. These indicators having the fewest disadvantages for testing the "fitness" of a model is the Comparative Fit Index named CFI and the Root Mean Square Error of Approximation named RMSEA (Jöreskog & Goldberger 1975, Marsh et al. 1998). These two indicators take into consideration the size of a sample. At this point we should mention that chi-square is not appropriate for testing big size samples as it gets affected and may present always statistically important results.

So instead of the chi-square we will use the Comparative Fit Index and the Root Mean Square Error of Approximation. We will use chi-square only within group controls as it is considered reliable for these kind of tests.

The CFI indicator is calculated through the following equation  $CFI = [d(\text{Null Model}) - d(\text{Proposed Model})]/d(\text{Null Model})$ , where  $d = \chi^2 - df$ , και  $df =$  the degrees of freedom of our model. Indications of CFI higher than 0,9 are accepted and indications over 0,95 are considered excellent. (Bentler, 1990).

RMSEA is calculated through this equation  $RMSEA = \sqrt{[\chi^2 - df] - 1/(N-1)}$ , where  $DF$  the degrees of freedom and  $N$  is the size of the sample. Any value under 0,05 is considered excellent but we do not see such indications often in social result study models. Values within the range of 0,06 - 0,07 are still considered appropriate and values reaching 0,08 are accepted. Any value over 0,1 however is not considered as accepted (Brown, 2006).

As a result of the above, we will apply confirmatory factor analysis to all quality and societal dimensions in both current and expected level. Moreover, since the difference variables are extracted from the relation of Expectation – perception for Service Quality dimensions and Values – Practices for Societal Culture, we will have to apply CFA also to these constructed variables.

For the confirmatory factor analysis, for group controls and for the structural process of our research model(s) we used the LISREL<sup>1</sup> statistical program.

### **5.3.2 Confirmatory Factor Analysis for Societal Culture Dimension Variables**

In this section we will present the confirmatory factor analysis basically for the dimensions which made part of our final research models. That is to say, we will present the confirmatory factor analysis for assertiveness, performance orientation, humane orientation and institutional collectivism which proved to affect our research quality variables. The rest of dimensions are presented in the Appendix.

#### **1. Assertiveness**

Cronbach's Alpha value for "assertiveness", which is a main Societal Culture dimension in our research, is  $\alpha = 0,702$  in the "practice" level and  $\alpha = 0,611$  in the "value" level.

We explain the items making part of "assertiveness" in our research. The questionnaire was separated in two levels. The level of "practices" representing the "Greek society as it is now" while the "value" level was expressing the "Greek society as it should be".

The items used were the following:

*People are generally aggressive*

*People have generally positive attitude*

*People are generally dominant in their relationships with each other*

*People are generally tough*

In the Graph below the results of the CFA analysis are presented for this dimension. It seems that this dimension has a good fit in both levels of practices and values of Societal Culture.

---

<sup>1</sup> LISREL (Linear Structural Relations) Statistical Program,  
<http://www.ssicentral.com/lisrel/index.html>

Graph 1

**Confirmatory Factor Analysis for “assertiveness” Societal Culture dimension**

	<b>Assertiveness in the Greek Society as it is</b>	<b>Assertiveness is the Greek Society as it should be</b>
	<p>Chi-Square=24.39, df=2, P-value=0.00001, RMSEA=0.061</p>	<p>Chi-Square=11.25, df=2, P-value=0.00360, RMSEA=0.072</p>
<b>Degrees of Freedom</b>	2	2
<b>CFI</b>	0,98	0,99
<b>RMSEA</b>	0,061	0,072
<b>Conclusion</b>	Fit	Fit

## 2. Performance orientation

Another important Societal Culture dimension as it came out from our research results was performance orientation. Cronbach's Alpha value for this dimension is  $\alpha = 0,730$  in the “practices” level and  $\alpha = 0,706$  in the “value” level.

We first present the items making part of “performance orientation” dimension in the Greek society as it is and as it should be:

*Students are encouraged to strive for continuously improved performance*

*Most of the pay and bonus is based on individual performance results and not on other factors such as ex.*

*Political/individual connections, other relations, acquaintances*

*When people introduce innovations which increase performance they get rewarded (compensated) for this*

We will now present the results of the CFA analysis. Graph 2 presents those results in both levels of the Greek society as it is (practices) and as it should be (values)

Graph 2

**Confirmatory Factor Analysis for “performance orientation” Societal Culture dimension**

	Performance orientation in the Greek Society as it is	Performance orientation in the Greek Society as it should be
	<pre> graph LR     perf1[perf1] -- "0.79" --&gt; perfnow((perfnow))     perf2[perf2] -- "0.66" --&gt; perfnow     perf3[perf3] -- "0.44" --&gt; perfnow     perfnow -- "1.00" --&gt; perfnow   </pre>	<pre> graph LR     perf1d[perf1d] -- "21.42" --&gt; perfdes((perfdes))     perf2d[perf2d] -- "62.03" --&gt; perfdes     perf3d[perf3d] -- "2.15" --&gt; perfdes     perfdes -- "1.00" --&gt; perfdes   </pre>
<b>Degrees of Freedom</b>	2	2
<b>CFI</b>	0,95	0,97
<b>RMSEA</b>	0,066	0,060
<b>Conclusion</b>	Fit	Fit

From the indicators presented above we can conclude that the model has a good fit.

### 3. Humane orientation

Humane orientation was another dimension which was proved critical in the way it affected our quality variables. The Cronbach Alpha was  $\alpha = 0,904$  in the “practices” level and  $\alpha = 0,880$  in the “value” level.

The items making part of Humane orientation Societal Culture dimension in our research for the Greek society as is and as it should be were the following :

*People are generally very concerned about the others (care about other people)*

*People are generally very sensitive towards others*

*People are generally very friendly*

*People are generally very tolerant of mistakes*

*People are generally very generous*

The results of the CFA analysis for Humane orientation are presented below. From what we can see in the, this dimension has a good fit in both levels.

Graph 3

**Confirmatory Factor Analysis for “humane orientation” Societal Culture dimension**

	<b>Humane orientation In the Greek Society as it is</b>	<b>Humane orientation In the Greek Society as it should be</b>
	<p>Chi-Square=76.82, df=5, P-value=0.00000, RMSEA=0.66</p>	<p>Chi-Square=24.99, df=5, P-value=0.00014, RMSEA=0.067</p>
<b>Degrees of Freedom</b>	5	5
<b>CFI</b>	0,98	0,99
<b>RMSEA</b>	0,066	0,067
<b>Conclusion</b>	Fit	Fit

#### 4. Institutional collectivism

Finally the last dimension of Societal Culture, playing an important role in our research model, is institutional collectivism. Cronbach's Alpha value is  $\alpha = 0,816$  in the “practices” level and  $\alpha = 0,642$  in the “value” level.

We first present the items making part of this dimension in our questionnaire. The level of “practices” represent the “Greek society as it is now” while the “value” level expresses the “Greek society as it should be”.

*Leaders encourage loyalty (faith) in the group even at the expense of individual goals and targets*

*It is important to be accepted by the other members of a group (team)*

*Team spirit (team unity) is valued more than individuality(individual interest)*

We present now the results of the CFA analysis for institutional collectivism dimension in both levels. Graph 4 presents those results in two levels of the Greek society as it is and as it should be.

Graph 4

### Confirmatory Factor Analysis for “institutional collectivism” Societal Culture dimension

	institutional collectivism in the Greek society as it is	institutional collectivism in the Greek society as it should be
	<pre> graph LR     instit1[institut] -- "0.76" --&gt; institm((institm))     instit2[institut] -- "0.60" --&gt; institm     instit3[institut] -- "0.86" --&gt; institm     institm -- "1.00" --&gt; instit1     institm -- "0.64" --&gt; instit2     institm -- "0.93" --&gt; instit3     instit1 -- "1.63" --&gt; error1(( ))     instit2 -- "0.58" --&gt; error2(( ))     instit3 -- "1.30" --&gt; error3(( ))   </pre>	<pre> graph LR     instl[instl] -- "7.71" --&gt; instides((instides))     inst3[inst3] -- "2.80" --&gt; instides     inst4[inst4] -- "8.43" --&gt; instides     instides -- "1.00" --&gt; instl     instides -- "0.58" --&gt; inst3     instides -- "1.30" --&gt; inst4     instl -- "4.26" --&gt; error1(( ))     inst3 -- "0.58" --&gt; error2(( ))     inst4 -- "1.30" --&gt; error3(( ))   </pre>
<b>Degrees of Freedom</b>	1	1
<b>CFI</b>	0,92	0,93
<b>RMSEA</b>	0,061	0,066
<b>Conclusion</b>	Fit	Fit

From the presented results we can conclude that the dimension of institutional collectivism has a good fit in both levels of practices and values of Societal Culture.

After the presentation of confirmatory analysis for the variables of Societal Culture we will now present the difference variables (Values – Practices) which made part of our final research models.

### 5.3.3 Confirmatory Factor Analysis for the Societal Culture Difference Variables

As mentioned in the previous section we will only present the confirmatory factor analysis for the dimensions which made part of our final research models. That is to say, in this section presenting the Societal Culture difference variables, we will show the confirmatory factor analysis results only for three Societal Culture dimensions being assertiveness, performance orientation and humane orientation. The rest of Societal Culture difference variables are presented in the Appendix.

#### 1. Assertiveness difference variable (Values –Practices)

Cronbach's Alpha value for "assertiveness" as a difference variable expressing the difference between values and practices is  $\alpha = 0,843$ .

We presented in the previous section the items making part of "assertiveness" in our research. However, we must emphasize here that assertiveness difference variable expresses the difference, for each item of the assertiveness dimension, between the relevant value and practice. That is to say it expresses the distance between the "Greek society as it should be" and the "Greek society as it is" for each single item.

We can now present the result model of the CFA analysis for the assertiveness difference variable. Graph 5 and the indicators presented below show a very good fit.

Graph 5

Confirmatory Factor Analysis for "assertiveness" difference variable dimension

Assertiveness difference variable	
	<pre> graph LR     assertive((assertive)) -- ".00" --&gt; asser1[asser1]     assertive -- ".46" --&gt; asser2[asser2]     assertive -- ".05" --&gt; asser3[asser3]     assertive -- ".17" --&gt; asser4[asser4]     asser1 -- ".60" --&gt; asser1     asser2 -- ".07" --&gt; asser2     asser3 -- ".15" --&gt; asser3     asser4 -- ".22" --&gt; asser4     </pre> <p>Chi-Square=32.43, df=2, P-value=0.00000, RMSEA=0.066</p>
Degrees of Freedom	2
CFI	0,97
RMSEA	0,066
Conclusion	Fit

## 2. Performance orientation difference variable (Values –Practices)

Cronbach's Alpha's value for performance orientation as a difference variable expressing the difference between values and practices is  $\alpha = 0,720$ .

We presented in the previous section the items making part of "performance orientation" in our research. In the same way, as for the "assertiveness" difference variable, we must explain here that the CFA analysis expresses the difference between each Societal Culture value and practice for every single item of performance orientation dimension. So, each item represents the distance between the "Greek society as it should be" and the "Greek society as it is".

Graph 6 follows, presenting the results of the CFA analysis for this difference variable and apparently shows a good fit.

Graph 6

Confirmatory Factor Analysis for "performance orientation" difference variable dimension

Performance orientation difference variable	
	<pre> graph LR     perfdif((perfdif)) -- "3.28" --&gt; perf1[perf1]     perfdif -- "3.18" --&gt; perf3[perf3]     perf1 -- "5.09" --&gt; perfdif     perf2 -- "11.79" --&gt; perfdif     perf3 -- "24.50" --&gt; perfdif     perf1 &lt;--&gt; perf2   </pre>
Degrees of Freedom	2
CFI	0,98
RMSEA	0,061
Conclusion	Fit

## 3. Humane orientation difference variable (Values –Practices)

We finally present the humane orientation difference variable making part of our research model. Cronbach's Alpha value for this dimension is  $\alpha = 0,722$ .

The items of “humane orientation” dimension were presented in the previous section. Here, as mentioned in both assertiveness and performance orientation difference variables, we depict the difference between values and practices for each single item of humane orientation difference variable.

We repeat once again that the difference variable of humane orientation expresses the distance between the “ Greek society as it should be” and the “Greek society as it is” for each single item.

The CFA is presented below in Graph 7 From the data presented we can conclude that our model has a good fit.

Graph 7

**Confirmatory Factor Analysis for “humane orientation” difference variable dimension**

Humane orientation difference variable	
	<pre> graph LR     Human1[human1] -- ".66" --&gt; HumanDiff((Human1))     Human2[human2] -- ".82" --&gt; HumanDiff     Human3[human3] -- ".98" --&gt; HumanDiff     Human4[human4] -- ".91" --&gt; HumanDiff     Human5[human5] -- ".03" --&gt; HumanDiff     HumanDiff -- ".60" --&gt; Human1     HumanDiff -- ".17" --&gt; ChiSquare["Chi-Square=34.41, df=5, P-value=0.00000, RMSEA=0.081"]   </pre>
Degrees of Freedom	5
CFI	0,98
RMSEA	0,081
Conclusion	Fit

After having completed the Confirmatory Factor Analysis for those Societal Culture dimensions making part our research models we will now proceed with the quality dimensions (of both Service Quality and the EFQM excellence model) being affected by those variables and making part of the same research models.

The rest of quality dimensions and criteria, in the same way we did with the Societal Culture dimensions and difference variables, are presented in the Appendix.

### **5.3.4 Confirmatory Factor Analysis for Service Quality Dimensions**

The Service Quality dimensions being affected by Societal Culture is tangibility, staff attitude, delivery andr. The CFA results for faculty competence as well as for curriculum content are presented in the Appendix.

#### **1.Tangibility Service Quality dimension**

Cronbach's Alpha value for the dimension of tangibility is  $\alpha = 0,729$  in the perception level and  $\alpha = 0,743$  in the expectation level.

We will explain here the items making part of the “tangibility” quality dimension in our research. The questionnaire was separated in two levels. The level of “perceptions” representing“ the Athens University of Economics and Business as it is while the “expectations” level was expressing the “ideal University as it should be”.

The items used were the following:

*There is sufficient academic equipment/facilities for carrying out the courses*

*There are visually appealing facilities*

*There is ease of access to information sources and material*

*Adequate Support Services are provided (accommodation, sports, library, and Career office)*

In the following graph the CFA analysis is presented for these two levels of perceptions and expectations.

From what it appears in Graph 8 both tangible dimension models, in the perception and expectation level, have a good fit.

Graph 8  
Confirmatory Factor Analysis for “tangibility” Service Quality dimension

	Tangible in AUEB as it is now	Tangible in the ideal University
Degrees of Freedom	2	2
CFI	0,94	1,00
RMSEA	0,080	0,058
Conclusion	Fit	Fit

## 2. Staff attitude Service Quality dimension

Cronbach's Alpha value for Staff attitude dimension is  $\alpha = 0,786$  in the perception level and  $\alpha = 0,718$  in the expectation level.

The items making part of the “Staff attitude” Quality dimension in our research were the following:

*Administrative staff seems to understand students' needs*

*Administrative staff willingly responds to students' request for assistance*

*Administrative staff gives to each student individual attention*

Staff attitude dimension appears with a good fit in both levels of perception and expectation as shown in Graph 9.

Graph 9

**Confirmatory Factor Analysis for “staff attitude” Service Quality dimension**

	Staff in AUEB as it is now	Staff in the ideal University
	<pre> graph LR     staf1[staff1] -- "1.05" --&gt; stafnow((stafnow))     staf2[staff2] -- "0.56" --&gt; stafnow     staf3[staff3] -- "0.93" --&gt; stafnow     staf4[staff4] -- "0.73" --&gt; stafnow     stafnow --- "0.84" --- staff4   </pre>	<pre> graph LR     staff1d[staff1d] -- "0.31" --&gt; Staffide((Staffide))     staff2d[staff2d] -- "0.24" --&gt; Staffide     staff3d[staff3d] -- "0.51" --&gt; Staffide     staff4d[staff4d] -- "0.31" --&gt; Staffide     Staffide --- "1.03" --- staff4d   </pre>
<b>Degrees of Freedom</b>	2	2
<b>CFI</b>	0,91	0,94
<b>RMSEA</b>	0,070	0,073
<b>Conclusion</b>	Fit	Fit

### 3. Delivery Service Quality dimension

The third Service Quality dimension which seems to be affected by the Societal Culture dimensions in our research models is delivery. Cronbach's Alpha value for the delivery dimension is  $\alpha = 0,673$  in the perception level and  $\alpha = 0,760$  in the expectation level.

We will now present the items making part of the “delivery” Quality dimension in our research. We once again have a level of “perceptions” representing “the Athens University of Economics and Business “as it is now” in delivery as a quality dimension while the “expectations” level express the presence of this dimension in the ideal University “as it should be”.

The items used for this dimension were the following:

*There is fairness in all processes (exams, evaluations)*

*The faculty management (leadership) takes into consideration your opinions and ideas*

*You feel encouraged and recognized*

In Graph 10 the results of the CFA analysis are presented and show that this dimension has a good fit in both levels of perceptions and expectations

Graph 10  
Confirmatory Factor Analysis for “delivery” Service Quality dimension

	Delivery in AUEB as it is now	Delivery in the ideal University
<b>Degrees of Freedom</b>	2	2
<b>CFI</b>	0,92	0,94
<b>RMSEA</b>	0,061	0,067
<b>Conclusion</b>	Fit	Fit

#### 4. Reliability Service Quality dimension

Finally our last Service Quality dimension being affected by Societal Culture is the “reliability” dimension. Cronbach’s Alpha value for this dimension is  $\alpha = 0,846$  in the perception level and  $\alpha = 0,806$  in the expectation level.

The items making part of the “reliability” quality dimension expressing both the “perception” and “expectation” levels were the following:

*The faculty management(leadership) keeps its promises according to the goals it is setting*

*The faculty management(leadership) is capable of handling complaints and problem solving*

*The faculty management (leadership) inspires a feeling of credibility (trust) to you*

According to the data presented in Graph 11 below the reliability dimension seems to have a good fit in both levels of perception and expectation.

Graph 11

**Confirmatory Factor Analysis for “reliability” Service Quality dimension**

	<b>Reliability in AUEB as it is now</b>	<b>Reliability in the ideal University</b>
	<pre> graph LR     relia1[relia1] -- "0.64" --&gt; Relianow((Relianow))     relia2[relia2] -- "0.46" --&gt; Relianow     relia3n[relia3n] -- "1.28" --&gt; Relianow     Relianow -- "1.00" --&gt; Relianow     </pre>	<pre> graph LR     reliad1[reliad1] -- "0.24" --&gt; Reliades((Reliades))     reliad2[reliad2] -- "0.21" --&gt; Reliades     reliad3d[reliad3d] -- "0.31" --&gt; Reliades     Reliades -- "1.00" --&gt; Reliades     </pre>
<b>Degrees of Freedom</b>	2	2
<b>CFI</b>	0,90	0,91
<b>RMSEA</b>	0,070	0,069
<b>Conclusion</b>	Fit	Fit

After presenting all the Service Quality dimensions which construct our research model we will have to confirm the appropriateness of the EFQM quality criteria. These EFQM criteria make part of our combined variable expressing the total quality of the Athens University of Economics and Business in the “perception” quality level.

### **5.3.5 Confirmatory Factor Analysis for the EFQM Criteria**

As mentioned in previous section, we will only present the criteria making part of our final research models. In this case, the EFQM quality criteria being affected by Societal Culture dimensions is leadership, people and processes. The CFA results for strategy and partnerships and resources will be presented in the Appendix.

#### **1. EFQM leadership criterion**

Cronbach's Alpha value for the EFQM leadership criterion is  $\alpha = 0,825$ . In the EFQM excellence model we do not have two levels of quality (perceived and expected) but only one expressing the current quality situation in the Athens University of Economics and Business.

The items making part of the leadership quality criterion were the following:

*The faculty management (leadership) is actively involved in promoting partnerships (with companies, other Institutions, Exchange Programs) in order to cover the needs of its students*

*The faculty management (leadership) is actively involved in both generating and communicating the strategy of the Institution (target, direction, culture of AUEB Institution) to all students*

*The faculty management (leadership) applies all those educational processes needed in delivering knowledge in a respected, consistent and effective way*

*The faculty management (leadership) act upon the organization's value system and support the implementation of these values throughout the University*

*The faculty management (leadership) make themselves available to staff and recognize theirs efforts for improvements inside the University*

In the following Graph the results of the CFA analysis are presented for this leadership criterion. From what we can see in the model presented below there seems to be a good fit.

Graph12

**Confirmatory Factor Analysis for the leadership EFQM quality criterion**

Leadership EFQM quality criterion	
	<p>Chi-Square=52.53, df=5, P-value=0.00000, RMSEA=0.07</p>
Degrees of Freedom	5
CFI	0,98
RMSEA	0,07
Conclusion	Fit

## 2. EFQM people criterion

Cronbach's Alpha value for the EFQM "people" criterion is  $\alpha = 0,825$ .

The items making part of the "people" quality criterion were the following:

*The needs for staff recruitment and development (both Academic and administrative ) derive directly from the needs of University's strategic targets*

*Staff members (academic and administrative) comply with the organisation's values and needs and align their individual goals with the organisational ones*

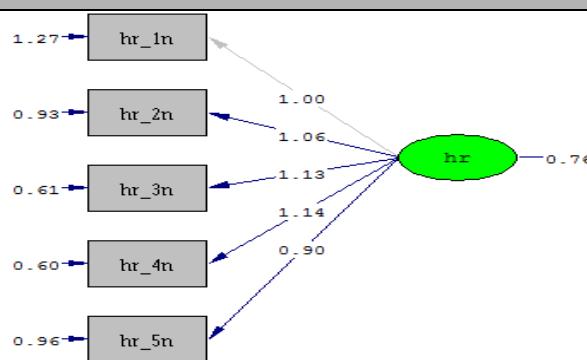
*There are processes through which staff members (academic and administrative) participate and become increasingly empowered and competent to make decisions and changes where needed*

*That staff members (academic and administrative) don't only get informed and communicate with the faculty management but their opinions are also considered and valued*

*Staff members'efforts in generating improvements and contributing to the University are recognized and rewarded*

People's criterion presents a good fit given the information stated in the Graph below.

Graph 13  
Confirmatory Factor Analysis for the people EFQM quality criterion

	<b>People EFQM quality criterion</b>
	
<b>Degrees of Freedom</b>	2
<b>CFI</b>	0,99
<b>RMSEA</b>	0,08
<b>Conclusion</b>	Fit

### 3. EFQM processes criterion

Cronbach's Alpha value for this last important EFQM criterion is  $\alpha = 0,829$ . As mentioned before, in the EFQM Excellence Model we just have one level of quality. It is the level presenting the current quality in AUEB.

The items making part of the “processes” quality criterion were the following:

*The educational processes are applied and controlled under defined standards or requirements (ex. Exams are carried out according to specific rules and conditions)*

*The University management uses reliable methods to understand your perceptions, needs, and expectations (ex. use of surveys in the University, focus groups, and meetings)*

*There is continuous improvement of educational processes based on analysing data from students, staff, external partners or comparative analysis with other institutions*

*Control and assessment is applied to measure the effectiveness of all the educational systems and services offered by the University*

Processes EFQM quality criterion has an excellent fit according to the data presented below.

Graph 14

**Confirmatory Factor Analysis for the processes EFQM quality criterion**

	<b>Processes EFQM quality criterion</b>
<b>Degrees of Freedom</b>	5
<b>CFI</b>	0,99
<b>RMSEA</b>	0,045
<b>Conclusion</b>	Fit

After presenting the Confirmatory Factor Analysis for the Service Quality dimensions and the EFQM quality criteria together we will proceed with the factor analysis of Service Quality difference variables used in our research models.

The new variables produced in the Service Quality level expresses the relation of Expectation – Perception which is the “satisfaction” level for each one of the six Service Quality dimensions.

We cannot create a difference variable in the EFQM quality model criteria as its criteria express just the current level of quality in the Athens University of Economics and Business.

### 5.3.6 Confirmatory Factor Analysis for the Service Quality Difference Variables

As previously mentioned we only present the Service Quality difference variables used in our research models. In this case we have tangibility, staff attitude, delivery and reliability. The rest of variables appear in the Appendix.

#### 1. Tangibility Service Quality difference variable

Cronbach's Alpha value for this difference variable is  $\alpha = 0,745$ . We presented in the previous section the items making part of "tangibility" as a quality dimension in our research. However, the tangible difference variable here expresses the difference between the expectation and the perception level of the various stakeholders for each item of the tangibility Service Quality dimension. That is to say it expresses the gap between what Stakeholders perceive as quality in the Athens University of Economics and Business and what they would expect in an ideal University regarding tangibility. This difference it can also be considered as quality satisfaction level.

The model presented below shows a good fit for the "tangible" difference variable.

Graph 15  
Confirmatory Factor Analysis for tangibility Service Quality variable

Tangible Service Quality difference variable	
	<pre> graph LR     tangdif((tangdif)) -- "0.19" --&gt; tang1[tang1]     tangdif -- "0.88" --&gt; tang2[tang2]     tangdif -- "1.46" --&gt; tang3[tang3]     tangdif -- "1.00" --&gt; tang4[tang4]     tang1 -- "0.42" --&gt; tang1     tang2 -- "0.44" --&gt; tang2     tang3 -- "0.34" --&gt; tang3     tang4 -- "0.33" --&gt; tang4   </pre>
Degrees of Freedom	2
CFI	0,96
RMSEA	0,066
Conclusion	Fit

## 2. Staff attitude Service Quality difference variable

Cronbach's Alpha value for staff attitude difference variable is  $\alpha = 0,784$ . For "staff attitude" items have already been presented in previous section. The staff attitude difference variable expresses the difference between the expectation and the perception level of the various stakeholders for each item of the staff attitude difference variable.

We now present the CFA in Graph 16. By the information provided we can conclude that the staff attitude difference variable has a good fit.

Graph 16

**Confirmatory Factor Analysis for staff attitude Service Quality difference variable**

Staff attitude Service Quality difference variable	
	<pre>     graph LR       stafdif((stafdif)) -- "2.20" --&gt; staff1[staff1]       stafdif -- "1.00" --&gt; staff2[staff2]       stafdif -- "0.80" --&gt; staff4[staff4]       staff1 -- "2.20" --&gt; stafdif       staff2 -- "5.12" --&gt; stafdif       staff4 -- "1.83" --&gt; stafdif   </pre>
<b>Degrees of Freedom</b>	2
<b>CFI</b>	0,93
<b>RMSEA</b>	0,079
<b>Conclusion</b>	Fit

## 3. Delivery Service Quality difference variable

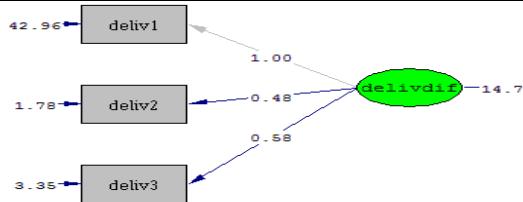
The third Service Quality difference variable being affected by Societal Culture is delivery. Cronbach's Alpha value for this difference variable is  $\alpha = 0,711$ .

The items of this difference variable have already been presented in previous section. We will now present the results of the CFA showing the difference between the expectation and the perception level of the various stakeholders for each item of the delivery Service Quality

dimension. By Graph 17 presenting the CFA of the delivery difference variable we can say that the model presents a good fit.

Graph 17

#### Confirmatory Factor Analysis for delivery Service Quality difference variable

	<b>Delivery Service Quality difference variable</b>
	
<b>Degrees of Freedom</b>	2
<b>CFI</b>	0,97
<b>RMSEA</b>	0,070
<b>Conclusion</b>	Fit

#### 4. Reliability Service Quality difference variable

Cronbach's Alpha value for the dimension of reliability difference variable is  $\alpha = 0,845$ .

The items of this difference variable expressing the gap between what stakeholders perceive as quality in the Athens University of Economics and Business and what they would expect in an ideal University regarding reliability have been presented before.

We will present here the CFA analysis.

Judging by the CFA results presented in Graph 18 we can conclude that there is a good fit in the model.

Graph 18

**Confirmatory Factor Analysis for the reliability Service Quality difference variable**

Reliability Service Quality difference variable	
	<pre> graph LR     reliadif((reliadif)) -- "21.66" --&gt; relia1[relia1]     reliadif -- "21.66" --&gt; relia2[relia2]     reliadif -- "21.66" --&gt; relia3[relia3]     relia1 -- "11.45" --&gt; reliadif     relia2 -- "1.87" --&gt; reliadif     relia3 -- "22.81" --&gt; reliadif     relia1 &lt;--&gt; relia2 [1.00]     relia1 &lt;--&gt; relia3 [0.55]     relia2 &lt;--&gt; relia3 [1.27]   </pre>
Degrees of Freedom	2
CFI	0,98
RMSEA	0,061
Conclusion	Fit

We now completed the CFA Analysis for all Societal Culture and quality variables making part of our research models. In the Appendix there is available the analysis of all dimensions, criteria and difference variables used in this research to make any kind of analysis.

Moreover, we performed Confirmatory Factor Analysis for the new created variables called total Service Quality satisfaction and total quality perception. These two new constructs express the satisfaction of quality from all Service Quality difference dimensions combined (Expectations – Perceptions for all six dimensions together) and the current level of quality expressing only the perception level of all Service Quality dimensions combined with the EFQM criteria. Their results are presented in the following section.

### 5.3.7 Confirmatory Factor Analysis for Total Service Quality Satisfaction and Total Quality Perception

#### 1. Total Service Quality satisfaction variable

This construct measures the total Service Quality satisfaction including all six Service Quality variables of our research when comparing expectations and perceptions for all stakeholder categories.

According to the Service Quality theory, presented in Chapter 2, this variable measures actually the Service Quality gap between what stakeholders wish and what they actually receive in terms of quality. Alpha's value as it has been calculated in section 5.3 is  $\alpha = 0,869$ .

Graph 19

Confirmatory Factor Analysis for the total Service Quality satisfaction variable

	Total Service Quality Satisfaction Variable
	<p>Chi-Square=74.73, df=9, P-value=0.00000, RMSEA=0.065</p>
Degrees of Freedom	9
CFI	0,98
RMSEA	0,065
Conclusion	Fit

Judging by the CFA results, CFI and RMSEA indicators, we can conclude that there is a good fit in the overall dimension model. We will now pass to the other important constructed variable showing the current quality perception of the various stakeholder categories.

## 2. Total quality perception variable

This construct measures the overall quality of all stakeholder categories in the current level or differently said, in the perception level. Here we do not calculate the expectations of stakeholders which were calculated in the satisfaction variable but only their perceptions of current quality. Alpha's value as it has been calculated in section 5.3 is  $\alpha = 0,918$ .

Graph 20

Confirmatory Factor Analysis for total quality perception variable

	Total Quality Perception Variable
	<p>Chi-Square=505.18, df=44, P-value=0.00000, RMSEA=0.068</p>
Degrees of Freedom	44
CFI	0,97
RMSEA	0,068
Conclusion	Fit

The CFA results show a good fit.

To conclude, throughout our research new variables were created in both Service Quality and societal level, as it has already being mentioned in the previous section. All variables were tested for normality and reliability and Confirmatory Factor Analysis took place for those who were basic constructs of our research model. In the next section we will present the descriptive statistics of all related dimensions for each stakeholder category and will also compare their results.

### 5.3.8 Descriptive Statistics by Stakeholder Category and Comparative Data

In this section the basic descriptive statistics will be presented. We will start by the three students stakeholder categories followed by academics, administrative staff and employers.

With (x) we show the lowest mean score and with (y) the highest mean score of all dimensions for each stakeholder category. The difference variable (x) shows bigger gap between perceptions and expectations and practices with values. On the other hand, (y) represents shorter gap between perceptions and expectations as well as between practices and values. We first present, in Table 10, the basic descriptive measures (Mean, Std, Deviation, Minimum and Maximum value) of Societal Culture dimensions for Undergraduate students.

Table 10  
Societal Culture variables for Undergraduate students

	N	Minimum	Maximum	Mean	Std. Deviation
<b>SOCIETAL</b>					
uncert_now	605	1,00	6,67	3,0804	1,07763
uncert_desired	605	1,00	7,00	5,9284	,99503
asser_now	605	2,25	7,00	5,2107	,88494
<b>asser_desired</b>	605	1,00	5,25	<b>P- 2,2393</b> (x)	,77423
future_now	605	1,00	7,00	3,4426	1,09801
future_desired	605	1,25	7,00	4,7653	1,12774
<b>power_now</b>	605	1,33	7,00	<b>V- 6,0523</b> (y)	,77584
power_desired	605	1,00	7,00	2,4860	1,10949
institut_now	605	1,00	7,00	3,0457	1,25557
<b>institut_desired</b>	605	2,33	7,00	<b>P- 6,2033</b> (y)	,63674
<b>human_now</b>	605	1,00	5,40	<b>V- 2,7306</b> (x)	,88112
human_desired	604	1,40	7,00	5,7017	,69506
group_now	605	1,25	7,00	4,7723	,96927
group_desired	605	1,50	7,00	4,4074	,92053
perform_now	605	1,00	6,33	2,6733	,88958
perform_desired	605	1,33	7,00	6,1945	,73254
gender_now	605	1,00	7,00	4,7405	1,15393
gender_desired	605	1,00	7,00	2,5895	1,30627
<b>SOCIETAL DIF</b>					
uncert_Dif	605	-4,33	6,00	2,8479	1,64143
asser_dif	605	-6,00	2,50	-2,9715	1,24349
future_dif	605	-5,25	6,00	1,3227	1,84859
<b>power_dif</b>	605	-6,00	5,67	<b>DIF- 3,5664</b> (y)	1,55048
institut_dif	605	-4,00	6,00	3,1576	1,44553
human_dif	604	-,80	6,00	2,9738	1,25888
<b>group_dif</b>	605	-4,50	4,00	<b>DIF- ,3649</b> (x)	1,32796
perform_dif	605	-4,67	6,00	3,5212	1,29077
gender_dif	605	-6,00	3,33	-2,1510	1,84279

### **Undergraduate students' data analysis of Societal Culture dimensions**

Undergraduate students' highest mean score in Societal Culture "practices" level is for power distance. That means that students consider a high existing power distance in the Greek society while they consider also a very low humane orientation.

Regarding their values and as a result of their perception towards society they value high institutional collectivism and wish for less assertiveness. Assertiveness can be interpreted as the lack of humane orientation in the society. These two dimensions are the different faces of the same coin as they characterize the human and tough nature of a society.

Regarding the difference variables (Values – Practices) and consequently the existing gap between practices and values, students present their highest and negative score in power distance meaning that they need less power distance within this society.

However they seem fine with the level of in group collectivism in the society showing a short gap between practices and values. Students perceive that this dimension is practiced as it should be in the society.

Table 11 which follows shows the descriptive measures of Undergraduate students for the quality variables (Service Quality dimensions & the EFQM criteria).

### **Undergraduate students' data analysis of Quality dimensions**

We can see that Undergraduate students have their higher mean scores in those dimensions of Service Quality connected with faculty competence in both perception and expectation level. Their lower scores are connected with the attitude of the administrative staff. The attitude of administrative staff seems to affect their perception of quality.

In the EFQM criteria the lowest mean score is in the criterion dealing with strategy and the highest in the processes. The general scores of students regarding the EFQM excellence model criteria are all around 3.5 /7. This score is low and show that students realize that the Institution doesn't fulfill the appropriate conditions for quality.

Regarding the Service Quality gaps and their satisfaction from quality students present a high gap in staff attitude as their score meaning their quality gap is high. This gap seems shorter regarding faculty competence. However, the idea we get from the overall Service Quality difference indicator as well as from the current quality indicator is that students mean score

about perceived quality in the Athens University is lower than 4 which should be critically considered by the institution. Moreover, their quality expectations seem higher almost 3, 00 levels compared to their perceptions about the current level of quality. This shows a considerably big gap of quality satisfaction.

Table 11  
Quality variables for Undergraduate students

	N	Minimum	Maximum	Mean	Std. Deviation
<b>SERVQUAL</b>					
tangib_now	605	1,00	6,25	3,4079	1,08539
tangib_desired	605	4,00	7,00	6,6335	,49066
<b>faq_now</b>	603	1,00	7,00	<b>P-4,6345</b> (y)	1,07370
<b>faq_desired</b>	605	4,20	17,00	<b>E-6,6823</b> (y)	,62553
staff_now	605	1,00	6,33	<b>P-3,2132</b> (x)	1,13034
staff_desired	605	3,67	7,00	6,5223	,60695
conte_now	605	1,00	7,00	4,0832	1,25188
<b>conte_desired</b>	605	2,00	7,00	<b>E- 6,5107</b> (x)	,62957
deliv_now	605	1,00	6,33	3,4011	1,14606
deliv_desired	605	2,00	7,00	6,5488	,59280
relia_now	605	1,00	6,67	3,3179	1,15968
relia_desired	605	2,00	7,33	6,5482	,64686
<b>EFQM CRITERIA</b>					
lead_now	605	1,00	5,80	3,5603	,92034
<b>strat_now</b>	605	1,00	10,75	<b>p- 3,7079</b> (y)	,97786
hr_now	605	1,20	6,00	3,6787	,94905
partner_now	605	1,00	6,20	3,6658	,97259
<b>process_now</b>	605	1,00	6,60	<b>p- 3,5174</b> (x)	1,06375
<b>SERVQUAL DIF</b>					
tangib_dif	605	,00	6,00	3,2256	1,20538
<b>faq_dif</b>	603	-,80	6,00	<b>DIF-2,0302</b> (x)	1,07849
<b>staff_dif</b>	605	-,67	6,00	<b>DIF- 3,3091</b> (y)	1,30000
conte_dif	605	-4,00	6,00	2,4275	1,34410
deliv_dif	605	-4,00	6,00	3,1477	1,31941
relia_dif	605	-4,67	6,00	3,2303	1,40660
quality_now	603	1,48	5,99	3,6354	,74058
servqual_Dif	603	-,47	5,67	2,9264	,93120
servqual_now	603	1,29	6,04	3,6438	,79997
Servqual_desired	605	3,78	7,06	6,5708	,46088
Valid N (listwise)	603				

For the Master students the relevant descriptive data for societal practices, values and their difference variables are presented in Table 12.

**Table 12**  
**Societal Culture variables for Master students**

	N	Minimum	Maximum	Mean	Std.Deviation
<b><u>SOCIETAL</u></b>					
uncert_now	110	1,00	5,67	<b>P- 2,9818 (x)</b>	1,01350
uncert_desired	110	1,00	7,00	5,9030	,86893
asser_now	110	2,00	7,00	5,1205	,94562
asser_desired	110	1,00	5,50	<b>2,4750 (x)</b>	,95119
future_now	110	1,25	6,75	3,5000	1,05578
future_desired	110	2,50	7,00	4,9727	1,01894
power_now	110	2,33	7,00	<b>P - 5,9455 (y)</b>	,91150
power_desired	110	1,00	5,50	2,6045	1,01332
institut_now	110	1,67	6,67	2,8939	,78328
institut_desired	110	2,00	7,00	6,0152	,72298
human_now	110	1,00	6,40	3,0618	1,00192
human_desired	110	2,40	7,00	5,6764	,74636
group_now	110	3,00	6,75	5,1841	,82373
group_desired	110	2,50	6,25	4,4341	,77198
perform_now	110	1,00	5,67	2,8758	,88579
perform_desired	110	3,00	7,00	<b>V- 6,0788 (y)</b>	,80128
gender_now	110	2,33	7,00	4,7212	1,13469
gender_desired	110	1,00	5,67	2,6606	1,17655
<b><u>SOCIETAL DIF</u></b>					
uncert_Dif	110	-,67	5,33	2,9212	1,32176
asser_dif	110	-5,75	2,25	-2,6455	1,41356
future_dif	110	-3,25	5,50	1,4727	1,62208
power_dif	110	-6,00	2,92	<b>DIF -3,3409 (y)</b>	1,58663
institut_dif	110	-,33	5,00	3,1212	1,11767
human_dif	110	-1,80	6,00	2,6145	1,29124
group_dif	110	-2,75	2,25	<b>DIF -,7500 (x)</b>	1,05795
perform_dif	110	-2,00	5,67	3,2030	1,23001
gender_dif	110	-6,00	2,00	-2,0606	1,76971
Valid N (listwise)	110				

### **Master students data analysis of Societal Culture dimensions**

From the results presented, we can see that the highest mean scores of Master student regarding Societal Culture practices is for power distance. Master students perceive there is high power distance in the Greek society. They also perceive low uncertainty avoidance and wish for more performance orientation in the society. Their mean scores in the expectation levels are quite high in the dimension of performance. Moreover, their lower mean score is in assertiveness meaning that they wish for lower assertiveness in the society. Regarding the Societal Culture difference variables, their higher gap between practices and values is observed in the power distance dimension showing a high expectation for less power distance within the society. Their lowest mean score in the difference level variables is for in group collectivism showing they are quite satisfied by the way this dimension is practiced in the Greek society. This is almost the same picture presented in the Undergraduate student level for all the dimensions mentioned.

### **Master students data analysis of Quality dimensions**

Regarding the quality variables, we can check the data of Table 13. By these data we can see that Master students present a high mean score concerning faculty competence but they also seem to be in higher need of it as their desired mean score for this variable is also very high, reaching the 7.00 points. Low mean score is presented for the dimension of tangibility in the current quality level.

In general, Master students present high scores regarding Service Quality expectations but they have also high mean scores in their Service Quality perceptions. They seem to reach in a very different way compared to Undergraduate students whose scores are really low.

In the EFQM criteria the picture presented shows higher mean scores for leadership and lower for processes than Undergraduate student. However, their scoring is comparatively higher in all variables if we compare them with Undergraduate students. Master students seem to have a higher score in both current quality (Quality now indicator) but also in the indicator regarding satisfaction from quality. This finding will be discussed further in the next chapter.

Table 13  
Quality variables for Master students

	N	Minimum	Maximum	Mean	Std. Deviation
<b>SERVQUAL</b>					
<b>tangib_now</b>	110	1,00	7,00	<b>P- 3,8295</b> (x)	1,16570
tangib_desired	110	3,00	7,00	6,5273	,65258
<b>faq_now</b>	110	1,40	7,00	<b>P- 4,9582</b> (y)	1,14398
faq_desired	110	3,80	7,00	<b>E-6,7182</b> (y)	,53384
staff_now	110	1,00	7,00	4,1485	1,49453
staff_desired	110	3,00	7,00	6,5242	,68694
conte_now	110	1,00	7,00	4,4485	1,26220
conte_desired	110	4,00	7,00	6,5212	,66594
deliv_now	110	1,67	7,00	4,4364	1,30532
deliv_desired	110	3,67	7,00	6,4939	,70202
relia_now	110	1,00	7,00	4,4818	1,27117
relia_desired	110	3,33	7,00	<b>E- 6,4879</b> (x)	,70628
<b>EFQM CRITERIA</b>					
lead_now	110	1,20	7,00	<b>4,4255</b> (y)	1,08471
strat_now	110	1,00	6,50	4,2750	1,00626
hr_now	110	1,00	6,20	4,1291	,98375
partner_now	110	1,00	6,40	4,2036	1,02661
process_now	110	1,00	6,40	<b>4,0782</b> (x)	1,20552
<b>SERVQUAL DIF</b>					
tangib_dif	110	-2,00	6,00	<b>DIF- 2,6977</b> (y)	1,31988
faq_dif	110	-,40	5,60	<b>DIF- 1,7600</b> (x)	1,16801
staff_dif	110	-2,00	6,00	2,3758	1,62493
conte_dif	110	,00	6,00	2,0727	1,29877
deliv_dif	110	-,67	5,00	2,0576	1,36272
relia_dif	110	-1,33	6,00	2,0061	1,38580
quality_now	110	1,52	6,26	4,2905	,92905
servqual_Dif	110	-,39	5,23	2,1962	1,11456
servqual_now	110	1,77	6,46	4,3473	1,02474
Servqual_desired	110	3,82	7,00	6,5436	,52969
Valid N (listwise)	110				

We will now pass to the third student category which is the International students of AUEB.

These students are also named in our data analysis as Erasmus Students.

The Descriptive data for International students regarding Service Quality and Societal Culture dimensions are presented in Tables 14 and 15. We will first present the Societal Culture dimensions data as they are shown in Table 14.

**Table 14**  
**Societal Culture variables for International students**

	N	Minimum	Maximum	Mean	Std. Deviation
<b><u>SOCIETAL</u></b>					
<b><u>uncert_now</u></b>	51	1,00	4,67	<b>P- 2,4771</b> (x)	,99164
uncert_desired	51	2,33	7,00	5,3399	1,06352
asser_now	51	2,25	5,75	3,9755	,78939
asser_desired	51	1,25	4,25	2,7696	,79190
future_now	51	1,00	4,50	2,6961	,87223
future_desired	51	3,00	6,25	4,6373	,97636
<b><u>power_now</u></b>	51	2,00	7,00	<b>P- 5,3987</b> (y)	1,19633
power_desired	51	1,00	6,00	2,6176	1,18675
institut_now	51	2,33	6,33	4,3987	,97984
institut_desired	51	2,33	6,67	4,6078	,98366
human_now	51	2,00	5,80	4,1804	,93145
human_desired	51	2,40	6,80	5,4784	,74948
group_now	51	2,50	7,00	5,1324	,94387
group_desired	51	1,00	6,50	3,7843	1,05121
perform_now	51	1,00	5,00	2,9412	1,03216
<b><u>perform_desired</u></b>	51	4,00	7,00	<b>V- 5,8954</b> (y)	,94161
gender_now	51	2,00	7,00	5,1111	,96302
<b><u>gender_desired</u></b>	51	1,00	4,67	<b>V- 2,3464</b> (x)	1,09942
<b><u>SOCIETAL DIF</u></b>					
uncert_Dif	51	-2,33	6,00	2,8627	1,72714
asser_dif	51	-4,05	0,75	<b>DIF- 1,2059</b> (x)	,85981
future_dif	51	-,75	5,00	1,9412	1,54239
power_dif	51	-5,75	3,00	-2,7810	1,99548
institut_dif	51	-3,33	4,00	,2092	1,52310
human_dif	51	-,60	3,80	1,2980	,97847
group_dif	51	-4,00	1,50	-1,3480	1,15983
perform_dif	51	-,33	5,33	<b>DIF- 2,9542</b> (y)	1,66402
gender_dif	51	-6,00	,00	-2,7647	1,58085
Valid N (listwise)	51				

### **International student's data analysis of Societal Culture dimensions**

International student's higher mean score in the societal practice level goes to power distance while the lower goes to uncertainty avoidance. By these results we can understand that International students feel that Greeks have a very low uncertainty avoidance orientation and that power distance is extremely high and obvious in our society. In the value level the higher mean score is for performance orientation and the lower one for gender egalitarianism. According to the International students, performance is missing and women discrimination in many aspects of Greek life is obvious and should be practiced less. Their higher mean score in the societal difference gap is attributed to performance orientation while their lower mean score goes to assertiveness. The lack of performance orientation seems to be a prominent issue for them in our society. Regarding the dimension of assertiveness, it seems like International students perceive that there exists a smaller gap between practices and values than all the rest of stakeholder categories. This might also be a culture issue.

### **International students data analysis of Quality dimensions**

In the Quality dimensions presented in the Table 15, International students have their higher mean score in the faculty competence though they seem to wish for better quality of faculty members in the University. That is to say, their higher mean score in the desired level of quality is also related to faculty competence. Their lower mean scores in the current quality of AUEB concerns tangibility. This result is in agreement with relevant results in many other stakeholder categories which show that tangibles are a big disadvantage of the University. Concerning the EFQM criteria results, their higher mean score goes for people's Management and their lower for partnerships.

In the Service Quality gap data, International students are presented with a higher Service Quality gap in the tangibility dimension while a smaller one is presented for faculty competence. International students have a very different picture of how laboratories and general infrastructure should be in the University as they compare it with their Universities. So, regardless of the tangibility issue which seems to be eminent in the University International students perception is affected by comparative data.

Table 15  
Quality variables for International students

	N	Minimum	Maximum	Mean	Std. Deviation
<b>SERVQUAL</b>					
tangib_now	51	1,50	7,00	<b>P- 3,7892</b> (x)	1,20247
tangib_desired	51	4,25	7,00	6,2794	,71352
faq_now	51	3,20	7,00	<b>P- 5,0510</b> (y)	1,00625
faq_desired	51	4,60	7,00	<b>E- 6,3451</b> (y)	,70095
staff_now	51	2,00	7,00	4,4314	1,37646
staff_desired	51	3,00	7,00	6,0915	,79464
conte_now	51	2,33	7,00	4,6013	1,04991
conte_desired	51	4,00	7,00	5,9804	,77291
deliv_now	51	2,00	6,67	4,0588	1,10294
deliv_desired	51	4,33	7,00	<b>E- 5,9542</b> (x)	,82736
relia_now	51	1,00	7,00	4,1830	1,31371
relia_desired	51	4,00	7,00	6,0654	,89696
<b>EFQM</b>					
<b>CRITERIA</b>					
lead_now	51	2,40	7,00	4,1529	,98028
strat_now	51	2,25	7,00	4,0686	,96706
<b>hr_now</b>	51	1,80	6,80	<b>4,2078</b> (y)	,75785
<b>partner_now</b>	51	1,80	5,60	<b>3,8392</b> (x)	,80202
process_now	51	1,80	7,00	4,0941	,86103
<b>SERVDIF</b>					
<b>tangib_dif</b>	51	-1,00	5,25	<b>DIF- 2,4902</b> (y)	1,47730
<b>faq_dif</b>	51	-,20	3,40	<b>DIF- 1,2941</b> (x)	,97106
staff_dif	51	-1,67	4,67	1,6601	1,40395
conte_dif	51	-,33	4,67	1,3791	1,19447
deliv_dif	51	-,33	4,00	1,8954	1,28148
relia_dif	51	,00	6,00	1,8824	1,58580
quality_now	51	3,02	6,44	4,2252	,75449
servqual_Dif	51	-,18	3,61	1,7715	,93644
servqual_now	51	3,39	6,74	4,3525	,85500
Servqual_desired	51	4,90	7,00	6,1239	,60795
Valid N (listwise)	51				

The administrative staff descriptive measures are presented in Tables 16 and Table 17. We will again start the analysis of the Societal Culture data as they are shown in Table 16 below.

**Table 16**  
**Societal Culture variables for administrative staff**

	N	Minimum	Maximum	Mean	Std. Deviation
<b>SOCIETAL</b>					
uncert_now	39	1,00	4,33	2,6410	,88319
uncert_desired	39	4,00	7,00	6,1624	,67048
asser_now	39	1,75	7,00	5,1987	1,10795
asser_desired	39	1,00	3,75	<b>V- 1,8526</b>	,64051
				(x)	
future_now	39	1,00	5,00	3,0769	,94269
future_desired	39	2,25	7,00	5,2436	1,06142
power_now	39	5,00	7,00	<b>P- 6,2308</b>	,58316
				(y)	
power_desired	39	1,00	5,00	2,1282	1,06046
institut_now	39	1,67	4,00	<b>P- 2,4872</b>	,51779
				(x)	
institut_desired	39	5,33	7,00	6,3590	,43518
human_now	39	1,00	5,20	2,8308	,87604
human_desired	39	5,20	7,00	6,0974	,61021
group_now	39	3,50	6,25	5,2051	,72291
group_desired	39	2,75	6,50	4,5321	,74379
perform_now	39	1,00	5,00	2,5299	,93882
perform_desired	39	5,00	7,00	<b>V- 6,4530</b>	,54337
				(y)	
gender_now	39	2,33	7,00	4,5983	1,09004
gender_desired	39	1,00	5,67	2,4444	1,25034
<b>SOCIETAL DIF</b>					
uncert_Dif	39	-,33	5,67	3,5214	1,20863
asser_dif	39	-6,00	-,25	-3,3462	1,36523
future_dif	39	-1,75	5,25	2,1667	1,75313
power_dif	39	-6,00	-,25	<b>DIF 4,1026</b>	1,42931
				(y)	
institut_dif	39	2,00	5,33	3,8718	,69508
human_dif	39	1,00	6,00	3,2667	1,20903
group_dif	39	-2,75	1,25	<b>DIF,-6731</b>	,85292
				(x)	
perform_dif	39	1,00	6,00	3,9231	1,19566
gender_dif	39	-6,00	2,67	-2,1538	1,82710
Valid N (listwise)	39				

### Administrative staff data analysis of Societal Culture dimensions

Regarding the Societal Culture variables in both levels of practices and values, administrative staff presents a high mean score for power distance dimension and a very low mean score for institutional collectivism practice in the society. In the expectation level, there seems to be a high desire for the institutional collectivism value. These figures show that the staff perceives a high level of power distance within the society and a lack of collectivity within citizens of

the society. Their desired values are concentrated on less assertiveness and more performance orientation. Concerning the Societal Culture difference variables the highest mean score is located in the power distance variable showing a need for less power distance value in the society. The lowest mean score in culture difference variables is observed within in group collectivism in the same way as it does for Undergraduate and Master students. That is to say that the variable which seems to behave in the same way as it does to the other two stakeholders groups (Undergraduate and Master) is in group collectivism as practice and value in the Greek society. Assertiveness is also presented in this category showing a repeating pattern affecting their quality Expectations in the same way as it does for the other two categories.

### **Administrative staff data analysis of quality dimensions**

As Table 17 shows, administrative staff presents the higher mean score in the faculty competence and the lower in the tangible dimension. In the EFQM excellence criteria they assign the lower score in the way staff is managed AUEB. Their higher score is for the development and practice of strategy in the University. Regarding the expectations from quality in AUEB, administrative staff highest mean score is granted at the reliability dimension while the lower mean score refers to the course content. Their bigger mean score in the Service Quality gaps goes to tangibility which agrees with the low mean score assigned in the current tangibility in the University. Concerning the satisfaction variables, the lower mean score is related to the level they believe faculty is competent.

Their overall quality perception is higher than the one of students but lower than the one of Master students. Their satisfaction level from quality is also higher than the one of Undergraduate students but relatively lower than the one of Master students. What characterizes administrative staff in general terms is that they have the highest expectations from Service Quality.

Table 17  
Quality variables for administrative staff

	N	Minimum	Maximum	Mean	Std. Deviation
<b><u>SERVQUAL</u></b>					
tangib_now	39	1,50	5,50	<b>P- 3,2372</b> (x)	1,06213
tangib_desired	39	5,50	7,00	6,6731	,45217
faq_now	39	2,00	6,60	<b>P- 4,6769</b> (y)	1,14120
faq_desired	39	4,40	7,00	6,7385	,51739
staff_now	39	1,67	6,67	4,1624	1,43855
staff_desired	39	4,33	7,00	6,6752	,54337
conte_now	39	1,00	7,00	4,0769	1,28296
conte_desired	39	5,33	7,00	<b>E- 6,5299</b> (x)	,66102
deliv_now	39	1,00	6,67	3,9145	1,26287
deliv_desired	39	6,00	7,00	6,6496	,42543
relia_now	39	1,00	6,67	3,8718	1,45621
relia_desired	39	5,33	7,00	<b>E- 6,7863</b> (y)	,43587
<b><u>EFQM CRITERIA</u></b>					
lead_now	39	1,60	6,40	3,8410	1,29873
strat_now	39	1,50	6,75	<b>3,9423</b> (y)	1,22133
hr_now	39	1,20	6,20	<b>3,3282</b> (x)	1,27609
partner_now	39	1,20	6,40	3,8564	1,25652
process_now	39	1,00	6,80	3,7641	1,34702
<b><u>SERVQUAL DIF</u></b>					
tangib_dif	39	1,50	5,50	<b>DIF-3,4359</b> (y)	1,17361
faq_dif	39	-,20	5,00	<b>DIF- 2,0615</b> (x)	1,27416
staff_dif	39	,33	5,33	2,5128	1,42214
conte_dif	39	,00	6,00	2,4530	1,38388
deliv_dif	39	,33	6,00	2,7350	1,42283
relia_dif	39	,33	6,00	2,9145	1,51545
quality_now	39	1,62	6,31	3,8534	1,03711
servqual_Dif	39	,75	5,58	2,7294	1,11651
servqual_now	39	1,42	6,25	3,9426	1,00904
Servqual_desired	39	5,12	7,00	6,6720	,44023
Valid N (listwise)	39				

Regarding the academic staff variables for both Service Quality and Societal Culture dimensions are presented in Tables 18 and 19. The Societal Culture data are presented first in Table 18.

Table 18  
Societal Culture variables for academic staff

	N	Minimum	Maximum	Mean	Std. Deviation
<b>SOCIETAL</b>					
uncert_now	36	1,00	7,00	2,8704	1,40583
uncert_desired	36	4,33	7,00	6,1296	,63385
asser_now	36	2,50	6,50	5,1181	,92676
asser_desired	36	1,00	4,75	<b>V-2,3333</b> (x)	,90040
future_now	36	1,25	5,00	3,0069	,96452
future_desired	36	1,50	7,00	4,8403	1,33116
power_now	36	5,00	7,00	<b>P- 6,2222</b> (y)	,62234
power_desired	36	1,00	6,00	2,3472	,95296
institut_now	36	2,00	6,00	2,8611	,98036
institut_desired	36	4,33	7,00	6,0648	,66102
human_now	36	1,00	6,20	3,2833	1,18406
human_desired	36	4,20	7,00	5,7611	,70883
group_now	36	3,25	6,75	5,2639	,77447
group_desired	36	1,25	7,00	4,2917	1,17032
perform_now	36	1,33	6,67	<b>P- 2,8333</b> (x)	1,32737
perform_desired	36	4,33	7,00	<b>V- 6,1759</b> (y)	,71486
gender_now	36	1,00	6,33	4,3704	1,43378
gender_desired	36	1,00	5,67	2,5833	1,23024
<b>SOCIETAL DIF</b>					
uncert_Dif	36	,00	5,67	3,2593	1,61758
asser_dif	36	-5,50	-,75	-2,7847	1,19695
future_dif	36	-2,00	5,50	1,8333	1,84584
power_dif	36	-6,00	-,33	<b>DIF-3,8750</b> (y)	1,27685
institut_dif	36	,00	5,00	3,2037	1,23514
human_dif	36	-,80	6,00	2,4778	1,66804
group_dif	36	-5,25	1,50	-,9722	1,34533
perform_dif	36	-2,00	5,00	3,3426	1,58662
gender_dif	36	-5,33	3,00	<b>DIF-1,7870</b> (x)	1,95367
Valid N (listwise)	36				

### **Academic staff data analysis of Societal Culture dimensions**

From the results presented we can see that academics have high mean score in the power distance dimension meaning they realize a big power distance in the society and lack of performance orientation. This lack of performance orientation is expressed with high mean score in the value level showing the wish of academics for more performance orientation in the society. In the value level, their low mean score is observed in assertiveness meaning that they wish people to be less assertive in the society. Their Societal Culture difference is higher in power distance showing they would like this value to be practiced less in the society. Their lowest mean score in Societal Culture difference dimensions is observed in gender egalitarianism dimension.

### **Academic staff data analysis of quality dimensions**

From Table 19, presenting the mean scores for the quality variables for academics, we can see that they address the lowest mean score in the tangibility dimension in its current condition and the highest mean score in current faculty competence. They consider however that this dimension should be higher in AUEB that is why their desired level of faculty competence presents the higher mean score. Their lower desired quality dimension is course content.

In the EFQM quality criteria, academics agree with the administrative staff and assign their higher mean score in the strategy of the University while processes take their lower mean score. This low mean score in processes is in line with Master and Undergraduate students. Regarding the Service Quality gaps, academics view a higher gap in tangibles and a lower in the course content. Tangibility is a quality characteristic which was pointed out from academics also during the focus groups.

Table 19  
Quality variables for academic staff

	N	Minimum	Maximum	Mean	Std. Deviation
<b>SERVQUAL</b>					
tangib_now	36	1,00	6,50	<b>P- 3,5347</b> (x)	1,30952
tangib_desired	36	5,50	7,00	6,6736	,43020
faq_now	36	1,40	6,80	<b>P- 4,5333</b> (y)	1,17206
faq_desired	36	5,80	7,00	<b>E- 6,7778</b> (y)	,35706
staff_now	36	1,00	5,67	3,5741	1,22049
staff_desired	36	4,00	7,00	6,4815	,70122
conte_now	36	1,67	7,00	4,1019	1,24676
conte_desired	36	4,33	7,00	<b>E- 6,2315</b> (x)	,85010
deliv_now	36	1,00	6,67	4,1389	1,43952
deliv_desired	36	4,33	7,00	6,5556	,58009
relia_now	36	1,33	6,33	3,7130	1,41231
relia_desired	36	5,67	7,00	6,6944	,46718
<b>EFQM CRITERIA</b>					
lead_now	36	1,20	5,40	3,7389	1,05486
strat_now	36	1,00	5,25	<b>3,8403</b> (y)	,98044
hr_now	36	1,00	5,80	3,4444	1,21713
partner_now	36	1,80	5,40	3,6556	1,00241
process_now	36	1,00	5,20	<b>3,4333</b> (x)	1,24074
<b>SERVQUAL DIF</b>					
tangib_dif	36	,25	6,00	<b>DIF - 3,1389</b> (y)	1,40845
faq_dif	36	,00	5,40	2,2444	1,18670
staff_dif	36	-,33	6,00	2,9074	1,38612
conte_dif	36	,00	5,33	<b>DIF-2,1296</b> (x)	1,43489
deliv_dif	36	,33	6,00	2,4167	1,49788
relia_dif	36	,00	5,67	2,9815	1,52429
quality_now	36	1,85	5,74	3,7755	,96743
servqual_Dif	36	,38	5,43	2,6708	1,10472
servqual_now	36	1,57	6,26	3,9029	1,01499
Servqual_desired	36	5,21	7,00	6,5737	,40974
Valid N (listwise)	36				

Finally the last category for which we will have to present the descriptive measures are the employers. The employers descriptive measures are presented in Tables 20 and 21. We will start with the analysis of Table 20 showing the Societal Culture data for this stakeholder category.

**Table 20**  
**Societal Culture variables for employers**

	N	Minimum	Maximum	Mean	Std. Deviation
<b><u>SOCIETAL</u></b>					
uncert_now	62	1,33	6,33	2,8548	1,01648
uncert_desired	62	2,00	7,00	5,8763	,95858
asser_now	62	2,25	6,50	5,2379	,85941
asser_desired	62	1,00	4,50	<b>V- 2,2500</b>	,71144
				(x)	
future_now	62	1,25	5,75	3,1935	,90243
future_desired	62	2,25	6,75	5,0121	,93149
power_now	62	4,00	7,00	<b>P- 6,0269</b>	,72252
				(y)	
power_desired	62	1,00	5,00	2,3871	,80556
institut_now	62	1,67	6,33	3,0215	1,13219
institut_desired	62	3,00	7,00	6,0376	,66422
human_now	62	1,20	5,80	3,0645	,90953
human_desired	62	2,60	7,00	5,6516	,79831
group_now	62	3,50	6,75	5,1935	,86297
group_desired	62	3,00	6,25	4,3871	,70953
perform_now	62	1,33	6,00	<b>P- 2,7419</b>	,89609
				(x)	
perform_desired	62	3,67	7,00	<b>V- 6,2204</b>	,64428
				(y)	
gender_now	62	1,00	7,00	4,6452	1,30415
gender_desired	62	1,00	5,33	2,4516	1,22675
<b><u>SOCIETAL DIF</u></b>					
uncert_Dif	62	,00	5,33	3,0215	1,40889
asser_dif	62	-5,00	,00	-2,9879	1,09715
future_dif	62	-2,25	5,50	1,8185	1,52786
power_dif	62	-5,67	-0,08	<b>DIF -3,6398</b>	1,00723
				(y)	
institut_dif	62	-2,67	5,00	3,0161	1,37956
human_dif	62	-,20	5,40	2,5871	1,26225
group_dif	62	-3,25	2,00	<b>DIF- ,8065</b>	1,16420
				(x)	
perform_dif	62	-2,33	5,67	3,4785	1,33555
gender_dif	62	-6,00	0,67	-2,1935	1,63026
Valid N (listwise)	62				

### **Employers data analysis of Societal Culture dimensions**

Table 19 shows higher mean score for power distance in the “practice” level and a lower mean level for performance orientation for the employer’s category. In the “value” level of Societal Culture, performance orientation re appears carrying the higher mean score. In the value level, the lower mean score is being carried by the dimension of assertiveness showing

that employers do not wish this value to be practiced in the society the way it does. In the Societal difference indicator (Values – Practices) showing the distance between what is being practiced in the society and what employers would like to be practiced, the lower mean score is observed within in group collectivism which as a result is very similar to the ones being presented for the rest of stakeholder categories. This score, as it has been presented in the other stakeholder categories, shows that in group collectivism as a dimension is in balance and there is not a big difference between what is being practiced and what is being valued. Finally, the higher mean score is for power distance meaning that there is a distance between the level of power distance being practiced in the society and the level which employers would wish this practice to exist. It is obvious that employers want much less power distance presented in the Greek Society.

### **Employers data analysis of quality dimensions**

The results of the employers for quality as shown in Table 21, in both current and expected level, focus on the tangibility dimension. The lower mean score for tangibility is in the current Service Quality level and the higher mean for this dimension is in the desired level. The faculty competence seems to have the higher mean score in the current level which is the same result provided from all the rest of stakeholder categories, with higher the one of the International students which will be presented in the next section. The lower mean score for employers in the desired quality level is for course content.

In the EFQM excellence criteria employer's lower mean score goes to the people's Management and the higher one to the partnerships of the University. However, their ratings are low concerning the conditions of quality needed and expressed through these criteria. Regarding the Service Quality gap it seems that the higher gap exists once again in the tangibility dimension while the lower one appears, not surprisingly, for the course content.

In general, the results presented in the categories of administrative, academic staff and employers give the impression of alignment in quality perceptions, expectations and their satisfaction level.

**Table 21**  
**Quality variables for employers**

	N	Minimum	Maximum	Mean	Std. Deviation
<b>SERVQUAL</b>					
<b>tangib_now</b>	62	1,25	6,00	<b>P- 3,3589</b> (x)	1,04961
<b>tangib_desired</b>	62	4,50	7,00	<b>E- 6,5968</b> (y)	,54200
<b>faq_now</b>	62	2,00	6,40	<b>P- 4,4613</b> (x)	1,15806
faq_desired	62	4,00	7,00	6,5871	,60259
staff_now	62	1,00	6,67	3,7097	1,38359
staff_desired	62	3,33	7,00	6,4677	,72544
conte_now	62	1,33	7,00	4,1989	1,20330
<b>conte_desired</b>	62	4,00	7,00	<b>E- 6,3656</b> (x)	,72356
deliv_now	62	1,33	6,00	3,9785	1,13861
deliv_desired	62	3,67	7,00	6,5323	,57406
relia_now	62	1,00	6,00	3,8172	1,32329
relia_desired	62	3,33	7,00	6,5161	,66578
<b>EFQM CRITERIA</b>					
lead_now	62	1,60	6,20	3,7129	1,16710
strat_now	62	1,50	6,00	3,6935	1,00554
hr_now	62	1,60	6,00	<b>3,4645</b> (x)	1,07171
partner_now	62	1,60	6,20	<b>3,7387</b> (y)	1,09819
process_now	62	1,00	6,60	3,5613	1,27772
<b>SERVDIF</b>					
<b>tangib_dif</b>	62	,75	5,75	<b>DIF- 3,2379</b> (y)	1,14915
faq_dif	62	,00	5,00	2,1258	1,16012
staff_dif	62	-1,33	6,00	2,7581	1,61524
conte_dif	62	,00	5,33	<b>DIF- 2,1667</b> (x)	1,28001
deliv_dif	62	-1,33	5,00	2,5538	1,25005
relia_dif	62	-,67	6,00	2,6989	1,44821
quality_now	62	1,99	5,85	3,7751	,88687
servqual_Dif	62	,01	4,67	2,6214	,96836
servqual_now	62	1,89	5,73	3,8925	,93009
Servqual_desired	62	3,93	7,00	6,5139	,51613
Valid N (listwise)	62				

After the presentation of descriptive measures of all these categories we will now pass to the combined Descriptive measures of all categories together. We will present the mean scores of the different variables of Service Quality and Societal Culture combined for all the categories of stakeholders together with the aim of comparison.

### **5.3.9 Comparative Descriptive Data within the Various Stakeholder Categories**

From Table 22 to 28 we can see the comparative data within the stakeholder categories. The indication “x” represents the lower mean score of each Societal Culture variable among the stakeholder groups. The indication “y” represents the higher mean score among the six stakeholder groups.

We start analyzing the data concerning the Societal Culture practice level for all stakeholder categories. In the dimension of uncertainty avoidance in the current level the lower mean score belongs to International students while the higher one belongs to students. In the future orientation dimension again the International students have the lower score while Master students have the highest one. International students continue also with the lowest score in the third variable of Societal Culture referring to power distance while the higher score in this dimension is observed in the administrative staff.

The staff presents low level of institutional collectivism while the higher degree in this dimension is possessed by International students. Humane orientation is also another dimension with the highest mean score to the International students category while in this category Undergraduate students score very low. The same low score for the Undergraduate student continues in the in group collectivism dimension where students keep the lowest mean score with higher score being held by the academics. In performance orientation and gender egalitarianism International students score high while the lowest mean score are held by administrative staff and academics respectively. Finally the humane orientation variable receives the lowest mean scores from International students and the highest from the employers.

**Table 22**  
**Mean scores of Societal Culture now (practice's level) of each stakeholder category combined**

Stakeholder		uncert_now	future_now	powe_now	instit_now	human_now	group_now	perfor_now	gender_now	asser_now
Students	Mean	<b>3,0804</b> (y)	3,4426	6,0523	3,0457	<b>2,7306</b> (x)	<b>4,7723</b> (x)	2,6733	4,7405	5,2107
	N	605	605	605	605	605	605	605	605	605
	Std. Deviation	1,07763	1,09801	,77584	1,25557	,88112	,96927	,88958	1,15393	,88494
Master	Mean	2,9818	<b>3,5000</b> (y)	5,9455	2,8939	3,0618	5,1841	2,8758	4,7212	5,1205
	N	110	110	110	110	110	110	110	110	110
	Std. Deviation	1,01350	1,05578	,91150	,78328	1,00192	,82373	,88579	1,13469	,94562
Admin	Mean	2,6410	3,0769	<b>6,2308</b> (y)	<b>2,4872</b> (x)	2,8308	5,2051	<b>2,5299</b> (x)	4,5983	5,1987
	N	39	39	39	39	39	39	39	39	39
	Std. Deviation	,88319	,94269	,58316	,51779	,87604	,72291	,93882	1,09004	1,10795
Academ	Mean	2,8704	3,0069	6,2222	2,8611	3,2833	<b>5,2639</b> (y)	2,8333	<b>4,3704</b> (x)	5,1181
	N	36	36	36	36	36	36	36	36	36
	Std. Deviation	1,40583	,96452	,62234	,98036	1,18406	,77447	1,32737	1,43378	,92676
Employ	Mean	2,8548	3,1935	6,0269	3,0215	3,0645	5,1935	2,7419	4,6452	<b>5,2379</b> (y)
	N	62	62	62	62	62	62	62	62	62
	Std. Deviation	1,01648	,90243	,72252	1,13219	,90953	,86297	,89609	1,30415	,85941
Erasmus	Mean	<b>2,4771</b> (x)	<b>2,6961</b> (x)	<b>5,3987</b> (x)	<b>4,3987</b> (y)	<b>4,1804</b> (y)	5,1324	<b>2,9412</b> (y)	<b>5,1111</b> (y)	<b>3,9755</b> (x)
	N	51	51	51	51	51	51	51	51	51
	Std. Deviation	,99164	,87223	1,19633	,97984	,93145	,94387	1,03216	,96302	,78939
<b>Total</b>	Mean	2,9915	3,3571	6,0151	3,0705	2,9021	4,9100	2,7180	4,7316	5,1276
	N	903	903	903	903	903	903	903	903	903
	Std. Deviation	1,07849	1,07472	,82110	1,19952	,97725	,94610	,92351	1,16541	,93954

We now pass in the Societal Culture “value” level data in Table 23. From the results received it seems that the lowest and higher scores have been registered in two stakeholder groups: the administrative staff and International students. Administrative staff possesses the highest mean score for uncertainty avoidance, future orientation, institutional collectivism, in group collectivism and performance orientation. Their lowest mean scores appear in assertiveness and power distance. International students in the opposite way they have very high mean scores in these two dimensions and the lowest scores for all the rest of societal values

compared to the rest of stakeholder categories. Also Master students appear with the highest mean score in the gender egalitarianism value.

**Table 23**  
**Mean scores of Societal Culture desired (value's level) of each stakeholder category combined**

Stakeholder	uncert_desired	asser_desired	future_desired	power_desired	institut_desired	human_desired	group_desired	perf_desired	gender_desired
Students	Mean	5,9284	2,2393	4,7653	2,4860	6,2033	5,7017	4,4074	6,1945
	N	605	605	605	605	605	604	605	605
	Std. Deviation	,99503	,77423	1,12774	1,10949	,63674	,69506	,92053	,73254
Master	Mean	5,9030	2,4750	4,9727	2,6045	6,0152	5,6764	4,4341	6,0788
	N	110	110	110	110	110	110	110	110
	Std. Deviation	,86893	,95119	1,01894	1,01332	,72298	,74636	,77198	,80128
Admin	Mean	<b>6,1624</b>	<b>1,8526</b>	<b>5,2436</b>	<b>2,1282</b>	<b>6,3590</b>	<b>6,0974</b>	<b>4,5321</b>	<b>6,4530</b>
	N	(y)	(x)	(y)	(x)	(y)	(y)	(y)	(y)
	Std. Deviation	39	39	39	39	39	39	39	39
Academ	Mean	6,1296	2,3333	4,8403	2,3472	6,0648	5,7611	4,2917	6,1759
	N	36	36	36	36	36	36	36	36
	Std. Deviation	,63385	,90040	1,33116	,95296	,66102	,70883	1,17032	,71486
Employ	Mean	5,8763	2,2500	5,0121	2,3871	6,0376	5,6516	4,3871	6,2204
	N	62	62	62	62	62	62	62	62
	Std. Deviation	,95858	,71144	,93149	,80556	,66422	,79831	,70953	,64428
Erasmus	Mean	<b>5,3399</b>	<b>2,7696</b>	<b>4,6373</b>	<b>2,6176</b>	<b>4,6078</b>	<b>5,4784</b>	<b>3,7843</b>	<b>5,8954</b>
	N	(x)	(y)	(x)	(y)	(x)	(x)	(x)	(x)
	Std. Deviation	51	51	51	51	51	51	51	51
Total	Mean	5,9066	2,2857	4,8239	2,4801	6,0801	5,7020	4,3749	6,1757
	N	903	903	903	903	903	902	903	903
	Std. Deviation	,96796	,80982	1,10538	1,07823	,76145	,71432	,91291	,74545

Regarding the comparative Service Quality data on both perception and expectation level are presented in the Tables 24 and 25.

**Table 24**  
**Mean scores of Service Quality dimensions (perception's level) of each stakeholder category**

Stakeholder		tangib_now	faq_now	staff_now	conte_now	deliv_now	relia_now
Undergraduate students	Mean	3,4079	4,6345	<b>3,2132</b> (x)	<b>4,0832</b> (x)	<b>3,4011</b> (x)	<b>3,3179</b> (x)
	N	605	603	605	605	605	605
	Std. Deviation	1,08539	1,07370	1,13034	1,25188	1,14606	1,15968
Master students	Mean	<b>3,8295</b> (y)	4,9582	4,1485	4,4485	<b>4,4364</b> (y)	<b>4,4818</b> (y)
	N	110	110	110	110	110	110
	Std. Deviation	1,16570	1,14398	1,49453	1,26220	1,30532	1,27117
Administrative staff	Mean	<b>3,2372</b> (x)	4,6769	4,1624	4,0769	3,9145	3,8718
	N	39	39	39	39	39	39
	Std. Deviation	1,06213	1,14120	1,43855	1,28296	1,26287	1,45621
Academic staff	Mean	3,5347	4,5333	3,5741	4,1019	4,1389	3,7130
	N	36	36	36	36	36	36
	Std. Deviation	1,30952	1,17206	1,22049	1,24676	1,43952	1,41231
Employers	Mean	3,3589	<b>4,4613</b> (x)	3,7097	4,1989	3,9785	3,8172
	N	62	62	62	62	62	62
	Std. Deviation	1,04961	1,15806	1,38359	1,20330	1,13861	1,32329
Erasmus	Mean	3,7892	<b>5,0510</b> (y)	<b>4,4314</b> (y)	<b>4,6013</b> (y)	4,0588	4,1830
	N	51	51	51	51	51	51
	Std. Deviation	1,20247	1,00625	1,37646	1,04991	1,10294	1,31371
Total	Mean	3,4751	4,6835	3,4854	4,1654	3,6556	3,5825
	N	903	901	903	903	903	903
	Std. Deviation	1,11769	1,09907	1,29709	1,24750	1,23875	1,28480

The highest and lowest scores in the Service Quality dimensions in the perception level are within the students categories of stakeholders. The lowest mean scores seem to belong to Undergraduate students who present low values in 4/6 Service Quality dimensions named staff, content, delivery and reliability. The lower mean scores in the other two Service Quality dimensions are taken by administrative staff in tangible dimension and by employers who score very low in the faculty competence variable. The highest perception about Service Quality is attributed mainly to Master students who score high in Tangible dimension as well as in the delivery and reliability of the University. The other three categories high scores belong to the International students who score high in the faculty competence dimension as well as staff and content dimensions. It seems that Master and International students are indeed more satisfied than the Undergraduate students but also than the rest of stakeholder categories.

**Table 25**  
**Mean scores of Service Quality dimensions (expectation's level) of each stakeholder category**

Stakeholder		tangib desired	faq desired	staff desired	conte desired	deliv desired	relia desired
Students	Mean	6,6335	6,6823	6,5223	6,5107	6,5488	6,5482
	N	605	605	605	605	605	605
	Std. Deviation	,49066	,62553	,60695	,62957	,59280	,64686
Master	Mean	6,5273	6,7182	6,5242	6,5212	6,4939	6,4879
	N	110	110	110	110	110	110
	Std. Deviation	,65258	,53384	,68694	,66594	,70202	,70628
Admin	Mean	6,6731	6,7385	<b>6,6752</b>	<b>6,5299</b>	<b>6,6496</b>	<b>6,7863</b>
	N	39	39	(y)	(y)	(y)	(y)
	Std. Deviation	,45217	,51739	,54337	,66102	,42543	,43587
Academics	Mean	<b>6,6736</b>	<b>6,7778</b>	6,4815	6,2315	6,5556	6,6944
	N	36	(y)	36	36	36	36
	Std. Deviation	,43020	,35706	,70122	,85010	,58009	,46718
Employers	Mean	6,5968	6,5871	6,4677	6,3656	6,5323	6,5161
	N	62	62	62	62	62	62
	Std. Deviation	,54200	,60259	,72544	,72356	,57406	,66578
Erasmus	Mean	<b>6,2794</b>	<b>6,3451</b>	<b>6,0915</b>	<b>5,9804</b>	<b>5,9542</b>	<b>6,0654</b>
	N	51	(x)	51	(x)	(x)	(x)
	Std. Deviation	,71352	,70095	,79464	,77291	,82736	,89696
Total	Mean	6,6013	6,6673	6,4994	6,4618	6,5120	6,5275
	N	903	903	903	903	903	903
	Std. Deviation	,53311	,60988	,64581	,67236	,62868	,66940

From the results presented in Table 25, the lowest mean scores in all categories of Service Quality expectation dimensions belong to the International students while the highest expectation mean scores belong to the academic and administrative staff of the University. That shows that International students' expectations are lower than the ones of University staff. Especially the administrative staff has a considerably higher mean score in all the Service Quality dimensions compared to the rest of stakeholder groups expressing desire for more quality in the Athens University of Economics and Business. Academics keep a slightly higher mean score in the dimensions of tangibles and faculty competence.

We will now present some comparative data regarding the EFQM quality criteria for all stakeholder categories as shown in Table 26.

Table 26  
Mean scores of the EFQM quality criteria of each stakeholder category

Stakeholder		lead_now	strat_now	hr_now	partner_now	process_now
Students	Mean	<b>3,5603</b> (x)	3,7079	3,6787	3,6658	3,5174
	N	605	605	605	605	605
	Std. Deviation	,92034	,97786	,94905	,97259	1,06375
Master	Mean	<b>4,4255</b> (y)	<b>4,2750</b> (y)	4,1291	<b>4,2036</b> (y)	4,0782
	N	110	110	110	110	110
	Std. Deviation	1,08471	1,00626	,98375	1,02661	1,20552
Administrative staff	Mean	3,8410	3,9423	<b>3,3282</b> (x)	3,8564	3,7641
	N	39	39	39	39	39
	Std. Deviation	1,29873	1,22133	1,27609	1,25652	1,34702
Academic staff	Mean	3,7389	3,8403	3,4444	<b>3,6556</b> (x)	<b>3,4333</b> (x)
	N	36	36	36	36	36
	Std. Deviation	1,05486	,98044	1,21713	1,00241	1,24074
Employers	Mean	3,7129	<b>3,6935</b> (x)	3,4645	3,7387	3,5613
	N	62	62	62	62	62
	Std. Deviation	1,16710	1,00554	1,07171	1,09819	1,27772
erasmus	Mean	4,1529	4,0686	<b>4,2078</b> (y)	3,8392	<b>4,0941</b> (y)
	N	51	51	51	51	51
	Std. Deviation	,98028	,96706	,75785	,80202	,86103
Total	Mean	3,7289	3,8117	3,7243	3,7539	3,6286
	N	903	903	903	903	903
	Std. Deviation	1,02857	1,01089	1,00240	1,00729	1,12643

Table 26 expresses the mean scores of the various stakeholders related to the EFQM quality criteria. From results we can conclude that the higher mean score belongs to the Master and International students while the lowest appear in the category of Undergraduate students, academics and employers. The last two categories support that the Greek Higher Education lacks the basic conditions under which quality can be developed and enhanced. International and Master students have a different view as they are treated separately from Undergraduate students. Moreover Master students pay for their education and International students follow a specific educational program and receive a Scholarship from the Erasmus. The last two

Tables, 27 and 28 present the difference mean scores of both the Societal Culture and quality variables for all the stakeholder categories. In the way these data are presented, the higher the level of the score (y), the higher the desire for the value dimensions in the society. The “Dif” variable represents the difference between values and practices and we can interpret it as a “satisfaction” indicator of how our society actually is and how we would like it to be. Higher mean scores mean higher gap between practices and values. These scores denote a need for specific dimensions to appear in the society. This indicator can be also expressed somehow as dissatisfaction with the current situation existing in the society. Lower scores, represent lower gap between practices and values. By means of satisfaction, lower mean scores express satisfaction from the current state of practices within the society.

**Table 27  
Mean scores of Societal Culture difference variables of each stakeholder category combined**

Stakeholder		uncert_Dif	asser_dif	future_dif	<u>Power_dif</u>	institut_dif	human_dif	group_dif	perf_dif	gender_dif
Students	Mean	<b>2,8479</b> (x)	-2,9715	<b>1,3227</b> (x)	-3,5664	3,1576	2,9738	<b>-3649</b> (x)	3,5212	-2,1510
	N	605	605	605	605	605	604	605	605	605
	Std. Deviation	1,64143	1,24349	1,84859	1,55048	1,44553	1,25888	1,32796	1,29077	1,84279
Master	Mean	2,9212	-2,6455	1,4727	-3,3409	3,1212	2,6145	-,7500	3,2030	-2,0606
	N	110	110	110	110	110	110	110	110	110
	Std. Deviation	1,32176	1,41356	1,62208	1,58663	1,11767	1,29124	1,05795	1,23001	1,76971
Admin	Mean	<b>3,5214</b> (y)	<b>-3,3462</b> (y)	<b>2,1667</b> (y)	<b>-4,1026</b> (y)	<b>3,8718</b> (y)	<b>3,2667</b> (y)	-,6731	<b>3,9231</b> (y)	-2,1538
	N	39	39	39	39	39	39	39	39	39
	Std. Deviation	1,20863	1,36523	1,75313	1,42931	,69508	1,20903	,85292	1,19566	1,82710
Academ	Mean	3,2593	-2,7847	1,8333	-3,8750	3,2037	2,4778	-,9722	3,3426	<b>-1,7870</b> (x)
	N	36	36	36	36	36	36	36	36	36
	Std. Deviation	1,61758	1,19695	1,84584	1,27685	1,23514	1,66804	1,34533	1,58662	1,95367
Employ	Mean	3,0215	-2,9879	1,8185	-3,6398	3,0161	2,5871	-,8065	3,4785	2,1935
	N	62	62	62	62	62	62	62	62	62
	Std. Deviation	1,40889	1,09715	1,52786	1,00723	1,37956	1,26225	1,16420	1,33555	1,63026
Erasmus	Mean	2,8627	<b>-1,2059</b> (x)	1,9412	<b>-2,7810</b> (x)	<b>,2092</b> (x)	<b>1,2980</b> (x)	<b>-1,3480</b> (y)	<b>2,9542</b> (x)	<b>-2,7647</b> (y)
	N	51	51	51	51	51	51	51	51	51
	Std. Deviation	1,72714	,85981	1,54239	1,99548	1,52310	,97847	1,15983	1,66402	1,58085
Total	Mean	2,9151	-2,8419	1,4668	-3,5351	3,0096	2,8016	-,5352	3,4577	-2,1632
	N	903	903	903	903	903	902	903	903	903
	Std. Deviation	1,58193	1,30892	1,79426	1,55220	1,54282	1,32737	1,28809	1,32867	1,81300

Judging by the result of the Table 27 the highest mean scores are mainly registered to the administrative staff showing a big gap between societal practices and values. They have the highest mean scores in 7/9 Societal Culture dimensions showing a desire for specific values to appear in the society. Quite the opposite is being observed with Undergraduate and International students who have together the lowest mean scores in almost all the Societal Culture difference dimensions. They only differ at the in group collectivism value which is presented in a very low score for Undergraduates student but International students present a higher mean difference gap. It seems like they would wish to see less “in group collectivism” in the Greek society as their scores are negative showing a lower need for this value in the society. For Undergraduate students this value is almost balanced in the society.

International students have the lowest means score in 5 out of 9 dimensions such as assertiveness, power distance, institutional collectivism, performance and humane orientation. They seem to be satisfied by the current situation in the society regarding the level of practice of these dimensions within the Greek society. Undergraduate students have low scores in the uncertainty avoidance, future orientation and in group collectivism dimension. It can be said that the current practices of the society in those dimensions satisfies them. Moreover, International students have high scores of gender egalitarianism expressing that this value should be more practiced in our Greek society and so boys and girls should be treated in the same way in all aspects of the societal life. This is not the case with all the rest of stakeholder groups which have lower scores and with academics possessing the lowest. Their score denotes they think that this value is practiced as expected in this society

The last Table 28 presents a lot of data together. It shows the difference variables of Service Quality satisfaction, the total Service Quality satisfaction Indicator (Servqual\_dif) and the total Quality Indicator (Quality\_now).

Table 28  
Mean Scores of Service Quality difference variables of each stakeholder category combined

Stakeholder		Tangib_dif	faq_dif	staff_dif	Conte_dif	deliv_dif	relia_dif	servqual Dif	quality_now
Students	Mean	3,2256	2,0302	<b>3,3091</b> (y)	2,4275	<b>3,1477</b> (y)	<b>3,2303</b> (y)	<b>2,9264</b> (y)	<b>3,6354</b> (x)
	N	605	603	605	605	605	605	603	603
	Std. Deviation	1,20538	1,07849	1,30000	1,34410	1,31941	1,40660	,93120	,74058
Master	Mean	2,6977 (x2)	1,7600 (x2)	2,3758 (x2)	2,0727 (x2)	2,0576 (x2)	2,0061 (x2)	<b>2,1962</b> (x2)	<b>4,2905</b> (y)
	N	110	110	110	110	110	110	110	110
	Std. Deviation	1,31988	1,16801	1,62493	1,29877	1,36272	1,38580	1,11456	,92905
Admin	Mean	<b>3,4359</b> (x)	2,0615	2,5128	<b>2,4530</b> (y)	2,7350	2,9145	2,7294	3,8534
	N	39	39	39	39	39	39	39	39
	Std. Deviation	1,17361	1,27416	1,42214	1,38388	1,42283	1,51545	1,11651	1,03711
Academic	Mean	3,1389	<b>2,2444</b> (y)	2,9074	2,1296	2,4167	2,9815	2,6708	3,7755
	N	36	36	36	36	36	36	36	36
	Std. Deviation	1,40845	1,18670	1,38612	1,43489	1,49788	1,52429	1,10472	,96743
Employer	Mean	3,2379	2,1258	2,7581	2,1667	2,5538	2,6989	2,6214	3,7751
	N	62	62	62	62	62	62	62	62
	Std. Deviation	1,14915	1,16012	1,61524	1,28001	1,25005	1,44821	,96836	,88687
Erasmus	Mean	<b>2,4902</b> (x)	<b>1,2941</b> (x)	<b>1,6601</b> (x)	<b>1,3791</b> (x)	<b>1,8954</b> (x)	<b>1,8824</b> (x)	<b>1,7715</b> (x)	4,2252
	N	51	51	51	51	51	51	51	51
	Std. Deviation	1,47730	,97106	1,40395	1,19447	1,28148	1,58580	,93644	,75449
Total	Mean	3,1262	1,9720	3,0140	2,2964	2,8564	2,9450	2,7321	3,7734
	N	903	901	903	903	903	903	901	901
	Std. Deviation	1,25922	1,11754	1,45730	1,35373	1,40027	1,50176	1,02786	,83393

In the same way as before, the higher Service Quality scores express bigger gaps between perceptions and expectations about quality in the Athens University of Economics and Business. That is to say, we observe a higher expectation compared to the perception for a specific quality dimension. This Service Quality difference indicator can be also expressed somehow as dissatisfaction with the current quality situation in the University. The lower Service Quality scores represent lower gap between perceptions and expectations about quality in AUEB and consequently bigger satisfaction.

The results of this Table give us a clear view about how dissatisfied are the Undergraduate students from the quality in the Athens University of Economics and Business. They present a very high mean score in Service Quality difference indicators which show the quality gap between Expectations and Perceptions on quality. In the opposite direction are the Master and International students where they present low mean score in the Service Quality gap

indicators. Master students are presented to have the higher mean score in the overall quality indicator (quality now). Administrative staff and academics are closer to the category of Undergraduate students with high mean score in 3 out 6 dimensions of the Service Quality gaps. They seem dissatisfied in the dimensions concerning tangibility, faculty competence and the course content.

After presenting some of the descriptive statistics for all stakeholders we will proceed in the next chapter with the testing of research hypotheses and model building.

## **5.4 Conclusion of Statistical Analysis Chapter**

In this chapter we presented the basic descriptive data of our sample for each stakeholder category (Undergraduate students, Master students, administrative staff, academic staff, International students and employers). We analyzed the value scores of each Service Quality and societal dimension in detail for each of the previously mentioned groups and we also presented their comparative data.

The quantitative data clearly demonstrate Undergraduate students having the lowest perception about Quality in Higher Education while Master students appear to have the most positive perception about University Quality. Regarding Societal Culture humane orientation, assertiveness, performance and future orientation appear crucial in almost all stakeholder categories' perception. Two stakeholder groups such as administrative staff differentiates by assigning also great importance for institutional collectivism while International students differentiates from all groups by assigning also great focus on in group collectivism and gender egalitarianism.

After the introduction to the basic descriptive data of our research we will now pass to the testing of our research hypotheses and to the construction of basic societal/quality models for each stakeholder category but also a model combining their societal/ quality perceptions, expectations, practices and values.

## **6. CHAPTER: Testing of Research Hypotheses and Model Building**

As discussed in methodology in Chapter 4 our research sample was large enough and representative of the University's population in all stakeholder categories. The number of this sample allows us apart from the SPSS analysis to test also the structural relations between Societal Culture and Service Quality through the Statistical tool of LISREL (mentioned in chapter 5).

We will now proceed with the hypotheses testing and the models produced expressing the relation of culture and University quality for various categories of stakeholders. The last section of this chapter presents the final four research models of this thesis. The discussion of results will take place in the final chapter where the conclusions of this research will also be presented.

### **6.1 General Research Hypotheses**

As also mentioned in Chapter 4 there are three groups of hypotheses in this thesis. One category refers to quality perceptions and expectations of University stakeholders, another one to the quality satisfaction of stakeholders and the last one to Societal Culture dimensions affecting quality for the various categories of the stakeholders.

#### **6.1.1 First Category of Hypotheses**

We will start the analysis with the first category which refers to quality perceptions and expectations for the different categories of stakeholders. Our basic hypothesis is that "**There will be differences in the mean score of current quality perception among the different categories of stakeholders**".

We will now proceed with the analysis of data which will either confirm or reject this hypothesis for the various stakeholder categories. In order to test the general hypothesis

referring to our entire sample (all stakeholder categories) we used the One way Anova. Table 29 shows the results of both the perception and satisfaction from quality. The ANOVA test on quality \_now variables is significant ( $p<0.05$ ). Therefore we accept that there are differences in the mean score of current quality perception (quality\_now) among different categories of stakeholders

Table 29

**ANOVA results for current quality and satisfaction from quality among different stakeholder groups**

		Sum of Squares	Df	Mean Square	F	Sig.
quality_now	Between Groups	51,561	5	10,312	16,070	,000
	Within Groups	574,327	895	,642		
	Total	625,888	900			
servqual_Dif	Between Groups	102,302	5	20,460	21,580	,000
	Within Groups	848,552	895	,948		
	Total	950,853	900			

In order to decide whether to use a post hoc procedure that assumes equal variances (Scheffe) or one that does not assume equal variances (Dunnett's C), we used Levene's Test of Equality of Error Variances (Table 30) which shows that the  $p$  value of quality now and Serv\_dif are 0.074 and 0,147 respectively ( $p>0.05$ ). It implies that there was no evidence of significant differences in the variances between the groups. This result therefore justified the reason of using the post hoc procedure that assumes equal variances.

The use of Scheffe test was not random as this control test is used when we have unequal sample sizes which is the case here. Though Scheffe is stricter as a test compared to Tukey, Dunkan and S-N-K we had no other choice of test control given the difference in size of the various groups of stakeholders.

Table 30  
**Levene's test of equality of error variances**

	Levene Statistic	df1	df2	Sig.
quality_now	2,490	5	895	,074
servqual_Dif	1,641	5	895	,147

Judging by the results of One Way Anova it is clear that we have no reason to reject our general category hypothesis. We will now pass to specific data relating this hypothesis with various stakeholder categories.

It is clear that the perception of Undergraduate students for the current University quality is at a lower level than the perception of all the rest of stakeholder categories. (Master, International students, administrative staff, academic staff, employers)

If we compare the means of all groups in Table 31 we see clearly that Undergraduate students have the lower mean score regarding current quality. The results of ANOVA also show in Table 32 that there are statistically important differences with Master and International students concerning their perception for current quality when compared to Undergraduate students. Table 31 shows that apart from statistical differences between these categories Master and Erasmus Students have a higher perception for current quality in the University compared not only to Undergraduate students but to all other Stakeholder categories.

Table 31  
**Comparison of mean scores for current quality among all stakeholder groups**

Stakeholder	Mean	N	Std. Deviation	Variance
Undergraduate students	3,6354	603	,74058	,548
Master students	4,2905	110	,92905	,863
Administrative staff	3,8534	39	1,03711	1,076
Academic staff	3,7755	36	,96743	,936
Employers	3,7751	62	,88687	,787
Erasmus	4,2252	51	,75449	,569
Total	3,7734	901	,83393	,695

As notice in Table 31 the perception of Master students regarding the current quality in University is higher than all the rest of stakeholder categories. There are also significant mean score differences among Master students and the rest of stakeholder categories with the exception of International students where the difference is not significant according to the ANOVA results of Table 32. This is important since it is obvious that the perception of Master students is considerably higher compared to almost all stakeholder categories. The same goes for the Erasmus Students who have considerably higher mean scores from all stakeholder categories except for Master students.

Table 32

**Multiple comparisons of stakeholder groups concerning quality now with ANOVA**

<b>Scheffe</b> Dependent Variable		(I)stakeholder	(J) stakeholder	Mean Difference (I-J)	Std. Error	<b>Sig.</b>	95% Confidence Interval	
							Lower Bound	Upper Bound
quality_now	Under Students	Master students	Administrative staff	-,65511*	,06581	,000	-,8743	-,4359
		Administrative staff	Academic staff	-,21805	,08441	,247	-,4992	,0631
		Academic staff	Employers	-,14009	,07750	,659	-,3983	,1181
		Employers	Erasmus	-,13973	,05839	,334	-,3342	,0548
		Erasmus	Erasmus	-,58985*	,05865	,000	-,7852	-,3945
	Master students	Undergraduate students	Undergraduate students	,65511*	,06581	,000	,4359	,8743
		Administrative staff	Administrative staff	,43706*	,09561	,001	,1186	,7555
		Academic staff	Academic staff	,51502*	,08956	,000	,2167	,8134
		Employers	Employers	,51538*	,07366	,000	,2700	,7608
		Erasmus	Erasmus	,06526	,07386	,978	-,1808	,3113
Administrative staff	Undergraduate students	Undergraduate students	Undergraduate students	,21805	,08441	,247	-,0631	,4992
		Master students	Master students	-,43706*	,09561	,001	-,7555	-,1186
		Academic staff	Academic staff	,07796	,10400	,990	-,2685	,4244
		Employers	Employers	,07832	,09066	,980	-,2237	,3803
		Erasmus	Erasmus	-,37180*	,09082	,005	-,6743	-,0693
	Master students	Undergraduate students	Undergraduate students	,14009	,07750	,659	-,1181	,3983
		Master students	Master students	-,51502*	,08956	,000	-,8134	-,2167
		Administrative staff	Administrative staff	-,07796	,10400	,990	-,4244	,2685
		Employers	Employers	,00037	,08426	1,000	-,2803	,2811
		Erasmus	Erasmus	-,44976*	,08444	,000	-,7310	-,1685
Academic staff	Undergraduate students	Undergraduate students	Undergraduate students	,13973	,05839	,334	-,0548	,3342
		Master students	Master students	-,51538*	,07366	,000	-,7608	-,2700
		Administrative staff	Administrative staff	-,07832	,09066	,980	-,3803	,2237
		Academic staff	Academic staff	-,00037	,08426	1,000	-,2811	,2803
		Erasmus	Erasmus	-,45013*	,06733	,000	-,6744	-,2258
	Master students	Undergraduate students	Undergraduate students	,58985*	,05865	,000	,3945	,7852
		Master students	Master students	-,06526	,07386	,978	-,3113	,1808
		Administrative staff	Administrative staff	,37180*	,09082	,005	,0693	,6743
		Academic staff	Academic staff	,44976*	,08444	,000	,1685	,7310
		Employers	Employers	,45013*	,06733	,000	,2258	,6744

From Table 32 we can extract that there are no statistically important differences between the perception of academics, administrative staff and employers. The only category with which statistical important differences are presented are employers with the Master students. This is an important finding throughout our research that will be discussed in Chapter 7.

We will now sum up the conclusions from the first category of hypotheses regarding current quality perceptions between the various stakeholder categories.

First of all, as presented before we have to mention that the general hypothesis of the 1<sup>st</sup> category of hypotheses is confirmed. Regarding the specific results for the various stakeholder groups we have the following conclusions:

- Undergraduate students differ considerably from Master and International students in their perception of current quality.
- Their perception though lower from all stakeholder categories is closer to the one of academics, administrative staff and employers.
- Master and International students have the higher perception about current quality but also differ considerably from all stakeholder categories.
- There are no important statistical differences among academics, administrative staff and employers.
- Employers have important statistical differences in their quality perception from Master students and International students but not from Undergraduate students.

All these results are presented in the summary Table 33 below.

Table 33  
**1<sup>st</sup> Category of hypotheses and stakeholder category results**

1 <sup>st</sup> CATEGORY HYPOTHESES :		STATUS
<b>There will be differences in the mean score of current Quality perception among the different categories of stakeholders</b>		CONFIRMED
STAKEHOLDER CATEGORIES	RESULTS	IMPORTANT DIFFERENCES WITH
<b>Undergraduate students</b>	Lower quality perception compared to the rest of stakeholder categories	Master students & International students
<b>Master students</b>	Higher quality perception compared to the rest of stakeholder categories	All stakeholder categories except for International students
<b>International students</b>	2 <sup>nd</sup> higher quality perception compared to the rest of stakeholder categories	All stakeholder categories except for Master students
<b>Academics, administrative staff, employers</b>	Compatible quality perception between these three categories	No statistical important differences between these categories

We will now pass to the second category of hypotheses referring to quality satisfaction.

### 6.1.2 Second Category of Hypotheses

Regarding our general hypothesis that “**There will be differences in the mean score of satisfaction from Service Quality among the different categories of stakeholders**” we will have to check again Tables 29 and 30 analyzed in the previous section. Judging by the results of these Tables there are indeed differences in the mean score of satisfaction from Service Quality (servqual\_dif) based on the stakeholder variable. Because the overall *F* test was significant, a follow-up test was necessary to evaluate pair-wise differences among the means. Data are presented in the previously mentioned Tables. So our 2<sup>nd</sup> Category hypothesis is confirmed. However, we will now present the validity of this 2<sup>nd</sup> category hypothesis between the various stakeholder categories.

At first glance, the level of satisfaction of Undergraduate students from the University Quality of the Athens University of Economics and Business (Service Quality difference) is lower than the level of satisfaction of all the rest of stakeholder categories (Master, International students, administrative staff, academic staff, employers). If we compare the means of all groups in Table 34 we can clearly see that Undergraduate students have the higher dissatisfaction from quality in the University with  $M= 2,9264$ . Moreover, the level of satisfaction of Master students from quality is higher than the level of satisfaction of Undergraduate students once again as it was with their quality perception levels (in the 1<sup>st</sup> category of hypothesis). However, in this 2<sup>nd</sup> category of hypotheses the level of satisfaction of Master students is not higher than the one of International students. Erasmus Students are the one with the higher satisfaction followed by Master Students. Then academics, administrative staff, employers and Undergraduate students seem to be in the same levels of satisfaction from quality.

Table 34  
Mean for groups in homogeneous subsets

Scheffea,b Stakeholder	N	Subset for alpha = 0.05		
		1	2	3
Erasmus	306	1,7715		
Master students	220		2,1962	
Employers	310			2,6214
Academic staff	144			2,6708
Administrative staff	117			2,7294
Undergraduate students	603			2,9264
Sig.		1,000	1,000	,072

Table 35

**Multiple comparisons of stakeholder groups concerning the Servqual\_dif among all stakeholder groups with ANOVA**

Scheffe		Dependent Variable	(I) stakeholder	(J) stakeholder	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
servqual _dif	Under students	Master students		,73012*	,07785	,000	,4708	,9895	
		Administrative staff		,19694	,09985	,565	-,1357	,5296	
		Academic staff		,25560	,09167	,170	-,0498	,5610	
		Employers		,30499*	,06908	,002	,0749	,5351	
		Erasmus		1,15490*	,06937	,000	,9238	1,3860	
	Master students	Undergraduate students		-,73012*	,07785	,000	-,9895	-,4708	
		Administrative staff		-,53318*	,11309	,001	-,9099	-,1564	
		Academic staff		-,47452*	,10595	,001	-,8274	-,1216	
		Employers		-,42513*	,08713	,000	-,7154	-,1349	
		Erasmus		,42478*	,08737	,000	,1337	,7158	
	Administrative staff	Undergraduate students		-,19694	,09985	,565	-,5296	,1357	
		Master students		,53318*	,11309	,001	,1564	,9099	
		Academic staff		,05866	,12302	,999	-,3511	,4685	
		Employers		,10804	,10724	,961	-,2492	,4653	
		Erasmus		,95796*	,10743	,000	,6001	1,3158	
	Academic staff	Undergraduate students		-,25560	,09167	,170	-,5610	,0498	
		Master students		,47452*	,10595	,001	,1216	,8274	
		Administrative staff		-,05866	,12302	,999	-,4685	,3511	
		Employers		,04939	,09968	,999	-,2827	,3814	
		Erasmus		,89930*	,09988	,000	,5666	1,2320	
	Employers	Undergraduate students		-,30499*	,06908	,002	-,5351	-,0749	
		Master students		,42513*	,08713	,000	,1349	,7154	
		Administrative staff		-,10804	,10724	,961	-,4653	,2492	
		Academic staff		-,04939	,09968	,999	-,3814	,2827	
		Erasmus		,84991*	,07965	,000	,5846	1,1152	
	Erasmus	Undergraduate students		-1,15490*	,06937	,000	-1,3860	-,9238	
		Master students		-,42478*	,08737	,000	-,7158	-,1337	
		Administrative staff		-,95796*	,10743	,000	-1,3158	-,6001	
		Academic staff		-,89930*	,09988	,000	-1,2320	-,5666	
		Employers		-,84991*	,07965	,000	-1,1152	-,5846	

\*. The mean difference is significant at the 0.05 level.

Through Table 35 we can see that there are statistically important difference between Master students and the rest of stakeholder groups concerning their satisfaction from Service Quality . The same is valid for the Erasmus students category.

Moreover, regarding satisfaction from quality, there are statistically important differences between employers and all categories of students (Undergraduate, Master and International). In the previous category of quality perceptions this difference was statistically important only for Master students and International students.

We will now sum up the conclusions from the second category of hypotheses regarding satisfaction from quality for the various stakeholder categories.

First of all, as presented before we have to mention that the general hypothesis of the 2<sup>st</sup> category of hypotheses is confirmed. Regarding the specifi results for the various stakeholder groups we have the following conclusions:

- Undegraduate students differ considerably by Master and International students in their satisfaction from quality.
- Their perception though lower from all stakeholder categories is closer to the one of academics, administrative staff and employers.
- International students have the higher satisfaction from quality compared to all stakeholder categories and statistical important differences with all stakeholder categories.
- Master students have the second higher level of satisfaction from quality when compared to the rest of stakeholder categories and statistical important difference with all stakeholder categories.
- There are no important statistical differences among academics, administrative staff and employers in their satisfaction from quality.
- Employers have important statistical difference in their satisfaction from quality from all student categories (Undergraduate, Master and International students)

All these results are presented in the summary Table 36 below.

Table 36  
**2<sup>st</sup> Category of hypotheses and stakeholder category results**

2 <sup>nd</sup> CATEGORY HYPOTHESES :		STATUS
<b>There will be differences in the mean score of satisfaction from Service Quality among the different categories of Stakeholders</b>		CONFIRMED
STAKEHOLDER CATEGORIES	RESULTS	IMPORTANT DIFFERENCES WITH
<b>Undergraduate students</b>	Lower quality satisfaction compared to the rest of stakeholder categories	Master students, International students, employers
<b>Master students</b>	2 <sup>nd</sup> Higher quality satisfaction compared to the rest of stakeholder categories	All stakeholder categories
<b>International students</b>	Higher quality satisfaction compared to the rest of stakeholder categories	All stakeholder categories
<b>Academics, administrative staff, employers</b>	Compatible quality satisfaction between these three categories	No statistical important differences between these categories

We will now pass to the third category of our hypotheses referring to the Societal Culture dimensions affecting quality.

### 6.1.3 Third Category of Hypotheses

The third category of hypotheses refers to the Societal Culture dimensions affecting expectation and satisfaction from quality for the various categories of stakeholders. The general hypothesis is that “**Societal Culture dimensions will affect quality expectations and satisfaction of the various University stakeholders**”

We again used One Way ANOVA for the Societal Culture dimensions with the aim to check whether there are differences in the mean score of Societal Culture dimensions affecting quality for each stakeholder category. The results for once more present an overall significant *F* test. Apart from the dimensions in practice and value level we also tested their difference variables and the result shows that the ANOVA test is again significant ( $p<0.05$ ). The results of ANOVA for these dimensions are presented in Tables 37 and 38.

Table 37

**ANOVA results for Societal Culture dimensions among different Stakeholder groups**

		Sum of Squares	Df	Mean Square	F	Sig.
uncert_now	Between Groups	82,980	5	16,596	14,806	,000
	Within Groups	1901,101	1696	1,121		
	Total	1984,082	1701			
uncert_desired	Between Groups	106,774	5	21,355	24,312	,000
	Within Groups	1489,680	1696	,878		
	Total	1596,454	1701			
asser_now	Between Groups	374,202	5	74,840	94,700	,000
	Within Groups	1340,332	1696	,790		
	Total	1714,534	1701			
asser_desired	Between Groups	96,821	5	19,364	30,923	,000
	Within Groups	1062,069	1696	,626		
	Total	1158,891	1701			
future_now	Between Groups	140,132	5	28,026	28,304	,000
	Within Groups	1679,365	1696	,990		
	Total	1819,497	1701			
future_desired	Between Groups	47,770	5	9,554	8,432	,000
	Within Groups	1921,644	1696	1,133		
	Total	1969,414	1701			

power_now	Between Groups	120,990	5	24,198	33,468	,000
	Within Groups	1226,259	1696	,723		
	Total	1347,250	1701			
power_desired	Between Groups	28,776	5	5,755	5,296	,000
	Within Groups	1843,130	1696	1,087		
	Total	1871,906	1701			
institut_now	Between Groups	560,348	5	112,070	98,480	,000
	Within Groups	1930,040	1696	1,138		
	Total	2490,388	1701			
institut_desired	Between Groups	601,328	5	120,266	235,415	,000
	Within Groups	866,430	1696	,511		
	Total	1467,758	1701			
human_now	Between Groups	449,766	5	89,953	102,795	,000
	Within Groups	1484,125	1696	,875		
	Total	1933,891	1701			
human_desired	Between Groups	34,301	5	6,860	13,088	,000
	Within Groups	888,439	1695	,524		
	Total	922,739	1700			
group_now	Between Groups	68,242	5	13,648	17,104	,000
	Within Groups	1353,319	1696	,798		
	Total	1421,561	1701			
group_desired	Between Groups	100,913	5	20,183	24,775	,000
	Within Groups	1381,616	1696	,815		
	Total	1482,530	1701			
perform_now	Between Groups	24,587	5	4,917	5,344	,000
	Within Groups	1560,686	1696	,920		
	Total	1585,273	1701			
perform_desired	Between Groups	34,502	5	6,900	12,167	,000
	Within Groups	961,875	1696	,567		
	Total	996,376	1701			
gender_now	Between Groups	66,968	5	13,394	9,854	,000
	Within Groups	2305,160	1696	1,359		
	Total	2372,128	1701			
gender_desired	Between Groups	19,190	5	3,838	2,559	,026
	Within Groups	2544,114	1696	1,500		
	Total	2563,305	1701			

Table 38

**ANOVA results for Societal Culture difference dimensions among different stakeholder groups**

		Sum of Squares	Df	Mean Square	F	Sig.
uncert_Dif	Between Groups	61,485	5	12,297	5,161	,000
	Within Groups	4041,365	1696	2,383		
	Total	4102,850	1701			
future_dif	Between Groups	142,491	5	28,498	9,883	,000
	Within Groups	4890,683	1696	2,884		
	Total	5033,175	1701			
institut_dif	Between Groups	2288,148	5	457,630	252,035	,000
	Within Groups	3079,492	1696	1,816		
	Total	5367,639	1701			
human_dif	Between Groups	649,857	5	129,971	83,182	,000
	Within Groups	2648,436	1695	1,562		
	Total	3298,293	1700			
perform_dif	Between Groups	112,123	5	22,425	11,788	,000
	Within Groups	3226,254	1696	1,902		
	Total	3338,377	1701			
group_dif	Between Groups	207,913	5	41,583	28,640	,000
	Within Groups	2462,409	1696	1,452		
	Total	2670,322	1701			
gender_dif	Between Groups	126,909	5	25,382	8,264	,000
	Within Groups	5209,105	1696	3,071		
	Total	5336,014	1701			
power_dif	Between Groups	233,895	5	46,779	20,005	,000
	Within Groups	3965,960	1696	2,338		
	Total	4199,855	1701			
asser_dif	Between Groups	794,324	5	158,865	113,613	,000
	Within Groups	2371,520	1696	1,398		
	Total	3165,844	1701			

Now we will analyze the effect of specific Societal Culture dimensions on quality satisfaction for the different categories of University stakeholders. As mentioned before there are specific societal dimensions which we expect to be related with institutional quality for the different stakeholder categories and these are: performance orientation, humane orientation, uncertainty avoidance, power distance and institutional collectivism.

The various sub hypotheses produced by our literature review and analysis in previous chapters are presented in the following Table.

Table 39

**Sub- hypotheses of the third category of hypotheses**

<b>Hypothesis 3.1</b> <i>The higher the level of performance orientation the better the level of quality satisfaction of the various University stakeholders</i>
<b>Hypothesis 3.2:</b> <i>The higher the level of humane orientation the better the level of quality satisfaction of the various University stakeholders</i>
<b>Hypothesis 3.3:</b> <i>The higher the level of uncertainty avoidance the better the level of quality satisfaction of the various University stakeholders</i>
<b>Hypothesis 3.4:</b> <i>The lower the level of power distance the higher the level of quality satisfaction of the various University stakeholders</i>
<b>Hypothesis 3.5:</b> <i>The higher the level of institutional collectivism the higher the level of expectation from quality for the various categories of stakeholders</i>

Regarding the Hypothesis referring to **performance orientation** expressing that “The higher the level performance orientation the better the level of quality satisfaction of the various University stakeholders” we can say that this hypothesis is valid for the Undergraduate students. The data shown in the Table 40 make it obvious that there is a statistically important positive relation between Service Quality satisfaction and two Societal Culture dimensions performance and humane orientation (societal difference level) for Undergraduate students. The Pearson correlation for humane orientation difference is 0.344 with p<0,001 while for performance orientation difference is 0.317 with p<0,001. These two dimensions for the Undergraduate students category have the strongest correlation with Service Quality satisfaction compared to the rest of Societal Culture dimension in the difference level. (dif)

Table 40

**Correlations of Societal Culture dimensions with Service Quality satisfaction for Undergraduate students**

		human_dif	perform_dif
servqual_Dif	Pearson Correlation	,344**	,317**
	Sig. (2-tailed)	,000	,000
	N	602	603

Performance orientation affects positively also the level of quality satisfaction of International students. We can see from Table 41 that performance orientation is correlated with quality satisfaction at a 0,474 pearson correlation coefficient and p<0,000.

Table 41

**Correlation of Societal Culture variables with Service Quality satisfaction for International students**

Interantional Students		servqual_Dif
uncert_Dif	Pearson Correlation	,417**
	Sig. (2-tailed)	,002
	N	51
future_dif	Pearson Correlation	,436**
	Sig. (2-tailed)	,001
	N	51
power_dif	Pearson Correlation	-,412**
	Sig. (2-tailed)	,003
	N	51
perform_dif	Pearson Correlation	,474**
	Sig. (2-tailed)	,000
	N	51

So performance orientation mainly affects Undergraduate and International students in their satisfaction from Quality. The other stakeholder categories have not such effect regarding this Societal Culture dimension.

Passing to the second group of hypotheses referring to **humane orientation**: The higher the level of humane orientation the better the level of quality satisfaction of the various University stakeholders.

We can say that humane orientation will affect positively the level of quality satisfaction of Undergraduate students. Going back to data of the Table 40, Pearson correlation for humane orientation difference is 0.344 with p<0,001.

This Societal Culture dimension affects also the Master students category as shown in Table 42. Humane orientation affects positively the level of quality satisfaction of Master students as the results presented in the Table below show that the relationship of quality satisfaction of Master students is positively correlated with both humane orientation and uncertainty avoidance at p<0,001.

**Table 42  
Societal Culture difference variables correlations with Service Quality satisfaction variable for Master students**

Master students		uncert Dif	human dif
	Pearson Correlation	,384 **	,443 **
servqual_Dif	Sig. (2-tailed)	,000	,000
	N	110	110

Within Master student category it is clear that Service Quality satisfaction seems to be affected by humane orientation and uncertainty avoidance. Humane orientation dimension plays an important role for the Undergraduate students too but their satisfaction level differs significantly from the Master students.

We now pass to the third hypothesis of this category of hypotheses (3.3) expressing that the higher the level of **uncertainty avoidance** the better the level of quality satisfaction of the various University stakeholders.

This dimension affects positively the level of quality satisfaction of Master students as it has been proved by Table 42 previously presented.

Moreover, uncertainty avoidance seems to affect positively the level of quality satisfaction of administrative staff. Table 43 clearly presents that quality satisfaction strongly correlated with uncertainty avoidance for this category of stakeholders with a 0,624 coefficient at a p<0,000 level.

Table 43

**Correlation of Service Quality satisfaction with Societal Culture difference variables for administrative staff**

Administrative staff		uncert_Dif	human_dif	asser_dif
servqual_Dif	Pearson Correlation	,624 **	,582 **	-,580 **
	Sig. (2-tailed)	,000	,000	,000
	N	39	39	39

Uncertainty avoidance however also affects positively the level of quality satisfaction of academic staff and employers. Judging by the results of Table 44, it is clear that quality satisfaction of academics it is both related to uncertainty avoidance and power distance dimensions of Societal Culture.

Table 44

**Correlation of Societal Culture difference variables with Service Quality satisfaction for academics**

Academics		uncert_Dif	power_dif
servqual_Dif	Pearson Correlation	,388 *	-,401 *
	Sig. (2-tailed)	,019	,015
	N	36	36

The same is valid for the category of employers as seen in Table 45. That is to say uncertainty avoidance positively affects the level of quality satisfaction of Master students, academic staff, administrative staff and employers.

Table 45

**Correlation of Societal Culture difference variables with Service Quality satisfaction for employers**

Employers		uncert_Dif	power_dif
servqual_Dif	Pearson Correlation	,378 **	-,295 *
	Sig. (2-tailed)	,002	,020
	N	62	62

We will now pass to the fourth hypothesis related to the effect of **power distance** on quality satisfaction of various stakeholders.

Power distance affects negatively the level of quality satisfaction of academic staff. The previously mentioned Table 44 shows this negative effect of power distance on quality satisfaction for this stakeholder category. The same effect is obvious for the employers category given the results presented in Table 45. So power distance seems to affect academic staff and employers in their satisfaction from institutional quality.

We now reached the analysis of the last hypothesis connected with institutional collectivism. Hypothesis 3.5 states that the higher the level of institutional collectivism the higher the level of quality expectation from quality for the various stakeholder categories.

Referring to Undergraduate students institutional collectivism affects positively the level of their quality expectation. As seen in Table 46 institutional collectivism value correlates with Service Quality expectations of Undergraduate students. The same can be seen by Table 47 but not in such a strong level with Master students.

**Table 46  
Correlations of societal values with Service Quality expectations for Undergraduate students**

Undergraduate students		institut_desired
Servqual_Desired	Pearson Correlation	,339**
	Sig. (2-tailed)	,000
	N	605

**Table 47  
Correlations of societal values with Service Quality expectations for Master students**

Master students		institut_desired
Servqual_Desired	Pearson Correlation	,299*
	Sig. (2-tailed)	,000
	N	110

Institutional collectivism also affects positively the level of quality expectation of employers as can be seen by Table 48. This category has the strongest correlation of quality expectations with the institutional value.

Table 48

**Correlations of societal values with Service Quality expectations for employers**

Employers		Institutional Value
Servqual_	Pearson Correlation	,518**
Expected	Sig. (2-tailed)	,000
	N	51

We will now present a summary Table with those Societal Culture dimensions affecting both quality satisfaction and quality expectations for the various stakeholder categories.

Table 49

**Societal Culture dimensions affecting quality satisfaction and expectations  
of various stakeholder categories**

Societal Culture Dimensions	Undergraduate students	Master students	International students	Administrative staff	Academic staff	Employers
<b>Performance orientation</b>	+		+			
<b>Humane orientation</b>	+	+	+			
<b>Uncertainty avoidance</b>		+	+	+	+	+
<b>Power distance</b>			-	-	-	-
<b>Institutional collectivism</b>	+	+				+
<b>Future orientation</b>			+			
<b>assertiveness</b>				-		

From all the Societal Culture dimensions presented above, the strongest effect on all stakeholder categories comes from performance and humane orientation, uncertainty avoidance, power distance and institutional collectivism. Future orientation and assertiveness have also an effect on our complete sample. From the results of Table 49 it is obvious that 7/9 societal culture dimensions affect all our university stakeholder groups.

After completing our hypotheses testing we will now pass to the presentation of some tests for correlations between items which make part of our Structural Models.

We will first present the initial tests and models created for the separate categories of stakeholders referring to Societal Culture and satisfaction from Quality. That is to say:

1. The structural satisfaction model produced for Undergraduate students
2. The structural satisfaction model produced for Undergraduate students
3. The structural satisfaction model for Master and International students together
4. The structural satisfaction model produced for the categories of administrative, academic staff and employers combined.

These combinations of stakeholder categories didn't appear randomly. They were based on statistical data produced by our analysis and the model creation of LISREL Program.

After presenting these initial tests and models we will pass to our final four research models which show the effect of Societal Culture on Quality for all our stakeholders categories. These models depict important findings relating Societal Culture with institutional quality for all stakeholder categories of the Athens University of Economics and Business.

## **6.2 Tests for Correlations between Items Making Part of Initial Structural Models of Certain Stakeholder Categories**

### **6.2.1 Undergraduate Student's Structural Model of Societal Culture/ Quality Satisfaction**

In this section we will present some of our important findings concerning the relation of quality and Societal Culture for Undergraduate students. These findings are vital for the creation of our structural model depicting the effect of Societal Culture on quality and more specifically the relation of societal satisfaction level to the quality satisfaction level which expresses the Undergraduate students category. The relation of society /quality in satisfaction level is considered important as it will provide us the key factors of enhancement of quality and the key societal factors influencing them.

It is important to point out that for the category of Undergraduate students statistical analysis shows no correlation of Societal Culture practices with Service Quality perceptions. This is an interesting finding since it means that there is no effect of Societal Culture on quality perceptions of Undergraduate students. However, Societal Culture clearly affects their expectations on quality and their level of quality satisfaction.

The next Table presents the correlations of societal difference dimensions (societal satisfaction level) with the Service Quality satisfaction variables. These relations are very important as they make part of our main societal/quality model expressing the indicators of satisfaction in both levels for Undergraduate students.

Table 50

**Societal Culture difference variables correlations with Service Quality satisfaction variables**

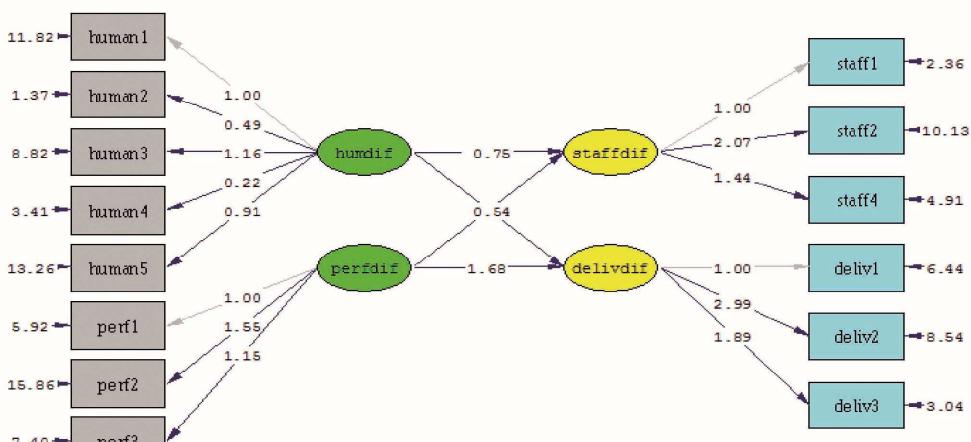
Undergraduate students		staff_dif	deliv_dif
perform_dif	Pearson Correlation	,382 **	,319 **
	Sig. (2-tailed)	,000	,000
	N	605	605
human_dif	Pearson Correlation	,402 **	,303 **
	Sig. (2-tailed)	,000	,000
	N	604	604

As we can conclude from the results presented performance orientation and humane orientation affect the satisfaction level of quality for students. We expected performance and humane orientation dimensions to have a prominent position in Undergraduate students judgments about quality. Our expectations were confirmed. The dimension of performance orientation value is correlated with 5/6 Service Quality expectation dimensions. Humane orientation was intensively pointed out by the students during the focus groups and was connected with behavior of academic and administrative staff within University.

We will now depict the satisfaction model of culture/quality model which was computed through Lisrel 8.80 and presents a structural equation modeling with a good fit for this category. It is important to say that by means of quality satisfaction there are statistical differences of Undergraduate with Master and International students but also with employers. So, there is point in testing the model of Undergraduate students to the other categories of students but also to employers. We will now present the model with each causal relationship between society and quality and the indicators showing their appropriateness.

For the control of fitness of our model we will use the two indicators we previously referred to in the confirmatory factor analysis. These will be the CFI (Comparative Fit Index) and RMSEA (Root Mean Square Error of Approximation).

**Research Model 1a**  
Undergraduate students societal/quality satisfaction structural model with estimates

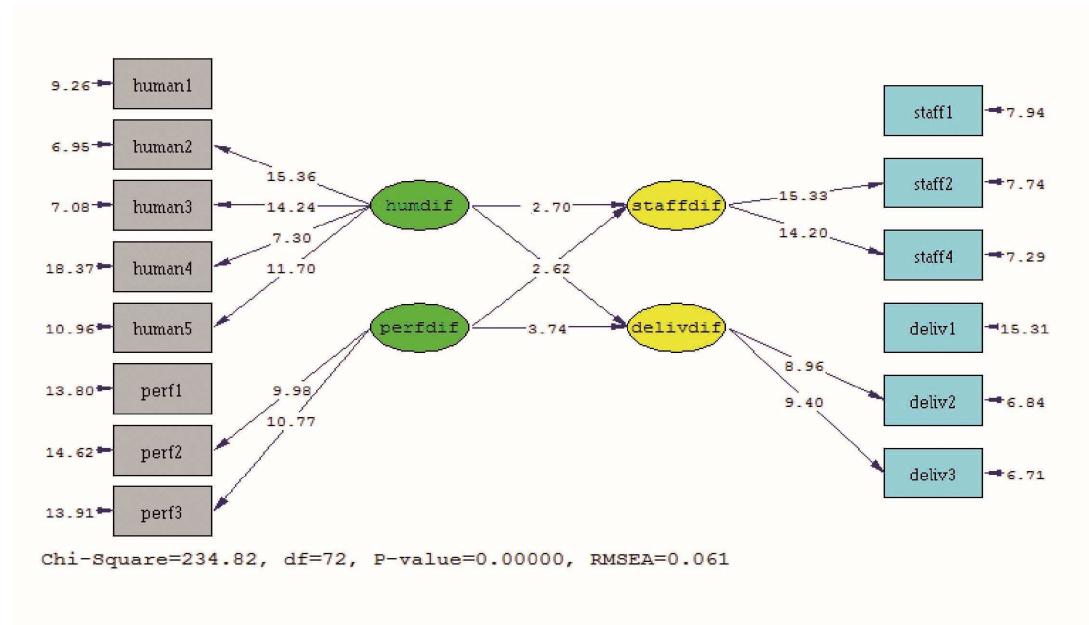


Chi-Square=234.82, df=72, P-value=0.00000, RMSEA=0.061

In the model above we can see the path estimations which were produced from our analysis. The next step is to check the T- values and make sure they are higher of  $z \pm 1.96$  in order to substance their statistical significance in a 95% confidence level.

### Research Model 1b

Undergraduate students societal/quality satisfaction structural model with T- values



Judging by the results of the T- values we don't have one insignificant value or residual. Lisrel program presents the insignificant relations with red colors and as we can see in the diagram there is none such value.

The analysis of all indicators of Lisrel output is presented in the Appendix. The basic information presented here about the model are the following:

<b>DF= 72</b>
<b>Comparative Fit Index (CFI) = 0.97</b>
<b>RMSEA (Root Mean Square Error of Approximation) = 0,061</b>

We will now pass to the group controls that is to say apart from the model presented here we tested the societal/quality satisfaction model of Undergraduate students on Master and Erasmus students. We did this cause the three stakeholder groups Undergraduate and Master

with International students represent two different approaches regarding quality satisfaction. Undergraduate students have a low satisfaction level of quality while Master and Erasmus have high satisfaction.

The Anova results showed us there are significant difference between Undergraduate student with Master and Erasmus students. Lisrel allows us to test whether our groups meet the assumption that they are equal by examining the matrices. We want to see whether the metrices in our model are equal for our groups. Different assumptions of equality can be tested and they are usually tested in a particular order (Bollen, 1989).

Table 51  
**Different control levels within groups**

<b>Control</b>	<b>Hypothesis</b>	<b>Syntax(Entering in the Model Specifications (MO) line</b>
<b>A</b>	The model has the same factors.	<b>“LX=PS”, where LX=full pattern matrix, PS = same pattern and starting values</b>
<b>B</b>	The model has the same structure and factor loadings	<b>“LX=IN”, where IN=Invariant</b>
<b>C</b>	The model has the same structure, factor loadings and errors	<b>“LX=IN TD=IN”, where TD=symmetric residual covariance matrix</b>
<b>D</b>	The model has the same structure, factor loading, errors and factor variances and covariances	<b>“LX=IN PH=IN TD=IN”, where PH=symmetric factor covariance matrix</b>

We will use the adjusted chi – square indicator or as it is differently called the Satorra – Bentler Scale Chi- Square in our group controls. This is not the most indicative indicator in lisrel testing but it is the most reliable for group controls as it is weighted according to the size of the sample.

So, we initiated the comparison of the two groups of Master and Undergraduate students with the first type of control A bearing the hypothesis that the model has the same factors. We received a significant chi square which automatically means that we must reject our hypothesis. We will not proceed further as the model doesn't pass even the first control referring to the same factors for the two categories. This finding confirms that Undergraduate and Master students satisfaction models have different constructs and structure. The results of the indicators are presented above. More results together with the syntax are provided in the Appendix.

Table 52  
A control level within Undergraduate and Master students

<b>Control</b>	<b>Hypothesis</b>	<b>Adj. X<sup>2</sup>(Satorra-Bentler Scaled Chi-Square)</b>	<b>Df</b>	<b>P-value</b>	<b>Decision</b>
<b>A</b>	The model of Undergraduate students has the same factors with Master students	793,61	171	0.000	REJECTED

After completing the analysis for the student category we conclude that there is a societal/quality model for this category with a very good fit but when compared to the Master students' category it seems to be unique and not fitted to this category of Students. The same model was compared with other stakeholder Categories (International students and employers) and the results confirmed the uniqueness of the model. Those results are presented in the Appendix.

## 6.2.2 Master Student's Structural Model of Societal Culture / Quality Satisfaction

The second category which is of high interest in our research thesis refers to Master students. There are no significant correlations between Societal Culture practices and Service Quality perceptions also for this category. This means that Societal Culture practices do not seem to affect their quality perceptions. This picture differentiates when we analyze the data concerning their quality expectations and general satisfaction from quality.

We will now present the results showing the Societal Culture variables correlating with Service Quality satisfaction variables for Master students. From what we see it is evident that uncertainty avoidance and humane orientation difference values are connected with 4/6 Service Quality satisfaction variables. The variables excluded from this correlation are faculty competence and the curriculum content.

Table 53

**Societal Culture difference variables correlations with Service Quality satisfaction variables for Master students**

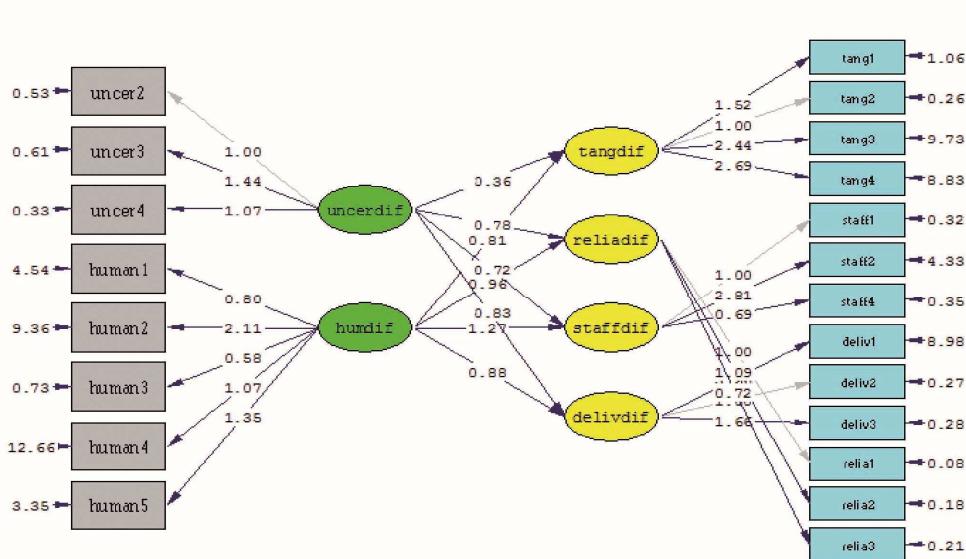
Master students		tangib_dif	staff_dif	deliv_dif	relia_dif
uncert _Dif	Pearson Correlation	,402**	,376**	,357**	,369**
	Sig. (2-tailed)	,000	,000	,000	,000
	N	220	220	220	220
human _dif	Pearson Correlation	,431**	,376**	,389**	,444**
	Sig. (2-tailed)	,000	,000	,000	,000
	N	220	220	220	220

From the results presented it is obvious that uncertainty avoidance and humane orientation play an important role for Master students in relation to institutional quality.

We will now present the satisfaction model of culture/quality model for Master students computed again through Lisrel. The model has a good fit for Master students. In the model above we can see the path estimations which were produced from our analysis. The next step is to check the T- values and make sure they are higher of z +/- 1,96 in order to substance their statistical significance in a 95% confidence level.

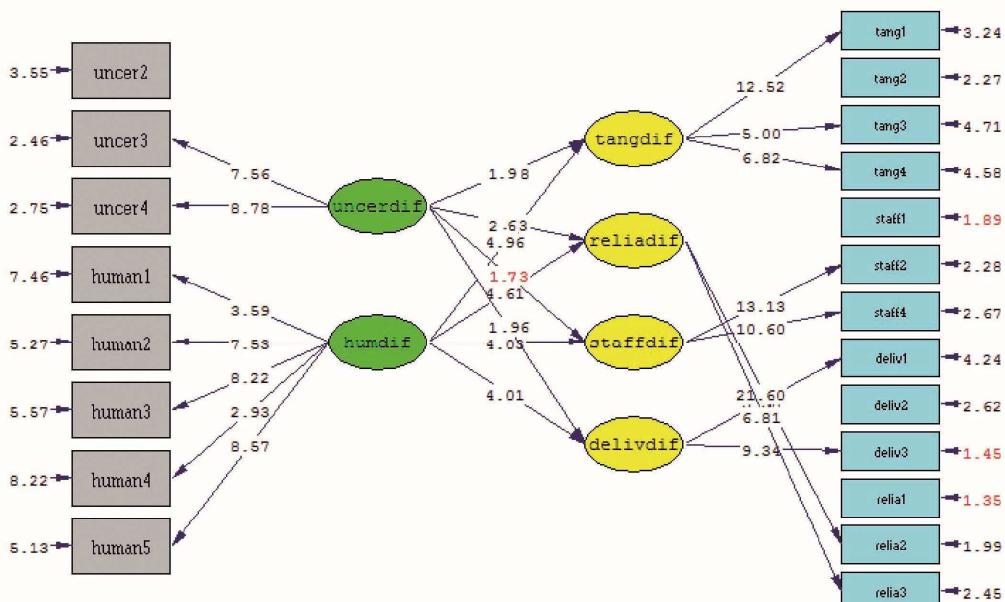
## Research Model 2a

Master students societal/quality satisfaction structural model with estimates



## Research Model 2b

Master students societal/quality satisfaction structural model with T- values



Chi-Square=307.62, df=180, P-value=0.00000, RMSEA=0.081

Judging by the results of the T- values we don't have many insignificant values or residual. Lisrel program presents the insignificant relations with red colors and as we can see in the

diagram there are few. The analysis of all indicators of Lisrel output is presented in the Appendix. The basic information presented here about the model is the following:

<b>DF= 180</b>
<b>Comparative Fit Index (CFI) = 0.96</b>
<b>RMSEA (Root Mean Square Error of Approximation) = 0,081</b>

### **6.2.2.1 Master and Erasmus Student's Structural Model of Societal Culture/Quality Satisfaction**

Apart from the model presented above we also created and tested the societal/quality satisfaction model of Master with Erasmus students when dealt as one category. These two categories present the higher value of quality satisfaction compared to the rest of stakeholder categories. Then in Table 54 we can see the eminent role of performance orientation difference variable in Service Quality satisfaction for the International students. There is also the uncertainty avoidance and humane orientation influence.

Table 54

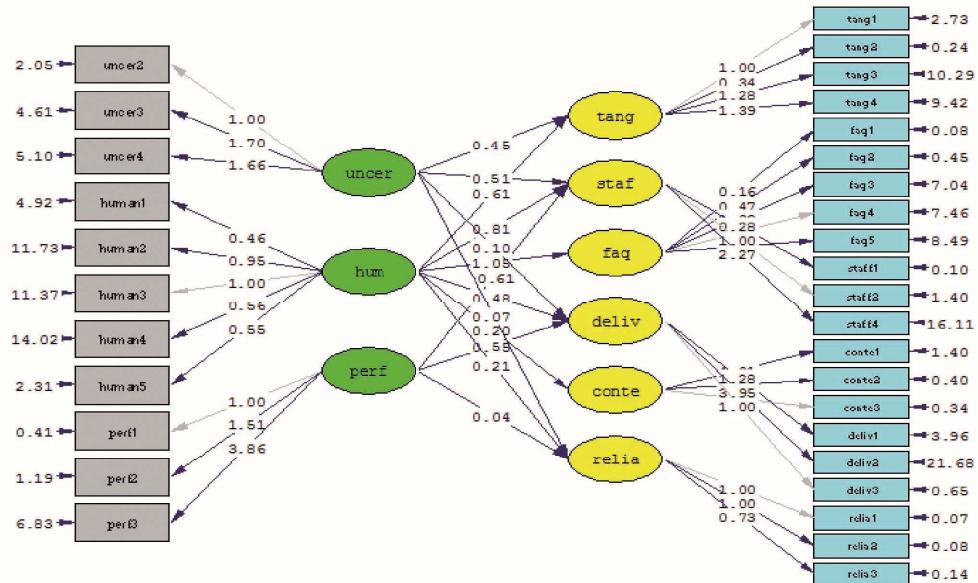
**Correlation of Societal Culture with Service Quality expectations variables  
for International students**

Erasmus Students		faq_dif	staff_dif	conte_dif	deliv_dif	relia_dif	tangib_dif
uncert_Dif	Pearson Correlation		,407**		,455**	,449**	
	Sig. (2-tailed)		,003		,001	,001	
	N		51		51	51	
perform_dif	Pearson Correlation		,424**	,351*	,490**	,515**	
	Sig. (2-tailed)		,002	,012	,000	,000	
	N		51	51	51	51	
human_dif	Pearson Correlation	,353*			,306*		,317*
	Sig. (2-tailed)	,011			,029		,023
	N	51			51		51

The Estimates and the T values of the Master – Erasmus Structural Model appear below.

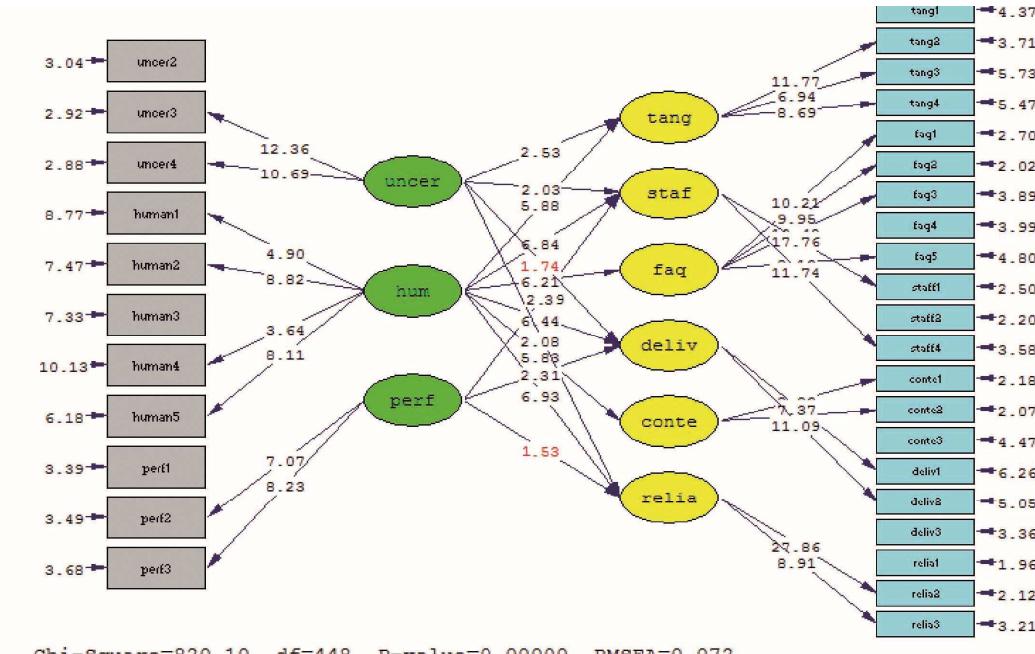
### Research Model 3a

Master and Erasmus students societal/quality satisfaction structural model with estimates



### Research Model 3b

Master and Erasmus students societal/quality satisfaction structural model with T - values



Chi-Square=820.10, df=448, P-value=0.00000, RMSEA=0.072

Judging by the results of the T- values we don't have many insignificant values or residual. The analysis of all indicators of Lisrel output is presented in the Appendix. The basic

information presented here about the model of Master and Erasmus students combined are the following:

<b>DF= 448</b>
<b>Comparative Fit Index (CFI) = 0.96</b>
<b>RMSEA (Root Mean Square Error of Approximation) = 0,072</b>

The new grouped model of Master- Erasmus students seems to have great fitness judging by the indicators presented above. The difference between the Master students' Structural Model in relation to the combined one with Erasmus students is the presence of performance orientation dimension which seems to affect these two categories together while behaving as a solid group.

### 6.2.3 Structural Model of Administrative Staff, Academic Staff and Employers Societal Culture/Quality Satisfaction

This section presents the structural model developed for the three stakeholder categories being the administrative staff, academic staff and employers. These categories have similar effects regarding the relation created between Societal Culture and quality. Before presenting the final model we will first present some data for each category.

Regarding the findings concerning the administrative staff it is important to mention that this category seems to have complete effect from Societal Culture in all levels of perception, expectation and satisfaction from quality. The Table presented above shows that 7/9 Societal Culture difference variables affect all Service Quality satisfaction variables. Some correlations are very high showing a very strong relation between societal and quality variables.

Table 55

#### Societal Culture difference variables correlations with Service Quality satisfaction variables for administrative staff

Administrative staff		uncert Dif	future_dif	human dif	perform dif	gender dif	power dif	asser_dif
tangib_dif	Pearson Correlation Sig. (2-tailed) N	,525** ,001 39	,344* ,032 39	,547** ,000 39			-,322* ,046 39	-,518** ,001 39
faq_dif	Pearson Correlation Sig. (2-tailed) N	,630** ,000 39	,356* ,026 39	,570** ,000 39	,367* ,022 39	-,462** ,003 39	-,499*** ,001 39	-,522** ,001 39
staff_dif	Pearson Correlation Sig. (2-tailed) N	,361* ,024 39		,274 ,091 39				-,367* ,022 39
conte_dif	Pearson Correlation Sig. (2-tailed) N	,465*** ,003 39		,426*** ,007 39			-,335* ,037 39	-,607*** ,000 39
deliv_dif	Pearson Correlation Sig. (2-tailed) N	,579** ,000 39		,524** ,001 39		-,447** ,004 39	-,410** ,010 39	-,479** ,002 39
relia_dif	Pearson Correlation Sig. (2-tailed) N	,515** ,001 39		,546** ,000 39		-,303 ,061 39		-,464*** ,003 39

As mentioned in previous sections, administrative staff effect of Societal Culture on quality is evident through the results of Pearson correlations in all levels of perception, expectation and satisfaction. We will now proceed with the model expressing the administrative staff model together with academics and employers.

We constructed and tested one combined model of these 3 categories for the simple reason that the One Way Anova results Table 35 show no significant differences between these groups regarding satisfaction from quality. So, we constructed one model presenting the relations between them and tested its fitness. This model was then tested with the category of Master students and Erasmus combined as all these categories separately have significant differences with these two categories as a result of the One Way Anova Results presented in table 35.

After the presentation of results of administrative staff we will now present the data for the category of academics. As it can be seen by the table 56 in the satisfaction level we see uncertainty avoidance and power distance affecting the Service Quality satisfaction. Power distance has a negative effect on the quality satisfaction of academics.

Table 56

#### **Correlations of Societal Culture difference variables with Service Quality satisfaction**

##### **variables for academics**

Academics		uncert	Dif	power	dif
tangib_dif	Pearson Correlation		,302		
	Sig. (2-tailed)		,073		
	N		36		
faq_dif	Pearson Correlation		,498**		-,414*
	Sig. (2-tailed)		,002		,012
	N		36		36
staff_dif	Pearson Correlation				-,308
	Sig. (2-tailed)				,068
	N				36
deliv_dif	Pearson Correlation				-,312
	Sig. (2-tailed)				,064
	N				36
relia_dif	Pearson Correlation		,475**		-,462**
	Sig. (2-tailed)		,003		,005
	N		36		36

As a result, academics views on quality seriously differ from Master and International students but not from administrative staff and employers.

Finally we present the results of employers referring to the relation between Service Quality satisfaction and Societal Culture.

**Table 57  
Correlation of Societal Culture difference variables with Service Quality satisfaction for employers**

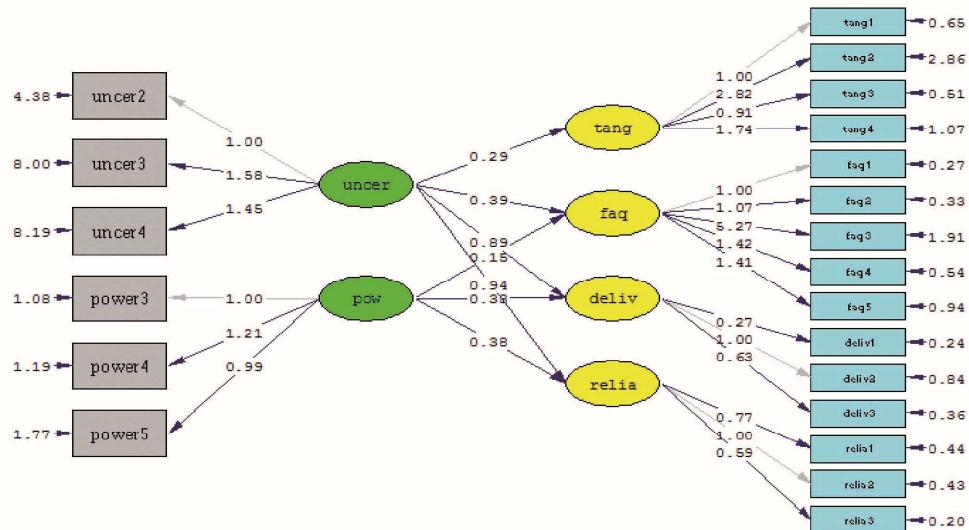
		uncert Dif	perform dif	asser dif	power dif	human dif
tangib_dif	Pearson Correlation		,421 **			,318 *
	Sig. (2-tailed)		,001			,012
	N		62			62
faq_dif	Pearson Correlation	,303 *				
	Sig. (2-tailed)	,017				
	N	62				
staff_dif	Pearson Correlation		,381 **			,452 **
	Sig. (2-tailed)		,002			,000
	N		62			62
conte_dif	Pearson Correlation					
	Sig. (2-tailed)					
	N					
deliv_dif	Pearson Correlation	,468 **		-,397 **	-,323 *	,343 **
	Sig. (2-tailed)	,000		,001	,011	,006
	N	62		62	62	62
relia_dif	Pearson Correlation	,413 **	,343 **	-,359 **	-,366 **	
	Sig. (2-tailed)	,001	,006	,004	,003	
	N	62	62	62	62	

Finally, for the satisfaction level there is a strong positive effect of uncertainty avoidance, performance orientation and humane orientation while there is a strong negative effect of assertiveness and power distance.

After presenting all these data for the three stakeholder categories we produced one structural equation modeling expressing their societal/ quality relations combined. In the model above we can see the path estimations which were produced from our analysis. The next step is to check the T- values and make sure they are higher of z +/- 1,96 in order to substance their statistical significance in a 95% confidence level.

### Research Model 4a

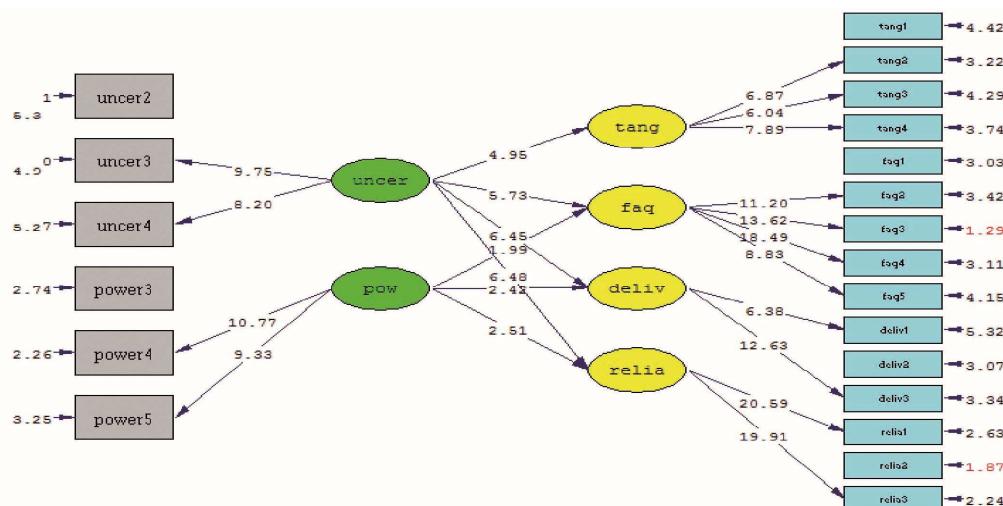
Administrative, academic and employers societal/quality satisfaction structural model with estimates



We now present the model with its T- values. Judging by the results of the T- values we don't have many insignificant values or residual. Lisrel program presents the insignificant relations with red colors and as we can see in the diagram there are few. The analysis of all indicators of Lisrel output is presented in the Appendix.

### Research Model 4b

Administrative, academic and employers societal/quality satisfaction structural model with T-values



Chi-Square=294.45, df=181, P-value=0.00000, RMSEA=0.068

The basic fitness information about the model is the following:

<b>DF= 181</b>
<b>Comparative Fit Index (CFI) = 0,96</b>
<b>RMSEA (Root Mean Square Error of Approximation) = 0,068</b>

From the results provided it seems that the model has a very good fitness for the three categories combined.

After completing the hypotheses testing, presenting the relevant data for specific stakeholder categories and constructing specific Societal Culture/ Quality satisfaction models for certain stakeholder categories we will now pass to the construction of our four basic research models which connect Societal Culture with quality in different levels of current quality, expected quality and quality satisfaction for all stakeholder categories together.

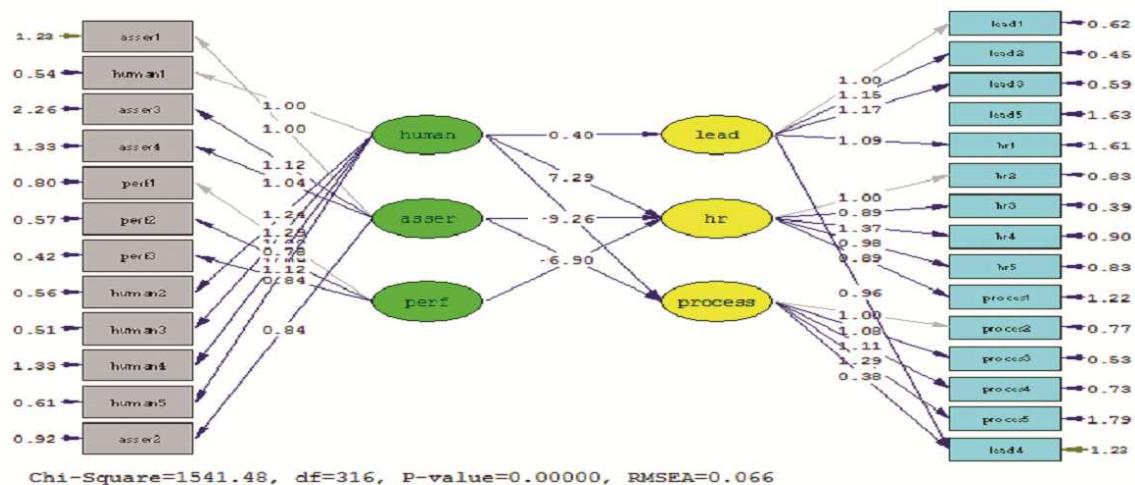
More specifically, we will present two models referring to the current quality (represented by both Service Quality dimensions and EFQM criteria), another one presenting quality expectations and the last one representing our research satisfaction model connecting Societal Culture with quality in Higher Education for all our University stakeholders.

## 6.3 Final Research models

### 6.3.1 Research Model of Societal Culture /EFQM Criteria

The first model we present here shows the relation between the Societal Culture and the EFQM criteria for the whole sample. The characteristics of the Societal Culture affecting the perception of stakeholders regarding the EFQM criteria are humane orientation, assertiveness and performance. All these societal dimensions are connected with people management criterion showing that humane and assertive behaviors affect the perception of University stakeholders on how the University staff is managed. Also performance orientation is connected with their perception about how human resources are managed in the institution. Then assertiveness and humane orientation are connected with processes as these behaviors may affect the way educational processes are delivered in the minds of all stakeholders. Finally leadership in the institution is clearly affected by the degree to which individuals are humane oriented. The first model presents the Estimate and the second its T- values. Judging by the results of the T- values we don't have any insignificant values or residual. As we have mentioned before Lisrel program presents the insignificant relations with red colors and as we can see in the diagram there are none in the Model 5b where T- Values are presented. The analysis of all indicators of Lisrel output is presented in the Appendix.

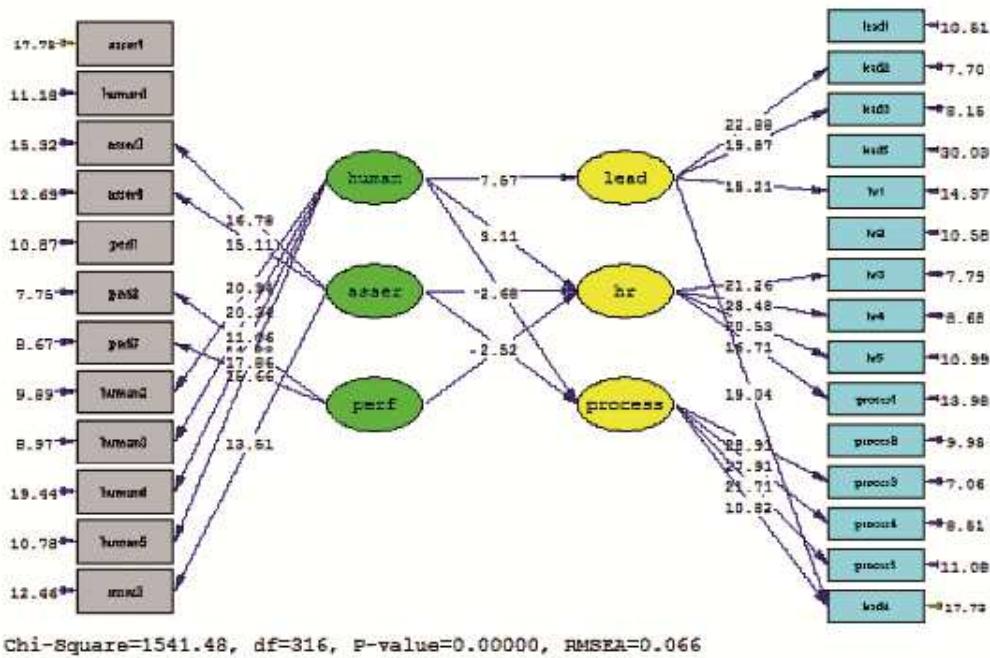
**Research Model 5a**  
Societal/EFQM criteria structural model with estimates



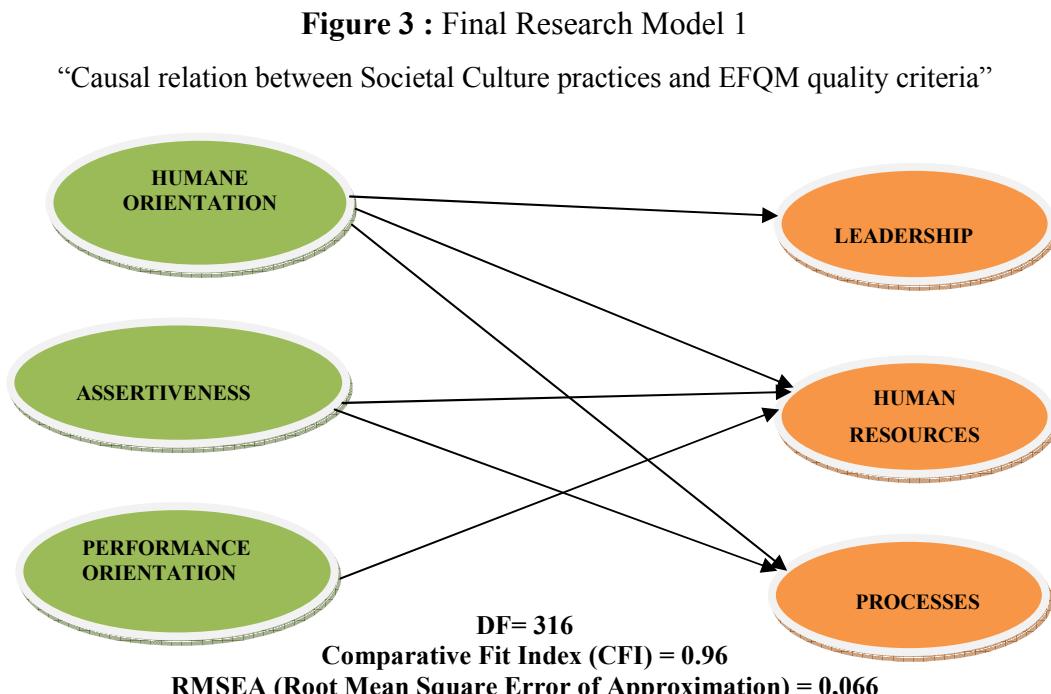
Chi-Square=1541.48, df=316, P-value=0.00000, RMSEA=0.066

## Research Model 5b

Societal/EFQM criteria structural model with T - values



The basic fitness information about the model as well as the figure showing the interrelations between societal culture practices and the EFQM quality criteria follow below.



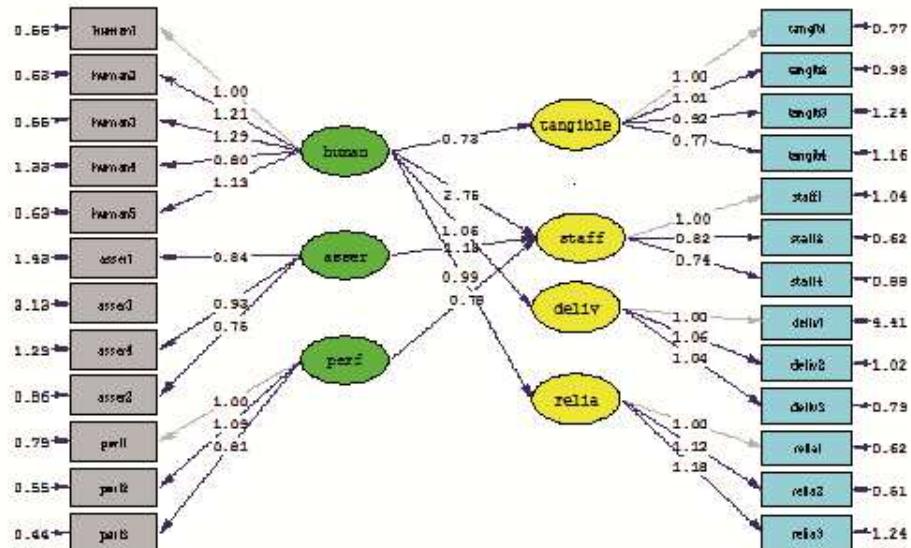
From the results provided it seems that the model has a very good fitness and it constitutes the reason why we should accept that it represents the causal relation between Societal Culture practices with EFQM quality criteria for our research sample.

Humane Orientation has the strongest link to the EFQM quality criteria, then assertiveness is related to processes and human resources while performance orientation is only related to one EFQM criterion : human resources. People's criterion from what we can see in Figure 3, has the strongest effect from Societal Culture.

### 6.3.2 Research Model of Societal Culture /Service Quality Perceptions

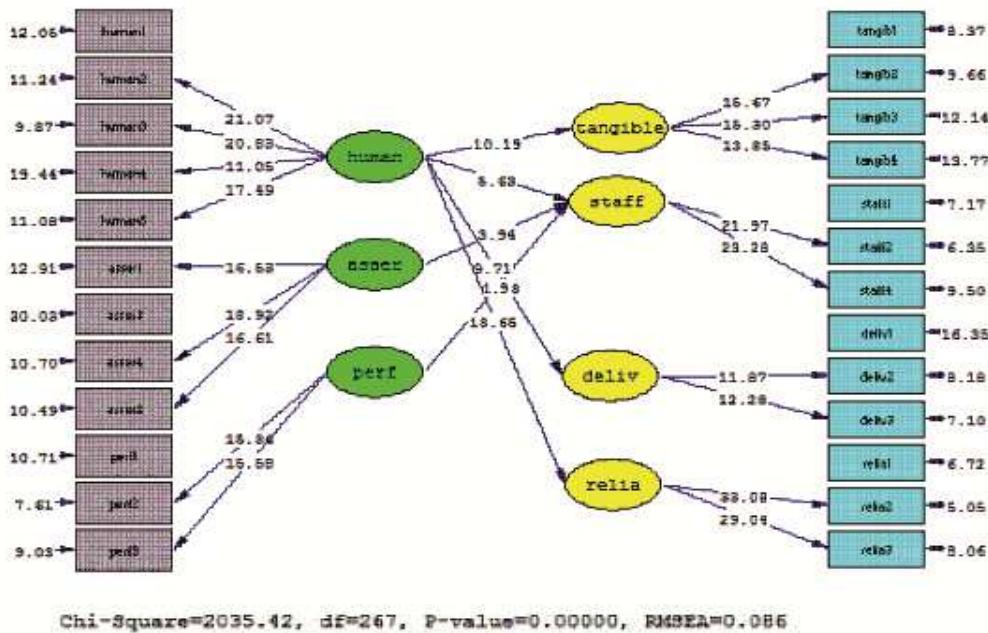
The second model we present here shows the relation between the Societal Culture and the Service Quality perceptions for the whole sample. The characteristics of the Societal Culture affecting the perception of stakeholders regarding the Service Quality perceptions are the same like with the EFQM criteria. It is humane orientation, assertiveness and performance. All these societal dimensions are connected with the administrative staff attitude. Humane orientation in the only societal dimension connected with four Service Quality dimensions. These dimensions are tangibility, staff attitude, delivery and reliability. The first model presents once again the Estimate and the second its T- values. Judging by the results of the T-values we don't have any insignificant values or residual as shown in Model 6 b where T-values presented. The analysis of all indicators of Lisrel output is presented in the Appendix.

**Research Model 6a**  
Societal/ Service Quality perceptions model with estimates



## Research Model 6b

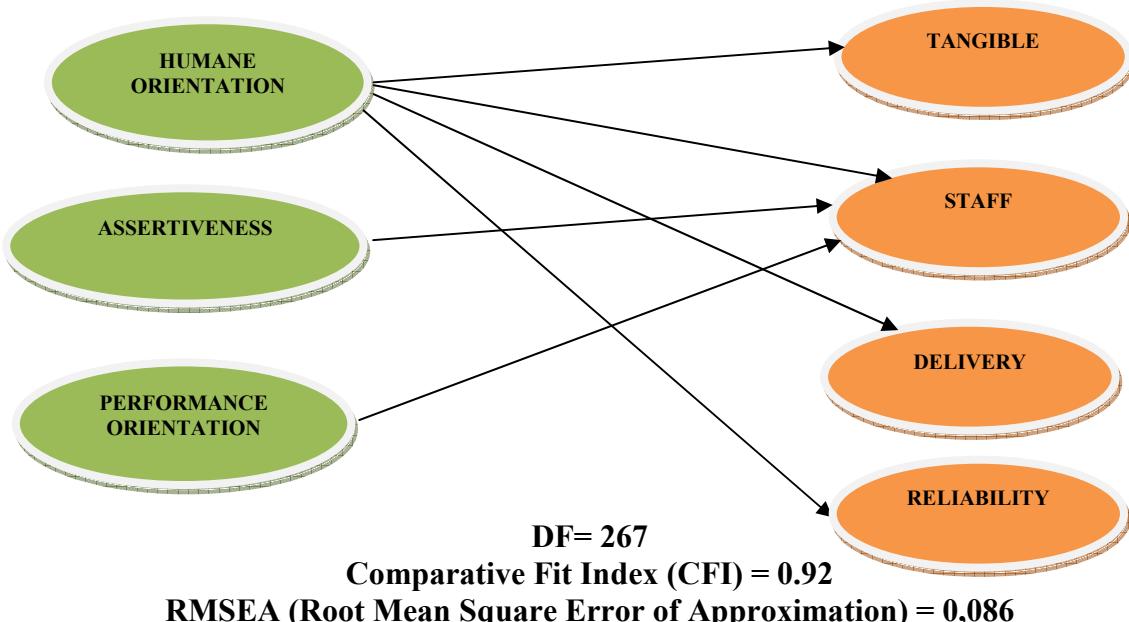
Societal/ Service Quality perceptions model with T-values



From the results provided it seems that the model has a very good fitness and it constitutes the reason why we should accept that it represents the causal relation between Societal Culture practices with Service Quality perceptions for our research sample.

**Figure 4: Final Research Model 2**

“Causal relation between Societal Culture practices and Service Quality perceptions”



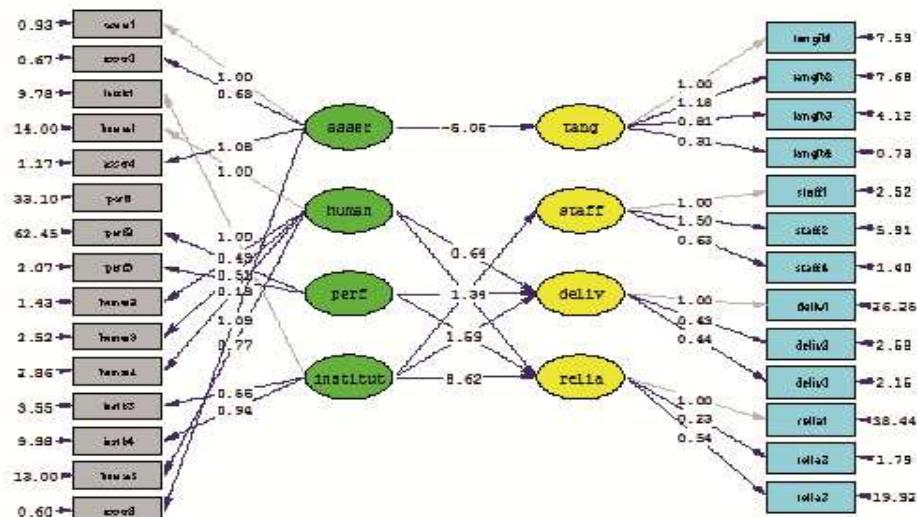
As we can see in both situations of current quality, meaning the Service Quality perceptions and the EFQM criteria, humane orientation, assertiveness and performance are the three dimensions of Societal Culture affecting the perceptions of quality for all stakeholders. In the EFQM criteria model we can see that there is eminent the presence of leadership, people management and processes while there are missing two quality criteria which is strategy and partnerships. It seems like these two dimensions are not clear in the minds of stakeholders as it was also proved throughout the focus groups. Strategy awareness, development and implementation are not clear. Moreover the relation of the Institution with the other partners meaning other organizations and companies is not clear and evident for all internal and external University stakeholders.

Regarding the dimensions of Service Quality the main focus of all stakeholders is on tangibility, staff attitude, delivery and reliability while there are two dimensions missing : faculty competence and content curriculum. It seems like these two dimensions are not connected with Societal Culture. These results were confirmed by the various stakeholders in the focus groups developed. Their results are presented in chapter 7.

### 6.3.3 Research Model of Societal Culture /Service Quality Expectations

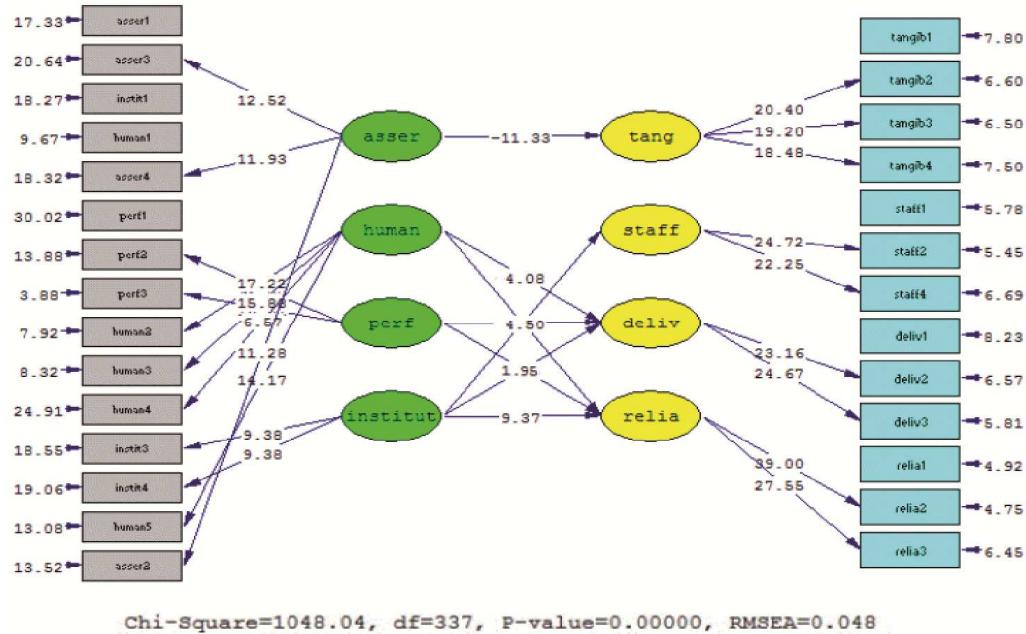
The third model we present here shows the relation between the Societal Culture and the Service Quality expectations for the whole sample. The dimensions of Societal Culture values affecting the expectations of stakeholders for quality are the same like in the other two situations but we have the presence of a new dimension called institutional collectivism. So we see in the expectation level once more the presence of humane orientation, assertiveness performance and the institutional collectivism. The dimensions of Service Quality being affected are the same like in the perception level and they are tangibility, staff attitude, delivery and reliability. We conclude from the model presented above that institutional collectivism has a prominent role as it is related with  $\frac{3}{4}$  Service Quality dimensions being the staff attitude, delivery and reliability. Assertiveness in our situation of expectation is related negatively with tangibility. This is normal as we are in the model of societal values and their connection with Service Quality expectations. So assertiveness is negatively related with the expectation for more tangibility.

**Research Model 7a**  
Societal/ Service Quality Expectations model with estimates



## Research Model 7b

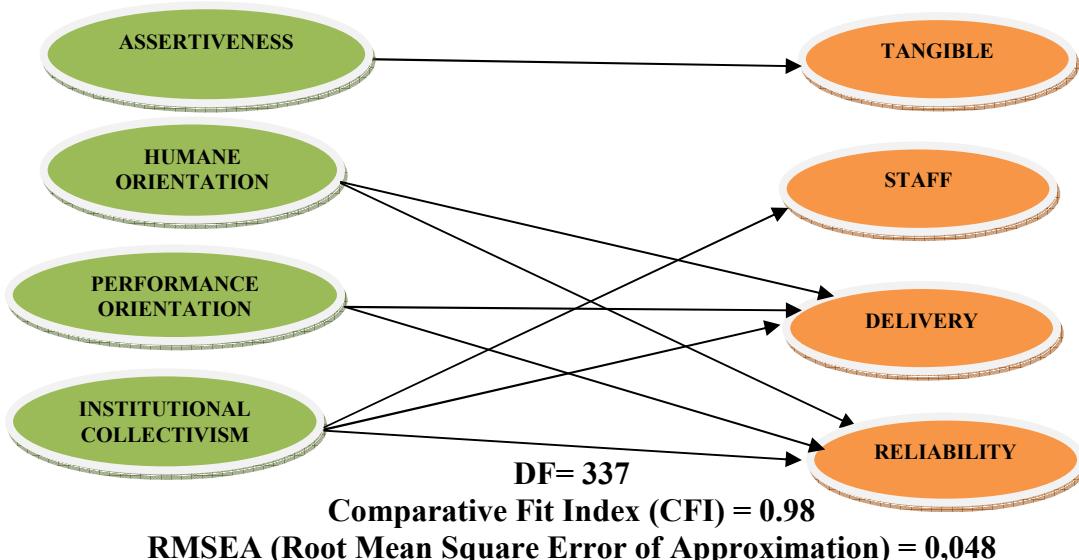
Societal/ Service Quality Expectations model with T-values



From the results provided we can conclude that the model has a very good fitness and it represents the causal relation between Societal Culture values with Service Quality expectations for our research sample. The relevant indicators and the figure presenting these relations are presented below.

**Figure 5: Final Research Model 3**

“Causal relation between Societal Culture values and Service Quality expectations”



In this model representing the societal values/ Service Quality expectations we see the same picture, by means of Societal Culture dimensions affecting quality dimensions, as in the other two models. The difference, in this expectation level, is that human orientation doesn't have the strongest link with quality variables. The new societal variable appearing in the expectation level of quality and having the strongest link with quality expectations is institutional collectivism.

This new dimension shows the connection of stakeholder's quality expectations in staff attitude, delivery and reliability with the need of the Greek society for more team work, collectivism and common action.

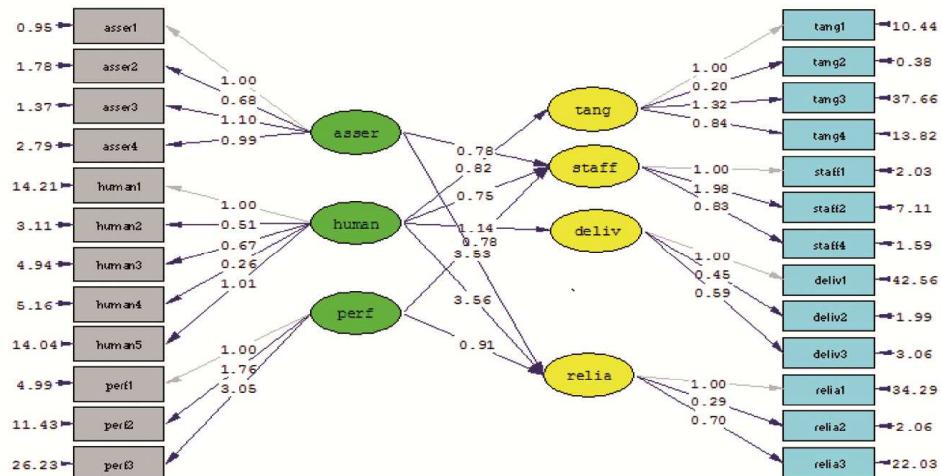
### 6.3.4 Research Model of Societal Culture / Service Quality Satisfaction

The last model which represents satisfaction from Service Quality for our research sample has the same societal dimensions and quality constructs with previous models. After the presentation of this model we can easily conclude that the Societal Culture dimensions which affect the perception of quality for all stakeholder categories are humane orientation, assertiveness and performance orientation. These dimensions affect the satisfaction of University stakeholders from Higher Education.

Model 8a presents the Estimates and the second the T- values. Judging by the results of the T-values we don't have but one insignificant value as shown in Model 8 b where T- values presented. The analysis of all indicators of Lisrel output is presented in the Appendix.

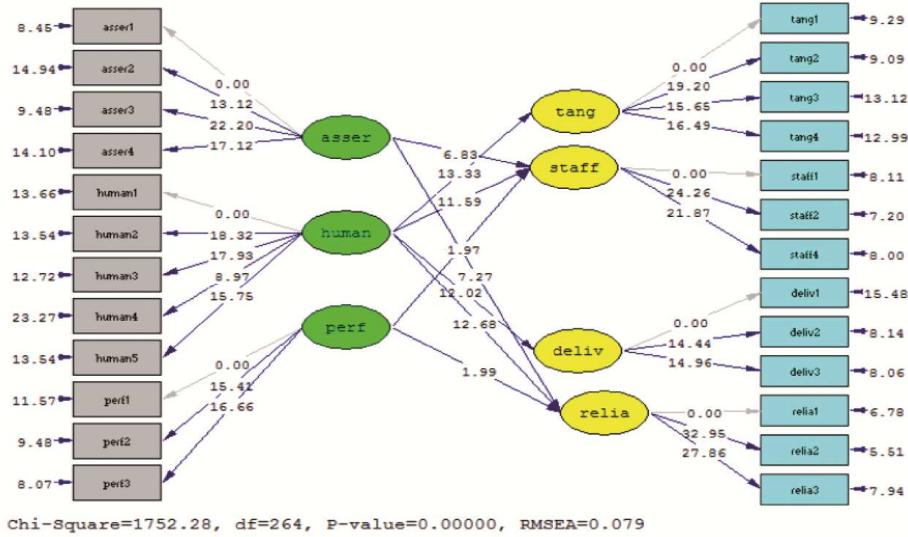
### Research Model 8a

Societal/ Service Quality satisfaction model with estimates



## Research Model 8b

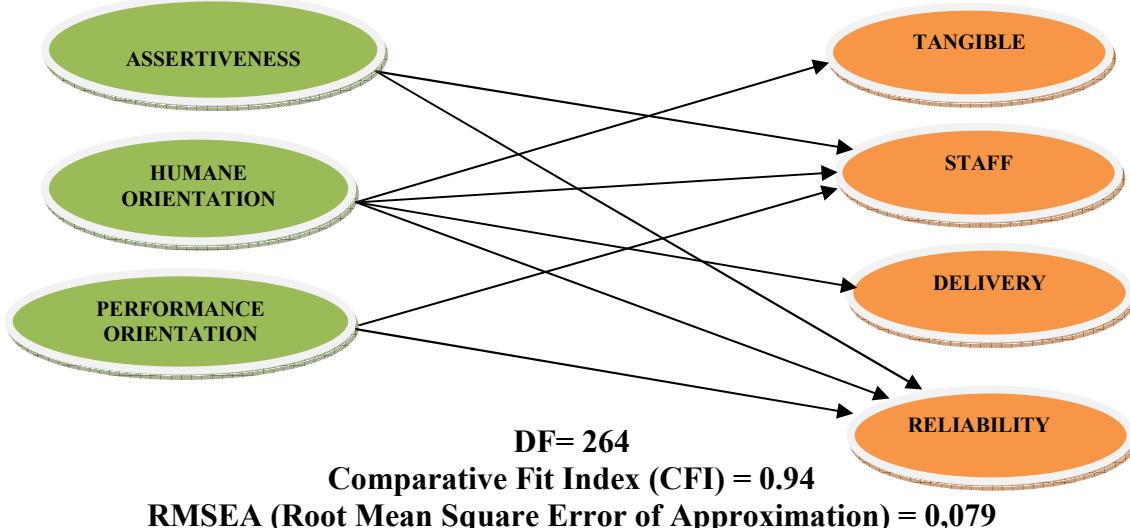
Societal/ Service Quality satisfaction model with T-values



From the results provided it seems that the model has a very good fitness and it represents the causal relation between Societal Culture and Service Quality satisfaction for our research sample. Here follows the Figure presenting the causal relationships more clearly and the relevant indicators of the model.

**Figure 6 : Final Research Model 4**

“Causal relation between Societal Culture and Service Quality satisfaction



As mentioned in the beginning of this section these are the three Societal Culture dimensions affecting the satisfaction of all stakeholder categories from institutional quality: humane orientation, performance orientation and assertiveness.

From all the models presented so far we can conclude that there are different Societal Culture dimensions affecting quality when we speak for a specific stakeholder category and when we speak for all the stakeholders together. However, for our total stakeholder population (903 persons) in the three quality levels of perception, expectation and satisfaction we have the eminent presence of humane orientation, performance orientation and assertiveness.

Before we pass to the final chapter in order to discuss our findings we will present a final Table with the societal culture dimensions affecting quality satisfaction of each stakeholder category separately but also certain stakeholder categories together.

Table 58

**Quality dimensions affected by Societal Culture dimensions by stakeholder category**

SOCIETAL CULTURE Values-Practices	SERVICE QUALITY SATISFACTION (Expectations – Perceptions)					
	Tangibility	Staff attitude	Faculty competence	Delivery	Curriculum Content	Reliability
1. UNCERTAINTY AVOIDANCE	MASTER <i>M+ ERASMUS</i> <u>ACA+ADMI+EMP</u>	MASTER <i>M+ ERASMUS</i>	<u>ACA+ADMI+EMP</u>	MASTER <i>M+ERASMUS</i> <u>ACA+ADMI+EMP</u>		MASTER <i>M+ERASMUS</i> <u>ACA+ADMI+EMP</u>
2. PERFORM. ORIENTATION		UNDER <i>M+ ERASMUS</i>		UNDER <i>M+ ERASMUS</i>		<i>M+ ERASMUS</i>
3. HUMANE ORIENTATION	MASTER <i>M+ ERASMUS</i>	UNDER MASTER <i>M+ ERASMUS</i>	<i>M+ ERASMUS</i>	UNDER MASTER <i>M+ ERASMUS</i>	<i>M+ERASMUS</i>	MASTER <i>M+ ERASMUS</i>
4. POWER DISTANCE			<u>ACA+ADMI+EMP</u>	<u>ACA+ADMI+EMP</u>		<u>ACA+ADMI+EMP</u>

**M + ERASMUS** represent the two stakeholder categories of Master and Erasmus Students together. From the Table presented above it is obvious that these two categories when handled as one group are affected by means of human orientation in all six Service Quality dimensions in their quality satisfaction. That is to say, human orientation plays an important role in the way they feel satisfied by quality of the Athens University of Economics and Business. Then they are affected by uncertainty avoidance in 4/6 Service Quality dimensions while performance orientation has an effect in 3/6 Service Quality dimensions mainly in staff attitude, delivery and reliability of the University.

**ACA-ADMI-EMP** represents the three categories of academics, administrative staff and employers together. The effect of uncertainty avoidance and power distance is embedded in 4/6 Service Quality dimensions and 3/6 Service Quality dimensions respectively. These three stakeholder categories as a group show a focus in faculty competence, delivery and reliability of the university. These factors are basic in the way they affect their satisfaction from institutional quality. Tangibility plays also an important role for them and it seems to be affected strongly by uncertainty avoidance.

**UNDER** represent the stakeholder category of Undergraduate students. This stakeholder category is affected mainly by humane and performance orientation. The two basic quality factors affected by these two Societal Culture dimensions are staff attitude and delivery. These two factors seem important for students in terms of how satisfied they feel by means of educational quality.

**MASTER** represents the stakeholder category of Master students. They present almost the same results as when they are taken together with the Erasmus stakeholder group. The difference is that when Master students are handled as a unique group they do not present a strong effect of Societal Culture on faculty competence and content curriculum in their satisfaction from institutional quality.

As for our final Societal Culture / Service Quality satisfaction research model it is clear that we have the presence of three basic Societal Culture dimensions affecting four quality dimensions as mentioned earlier in this section and presentation of the Research Model.

Table 59  
**The Societal Culture dimensions affecting all stakeholder categories**

<b>SOCIETAL</b>	<i>Tangibility</i>	<i>Staff attitude</i>	<i>Delivery</i>	<i>Reliability</i>
ASSERTIVENESS		<b>ALL STAKEHOLDERS</b>		<b>ALL STAKEHOLDERS</b>
PERFORMANCE ORIENTATION		<b>ALL STAKEHOLDERS</b>		<b>ALL STAKEHOLDERS</b>
HUMANE ORIENTATION	<b>ALL STAKEHOLDERS</b>	<b>ALL STAKEHOLDERS</b>	<b>ALL STAKEHOLDERS</b>	<b>ALL STAKEHOLDERS</b>

As we can judge by the results of Table 59 humane orientation affects all four quality dimensions (tangibility, staff attitude, delivery and reliability) for all six stakeholder categories. Then performance orientation and assertiveness affect all stakeholder categories in two quality dimensions being staff attitude and reliability. The most eminent societal dimension on quality satisfaction of all stakeholders is humane orientation.

After this presentation of the research models we will now pass to our final chapter for the discussion and conclusions of this thesis.

## **7. CHAPTER: Conclusions and Recommendations**

### **7.1 Significance of the Study**

Managing quality in Higher Education is a complicated and multifaceted activity. Similar to any management model, the successful implementation of a quality management model requires an appropriate degree of consensus by key stakeholders, without which it will not be effective in the longer-term. There are very few studies that seek to determine what the primary stakeholders in Higher Education, namely students, academics and employers view as critical to the quality of a Higher Institution. This study, therefore, sought to address a gap in the literature by identifying quality criteria considered to be most important by students, academics and employers. So it has added to the existing literature a new element, the stakeholder perspective. Apart from the stakeholder determinants which are considered crucial for the quality of Higher Education the connection of quality with Societal Culture was also investigated. That is to say we tried to analyze the culture influence on the quality perceptions and expectations of the stakeholders in Higher Education.

The quality determinants of each stakeholder group were identified by both quantitative and qualitative study. The survey identified the criteria on which the six groups of stakeholders were congruent in their perceptions and expectations or were significantly different. In combining both qualitative and quantitative methods, the aim was to complement the findings from each method and produce results which highlight the contributions of both and provide an integrated understanding of relevant issues. Thus the qualitative methods informed the quantitative methods and the rich data and resultant findings from both methods informed the framework for managing quality based on the stakeholder perspective and based on Societal Culture. A significant strength of this study is therefore the methodological approach used within a considerably large population of the primary stakeholders in higher education.

## **7.2 Discussion of Results**

As it will appear in the following description of findings, several of the dissertation's empirical findings strongly correlate with the literature-based assumptions. However, there are also several empirical findings which do not confirm the assumptions and even propose new possibilities regarding the relation built between quality and Societal Culture. In line with most of the reviewed literature the author could identify Societal Culture as a strong determinant of quality in Higher Education.

### **7.2.1 Discussion of Quantitative results by the Quality Perspective**

It is not surprising that students, faculty members and employers understand the concept of quality with regards to Higher Education in different ways. Findings of this research reveal strong congruence on the quality perception of academic staff, administrative staff and employers. A high level of quality is perceived by Master students who demonstrate, to the same degree with the exchange students of AUEB, a high level of overall satisfaction by the University. In general, the findings reveal an existing gap in the way students regard education quality in relation to the rest of stakeholder's categories.

Students' perception for the current standard of quality in AUEB is very low compared to all remaining stakeholder categories. They are presented as the least satisfied group by means of Service Quality satisfaction level (Perception - Expectation). From the focus groups formed in the beginning of our research we noted that students see quality as relating to the educational process (e.g. courses and teaching) and outputs (e.g. employability). They seem strict on everything concerning the educational process and this is depicted in the results of this research. They present the lowest scores in the Service Quality dimensions of attitude (particularly of administrative staff), delivery and reliability of the University. This is due to the fact that administrative staff is held responsible for organizing programs and modules, so their commitment to the learning experience is seen by students as very important. Students also show the lowest level of perceived quality for the EFQM dimensions of leadership performance and the partnerships of the University with the marketplace. We can see that the

students are primarily interested in those elements that facilitate their educational process and will help them later on in their careers.

A high level of quality is perceived, as mentioned above, by Master students who demonstrate, to the same degree with the exchange students of AUEB, a high level of overall satisfaction from the University. Master students present a completely different picture than Undergraduate students as they have a very high perception of current quality in AUEB and assign scores to the criteria of leadership, strategy and partnerships which constitute excellence for an organization according to the EFQM excellence model. Moreover, they present the highest scores in the Service Quality dimensions of tangibility, delivery and reliability of the University. This might be explained by the fact that Master students in Greece do not share the same facilities, laboratories and equipment as the Undergraduate students share. Moreover, after having experienced the level of Undergraduate studies they are more mature and can assess in a more consistent way the deliverables of the University.

The administrative staff sees University as its employer who is responsible for offering a promising working environment. This is maybe the reason why this stakeholder category appears with high expectations for better Service Quality. They present low scores in the Service Quality dimensions related to tangibility and content of educational programs. These dimensions are the ones related with their everyday working tasks as they are responsible to use the facilities of the University and organize the various learning modules. Their scores show very low level in the dimension of EFQM related to human resource management of the University which explains part of their disappointment for the way the University manages human resources. Administrative staff has greater expectations, but on the other hand, they perceive current educational services to be of a higher level. This finding could reflect the experience that the administrative staff has gained through education, training and studying in other institutes, or through employment experience. This experience could enable staff to be objective enough and value the Institutions current level of quality. That means that they might place AUEB lower than the ideal University but still high enough.

Faculty members, as it was also extracted by the focus groups, perceive quality as relating to the whole education system (i.e. input, process and output). Perceived Service Quality is on the average always higher with academic staff than with students. Academics, however, place the University very low in relation to the conditions of quality, expressed by the EFQM excellence Model. They stress the importance of processes and partnerships which they consider to be of high value but at low performance within the University. They are in the

same line with the administrative staff in the facilities and appearance of faculty building and surroundings and their expectations in this issue are extremely high. Moreover, within the category related to competence of academic staff they expect better performance from their colleagues and their level of satisfaction related to academic staff performance is low.

Employers see quality as primarily related to the output (e.g. skills that students bring to the workplace). The managers stress the commitment of academic staff as the fundamental issue of quality in Higher Education. Their lowest score in current quality perception is strategy which for them is considered the most important condition of quality development. They have the second lower score after students in the current Service Quality performance of the University but also the second lowest score in their expectations from the Higher Institutions. In few words, employers do not seem demanding but clearly stress certain characteristics which are necessary for them for the development of quality in Higher Institutions.

International students present the highest level of quality satisfaction in their Greek hosting University, and they assess the current level of quality in this University very high. Moreover, they present the lowest level of expected quality. These findings can be attributed to the fact that International students remain in our country for a very short period (by 6 months to 1 year) and they enjoy special attention as guests of the University. Moreover, the International students group is separately treated in AUEB. Their management is based and affected by the efforts and the organization of the International Office of our University. On the other hand, this positive opinion about our University is remarkable considering that most of these students come from highly structured countries with high performing Institutions. So their positive assessment on the level of performance of AUEB should be considered and recognized.

### **7.2.2 Discussion of Quantitative results by the Societal Perspective**

On the side of Societal Culture, the dimensions of assertiveness and humane orientation are linked to quality on both current and desired level for almost all six categories of stakeholders and affect their level of satisfaction. This means that these different groups of people perceive that the practices and values which a society shows in support of human beings including generosity, concern and friendliness affect their perception and expectation at the Higher Education quality level. Mainly, it appears that the low level of humane orientation is connected with low level of quality. Low level of humane orientation could be translated as high assertiveness which means the degree to which members of the society are encouraged to be tough, dominant and aggressive. This dimension appearing in almost all stakeholders' categories is also positively related to low quality and is like a different expression of the same phenomenon.

Performance is also linked to quality on both current and desired level of quality but it is mainly connected with the EFQM excellence model criteria which represent enablers of quality rather than the Service Quality attributes which measure results. In the desired level of the relation between quality and society there is another dimension which arises and is considered important, the “institutional collectivism”. The appearance of institutional collectivism creates some thinking as it represents extent to which the structure of the society leads to or favors the cooperative versus individualistic behavior. The desire for more institutional collectivism connected with higher expectation for quality denotes the need of stakeholders in Higher Education for more team spirit and mutual understanding, something that seems to be missing at the Athens University of Economics and Business environment.

We will now present some important results by stakeholder category:

The significantly higher scores recorded by students in our sample for performance orientation and humane orientation show that students perceive lack of both humane and performance character of the society and they desire these values in their living environment, so they score very high in the “should be” level of this dimension. They also connect their desired level for quality with values of institutional collectivism. That is to say, there is absence of the institutional collectivism in respect of practices, but a significant evidence in

respect of values". Students seem to be in need of team work, cooperation and a collective society with low individualism. Moreover, though performance orientation seems to affect students in their perception on quality, they don't seem to be affected by future orientation. Students do not view as important the prospect of taking care of the future and remain more oriented toward the present. Future orientation might express a generational issue and has already been supported by Hofstede's assertion: differences between generations are simply "normal attributes of age" (1991).

Master students, like Undergraduate students connect their level of quality satisfaction with the level of humane and performance orientation in the society. Likewise, they consider institutional collectivism important as a value that should exist in the society. The interesting finding in their category is that the uncertainty avoidance societal dimension affects both their level of quality expectations and satisfaction. Uncertainty avoidance refers to practices adopted and encouraged within the framework of a society in order to avoid the uncertainty existing among its members. This finding can be explained as Master students are ready to enter the labour which seems to undergo a lot of changes and amendments given the current crisis. This unstable labour market environment creates insecurity among them. Undergraduate students are maybe too young and in the beginning of their University life to consider the problems arising once they graduate from the University. The category of administrative staff of AUEB is maybe the only category affected so much by the Societal Culture in the way they perceive the University quality. Apart of the effects of humane orientation dimension which the other two stakeholder's categories experience, they present a very high level of assertiveness, uncertainty avoidance and future orientation affecting their current quality perception. As mentioned above, humane orientation and assertiveness are like two different expressions of the same situation. In the same uncertainty avoidance and future orientation make complementary part of the same idea which is the orientation towards the future and the avoidance of insecurity within a society. There is strongest effect on quality for the dimensions mentioned above, at the "value" level. It is very remarkable that in this "should be" level the administrative staff is affected by almost all societal dimensions except for institutional collectivism. That can be interpreted as during the focus group they seemed to believe that our Greek society presents institutional collectivism in a high degree. Somehow, they were taking for granted the dimension of collectivism within the society but also in their working environment.

At the satisfaction level from quality, they seem to be affected very strongly by humane and performance orientation, assertiveness and uncertainty avoidance. Uncertainty avoidance seems to take an exceptional place in the satisfaction level of administrative staff as it is correlated at a 0.731 level to quality satisfaction. This might be another expression of the same problem that Master students seem to face concerning mistrust and insecurity. The current crisis has created new legislations and a series of unbearable governmental measures at the working place affecting the trust of administrative staff on whether this societal system can provide a safe environment for them and their families.

Academics are mainly affected in their perception for quality by uncertainty avoidance and there is also strong performance orientation “effect” for practices. In their quality satisfaction level they get affected mainly by the uncertainty avoidance dimension in both practices and values but there seems to be a power distance effect as well. They connect the power distance practice and value which is defined as the score given for the centralization of power and the great gap in power with the level of satisfaction in the Higher Education context. The lack of humane orientation, noted in all the other ‘stakeholders’ categories, doesn’t seem to affect the academics.

Employers in the same way are affected by uncertainty avoidance dimensions in the level of their quality perception and satisfaction. The findings suggest that they also get affected by humane orientation and assertiveness as the rest of the stakeholders categories do in both current and desired level of quality perception and their level of quality satisfaction. The strongest effect in the satisfaction level of quality for this category of stakeholders is performance orientation while in the desired level of quality there is a strong effect of the institutional collectivism value. The interesting finding in this category of stakeholders is that the level of humane orientation perception seems to be connected with the quality enablers of the EFQM model. Employers suggest that the human factor and the way people are treated are connected with the performance of the University in issues such as leadership, strategy, human resource management, partnerships and processes. The employers questioned in our research were once in the position of students. These students after leaving University and its safe environment move into a different pace of life which make them consider things differently. They get heavily involved in the workplace and family responsibilities. Suddenly stakeholders of the one category become a member of another.

Finally, for the International students of our institution we would like to remark their connection of quality perception, expectations and satisfaction with future orientation. During

the focus groups the International students showed a high level of awareness about our Greek history but low awareness of the Modern Greek society. The only thing they can clearly notice in their everyday life is that Greeks are short term oriented and that all things would turn better if this country was showing a long term orientation. Dimensions such as performance orientation or power distance seemed to affect also their level of quality expectation and satisfaction. Moreover, uncertainty avoidance and humane orientation seem to have a big effect on their satisfaction level of quality. In general, as mentioned above this category of students stay for a short period of stay in our country and are not able to discern basic cultural patterns, practices and values of this society. However, it is interesting to see a snapshot of our Societal Culture through their eyes.

### **7.2.3 Discussion of Qualitative results**

The dissertation's qualitative findings are in line with those of the quantitative study for all the six stakeholder categories.

#### **7.2.3.1 Discussion of Qualitative results by Stakeholder Category**

##### **1. Undergraduate students**

Students identified key indicators ranging from faculty competences to curriculum and relevance of programs to employer's needs. This emphasis is supported by Telford and Masson (2005) who identify the key values of students to be those associated with what the courses are designed to achieve and the manner in which they are delivered and supported.

Students' responses concerning what quality in Higher Education means for them included: faculty competence to make students understand the subject, faculty who care for their students and are willing to teach, curriculum which is relevant for employment, and the relevant infrastructure by means of laboratories, computer rooms, libraries and other facilities.

Students' responses concerning what non quality means for them included the tactics of student political parties, the behavior of academics (indifference and arrogance) the lack of attention from administrative staff, lack of financial support for University laboratories and infrastructure.

Students given the six Service Quality dimensions present their focus on academics competence, administrative staff attitude, curriculum and tangibles. They also believe that these characteristics shape for them the "face of reliability" of the University which according to them is very low. Their comments show respect for their University as a whole especially when compared with other Greek Universities but they believe that AUEB cannot be compared with European Universities.

Their comments also express a need for professors who are enthusiastic, committed, and have excellent teaching skills. Moreover, importance was given to the quality of academics that are

able to stimulate interest in their teaching subject. The interesting thing in the comments of students is that they place great value to their professor's behavior. The main comments of students were that an academically competent professor doesn't always mean good professor. Quality for them means competence and appropriate behavior combined.

One student said "I once went to find a professor outside class and at that time I had some urgent questions to ask him. Judging by the fact that he was a nice professor in class, I expected a warm response. Instead, he sent me away telling me he has no time at all. After that, I didn't dare to even ask him questions in class. Another student said "It is the mood of some professors that sometimes determines their friendliness and approachability". Many students mentioned that "many professors may not have good social skills but they are helpful in their own way. Other students said that the two factors of institutional success for them are competent professors who care for their students at the personal level combined with good infrastructure (for example good libraries and laboratories).

Another interesting thing is that though the attitude of administrative staff was presented as an important quality characteristic which is missing from AUEB, they don't seem to be so strict about it. That is to say, students agree that administrative staff in AUEB is not helpful enough but they seem to justify their behavior. They consider their indifference to be due to the public sector tenure and they blame the Greek culture for this fact. They clearly link the lack of performance of the administrative staff to the lack of performance orientation in the society. Moreover, they place great responsibility to the government for the way public sector is organized and the lack of financial support for Higher Education.

To conclude, regarding the Service Quality dimensions, students speak mainly for faculty competence and say that faculty "represents the Institution and greatly influences students' opinion about the institution". However, competence for them should be followed by the appropriate academic attitude. Clearly the competence, the personality and tutors' personal efforts with students are linked together in students' mind, a factor which is not mentioned in the literature. So for the students the center of quality is academic competence and behavior. Then as mentioned above, importance is given to the attitude of the administrative staff and the lack of infrastructure.

By means of the EFQM quality criteria students seem to be unaware of the strategy of the University and they don't see the direct involvement of leaders in the University. They also claim they experience high power distance concerning leadership in the University. This dimension is very eminent for them inside the University but also outside at the society level.

Moreover, regarding Societal Culture students believe that there is low humane orientation in the Greek society.

## **2. Master students**

Master students seem to have a better quality perception for the University. They believe that the Institution where they study should have good reputation in terms of quality of programmes and employability of graduates. They strongly believe AUEB is one of these Institutions. So they connect quality with reputation. Apart from image and reputation quality means to them appropriate curriculum which satisfies the needs of the market. They call non quality the initiatives of some students groups and student political parties which prevent the University from connecting with the industry.

By means of the six Service Quality dimensions, Master students give high importance to the delivery and the reliability of the University. They also consider the facilities of the University an important part of its quality which needs to be improved and enhanced. Faculty competence is important for them but they are not as judgmental as Undergraduate students. It is normal that for Master students quality in the University is connected with employability. A Master student said “Most students go to Master level so that they can get a specialization and find jobs easier. Another student said “I think that practical understanding of the topics is what is required from a Master degree. If you are able to do this, then you will develop your skills on the job through work experience”.

Some Master students believe that there is a greater need for professors to demonstrate a more humane dimension in their interactions with students. From what we have seen in the focus group, in the same way as Undergraduate students believe, Master students think that there is lack of humane orientation which is reflected in the way University functions. However, Master students seem to appreciate their professors more than Undergraduate students. One student said “although lecturers are strict with deadlines and expect a lot from us, they are considerate in giving assignments and projects across the semester with some lecturers even willing to adjust deadlines to help us manage our workload”.

Some Master students stressed the issue that faculty members are generally hired based on qualifications which does not necessarily include industry experience. Such professors tend to be very theoretical without using relevant industry examples which were considered important by all Master students. This issue was connected with employability. Master

students believe that these specific qualifications of Professors linking the theory with examples from the industry are very crucial and it is what differentiates Undergraduate Studies from Master Education. For this reason, their philosophy on the course content is also very specific. The appropriate curriculum is not merely satisfied through content or lesson objectives; it is the action based knowledge gained that will be practically implemented in the market. Professors need to keep current knowledge on industry trends and technological developments to provide a balance between theory and practice in the course content.

According to the EFQM quality criteria evaluation, Master students seem to have a better understanding about the leadership of the University, the strategy of the University and they also seem to appreciate the efforts of the University to connect with the external environment. They give credit to the University for its efforts to build partnerships and to create bridges with the industry.

By means of Societal Culture, Master students feel that there is lack of performance orientation and meritocracy. Moreover, they notice high level of assertiveness in the society. They believe that the transmission of values in the society starts through education. Higher Education is a miniature of the society and leaders should be careful in which values are nurtured in the educational environment.

### **3. Academics**

Academic staff is strict in their assessments of Educational Quality but they present students as an accomplice for the existence of non quality. Quality means for them positive attitude (attention) from students during the educational process, curriculum content and the process of delivering knowledge. The responses of academic staff are strongly consistent with Chua (2004) who find that the faculty's perspective of quality is wider in view in that they consider the focus should be on all aspects of Higher Education. For academics quality is relevancy of the curriculum to the workplace, the content, the delivery implementation of the curriculum, the commitment of both University staff (academic and administrative) and students towards learning. Non quality is the disrespect of students to their professors and the destruction of student property by anarchists and other extreme student parties.

By means of the six quality dimensions, academic staff stresses the faculty competence, the attitude of administrative staff and the tangibles as the most important quality dimensions in

Higher Education. Two professors highlighted the ability of the academic staff to plan, organize and present the subject as important. They also noted the importance of instilling in students a desire for continuous learning. The literature indicates that teaching staff have a vital role in developing critical skills by offering guidance about what is required, setting structured, explicit goals, facilitating, coaching and designing customized learning experiences and providing feedback for improvement (Srikanthan and Dalrymple, 2007).

For academics the behavior of students and their engagement in the educational process is very important. They consider students as co- producers of knowledge in class something that students fail to understand according to their opinion. At least six academics expressed these views on students' attitude and overall interest in the process of learning and in developing their knowledge and skills. They emphasized positive attitude and commitment towards learning and personal development as a key factor that improves the quality of the overall learning process. As one of them stated "Universities should have ways of filtering out those students who are really interested in developing themselves and those who are just in because everybody else is doing it or as a result of parental pressure". Another professor noted that "the issue is not whether the students are the most intelligent or have the highest grades. It makes a big difference when you have students who are really keen and interested in learning and in developing themselves."

They detect a big inefficiency of the Greek Educational System in mapping and handling all University processes that is why in the EFQM quality criteria they point out the importance of systemized educational processes. They clearly state that the University has many processes which are not set, registered and managed.

Service Quality findings in the literature reveal that Service Quality in Higher Education is not limited to experiences that take place within the confines of classrooms. The wider spaces of learning and social interaction involving such facilities as laboratories, libraries, computers, sports and healthcare centers as well as cafeterias are important as well.

A study by Clark and Ramsay (1990) reported that high-achieving University students were found to have made extensive use of support services. Diversification of education involves stretching students' interests in all aspects that an Institution is prepared to offer. The ability to utilize "computer facilities and laboratories" is a way to extend learning that classroom teaching cannot provide. Academics believe that better infrastructure is needed as well as more committed academic and administrative staff.

According to the academics, supportive services must be mediated by staff that should provide prompt assistance whenever required. Administrative staff should be more involved in the delivery of supportive services. They consider them to be very passive without any performance orientation.

A professor said I have heard students complaining of unfriendly and unhelpful administrators and lab technicians. Another said “They have the tendency to turn students away when they are busy with something else.”

So, what most of the professors claim is that administrative staff is also “educators” in their own way. By providing the right information or showing them how to use the facilities, they are involved in teaching but they seem reluctant to take over this role and they are limited in their basic administrative work. This attitude towards students is a result of the Greek Societal Culture. Academics believe that in the Greek society there is a missing future and performance orientation which is depicted in the educational environment.

#### **4. Administrative staff**

According to the administrative staff, quality is connected with the curriculum, tangibles, and the delivery of education by the University. Non quality for them is the University being understaffed and the administrative services being obliged to carry out extra work.

The administrative staff complains that they cannot handle the floods of queries during peak hours. There is also no administrative support after office hours. Administrative staff also claims that they are not paid to spend time for guidance in certain facilities and that they are paid very low to perform specific tasks. According to Li and Kaye (1998), the level of assurance is determined by adequate guidance given to students in all aspects of education. This would include encouraging students to develop skills in working independently and to develop their ability to work with others. This could be an administrative staff function but they are not managed and trained to be involved in this process. Moreover, the facilities and the infrastructure are not adequate for students to act in the educational environment.

The focus by staff was mainly on keeping teaching facilities up-to-date, providing adequate library facilities and fully equipped laboratories. The “range of texts and journals available to students and staff” was seen as critical. General facilities for extracurricular activities such as sports and cultural facilities were mentioned. When asked if they felt that students are involved in such activities, staff felt that given the University culture it may take time for

wider participation; nevertheless, they stressed that such facilities were necessary to be provided by the University.

While the quality of the outcome in terms of graduates' preparation for the workplace was identified as a key indicator of quality, staff mentioned that there is given less attention to the most importance vehicle for such measurement which is the Exams. Stefani (2005) emphasizes that assessment is integral to student learning and that it essentially drives the curriculum. Staff feels that it is the assessment "process" which has a more significant influence on the quality of Higher Education. The way exams are organized is an important part of the delivery process of the University and they undertake an important role in this process. Moreover, the way the staff is treated by the University is also a part of the delivery process. Staff emphasizes these two elements and they claim that their role is not being appreciated by the University. They also experience a great deal of power distance from academics while they also feel doomed in certain positions without opportunities of career development. They feel their role and work is somehow overshadowed by the academics. Their role demands back office work in all processes and academics take the credit for the result of the educational process.

Finally, they recognize they have a big role in the "credibility" that University creates to the society but they don't feel as a part of the University team. They wish for more institutional collectivism and they believe that the lack of teamwork and collaboration is eminent in the Greek society. This lack of cooperation is depicted also inside the University, in their working environment, in their relations with the academics but they also notice this in the relations among students. They realize that there is low performance orientation in the society and that this is also expressed in the University function.

One member of the administrative staff said "I would very much like to become the rector for one day". I would change so many functions which academics don't understand they need to be changed. The administrative staff has a very big wish list for the University functions and the way things should be done in the University but they also recognize the efforts of its leadership to improve things.

## **5. Employers**

Employers appear demanding in relation to educational quality. According to their responses about quality, they require awareness and overall exposure of graduates, connection of the

curriculum with the market place, more practical experience by students in order to be able to deal with the market place, the overall development of the individual in terms of knowledge and skills, and soft skills. Their main key to educational quality is the faculty competence.

Employers expected lecturers to be “good role models for students” and regarded their input as vital in shaping student attitudes, making them think and developing and enhancing behavioral skills. The expertise and subject knowledge of the lecturer, their qualifications and breadth and depth of knowledge of the subject are key characteristics that were identified as having a significant bearing on the effectiveness and quality of the teaching and learning process.

Employers repeatedly stressed the role of teaching staff in encouraging and shaping students’ personal values and development, rather than only subject understanding. These findings are consistent with Hawawini (2005) who find that employers of business graduates are increasingly demanding behavioral and societal skills as well as critical skills. As the Managing Director of a company put it: “Although Higher Education may not be as critical as the schooling years in laying the foundation for students’ development, a University student is still developing himself. The input from professors and lecturers will determine his values towards work, knowledge and the society and also influence his behavioral skills”.

Employers stressed the role of professors and curriculum in developing transferable skills and awareness. They consider the key objective of Higher Education to be the “overall development of students into mature individuals who have acquired at least the minimum level of skills and abilities to learn and develop further”.

Employers consider attitude of students towards others, and their acceptance of responsibility to be more important than their grades. In fact, some employers felt that students’ attitude to work, personal development and responsibility would be a key indicator of students’ general attitude to work in the future.

Employers were more emphatic that academics should make it “clear to students that unless they acquire effective skills for learning, thinking and doing for themselves, they would not be successful both inside the University and outside of it”.

Employers believe that the majority of students did not seem to realize that Education is not merely about understanding what was taught in the classroom, but that they would have to go beyond this process and start thinking and learning for themselves. These findings are consistent with Hewitt and Clayton (1999) who suggest that students may consider

themselves merely as inputs in the educational process to be transformed without putting in the required effort.

Consistent with the findings of Hewitt and Clayton (1999), employers emphasize graduates' skills to adapt to different requirements and situations and to communicate effectively with people. Graduates' attitude to work and their willingness to learn was considered very vital. Although these views were also supported by academic staff, their responses indicated that they have not really considered their own role in this transformation as opposed to developing subject knowledge. A manager said: "if students are adaptable and have good skills they will be able to learn quickly in their working environment. With poor skills of adaptability and only subject specific knowledge the person will take a long time to become productive". So employers try to emphasize the responsibility of academics in helping students develop such skills. For them equipping students with "the skills of learning, communication, self-management, thinking for themselves, team and people skills and adaptability" should be the number one target of academics. This is consistent with Srikanthan and Dalrymple (2004) who state that employers placed greater value on generic skills, including the ability to think laterally and general awareness as opposed to discipline-specific skills and knowledge. They stressed that subject knowledge should not be at the expense of relevant skills.

One employer in fact stated that he would be reluctant to employ graduates with very high grades unless it was backed up by a strong personality and well rounded skills that reflect the grades. As he put it: "I would be very suspicious of students who get very high grades. In my experience I have found that such employees lack initiative and creativity, they tend to be good at appearing for examinations but such abilities are not very useful at work". Moreover, exams are not designed in a way to test the real knowledge gained. Employers complain for the way the exams take place in Higher Education and present it as a lack of credibility and reliability of the Higher Educational System.

Employers fail to see the strategy of the University. They claim that since they were students of AUEB they could never make out the goals of the University and its direction. They believed this was because of their young age. However, now, years later, being in the market place this lack of strategy becomes more evident and frustrating for them.

## **6. International students**

The International students focus on the reliability and the credibility of the University. They place great importance in the reputation of AUEB and the development of supportive learning activities for its students.

For Erasmus students quality in AUEB is the enhancement of the relations with the industry and the support of partnerships with the market. The University needs to be supported by external resources and not to depend solely on the financial support of the government. The Greek Universities have to nurture extroversion.

International students make a long reference to the Societal Culture and believe it directly affects the way the University functions but also the way the International exchange students are treated. Erasmus students feel there is a high level of in group collectivism and that Greeks are very individualistic. The International students fail to interact with the Greek students as they don't share any common activity as for them there is no motive to meet the Erasmus Students. They believe this distance is a result of the Greek culture. Of course they see other characteristics such as lack of future and performance orientation but in group collectivism as well as the lack of gender egalitarianism is very obvious for them in the society. This is very interesting as all the rest of the stakeholder categories score in these dimensions at normal levels and do not believe they have any impact on quality of Higher Education.

The development of activities for International students plays an important role in the overall learning experience. They consider these activities to be opportunities to "develop closer bonds with the Institution" which can have a positive influence on their overall development and attitude. International students claim that the reliability of any service is determined by "how you please your customers and what value they get out of what you have provided for them. According to Patterson (1991), the reliability of support services enhances the total learning experience as evident in the increasing demand for package deals in International Educational Institutions. A study by Brown (1991) on Australian Tertiary Institutions attests to the need for academic and facility excellence in attracting International enrolment. Hence, the overall reliability of educational experience is likely to be determined by both the hardware (facilities) and software (people) of support services. This is what International students in AUEB emphasize. This claim is not new, as we have examples also in the literature. The students' overall satisfaction in Steadman and Dagwell's (1990) study was

indirectly affected by their low evaluation of general and library facilities despite their high regards for the quality of courses and instructors.

International student's input in the focus group was of great importance as they can see quality and Societal Culture more objectively than the rest of the stakeholders' categories. Through their eyes we could catch a snapshot of quality in AUEB and the image of our society.

After analyzing the input of all stakeholder categories in our qualitative research we will present the main points of convergence and divergence among them.

### **7.2.3.2 Main Issues of Divergence and Convergence throughout all Focus groups**

There was consensus among all stakeholder groups that developing and preparing students for the workplace by focusing on skills and subject knowledge was very important. Students and academic staff placed the greatest emphasis on the ‘role of the professor’ as one of the most significant input determining the quality of Higher Education. Employers also emphasized the role of “lectures” in providing adequate challenges and self-development opportunities for students during their time at college. Academics also stress the role of administrative staff in various processes and they seem to recognize their role in providing quality services to students.

Regarding course content there is divergence in the perception of the different categories of stakeholders regarding its importance. Some professors identified the course content as probably the single most important input that determines the quality of Higher Education. Administrative staff doesn’t seem to agree with that and they speak for supportive services, infrastructure and need for standardization of certain educational processes such as the organization of exams. Students combine the course content with faculty competence and they cannot separate it in their minds.

Employers also believe in the importance of curriculum but under certain conditions. They think the curriculum should be current and up to date, particularly in the use of “latest technologies, trends, case studies, applications”, but they don’t believe that this curriculum is destined to “teach everything”. Employers clearly state that nowadays most applicants, compared to the past when having a first degree was comparatively rare, have more advanced degrees with more specific knowledge and opportunities for developing generic skills. Thomas (2007) and Eagle and Brennan (2007) note that economic and demographic changes have highlighted the need for more flexible curriculum with greater emphasis on lifelong learning rather than reproduction of subject knowledge. Kember (1997) also points out, in the same direction, that the role of curriculum should not only focus on subject knowledge but also on the development of critical skills. International students seem to have a clear view about the structure of the curriculum and its importance of being connected with the market and providing students with the appropriate knowledge and skills to face market demands.

All categories of stakeholders speak for the lack of infrastructure and the need of extra facilities for students. Consensus was found among all University staff and employers that the

standardization of educational and administrative processes of AUEB is a vital aspect in the University quality and these processes need immediate re- engineering and reform.

All categories seem to lack clear view of the strategy set by the University and how its leadership affects the course of the Institution. International students believe that the University lacks extroversion and this is why its stakeholders are not aware of basic things concerning leadership and policy and strategy. They also believe that it is a lack of the educational system which fails to create consciousness by shaping the relevant values to its students and the rest of stakeholder categories. They say “it is one thing not to know which the strategy of the University is because no one told you and another thing not wanting to know because you simply don’t care and you don’t feel a part of it”.

By means of Societal Culture the dimensions that seem to be connected with University quality is humane orientation, assertiveness, performance orientation, future orientation. Administrative staff stresses the importance of institutional collectivism as well and presents a clear link with quality in AUEB. All the dimensions mentioned were linked directly with the perceptions of the various categories of stakeholders regarding University quality. It is very interesting that International students present also in group collectivism and gender egalitarianism affecting in a negative way the Greek society and that the results of these dimensions are depicted also inside the University and its way of function.

Clearly the best view about the quality in Higher Education is being held by Master students. International students also seem to value University quality but they seem more cautious because of the limited duration of their studies in AUEB. Employers seem very strict about the educational quality though the lower quality perception is being held by the Undergraduate students. Administrative staff seems to appreciate their Institution and its achievements but they seem to desire many changes in the way things are done. Academics seem aware of the problems of Higher Education and stress the interrelation of Higher Education with the governmental policies and the dependency of budget with the ministry of Education, Lifelong Learning and Religious Affairs.

### **7.3 Future Implications and Contribution to the Field**

The strength of this research stems from the fact that it is based on a combined stakeholder perspective and in its ability to draw attention to the gaps and congruencies among stakeholder groups, thereby ensuring that gaps are monitored properly and managed effectively.

At this point we have to mention that the quality section of our research was used during the Athens University and Economics and Business preparation process for the accreditation by the European Foundation for Quality Management (EFQM). Our quality research questionnaire combining the dimensions of Service Quality and the EFQM criteria functioned as a supportive tool to the national quality criteria set by the Hellenic Quality Assurance Agency (HQAA) to all Higher Institutions in Greece.

This improvement action combining the HQAA national criteria with the Service Quality – EFQM model was one of the three initiatives which led to our Institution's distinction and award in the first level of the EFQM excellence model ("Committed to Excellence" level). The use of this research quality model and results in this accreditation process represent a very important implication for the quality enhancement of our Higher Institution.

Moreover, the research models produced by this research depict the relation between quality and Societal Culture which is vital to be understood by the leadership of Higher Institutions. Any Higher Institution that falls within the parameters of this study can entail a thorough and critical self-review on how it is positioned in each of the quality dimensions of the quality framework produced in this study. Following the self assessment the Institution can plan how to bridge the gap between its own current position and the key areas as highlighted in the framework. Higher Institutions outside of the parameters of this study could replicate the methodological approach to determine if there are differences in both quality and Societal Culture determinants for their stakeholder groups.

Generalized conclusions based on this survey's data help us understand why University stakeholders perceive University in different ways. Moreover, they could help the state interpret educational quality not only through performance criteria and processes but also including culture as a main component in Higher Education quality.

SERVQUAL is a valuable instrument to measure Service Quality although it presents some limitations regarding validity or applicability. SERVQUAL becomes more valuable when it is used in conjunction with other forms of a Service Quality measurement (Parasuraman et al. 1988). In this study SERVQUAL was used as a complementary research instrument for assessing Service Quality with the EFQM excellence model. Their association provided some indications that SERVQUAL can be effectively used to record education Service Quality.

Continued refinement of the scale for measuring Service Quality in higher education, proposed in this study, is certainly possible based on further research and trends in higher education. Future research can be conducted, taking into account how the various dimensions of Service Quality are changing, in terms of definition as well as new services that are being offered by the Institutions. In future research, the various categories of stakeholders may reveal new aspects of Service Quality in Higher Education that are important to them, and these would have to be incorporated in the scale so as to further explore the concept of Service Quality in the field of higher education.

Further and deeper analysis may reveal the causes of differentiations of perceptions and expectations of stakeholders in both quality and Societal Culture. All these good efforts should lead to an effective strategic plan. So, the modified SERVQUAL scale used in this study can serve as a diagnostic tool that will allow Higher Education leadership to determine service areas for improvement and development. Moreover, while students may identify certain factors as desirable, some of their ‘needs’ might not be achievable within the constraints of budget, regulations or other factors.

The attribute of “time” should be also given special attention as we do not know whether these perceptions and expectations for both quality and society change over time. As mentioned above, after leaving University, students will most probably change the way they face things. They will feel they belong to another stakeholder category such as Master students or employers. So, this perception affected by the “time” factor would be very interesting to be investigated. Extending the scope of this research to other Academic Institutions would also make additional contributions to this area of research. Then, a further area of investigation would be to ascertain if student satisfaction differs significantly among various Institutions. This would mean a very big project but worth taking in order to exclude important results and data.

Asking stakeholders whether they are satisfied or finding the reasons for their answers is not a contribution to quality. Developing quality means taking action to improve things. There

are some steps we consider important to be undertaken by each University but also by the Greek higher educational system itself.

The nature of Higher Education as well as teaching, research and other features of the universities must be based on the idea of institutional freedom. Each University unit must be allowed to state their own goals and their own ways to reach them. The EFQM excellence model facilitates this process by giving the organization the tools to state what is important for their mission (Approach), then plan the methods that they feel would best further the strive towards these goals (Deployment) and, finally, continually assess the results of these methods and the correctness of the approach (Results). The EFQM overall scheme can be used by each Institution as a self evaluation tool in order to fill the gaps existing in the traditional Quality Assessment Frameworks in the Greek Higher Education. It is right time for Greek Higher Institutions feel independent and responsible for their course of action and performance.

After acquiring their institutional freedom, the first step for Universities is to put mechanisms into place to identify and work with the expectations of all their stakeholders. We believe in a “one-to-one” Interaction Model between University and stakeholders. This means understanding of stakeholders’ value needs, expectations and ideas of University. The satisfaction and realization of value needs of stakeholders by the University will enhance stakeholders’ trust and commitment and will stimulate stakeholders’ involvement in the University. What University leaders haven’t realized yet is that the stakeholders of a University will spread, intentionally or unintentionally, the experience and perception, positive or negative, of the University to other stakeholders and to closely related people. The positive experience or perception tends to enhance stakeholders’ trust, recognition and satisfaction of University.

The second step for Institutions is to undertake action related to the non academic services. Universities are not only about teaching courses and organizing exams but about providing reliability and delivery through non-academic support services. The University should provide assistance in solving personal, social and financial problems, and should stimulate the participation of stakeholders in a variety of social and cultural events. Moreover, University stakeholders’ trust and recognition is obtained through improvements in the school infrastructure, computerized systems that support teaching, building and equipment maintenance, safety improvements, handicap accessibility, and many more.

The Higher Education stakeholder population is diverse across different Higher Institutions, and this lack of homogeneity must be addressed and managed carefully by all Higher Institutions in order to maximise learning. It is therefore highly recommended that all Higher Institutions invest sufficient time and resources in a continuous measurement process of quality determinants and their relation with Societal Culture. Then attempts to achieve congruence between internal stakeholder and external stakeholders of Higher Education should follow.

Satisfying and empowering all stakeholders within a University environment is not an easy task to do and is subject to many limitations. It demands a new quality culture which takes years to be created and accepted by society, its practices and values. So, we definitely have a long journey to go in our Educational System. What we need is to realize how crucial Higher Education is for the development of this society especially now that our country faces its worse recession and economic crisis.

## **7.4 Limitations and Suggestions for Further Research**

Societal Culture background and its implication for quality in Higher Education are very complicated issues, which have not been adequately reviewed in the literature. Further study and investigation is needed to analyse in-depth the impact of Societal Culture on Higher Education Quality. Due to the limitations of this dissertation at the Athens University of Economics and Business stakeholders, the scope of these findings is strictly limited to a Business School Environment and needs further verification.

Furthermore, as the study focused on a public Higher Education Institution it may lack applicability to other Higher Education environments. Although employers were included in the study as the primary external stakeholder, the study does not consider the views of other external stakeholders such as the Ministry of Higher Education who have a key regulatory role in the Higher Education sector.

Another issue is that due to resource restrictions, rules, regulation, as well as and policies, in some instances it is almost impossible for public universities to provide everything that students want.

Future studies could also explore quality values of key stakeholders in other countries in order to test whether the results obtained are general and consistent across different samples. Finally, although this dissertation gives valuable information on the stakeholder perspective about institutional quality, it doesn't answer how their perceptions and expectations can be influenced. Further research could be conducted on how these groups can be motivated to contribute effectively to the teaching and learning process taking into consideration the Societal Culture influence.

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## Appendix

### A. STATISTICAL DATA

#### Chapter 5

##### **5.1 Profile of the Respondents**

**Table 1  
Stakeholder Category Frequencies**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid undergraduate students	605	67,0	67,0	67,0
master students	110	12,2	12,2	79,2
administrative staff	39	4,3	4,3	83,5
Academic Staff	36	4,0	4,0	87,5
Employers	62	6,9	6,9	94,4
Erasmus	51	5,6	5,6	100,0
Total	903	100,0	100,0	

**Table 2  
Stakeholder Category Frequencies (Weighted Cases)**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid undergraduate students	605	35,5	35,5	35,5
master students	220	12,9	12,9	48,5
administrative staff	117	6,9	6,9	55,3
Academic Staff	144	8,5	8,5	63,8
Employers	310	18,2	18,2	82,0
Erasmus	306	18,0	18,0	100,0
Total	1702	100,0	100,0	

**Table 3**  
**Gender of Stakeholder Group Categories**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	326	36,1	36,1	36,1
female	576	63,8	63,8	99,9
6,00	1	,1	,1	100,0
Total	903	100,0	100,0	

**Table 3.1**  
**Gender of Stakeholder Group “Undergraduate Students”**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	216	35,7	35,7	35,7
female	388	64,1	64,1	99,8
6,00	1	,2	,2	100,0
Total	605	100,0	100,0	

**Table 3.2**  
**Gender of Stakeholder Group “Master Students”**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	35	31,8	31,8	31,8
female	75	68,2	68,2	100,0
Total	110	100,0	100,0	

**Table 3.3**  
**Gender of Stakeholder Group “International Students”**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	16	31,4	31,4	31,4
female	35	68,6	68,6	100,0
Total	51	100,0	100,0	

**Table 3.4**  
**Gender of Stakeholder Group “Administrative Staff”**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	9	23,1	23,1	23,1
female	30	76,9	76,9	100,0
Total	39	100,0	100,0	

**Table 3.5**  
**Gender of Stakeholder Group “Academic Staff”**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	21	58,3	58,3	58,3
female	15	41,7	41,7	100,0
Total	36	100,0	100,0	

**Table 3.6**  
**Gender of Stakeholder Group “Employers”**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	29	46,8	46,8	46,8
female	33	53,2	53,2	100,0
Total	62	100,0	100,0	

**Table 4**  
**Age of Stakeholder Group Categories**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid under 25	676	74,9	74,9	74,9
25-35	179	19,8	19,8	94,7
36-45	32	3,5	3,5	98,2
46-55	9	1,0	1,0	99,2
over 56	7	,8	,8	100,0
Total	903	100,0	100,0	

Table 5

### Education of Stakeholder Group Categories

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid high school	641	71,0	71,0	71,0
AEI	159	17,6	17,6	88,6
TEI	12	1,3	1,3	89,9
Master	60	6,6	6,6	96,6
PhD	31	3,4	3,4	100,0
Total	903	100,0	100,0	

## 5.2 Normality Test

5.6 Table  
Skewness and Kurtosis

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
						Statistic	Statistic	Statistic	Statistic
uncert_now	903	1,00	7,00	2,9915	1,07849	,635	,081	,440	,163
uncert_desired	903	1,00	7,00	5,9066	,96796	-1,921	,081	,106	,163
asser_now	903	1,75	7,00	5,1276	,93954	-,666	,081	,512	,163
asser_desired	903	1,00	5,50	2,2857	,80982	,767	,081	,638	,163
future_now	903	1,00	7,00	3,3571	1,07472	,238	,081	-,288	,163
future_desired	903	1,25	7,00	4,8239	1,10538	-,370	,081	-,285	,163
power_now	903	1,33	7,00	6,0151	,82110	-1,420	,081	3,327	,163
power_desired	903	1,00	7,00	2,4801	1,07823	1,110	,081	1,725	,163
institut_now	903	1,00	7,00	3,0705	1,19952	1,555	,081	1,707	,163
institut_desired	903	2,00	7,00	6,0801	,76145	-1,713	,081	,889	,163
human_now	903	1,00	6,40	2,9021	,97725	,372	,081	-,045	,163
human_desired	902	1,40	7,00	5,7020	,71432	-,895	,081	,449	,163
group_now	903	1,25	7,00	4,9100	,94610	-,285	,081	,067	,163
group_desired	903	1,00	7,00	4,3749	,91291	,056	,081	,873	,163
perform_now	903	1,00	6,67	2,7180	,92351	,858	,081	1,387	,163
perform_desired	903	1,33	7,00	6,1757	,74545	-1,650	,081	,162	,163
gender_now	903	1,00	7,00	4,7316	1,16541	-,564	,081	,403	,163
gender_desired	903	1,00	7,00	2,5685	1,26845	,606	,081	-,223	,163
tangib_now	903	1,00	7,00	3,4751	1,11769	,133	,081	-,427	,163
tangib_desired	903	3,00	7,00	6,6013	,53311	-1,942	,081	5,673	,163
faq_now	901	1,00	7,00	4,6835	1,09907	-,479	,081	,144	,163
faq_desired	903	3,80	17,00	6,6673	,60988	,225	,081	,738	,163
staff_now	903	1,00	7,00	3,4854	1,29709	,134	,081	-,419	,163
staff_desired	903	3,00	7,00	6,4994	,64581	-1,622	,081	1,394	,163
conte_now	903	1,00	7,00	4,1654	1,24750	-,271	,081	-,291	,163
conte_desired	903	2,00	7,00	6,4618	,67236	-1,819	,081	,690	,163
deliv_now	903	1,00	7,00	3,6556	1,23875	,064	,081	-,474	,163
deliv_desired	903	2,00	7,00	6,5120	,62868	-1,794	,081	,112	,163
relia_now	903	1,00	7,00	3,5825	1,28480	,073	,081	-,451	,163
relia_desired	903	2,00	7,33	6,5275	,66940	-1,994	,081	,429	,163
lead_now	903	1,00	7,00	3,7289	1,02857	,102	,081	-,185	,163
strat_now	903	1,00	10,75	3,8117	1,01089	,169	,081	,345	,163
hr_now	903	1,00	6,80	3,7243	1,00240	-,244	,081	-,144	,163
partner_now	903	1,00	6,40	3,7539	1,00729	-,132	,081	-,146	,163

process_now	903	1,00	7,00	3,6286	1,12643	-,015	,081	-,353	,163
uncert_Dif	903	-4,33	6,00	2,9151	1,58193	-1,234	,081	,953	,163
asser_dif	903	-2,50	6,00	2,8419	1,30892	-,434	,081	,383	,163
future_dif	903	-5,25	6,00	1,4668	1,79426	-,205	,081	-,191	,163
power_dif	903	-5,67	6,00	3,5351	1,55220	-1,061	,081	,432	,163
institut_dif	903	-4,00	6,00	3,0096	1,54282	-1,352	,081	1,631	,163
human_dif	902	-1,80	6,00	2,8016	1,32737	-,154	,081	-,272	,163
group_dif	903	-4,00	5,25	,5352	1,28809	-,154	,081	,639	,163
perform_dif	903	-4,67	6,00	3,4577	1,32867	-1,243	,081	,798	,163
gender_dif	903	-3,33	6,00	2,1632	1,81300	-,094	,081	-,384	,163
tangib_dif	903	-2,00	6,00	3,1262	1,25922	-,133	,081	-,117	,163
faq_dif	901	-,80	6,00	1,9720	1,11754	,659	,081	,393	,163
staff_dif	903	-2,00	6,00	3,0140	1,45730	-,104	,081	-,244	,163
conte_dif	903	-4,00	6,00	2,2964	1,35373	,361	,081	,269	,163
deliv_dif	903	-4,00	6,00	2,8564	1,40027	-,028	,081	-,032	,163
relia_dif	903	-4,67	6,00	2,9450	1,50176	-,207	,081	,575	,163
Valid N (listwise)	900								

### 6.1 Service Quality Now dimensions ( Perception level)

	tangib_now	faq_now	staff_now	conte_now	deliv_now	relia_now
N Valid	903	901	903	903	903	903
Missing	0	2	0	0	0	0
Mean	3,4751	4,6835	3,4854	4,1654	3,6556	3,5825
Median	3,5000	4,8000	3,6667	4,3333	3,6667	3,6667
Mode	3,00	4,60	4,00	4,00	4,33	3,33

### 6.2 Service Quality desired dimensions ( Expectation level)

	tangi_desired	faq_desired	staff_desired	conte_desired	deliv_desired	relia_desired
N Valid	903	903	903	903	903	903
Missing	0	0	0	0	0	0
Mean	6,6013	6,6673	6,4994	6,4618	6,5120	6,5275
Median	6,7500	6,8000	6,6667	6,6667	6,6667	7,0000
Mode	7,00	7,00	7,00	7,00	7,00	7,00

### 6.3 Service Quality Dif dimensions (Expectation – Perception)

	tangib dif	faq dif	staff dif	conte dif	deliv dif	relia dif
N Valid	903	901	903	903	903	903
Missing	0	2	0	0	0	0
Mean	3,1262	1,9720	3,0140	2,2964	2,8564	2,9450
Median	3,0000	1,8000	3,0000	2,0000	3,0000	3,0000
Mode	3,25	1,20	3,33	2,00	2,00 <sup>a</sup>	2,00

### 6.4 Societal Culture Now Dimensions ( Practices Level)

	uncert_now	asser_now	future_now	power_now	institut_now	human_now	group_now	perform_now	gender_now
N Valid	903	903	903	903	903	903	903	903	903
Missing	0	0	0	0	0	0	0	0	0
Mean	2,9915	5,1276	3,3571	6,0151	3,0705	2,9021	4,9100	2,7180	4,7316
Median	3,0000	5,2500	3,2500	6,0000	2,6667	2,8000	5,0000	2,6667	4,6667
Mode	2,67	5,25	3,25	6,00	2,67	2,80	4,50	2,67	5,33

### 6.5 Societal Culture Desired Dimensions (Values Level)

	uncert_desired	asser_desired	future_desired	power_desired	institut_desired	human_desired	group_desired	perform_d esired	gender_desired
N Valid	903	903	903	903	903	902	903	903	903
Missing	0	0	0	0	0	1	0	0	0
Mean	5,9066	2,2857	4,8239	2,4801	6,0801	5,7020	4,3749	6,1757	2,5685
Median	6,0000	2,2500	5,0000	2,2500	6,3333	5,8000	4,2500	6,3333	2,3333
Mode	6,00	2,25	5,25	2,00	6,33	5,80	4,25	6,67	1,00

### 6.6 Societal Culture Dif Dimensions (Practices - Values)

	uncert_Dif	asser_dif	future_d if	power_d if	institut dif	human_ dif	group_ dif	perform_ dif	gender_ dif
N Valid	903	903	903	903	903	902	903	903	903
Missing	0	0	0	0	0	1	0	0	0
Mean	2,9151	2,8419	1,4668	3,5351	3,0096	2,8016	,5352	3,4577	2,1632
Median	3,0000	3,0000	1,5000	3,6667	3,3333	2,8000	,5000	3,6667	2,0000
Mode	3,67	3,50	2,00	6,00	3,67	3,00 <sup>a</sup>	,00	4,00	,00

### 6.7 Quality Created Variables (Quality now, Servnow, Servdes, Servdif)

	quality now	servqual Dif	servqual now	Servqual desired
N Valid	901	901	901	903
Missing	2	2	2	0
Mean	3,7734	2,7321	3,8102	6,5429
Median	3,7985	2,7139	3,8083	6,6667
Mode	3,45 <sup>a</sup>	2,11 <sup>a</sup>	3,42	7,00

### 5.3.2 Confirmatory Factor Analysis for Societal Culture Dimension Variables

#### 1. Uncertainty avoidance

Alpha's value for this dimension is  $\alpha = 0,753$  in the "practices" level and  $\alpha = 0,831$  in the "value" level. We present here the results of the CFA analysis for uncertainty avoidance dimension in both levels. The dimension of uncertainty avoidance has a good fit in both levels of practices and values of Societal Culture.

	<b>Uncertainty Avoidance Now</b>	<b>Uncertainty Avoidance desired</b>
	<pre> graph LR     un1n[un1n] -- "0.81" --&gt; uncertnow((uncertnow))     un2n[un2n] -- "0.75" --&gt; uncertnow     un3n[un3n] -- "0.98" --&gt; uncertnow     un1n &lt;--&gt; un2n "1.00"     un1n &lt;--&gt; un3n "1.29"     un2n &lt;--&gt; un3n "1.22"   </pre>	<pre> graph LR     uncert2[uncert_2] -- "0.65" --&gt; uncertdes((uncertdes))     uncert3[uncert_3] -- "0.34" --&gt; uncertdes     uncert4[uncert_4] -- "0.41" --&gt; uncertdes     uncert5[uncert_5] -- "0.61" --&gt; uncertdes     uncert2 &lt;--&gt; uncert3 "1.00"     uncert2 &lt;--&gt; uncert4 "1.22"     uncert3 &lt;--&gt; uncert4 "1.19"   </pre>
<b>Degrees of Freedom</b>	2	2
<b>CFI</b>	0,92	0,93
<b>RMSEA</b>	0,08	0,072
<b>Conclusion</b>	Fit	Fit

#### 2. Power distance

Alpha's value for this dimension is  $\alpha = 0,702$  in the "practices" level and  $\alpha = 0,721$  in the "value" level. We present here the results of the CFA analysis for power distance dimension in both levels. We see this dimension has also a good fit in both levels.

	<b>Power Distance Now</b>	<b>Power Distance desired</b>
	<pre> graph LR     pow3[pow3] -- "1.77" --&gt; pownow((pownow))     pow4[pow4] -- "0.87" --&gt; pownow     pow5[pow5] -- "3.52" --&gt; pownow     pow3 &lt;--&gt; pow4 "1.00"     pow3 &lt;--&gt; pow5 "1.63"     pow4 &lt;--&gt; pow5 "0.77"   </pre>	<pre> graph LR     pow3[pow3] -- "0.60" --&gt; powdes((powdes))     pow4[pow4] -- "0.86" --&gt; powdes     pow5[pow5] -- "0.51" --&gt; powdes     powdes -- "0.88" --&gt; powdes     pow3 &lt;--&gt; pow4 "1.00"     pow3 &lt;--&gt; pow5 "1.14"     pow4 &lt;--&gt; pow5 "1.00"   </pre>
<b>Degrees of Freedom</b>	2	2
<b>CFI</b>	0,92	0,90
<b>RMSEA</b>	0,077	0,08
<b>Conclusion</b>	Fit	Fit

### 3. Gender egalitarianism

Alpha's value for this dimension is  $\alpha = 0,664$  in the "practices" level and  $\alpha = 0,723$  in the "value" level. Below there are presented the results of the CFA analysis for gender egalitarianism dimension in both levels. The dimension seems to have an excellent fit in both levels of practices and values of Societal Culture.

	Gender Egalitarianism Now	Gender Egalitarianism desired
Degrees of Freedom	2	2
CFI	0,90	0,93
RMSEA	0,077	0,079
Conclusion	Fit	Fit

### 4. Future orientation

Alpha's value for this dimension is  $\alpha = 0,615$  in the "practices" level and  $\alpha = 0,616$  in the "value" level. We present here the results of the CFA analysis for future orientation dimensions in both levels. This dimension has a good fit in both models presented.

	Future Orientation Now	Future Orientation desired
Degrees of Freedom	2	2
CFI	0,92	0,95
RMSEA	0,078	0,082
Conclusion	Fit	Fit

## 5. In- group collectivism

Alpha's value for this dimension is  $\alpha = 0,601$  in the "practices" level and  $\alpha = 0,645$  in the "value" level. We present here the results of the CFA analysis for in group collectivism in both levels. The model has a good fit in both levels.

	In- group Collectivism Now	In- group Collectivism desired
<b>Degrees of Freedom</b>	2	2
<b>CFI</b>	0,95	0,99
<b>RMSEA</b>	0,074	0,066
<b>Conclusion</b>	Fit	Fit

### 5.3.3 Confirmatory Factor Analysis for the Societal Culture Difference Variables

#### 1. Uncertainty avoidance difference

Alpha's value for uncertainty avoidance is  $\alpha = 0,843$ . According to the results of the CFA analysis this difference model has a good fit.

Uncertainty Avoidance Dif	
	<pre> graph LR     uncedif((uncedif)) -- "1.00" --&gt; uncer2[uncer2]     uncedif -- "1.70" --&gt; uncer3[uncer3]     uncedif -- "4.16" --&gt; uncer4[uncer4]     uncer2 -- "1.56" --&gt; error1[error]     uncer3 -- "2.51" --&gt; error2[error]     uncer4 -- "22.47" --&gt; error3[error]   </pre>
Degrees of Freedom	2
CFI	0,98
RMSEA	0,061
Conclusion	Fit

#### 2. Power distance difference

Alpha's value for this difference dimension is  $\alpha = 0,805$ . Judging by the results of the CFA, the power distance difference model has a good fit.

Power Distance Dif	
	<pre> graph LR     powedif((powedif)) -- "1.00" --&gt; power3[power3]     powedif -- "0.97" --&gt; power4[power4]     powedif -- "1.05" --&gt; power5[power5]     power3 -- "1.11" --&gt; error1[error]     power4 -- "1.51" --&gt; error2[error]     power5 -- "1.64" --&gt; error3[error]   </pre>
Degrees of Freedom	2
CFI	0,90
RMSEA	0,079
Conclusion	Fit

### 3. Institutional collectivism difference

Alpha's value for this dimension is  $\alpha = 0,809$ . The results of the CFA analysis demonstrate that the institutional collectivism difference dimension had a good fit.

Institutional Collectivism Dif	
	<pre> graph LR     instidif((instidif)) -- "3.55" --&gt; instit1[instit1]     instidif -- "11.17" --&gt; instit3[instit3]     instidif -- "8.42" --&gt; instit4[instit4]     instit1 &lt;--&gt; instit3     instit1 &lt;--&gt; instit4     instit3 &lt;--&gt; instit4   </pre>
<b>Degrees of Freedom</b>	2
<b>CFI</b>	0,92
<b>RMSEA</b>	0,068
<b>Conclusion</b>	Fit

### 4. Gender egalitarianism difference

Alpha's value for gender egalitarianism difference is  $\alpha = 0,729$ . The CFI for this dimension is presented above. From what we can see there is a very good fit in the model.

Gender Egalitarianism Dif	
	<pre> graph LR     gendiff((genddif)) -- "1.01" --&gt; gend1[gend1]     gendiff -- "1.82" --&gt; gend2[gend2]     gendiff -- "1.81" --&gt; gend4[gend4]     gend1 &lt;--&gt; gend2     gend1 &lt;--&gt; gend4     gend2 &lt;--&gt; gend4   </pre>
<b>Degrees of Freedom</b>	2
<b>CFI</b>	0,90
<b>RMSEA</b>	0,079
<b>Conclusion</b>	Fit

## 5. Future orientation difference

Alpha's value for future orientation is  $\alpha = 0,855$ . We present here the results of the CFA analysis and based on the CFI and RMSEA our model has a very good fit.

Future Orientation Dif	
	 Chi-Square=97.91, df=2, P-value=0.00000, RMSEA=0.073
Degrees of Freedom	2
CFI	0,90
RMSEA	0,073
Conclusion	Fit

## 6. In- group collectivism difference

Alpha's value for this dimension is  $\alpha = 0,611$ . We present here the results of the CFA analysis for in- group collectivism. As we can conclude from the indicators of CFI and RMSEA in the Table the model fits.

In- group Collectivism Dif	
	 Chi-Square=7230.05, df=2, P-value=0.00000, RMSEA=0,060
Degrees of Freedom	2
CFI	0,91
RMSEA	0,060
Conclusion	Fit

### 5.3.4 Confirmatory Factor Analysis for Service Quality Dimensions

#### 1. Faculty competence

Alpha's value for faculty dimension is  $\alpha = 0,853$  in the perception level and  $\alpha = 0,800$  in the expectation level. According to the data presented below this dimension seems to have the appropriate fit in both levels of perception and expectation.

	Faculty Now	Faculty desired
	Chi-Square=20.89, df=5, P-value=0.00085, RMSEA=0.059	
Degrees of Freedom	5	5
CFI	0,99	0,99
RMSEA	0,059	0,080
Conclusion	Fit	Fit

#### 2. Course content

Alpha's value for Course content dimension is  $\alpha = 0,792$  in the perception level and  $\alpha = 0,685$  in the expectation level. This dimension seems to have a good fit in both levels of perception and expectation.

	Content Now	Content desired
Degrees of Freedom	2	2
CFI	0,96	0,97
RMSEA	0,071	0,070
Conclusion	Fit	Fit

### 5.3.5 Confirmatory Factor Analysis for the EFQM Criteria

#### 1. Strategy criterion

Alpha's value for this dimension is  $\alpha = 0,83$ . Strategy criterion has a good fit in the model.

Strategy	
Degrees of Freedom	2
CFI	0,99
RMSEA	0,050
Conclusion	Fit

#### 2. Partnership criterion

Alpha's value for the dimension of partnerships is  $\alpha = 0,770$ . In the following Table the results of the CFA analysis are presented and as it can be seen the model has a good fit.

Partnerships	
Degrees of Freedom	5
CFI	0,98
RMSEA	0,078
Conclusion	Fit

### 5.3.6 Confirmatory Factor Analysis for the Service Quality Difference Variables

#### 3. Faculty competence difference

The calculated Alpha for faculty competence difference is  $\alpha = 0,841$ . The results of the CFA analysis demonstrate good fitness.

Competence Dif	
	 Chi-Square=22.42, df=5, P-value=0.00043, RMSEA=0.062
Degrees of Freedom	5
CFI	0,99
RMSEA	0,062
Conclusion	Fit

#### 2. Course content difference

Alpha's value for this dimension is  $\alpha = 0,771$ . The data of CFA demonstrate for course content difference a good fitness.

Content Dif	
	 Chi-Square=2.05, df=2, P-value=0.92, RMSEA=0.076
Degrees of Freedom	2
CFI	0,92
RMSEA	0,076
Conclusion	Fit

## **Chapter 6**

### **6.2.1 Undergraduate Student's Structural Model of Societal Culture/ Quality Satisfaction**

#### **Research Model 1**

Undergraduate students societal/quality satisfaction structural model

Degrees of Freedom = 72

Minimum Fit Function Chi-Square = 302.71 (P = 0.0)

Normal Theory Weighted Least Squares Chi-Square = 316.72 (P = 0.0)

Satorra-Bentler Scaled Chi-Square = 234.82 (P = 0.0)

Chi-Square Corrected for Non-Normality = 258.97 (P = 0.0)

Estimated Non-centrality Parameter (NCP) = 162.82

90 Percent Confidence Interval for NCP = (120.19 ; 213.07)

Minimum Fit Function Value = 0.50

Population Discrepancy Function Value (F0) = 0.27

90 Percent Confidence Interval for F0 = (0.20 ; 0.35)

Root Mean Square Error of Approximation (RMSEA) = 0.061

90 Percent Confidence Interval for RMSEA = (0.053 ; 0.070)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.017

Expected Cross-Validation Index (ECVI) = 0.50

90 Percent Confidence Interval for ECVI = (0.43 ; 0.58)

ECVI for Saturated Model = 0.35

ECVI for Independence Model = 8.10

Chi-Square for Independence Model with 91 Degrees of Freedom = 4857.50

Independence AIC = 4885.50

Model AIC = 300.82

Saturated AIC = 210.00

Independence CAIC = 4961.15

Model CAIC = 479.14

Saturated CAIC = 777.38

Normed Fit Index (NFI) = 0.95

Non-Normed Fit Index (NNFI) = 0.96

Parsimony Normed Fit Index (PNFI) = 0.75

Comparative Fit Index (CFI) = 0.97

Incremental Fit Index (IFI) = 0.97

Relative Fit Index (RFI) = 0.94

Critical N (CN) = 265.02

Root Mean Square Residual (RMR) = 0.68

Standardized RMR = 0.054

Goodness of Fit Index (GFI) = 0.93

Adjusted Goodness of Fit Index (AGFI) = 0.90

Parsimony Goodness of Fit Index (PGFI) = 0.64

## **A control level within Undergraduate and Master students**

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TI

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MO NX=8 NY=6 NK=2 NE=2 BE=FU GA=FI PS=SY TE=SY TD=SY

LE

staff deliv

LK

human perform

FR LY(2,1) LY(3,1) LY(5,2) LY(6,2) LX(1,1) LX(2,1) LX(3,1) LX(4,1) LX(7,2)

FR LX(8,2) GA(1,1) GA(1,2) GA(2,1) GA(2,2)

VA 1 LY(1,1)

VA 1 LY(4,2)

VA 1 LX(5,1)

VA 1 LX(6,2)

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## **A control level within Undergraduate and Erasmus students**

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FR LX(8,2) GA(1,1) GA(1,2) GA(2,1) GA(2,2)

VA 1 LY(1,1)

VA 1 LY(6,2)

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FR LY(1,1) LY(6,2) LX(1,1) LX(6,2)

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## **A control level within Undergraduate students and employers**

under

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FR LY(2,1) LY(3,1) LY(5,2) LY(6,2) LX(1,1) LX(2,1) LX(3,1) LX(5,1) LX(7,2)

FR LX(8,2) GA(1,1) GA(1,2) GA(2,1) GA(2,2)

VA 1 LY(1,1)

VA 1 LY(4,2)

VA 1 LX(4,1)

VA 1 LX(6,2)

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## **Research Model 2**

Master students societal/quality satisfaction structural model

Degrees of Freedom = 180  
Minimum Fit Function Chi-Square = 408.07 (P = 0.0)  
Normal Theory Weighted Least Squares Chi-Square = 418.02 (P = 0.0)  
Satorra-Bentler Scaled Chi-Square = 307.62 (P = 0.00)  
Estimated Non-centrality Parameter (NCP) = 127.62  
90 Percent Confidence Interval for NCP = (82.99 ; 180.14)  
Minimum Fit Function Value = 3.74  
Population Discrepancy Function Value (F0) = 1.17  
90 Percent Confidence Interval for F0 = (0.76 ; 1.65)  
Root Mean Square Error of Approximation (RMSEA) = 0.081  
90 Percent Confidence Interval for RMSEA = (0.065 ; 0.096)  
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.0011  
Expected Cross-Validation Index (ECVI) = 3.76  
90 Percent Confidence Interval for ECVI = (3.35 ; 4.24)  
ECVI for Saturated Model = 4.24  
ECVI for Independence Model = 35.49  
Chi-Square for Independence Model with 210 Degrees of Freedom = 3826.89  
Independence AIC = 3868.89  
Model AIC = 409.62  
Saturated AIC = 462.00  
Independence CAIC = 3946.60  
Model CAIC = 598.35  
Saturated CAIC = 1316.81  
Normed Fit Index (NFI) = 0.92  
Non-Normed Fit Index (NNFI) = 0.96  
Parsimony Normed Fit Index (PNFI) = 0.79  
Comparative Fit Index (CFI) = 0.96  
Incremental Fit Index (IFI) = 0.97  
Relative Fit Index (RFI) = 0.91  
Critical N (CN) = 81.45  
Root Mean Square Residual (RMR) = 0.46  
Standardized RMR = 0.082  
Goodness of Fit Index (GFI) = 0.73  
Adjusted Goodness of Fit Index (AGFI) = 0.66  
Parsimony Goodness of Fit Index (PGFI) = 0.57

### **Research Model 3**

Master and Erasmus students societal/quality satisfaction structural model

Degrees of Freedom = 448  
Minimum Fit Function Chi-Square = 1209.44 (P = 0.0)  
Normal Theory Weighted Least Squares Chi-Square = 1185.18 (P = 0.0)  
Satorra-Bentler Scaled Chi-Square = 820.10 (P = 0.0)  
Estimated Non-centrality Parameter (NCP) = 372.10  
90 Percent Confidence Interval for NCP = (295.66 ; 456.36)  
Minimum Fit Function Value = 7.56  
Population Discrepancy Function Value (F0) = 2.33  
90 Percent Confidence Interval for F0 = (1.85 ; 2.85)  
Root Mean Square Error of Approximation (RMSEA) = 0.072  
90 Percent Confidence Interval for RMSEA = (0.064 ; 0.080)  
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.00  
Expected Cross-Validation Index (ECVI) = 6.13  
90 Percent Confidence Interval for ECVI = (5.65 ; 6.65)  
ECVI for Saturated Model = 6.60  
ECVI for Independence Model = 62.41  
Chi-Square for Independence Model with 496 Degrees of Freedom = 9920.88  
Independence AIC = 9984.88  
Model AIC = 980.10  
Saturated AIC = 1056.00  
Independence CAIC = 10115.48  
Model CAIC = 1306.61  
Saturated CAIC = 3210.98  
Normed Fit Index (NFI) = 0.92  
Non-Normed Fit Index (NNFI) = 0.96  
Parsimony Normed Fit Index (PNFI) = 0.83  
Comparative Fit Index (CFI) = 0.96  
Incremental Fit Index (IFI) = 0.96  
Relative Fit Index (RFI) = 0.91  
Critical N (CN) = 102.56  
Root Mean Square Residual (RMR) = 0.85  
Standardized RMR = 0.087  
Goodness of Fit Index (GFI) = 0.68  
Adjusted Goodness of Fit Index (AGFI) = 0.63  
Parsimony Goodness of Fit Index (PGFI) = 0.58

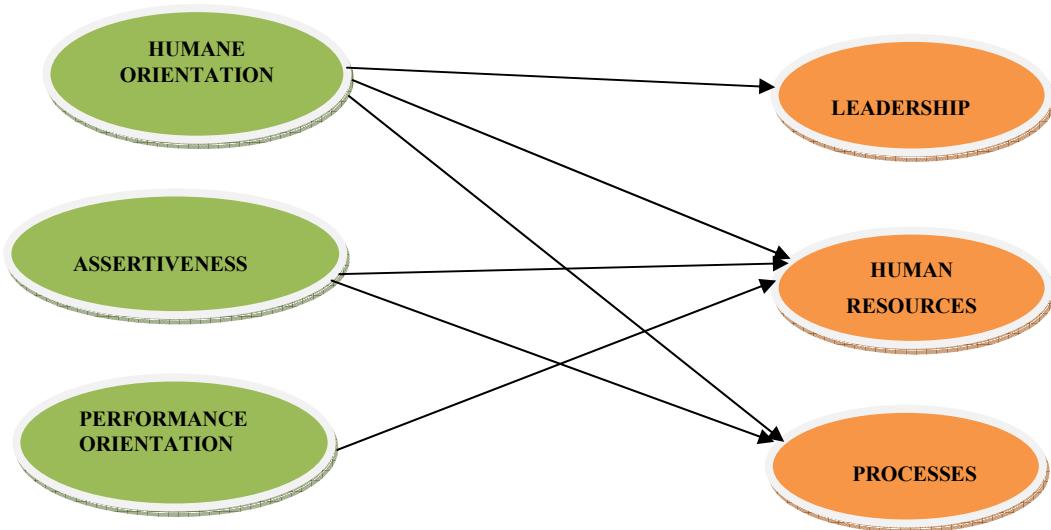
#### **Research Model 4**

Administrative, academic and employers societal/quality satisfaction structural model

Degrees of Freedom = 181  
Minimum Fit Function Chi-Square = 437.65 (P = 0.0)  
Normal Theory Weighted Least Squares Chi-Square = 420.85 (P = 0.0)  
Satorra-Bentler Scaled Chi-Square = 294.45 (P = 0.00)  
Estimated Non-centrality Parameter (NCP) = 113.45  
90 Percent Confidence Interval for NCP = (70.38 ; 164.43)  
Minimum Fit Function Value = 3.22  
Population Discrepancy Function Value (F0) = 0.83  
90 Percent Confidence Interval for F0 = (0.52 ; 1.21)  
Root Mean Square Error of Approximation (RMSEA) = 0.068  
90 Percent Confidence Interval for RMSEA = (0.053 ; 0.082)  
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.022  
Expected Cross-Validation Index (ECVI) = 2.90  
90 Percent Confidence Interval for ECVI = (2.58 ; 3.28)  
ECVI for Saturated Model = 3.40  
ECVI for Independence Model = 34.76  
Chi-Square for Independence Model with 210 Degrees of Freedom = 4685.35  
Independence AIC = 4727.35  
Model AIC = 394.45  
Saturated AIC = 462.00  
Independence CAIC = 4809.67  
Model CAIC = 590.45  
Saturated CAIC = 1367.52  
Normed Fit Index (NFI) = 0.94  
Non-Normed Fit Index (NNFI) = 0.97  
Parsimony Normed Fit Index (PNFI) = 0.81  
Comparative Fit Index (CFI) = 0.97  
Incremental Fit Index (IFI) = 0.97  
Relative Fit Index (RFI) = 0.93  
Critical N (CN) = 106.39  
Root Mean Square Residual (RMR) = 0.44  
Standardized RMR = 0.088  
Goodness of Fit Index (GFI) = 0.77  
Adjusted Goodness of Fit Index (AGFI) = 0.71  
Parsimony Goodness of Fit Index (PGFI) = 0.61

## Research Model 5

Societal/EFQM criteria structural model



Degrees of Freedom = 316

Minimum Fit Function Chi-Square = 2371.36 (P = 0.0)

Normal Theory Weighted Least Squares Chi-Square = 2274.19 (P = 0.0)

Satorra-Bentler Scaled Chi-Square = 1541.48 (P = 0.0)

Chi-Square Corrected for Non-Normality = 3948.77 (P = 0.0)

Estimated Non-centrality Parameter (NCP) = 1225.48

90 Percent Confidence Interval for NCP = (1106.82 ; 1351.63)

Minimum Fit Function Value = 2.63

Population Discrepancy Function Value (F0) = 1.36

90 Percent Confidence Interval for F0 = (1.23 ; 1.50)

Root Mean Square Error of Approximation (RMSEA) = 0.066

90 Percent Confidence Interval for RMSEA = (0.062 ; 0.069)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.00

Expected Cross-Validation Index (ECVI) = 1.85

90 Percent Confidence Interval for ECVI = (1.71 ; 1.99)

ECVI for Saturated Model = 0.84

ECVI for Independence Model = 31.56

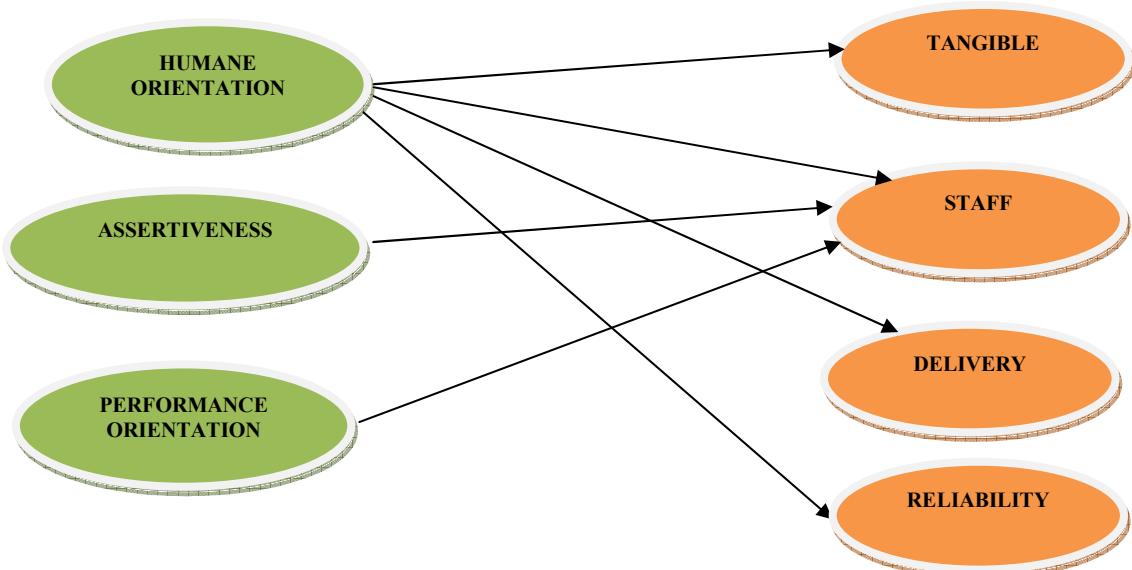
Chi-Square for Independence Model with 351 Degrees of Freedom = 28413.20

Independence AIC = 28467.20

Model AIC = 1665.48

Saturated AIC = 756.00  
Independence CAIC = 28623.96  
Model CAIC = 2025.43  
Saturated CAIC = 2950.56  
Normed Fit Index (NFI) = 0.95  
Non-Normed Fit Index (NNFI) = 0.95  
Parsimony Normed Fit Index (PNFI) = 0.85  
Comparative Fit Index (CFI) = 0.96  
Incremental Fit Index (IFI) = 0.96  
Relative Fit Index (RFI) = 0.94  
Critical N (CN) = 221.84  
Root Mean Square Residual (RMR) = 0.25  
Standardized RMR = 0.15  
Goodness of Fit Index (GFI) = 0.84  
Adjusted Goodness of Fit Index (AGFI) = 0.81  
Parsimony Goodness of Fit Index (PGFI) = 0.70

**Research Model 6**  
Societal/ Service Quality perceptions model



Degrees of Freedom = 267

Minimum Fit Function Chi-Square = 2565.19 (P = 0.0)

Normal Theory Weighted Least Squares Chi-Square = 2865.05 (P = 0.0)

Satorra-Bentler Scaled Chi-Square = 2035.42 (P = 0.0)

Chi-Square Corrected for Non-Normality = 3060.56 (P = 0.0)

Estimated Non-centrality Parameter (NCP) = 1768.42

90 Percent Confidence Interval for NCP = (1628.62 ; 1915.64)

Minimum Fit Function Value = 2.84

Population Discrepancy Function Value (F0) = 1.96

90 Percent Confidence Interval for F0 = (1.81 ; 2.12)

Root Mean Square Error of Approximation (RMSEA) = 0.086

90 Percent Confidence Interval for RMSEA = (0.082 ; 0.089)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.00

Expected Cross-Validation Index (ECVI) = 2.39

90 Percent Confidence Interval for ECVI = (2.23 ; 2.55)

ECVI for Saturated Model = 0.72

ECVI for Independence Model = 25.42

Chi-Square for Independence Model with 300 Degrees of Freedom = 22882.15

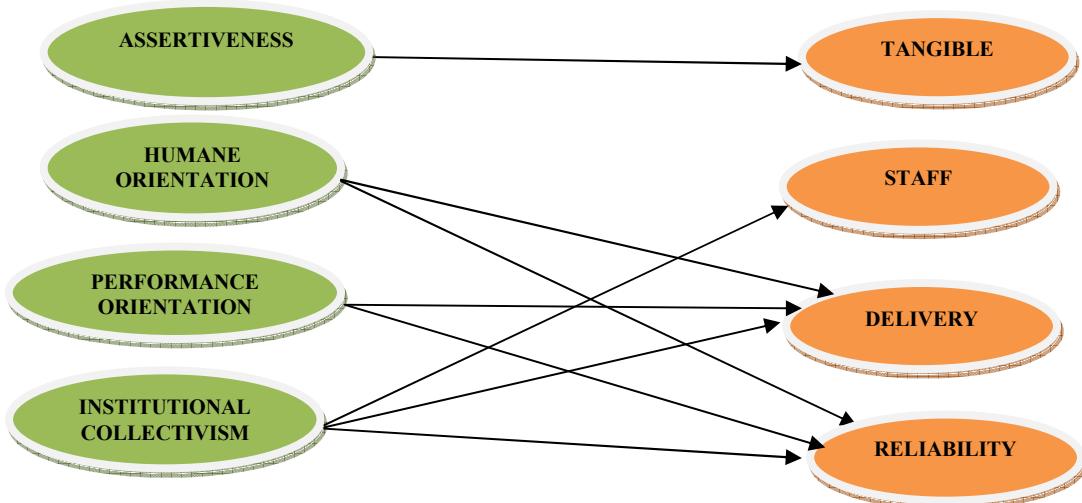
Independence AIC = 22932.15

Model AIC = 2151.42

Saturated AIC = 650.00

Independence CAIC = 23077.29  
Model CAIC = 2488.15  
Saturated CAIC = 2536.86  
Normed Fit Index (NFI) = 0.91  
Non-Normed Fit Index (NNFI) = 0.91  
Parsimony Normed Fit Index (PNFI) = 0.81  
Comparative Fit Index (CFI) = 0.92  
Incremental Fit Index (IFI) = 0.92  
Relative Fit Index (RFI) = 0.90  
Critical N (CN) = 144.44  
Root Mean Square Residual (RMR) = 0.31  
Standardized RMR = 0.13  
Goodness of Fit Index (GFI) = 0.80  
Adjusted Goodness of Fit Index (AGFI) = 0.75  
Parsimony Goodness of Fit Index (PGFI) = 0.66

**Research Model 7**  
Societal/ Service Quality Expectations model



Degrees of Freedom = 337

Minimum Fit Function Chi-Square = 2593.23 (P = 0.0)

Normal Theory Weighted Least Squares Chi-Square = 2534.63 (P = 0.0)

Satorra-Bentler Scaled Chi-Square = 1048.04 (P = 0.0)

Chi-Square Corrected for Non-Normality = 2434.29 (P = 0.0)

Estimated Non-centrality Parameter (NCP) = 711.04

90 Percent Confidence Interval for NCP = (617.24 ; 812.44)

Minimum Fit Function Value = 2.88

Population Discrepancy Function Value (F0) = 0.79

90 Percent Confidence Interval for F0 = (0.69 ; 0.90)

Root Mean Square Error of Approximation (RMSEA) = 0.048

90 Percent Confidence Interval for RMSEA = (0.045 ; 0.052)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.78

Expected Cross-Validation Index (ECVI) = 1.32

90 Percent Confidence Interval for ECVI = (1.21 ; 1.43)

ECVI for Saturated Model = 0.90

ECVI for Independence Model = 49.58

Chi-Square for Independence Model with 378 Degrees of Freedom = 44613.55

Independence AIC = 44669.55

Model AIC = 1186.04

Saturated AIC = 812.00

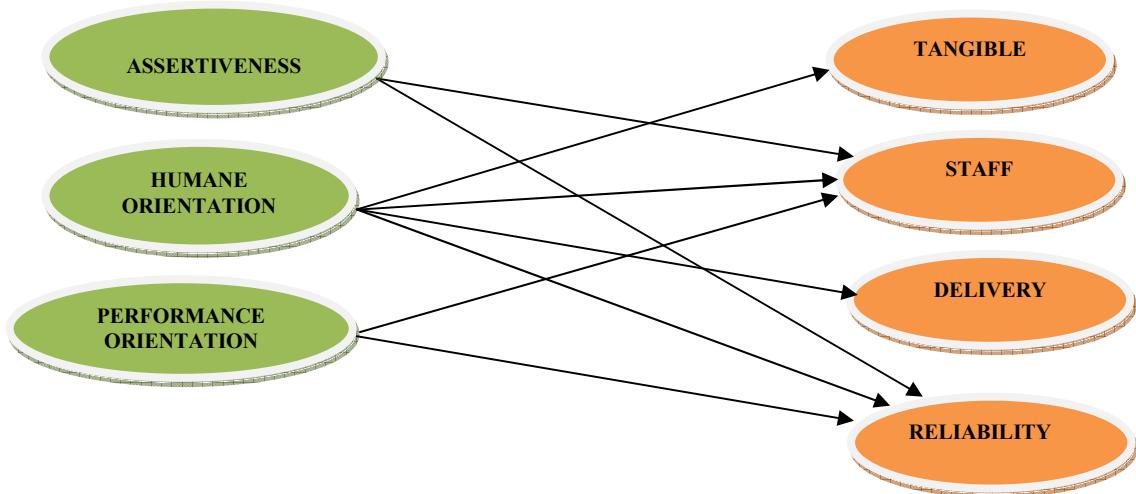
Independence CAIC = 44832.08

Model CAIC = 1586.56

Saturated CAIC = 3168.67  
Normed Fit Index (NFI) = 0.98  
Non-Normed Fit Index (NNFI) = 0.98  
Parsimony Normed Fit Index (PNFI) = 0.87  
Comparative Fit Index (CFI) = 0.98  
Incremental Fit Index (IFI) = 0.98  
Relative Fit Index (RFI) = 0.97  
Critical N (CN) = 345.16  
Root Mean Square Residual (RMR) = 2.23  
Standardized RMR = 0.100  
Goodness of Fit Index (GFI) = 0.83  
Adjusted Goodness of Fit Index (AGFI) = 0.80  
Parsimony Goodness of Fit Index (PGFI) = 0.69

## Research Model 8

### Societal/ Service Quality satisfaction model



Degrees of Freedom = 264

Minimum Fit Function Chi-Square = 1912.57 (P = 0.0)

Normal Theory Weighted Least Squares Chi-Square = 2355.64 (P = 0.0)

Satorra-Bentler Scaled Chi-Square = 1752.28 (P = 0.0)

Chi-Square Corrected for Non-Normality = 1406.94 (P = 0.0)

Estimated Non-centrality Parameter (NCP) = 1488.28

90 Percent Confidence Interval for NCP = (1359.54 ; 1624.47)

Minimum Fit Function Value = 2.12

Population Discrepancy Function Value (F0) = 1.65

90 Percent Confidence Interval for F0 = (1.51 ; 1.80)

Root Mean Square Error of Approximation (RMSEA) = 0.079

90 Percent Confidence Interval for RMSEA = (0.076 ; 0.083)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.00

Expected Cross-Validation Index (ECVI) = 2.08

90 Percent Confidence Interval for ECVI = (1.94 ; 2.23)

ECVI for Saturated Model = 0.72

ECVI for Independence Model = 29.67

Chi-Square for Independence Model with 300 Degrees of Freedom = 26682.62

Independence AIC = 26732.62

Model AIC = 1874.28

Saturated AIC = 650.00

Independence CAIC = 26877.74

Model CAIC = 2228.37

Saturated CAIC = 2536.50

Normed Fit Index (NFI) = 0.93  
Non-Normed Fit Index (NNFI) = 0.94  
Parsimony Normed Fit Index (PNFI) = 0.82  
Comparative Fit Index (CFI) = 0.94  
Incremental Fit Index (IFI) = 0.94  
Relative Fit Index (RFI) = 0.93  
Critical N (CN) = 165.73  
Root Mean Square Residual (RMR) = 1.64  
Standardized RMR = 0.083  
Goodness of Fit Index (GFI) = 0.83  
Adjusted Goodness of Fit Index (AGFI) = 0.79  
Parsimony Goodness of Fit Index (PGFI) = 0.67

## **B. RESEARCH QUESTIONNAIRES**

- a. Questionnaire administered to Undergraduate and Master students, academics, administrative staff and employers
- b. Questionnaire administered to International students (Erasmus program students)