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Quality of Administrative Services in Higher Education

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Abstract: This study investigates the quality of higher education institutes' (HEIs') administrative services by assessing student satisfaction in the context of Total Quality Management (TQM). Differences between students' perceptions and expectations of administrative service quality are examined and discussed. A questionnaire survey was developed employing the SERVQUAL service quality model, the results of which were further enhanced by the application of importance-performance analysis (IPA). All five dimensions of the model were explored (reliability, assurance, tangibles, empathy, and responsiveness) with data from the 104 students from five Greek HEIs who participated in the survey. The results of the IPA complemented the survey research by enabling recommendations for importance and performance. The study's findings indicate that students' expectations are not met by the administrative services provided at the time of examination. A gap is observed between perceptions and expectations on all dimensions, indicating the necessity to make improvements to enhance service quality.

Keywords: *Administrative services, higher education, importance-performance, service quality, SERVQUAL, TQM.*

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Introduction

Throughout the development of society, education has constantly been regarded as among the most significant public goods. It is considered to be an accumulation of human capital and to make a significant contribution to both the character and capabilities of the individual as well as to the economic growth and social development of the nation (Cinnirella & Schueler, 2018; Lu et al., 2017; Viaene & Zilcha, 2013). Gupta and Kaushik (2018) note that education is a rapidly growing service sector in many economies and a factor in economic competitiveness. Jacob and Gokbel (2018) find that the cost of higher education (HE) is escalating worldwide at an alarming rate, with all funding sources, public or private, under pressure to reduce provisions while raising outcome expectations. Shrinking budgets have led to the tendency to use the same or even fewer resources to achieve even greater results.

Quality has been an important research topic, across a range of sectors, from manufacturing to service (Bouranta et al., 2017; Endeshaw, 2021; Raza et al., 2020; Silva et al., 2021) including education (Bayraktar et al., 2008; Manatos et al., 2017; Osman & Yaakub, 2021; Psomas & Antony, 2017; Sfakianaki, 2019) as a consequence of customers' increasing requirements. Total Quality Management (TQM) is a widely used approach to enhancing organizational performance and customer satisfaction. Deming (1986) argues that organizations that embrace TQM engage all their members actively to improve products, processes, and services, transforming the organizational culture. This application is of particular interest in public management and education, which share an urge for self-improvement because of their social contribution (Psomas & Antony, 2017; Weckenmann et al., 2015). Indeed, more and more Higher Education Institutes (HEIs) are adopting TQM, likely for the same reasons that once drove manufacturing and other service companies to do so: a need to respond to market pressures while producing high-quality results.

TQM has been explored extensively by academic scholars who study the educational sector (Bouranta et al., 2021; Cruz et al., 2016; Sfakianaki, 2019; Sunder, 2016), although some skepticism has been found given the special identity and characteristics of education. Researchers question whether the outcomes of TQM can be as drastic and its success as great in education as in other sectors (Cruz et al., 2016). However, many scholars find that TQM is capable of both coping with the expectations of stakeholders and the challenges of the market in education (Mehta et al., 2014).

Khoo et al. (2017) argue that service quality in education typically refers to the non-academic features of the student experience, such as counselling, course administration, and accommodations. They stress the importance of the student evaluation of these services, indicating that their perceptions and expectations have largely gone unacknowledged in

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the scholarly literature. This paper explores the relationship between administrative service quality in Greek HEIs and student satisfaction responding to the increasing demands that higher education (HE) is facing. Through its exclusive focus on the administrative services offered without examining any other non-academic questions will produce valuable insight. This study's research questions are as follows:

RQ1. What level of quality of administrative services do students in HEIs receive?

RQ2. Which components of administrative services have higher and lower importance for student satisfaction in the context of TQM?

This study was performed in the Greek HE environment. Greece has been in an economic downturn for more than a decade, which has resulted in lowered public funding for education. However, this should not be seen as a justification of reduced stakeholder satisfaction, as the system is still expected to be both efficient and effective. This study develops the literature by exploring student satisfaction in HE as a factor in TQM. This can provide scholars and practitioners with valuable insight into the Greek academic environment. In addition, the outcomes of this study may also provide a basis for reviewing and identifying fields requiring additional care and improvement and perhaps even exhibiting areas of potential efficiency gain.

The remainder of the paper progresses as follows. The next section explores the literature on TQM application and service quality in education, and the methodology is given in the section that follows. The subsequent section presents the findings of our analysis, followed by a discussion of them. The final section concludes the paper, as well as presents the limitations of and recommendations proceeding from the study.

Literature Review

Education and TQM

Quality is an area of interest in a number of fields, and TQM practices have received particular attention. According to Evans and Lindsay (2020) a key characteristic of TQM is its emphasis on customer satisfaction through continuous improvement of products and services and on the involvement of employees at all organizational levels. Thanks to its holistic approach towards quality, TQM has prospered in HE and has been used to meet the expectations of all stakeholders, including academic staff, students, parents, industry, and society as a whole, taking into consideration the rapidly changing business and knowledge environment. This interest has been refreshed lately to an even greater degree due to recent budgetary reductions and increasing competition, which have placed even more pressure on HEIs (Chopra et al., 2014; Woodall et al., 2014).

A number of quality measures, regulations, and assurance bodies have been introduced over recent decades to accredit and rank HEIs to ensure academic quality in HE (Fernandes & Singh, 2021); these efforts are directed in part to reflect recorded improvements in service delivery (Soomro & Ahmad, 2012). Clearly, different stakeholders have divergent expectations and understanding of quality, which makes the task of providing it complex (Becket & Brookes, 2008). Đonlagić and Fazlić (2015) claim that to ensure quality, HEIs must first understand their stakeholders' expectations, the relationships among the different stakeholder groups, and the prospects for institutional development. The literature has indicated a number of TQM applications in HE that have arisen in a variety of cases (Ali et al., 2010; Asif et al., 2013; Bayraktar et al., 2008; Mehta et al., 2014; Nasim et al., 2019; Psomas & Antony, 2017), identifying a number of critical factors and core values, such as leadership, continuous improvement, customer focus, employee participation, communication and training, and education (Bayraktar et al., 2008; Bouranta et al., 2021; Jasti et al., 2021; O'Mahony & Garavan, 2012; Psomas & Antony, 2017; Sfakianaki, 2019; Svensson & Klefsjo, 2006).

Reservations and concerns regarding the applicability of TQM in education lie in factors such as the lack of empirical data in relation to the actual implementation of TQM in the field of education (Hrnčiar & Madzík, 2017; Sfakianaki, 2019; Soria-Garcia & Martinez-Lorente, 2014), the uncertainty and controversy inherent in defining and elucidating key TQM terms in education, such as customer definition and the nature of stakeholders (Lagrosen et al., 2004; Owlia & Aspinwall, 1997); and the direct applicability of TQM to education without the necessary adjustments owing to its complex nature, which makes a direct switch from industry to education rather questionable (Doherty, 2008; Sfakianaki, 2019). Despite, however, the controversy around this subject (Sahney, 2016), several studies have reported benefits to TQM implementation, such as improved performance, cost savings, and student satisfaction (Ardi et al., 2012; Bayraktar et al., 2008; Cruz et al., 2016; Gálvez et al., 2016).

Sahney (2016) strongly urges the application of the principles of TQM to HE if HEIs wish to survive, remain competitive, and succeed in the long run. Gupta and Kaushik (2018) argue on the value of quality in education to safeguard that institutions prepare both skilled graduate and postgraduate students to ultimately become skilled professionals, stressing at the same time that an absence of quality awareness can be quite dangerous, creating challenges for both students and HEIs. Sfakianaki (2019) also finds that TQM can provide a useful basis for educational management and policy, highlighting areas of concern that require improvement. Pourrajab et al. (2015), moreover, maintain that adopting TQM in education can lead to educational improvements, while Psomas and Antony (2017)

argue that TQM adoption can guide HEIs to success and improved performance. Gálvez et al. (2016) supports the employment of TQM in education and notes that quality-management systems in Spain and other countries began in HEI, and this implementation was also followed by schools, which is confirmed by Díaz and Martínez-Mediano (2018). Thakkar et al. (2006) also emphasize the beneficial impact TQM can have on HEIs like any manufacturing or service organization can.

Service Quality and Student Satisfaction in HE

In most markets, the key to success in global competition is the delivery of high-quality services (Giannakis & Bullivant, 2016; Silva et al., 2017). As Abdullah (2005) put it, at present, service quality is a strong and powerful competitive tool, a view also shared by Dlačić et al. (2014), who find that perceived service quality is positively related to and significantly affects customer-perceived value. Sadeh and Garkaz (2015) moreover describe the role that students have as customers in HE and urge that the highest level of service quality should be provided if HEIs wish to maintain their success. Teeroovengadam et al. (2016) claim that the support and improvement of service quality must be viewed by HEIs as an absolute requirement. Sahney (2016) shows that organizations that seek competitive success, and not only survival, should place product and service quality high on the agenda, making it part of the organization's overall strategy.

It is challenging to define quality in HE because of education's unique identity. Gupta and Kaushik (2018) remark that services have characteristics that make them distinct from products, and the assessment of their quality can be challenging. Following Sahney (2016), the interpretation of the term service quality clearly depends on the perceiver and the perception; consequently, different people may define the same term differently. This is because the experience of service in education can theoretically be unique to each recipient (Santos et al., 2015). Service quality has even greater variability in education, because of the varying types of stakeholders and customers (i.e., academics, administration, students, families, and society), with requirements that do not necessarily match or even conflict, leading to significantly differing experiences (Gupta & Kaushik, 2018).

Services in HE range, from general services such as research, counseling, and accommodation, to more specific ones, such as type of class (lectures, labs, online) or course (undergraduate, postgraduate, vocational). In addition, services also inhere in the element of simultaneous production and consumption, with clients' input potentially affecting the quality of the services as they are being delivered (Parasuraman et al., 1985; Silva et al., 2017). According to Markus and Hendry (2015), customer satisfaction with service quality can be identified through a comparison with the pre-existing expectation vis a vis what they actually received. Emanuel and Adams (2006) state that service orientation is as important as effective teaching methods, while Gregory (2019) encourages HE leadership to adopt a service quality lens to enhance student satisfaction.

Several scales have been developed over the years to measure service quality and student satisfaction, including the SERVQUAL (Parasuraman et al., 1988), the SERVPERF (Cronin & Taylor, 1992), the Dickeson model (Dickeson, 2010), the HEDPERF (Abdullah, 2005), the Excellence in Higher Education Model from Rutgers (Ruben, 2007) and the HEDQUAL (Icli & Anil, 2014). Teeroovengadam et al. (2016) indicate that service quality in HE is often measured with the SERVQUAL model (Parasuraman et al., 1988) with the proper adaptations. Silva et al. (2017) also find that the SERVQUAL scale is adopted extensively in a range of sectors to determine service quality, including in HE, owing to its flexibility and ability to accommodate differing sector-specific requirements, together with a use history of over twenty years. Galeeva (2016) further stresses that the SERVQUAL is widely used but has also received much criticism. Even so, as Gregory (2019) notes, the SERVQUAL is less complicated and easier to use than a number of other models and enables a gap analysis that produces insights to enable efficiency gains. Likewise, Narang (2012) finds that this flexibility justifies the widespread use of the SERVQUAL, throughout the service industry, including in retail, banking, health, and education.

Furthermore, an interesting and useful add-on to service quality models that has wide application is the importance-performance analysis (IPA) first proposed by Martilla and James (1977) (Abalo et al., 2007; Sever, 2015). The IPA is a simple but powerful diagnostic tool that can identify attribute importance and the benefits of a product or a service in customer satisfaction and management strategies (Pai et al., 2016; Sever, 2015). Using this tool can overcome the shortcomings of the SERVQUAL and assist in detecting the strengths and weaknesses of an organization as it diagnoses main deficiencies and setting priorities. The IPA employs a matrix in which one axis calculates the perceived performance that customers have of a service quality dimension, while the other measures the importance of that dimension to the customer (Dabestani et al., 2016). In this respect, therefore, SERVQUAL determines the gap between customer expectations and perceived performance, while on the other hand, it acts as the distinguishing feature that reflects customer priorities.

All this literature review demonstrates that customer satisfaction is high on the agenda for HEIs and can by itself be perceived as a key factor in the success of a HEI while remaining a significant factor in the successful implementation of TQM. This study investigates the specific set of administrative services in HE and perceptions of it among the key

customer group of HEI students, adopting the well-regarded scale SERVQUAL, integrated with IPA to identify elements of higher and lower importance for the target group.

Methodology

Instrument

This study examines customer satisfaction, a significant TQM dimension. In particular, it examines the satisfaction that HEIs students express regarding the quality of the administrative services received from their departments. This study was undertaken in Greek HEIs, it is exploratory in nature, and it employs a quantitative approach to seek develop insightful responses to the research questions set in the introductory section.

This study adopted a questionnaire survey instrument because of its ability to deliver consistency, clarity, and completeness and above all due to its ability to produce data that can be processed and analyzed (Saunders et al., 2016). Furthermore, the questionnaire is based on the SERVQUAL model. Although its applicability has been questioned (Arroyo-Lopez et al., 2016; Kuo et al., 2018; Nguyen et al., 2018; Park et al., 2018), the SERVQUAL model has seen extensive use in measurements of service quality due to its simplicity, flexibility, and adaptability, as well as its ability to detect areas in need of improvement (Beheshtinia & Azad, 2019; Kakouris & Meliou, 2011; Liu & Hung, 2021; Sahney, 2016; Shermin & Rahaman, 2021; Teeroovengadum et al., 2016). As such, SERVQUAL was employed to identify gaps and verify satisfaction and dissatisfaction levels of students within the HEIs administration context.

The questionnaire developed included three parts: part I collects demographic information, while parts II and III contain the 22 SERVQUAL specific questions properly adapted for the educational environment, investigating perceptions and expectations, respectively, regarding the quality of administrative services, arranged in five dimensions: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). Part I included closed-ended questions. Parts II and III used a 7-point Likert scale, from 1, strong disagreement, to 7, strong agreement. Appropriate testing was undertaken before the implementation of the questionnaire to detect mistakes or ambiguities and ensure that items were properly adjusted (Churchill, 1979). Pretesting led to some minor revisions ensuring the pertinent content validity (Devillis, 2003). Finally, SERVQUAL was combined with IPA into a single instrument to enhance the analytical power of SERVQUAL (Kim et al., 2021; Yin et al., 2016). This analysis identified strengths and weaknesses of the service quality parameters in question.

Sampling

The study sample had a single inclusion criterion for the selection of respondents: being a student in contact with the student's departmental administration. Apart from that, the selection of the respondents was random. A total of five universities in the Athenian region of Greece that provide both graduate and post-graduate courses were included. Although the study was confined to five HEIs, they represent a good sample of the largest universities in the country and the findings likely indicate the overall state of affairs at this preliminary stage of research. A total of 200 questionnaires were distributed to the students, of which 104 were returned, for a response rate of 52%. The respondents were undergraduate and postgraduate students, and a few were studying for their doctorates. The study took place over two months, between May 15, 2018, and July 15, 2018. The size of the survey was designed to generate a 95% confidence level. The respondent characteristics of the respondents are illustrated in Table 1.

Table 1. Respondents' Characteristics

Variables	Respondents (n)	Percentage (%)
Sex		
Female	73	70.2
Male	31	29.8
Age		
18-25	77	74
26-35	14	13.5
36-49	9	8.7
>50	4	3.8
Level of study		
Undergraduate student first or second year	28	26.92
Undergraduate student third and fourth year	38	36.54
Undergraduate > fourth year	21	20.19
Postgraduate student first year	7	6.73
Postgraduate student second year	6	5.77
PhD student	4	3.85

Results

SPSS version 23.0 was used to analyze the data. A number of analyses were employed, including analysis of reliability (Cronbach's alpha), descriptive statistics (mean scores with standard deviations), P-P and Q-Q plots, and Pearson's correlations. Significance was set to the 0.05 level.

Reliability Analysis

The Cronbach's alpha coefficient measures the degree of reliability. All measures exceeded 0.7, which is the generally recommended threshold (Hair et al., 2010; Nunnally, 1978) for a high level of internal consistency, so the reliability of the scale was confirmed. Indeed, reliability values were calculated for all of the SERVQUAL dimensions, both for the perception and expectation categories as shown in Table 2. Good conformity is demonstrated for all dimensions for both the cases of perception and expectation, which indicates high construct measurement reliability, with higher values being detected in the perception than expectation.

Table 2. Reliability Analysis

Dimensions	Cronbach's alpha coefficient	
	Expectation	Perception
Tangibles	0.705	0.798
Reliability	0.767	0.874
Responsiveness	0.746	0.870
Assurance	0.740	0.889
Empathy	0.800	0.892

Descriptive Statistics

The SERVQUAL results for all dimensions were reviewed, indicating the mean values and standard deviation (SDs) for both students' perceptions and expectations of the quality level of the administrative services received. It was clear that for all dimensions, expectation scores were higher than the perception scores, which is evidence that students' expectations were not being met in current practice (Figure 1). Regarding the tangibles dimension, a substantial distance was detected between students' expectation (M = 5.774, SD = 0,667) and perception (M = 4.481, SD = 0.230). In reliability, an even larger difference was seen between expectation and perception (M = 6.431, SD = 0,105; M = 4.444, SD = 0.169) and likewise for assurance (expectation: M = 6.101 SD = 0,083; perception: M = 4.466 SD = 0.092). The largest gaps were observed in the empathy (expectation: M = 5.796 SD = 0,153; perception: M = 3.992, SD = 0.281) and the responsiveness (expectation: M = 6.113, SD = 0.251; perception: M = 4.303, SD = 0.113) dimensions.

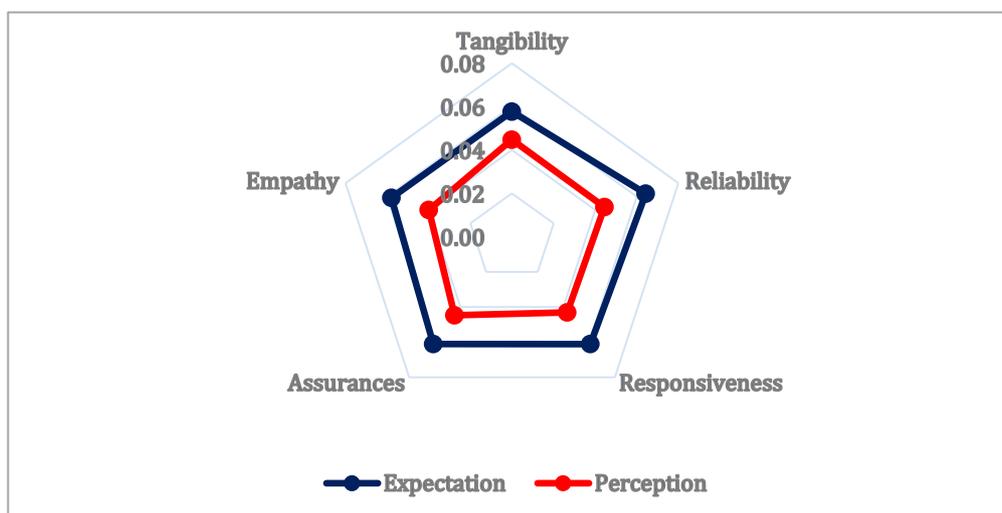


Figure 1. Expectations and Perceptions Radar Graph

P-P & Q-Q plots, Pearson correlations

P-P and Q-Q plots for the perception and expectation parts of the questionnaire were also created to confirm a normal distribution. A Pearson correlation coefficient analysis (Sekaran & Bougie, 2013) was also performed to determine correlations among the responses to the 22 items on the SERVQUAL survey. The outcome of this analysis indicates relationships with correlation coefficients above 0.60, or strong positive correlations (Evans, 1996). One such correlation ($r = 0.620$; $p < .01$) was noted in the reliability dimension, specifically in the constant willingness to solve

customer problems on the part of administrative employees and their willingness to help (responsiveness dimension). This correlation indicates that the reliability dimension is affected by responsiveness and vice versa. This also denotes that greater willingness of the administration employees to solve students' problems is reflected in greater interest. A strong positive correlation ($r = 0.756$; $p < .01$) is also observed between administrative employees who give the students personal attention and those who give them individual attention. It can be therefore concluded that the interest and attention of each employee affects and reflects the image of the administration. Another strong positive correlation ($r = 0.693$; $p < .01$) is noted in terms of labeling documents and associated instructions and their well-organized understanding and presentation (tangible) with the special care and attention the employees' of the administration department offer to each student (empathy). Thus, tangibles have an impact on empathy with students receiving the service of efficient labeling of documentation as part of the special care and attention that they are provided.

SERVQUAL Analysis

The results of the SERVQUAL analysis are given in Table 3. They reveal that the scores for performance (perception) were lower than the importance (expectation) of students across all dimensions. The reliability dimension had the highest mean score (6.431), and the dimension tangibility had the lowest score (5.774). The highest mean score was detected for tangibility (4.481), with the lower being that for the empathy (3.992). Regarding the difference (gap) between the mean perception scores and the expected mean scores, the lowest gap is observed in the tangibility dimension (1.293), whereas the highest is observed in the reliability dimension (1.987). Regarding individual items, question 19 (empathy) shows the largest gap (2.538) with the lowest gap being observed in question 2 (tangibility) (-0.029). Figure 2 illustrates the mean values of expectations and perceptions and the difference between them.

Table 3. Mean Scores for Importance, Performance, and Service Quality Gap for all Items and Dimensions

ITEMS/DIMENSIONS	IMPORTANCE/ (EXPECTATION) (I)	IMPORTANCE RANK	PERFORMANCE /(PERCEPTION) (P)	PERFORMANCE RANK	(I-P)
Q1	6.058	13	4.337	12	1.721
Q2	4.789	22	4.817	1	-0.029
Q3	5.990	16	4.327	14	1.663
Q4	6.260	7	4.442	8	1.817
TANGIBILITY [Q1-Q4]	5.774		4.481		1.293
Q5	6.490	3	4.452	7	2.038
Q6	6.298	5	4.212	17	2.087
Q7	6.337	4	4.394	10	1.942
Q8	6.500	2	4.481	5	2.019
Q9	6.529	1	4.683	2	1.846
RELIABILITY [Q5-Q9]	6.431		4.444		1.987
Q10	6.289	6	4.308	15	1.981
Q11	5.740	19	4.144	19	1.596
Q12	6.212	8	4.404	9	1.808
Q13	6.212	9	4.356	11	1.856
RESPONSIVENESS [Q10-Q13]	6.113		4.303		1.810
Q14	6.202	10	4.337	13	1.865
Q15	6.115	11	4.548	3	1.567
Q16	6.087	12	4.471	6	1.615
Q17	6	15	4.510	4	1.490
ASSURANCE [Q14-Q17]	6.101		4.466		1.635
Q18	5.750	18	4.221	16	1.529
Q19	6.058	14	3.519	22	2.538
Q20	5.683	21	4.048	20	1.635
Q21	5.798	17	4.183	18	1.615
Q22	5.692	20	3.990	21	1.702
EMPATHY [Q18-Q22]	5.796		3.992		1.804
AVERAGE MEAN SCORE FOR ITEMS/DIMENSIONS	6.0435		4.337		1.706

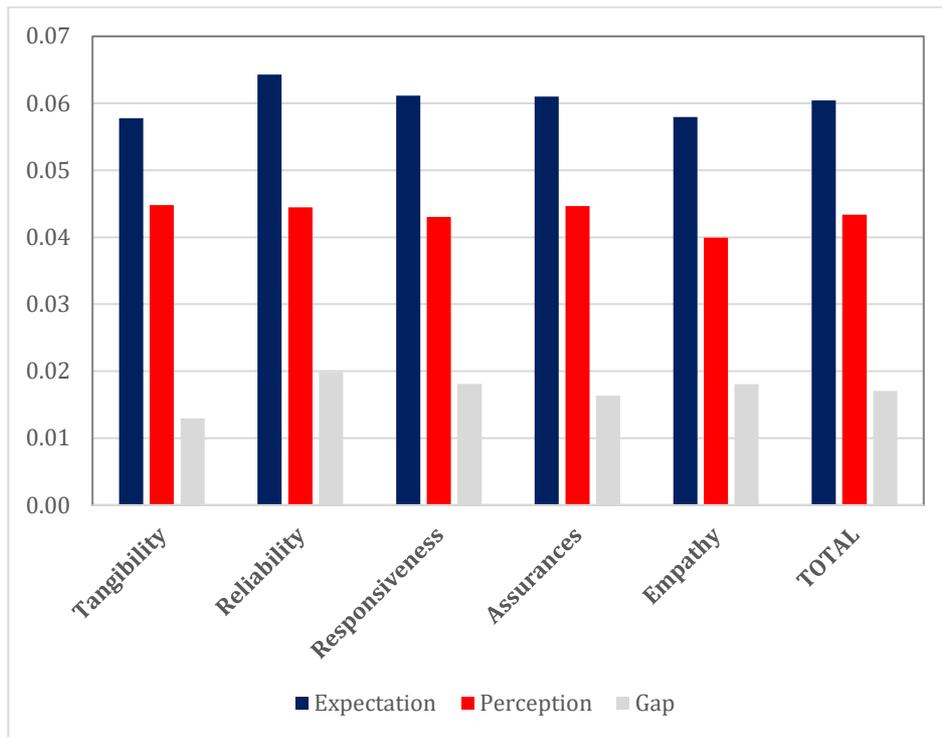


Figure 2. SERVQUAL Model Mean Values and Total for all Five Dimensions for Expectations, Perceptions, and Gap

I-P Analysis

The IPA map illustrated in Figure 3 extends the reported SERVQUAL results to determine the category of each attribute by comparing the performance and expectation of each item. In essence, the matrix of Figure 3 reflects students' expectations using the importance (expectation) values compared to the relevant performance (perception) values for each item of the SERVQUAL questionnaire facilitating interpretation. The average mean score of items/dimensions in Table 3 for performance and importance were used on the x and y axes, at 4.34 and 6.04 respectively, identifying stronger and weaker statements more clearly.

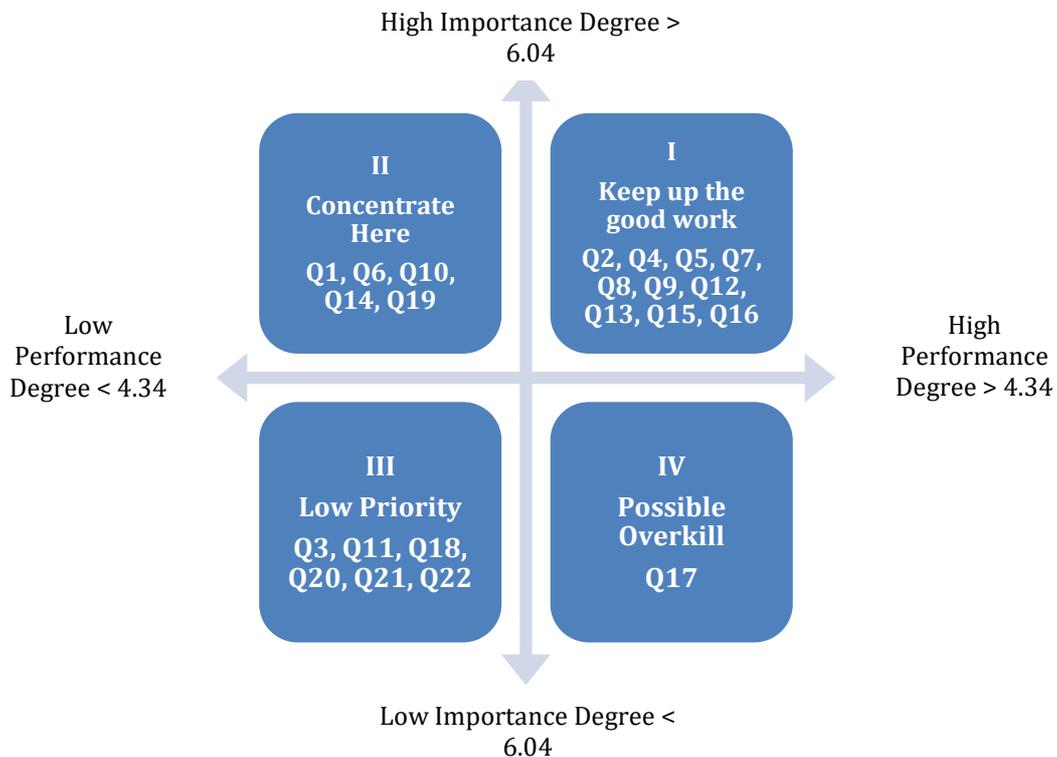


Figure 3: Importance-Performance Analysis Map

In all, 10 attributes fall into Quadrant I, *keep up the good work*, showing both high importance and high performance, denoting the strengths and pillars of the HEIs. These attributes justifiably are the pride of an HEI and should be retained as they are, as they provide a competitive advantage. In this category, attributes are found that are important to the customers and well-provided by the HEIs. A total of five items are allocated to Quadrant II, *Concentrate Here*, indicating performance scores that do not reach the average but show a high corresponding importance level setting a moderate performance gap requiring immediate attention and improvement. These items should be the focus of the HEIs, as these are important to students but show substandard performance. Quadrant III, *Low Priority*, has a total of six items with both performance and importance scores that can be classified as showing a low priority for improvement. Only one attribute that falls into Quadrant IV, *Possible Overkill*, a category that represents attributes that the HEIs overly emphasize that are less important to the students.

Discussion

This study investigates HE students' perception and expectation of the quality administration services provided by their institutions using the SERVQUAL service quality scale properly adapted and integrated with IPA. All five service dimensions of the scale were explored, including reliability, assurance, tangibles, empathy, and responsiveness. Due to the specific context of the study, which was confined to the investigation of student satisfaction and their perceived quality for the administrative services received, the findings of this study are not directly comparable with those of similar studies; nevertheless, some assessments of the value of the present work is provided in the wider context of the scholarly literature.

The results of the study showed gaps in quality between perception and expectation in all five dimensions (Table 3), denoting that students anticipated better service than what they actually received. The reliability dimension showed the highest mean score (6.431), and the dimension of tangibility showed the lowest score (5.774) in terms of importance (expectation) for the students. In terms of performance (perception), the highest mean score was detected in the tangibility dimension (4.481), with the lowest being in empathy (3.992). The lowest gap was observed between the tangibility dimension (1.293) (importance-performance) and the highest in the reliability dimension (1.987) (importance-performance).

The answers to the research questions follow. For RQ1, it was found that the level of administrative services the respondents receive in the HEIs is below expectation (Table 3), showing a gap for all dimensions of service quality (Dahan et al., 2016). This is a view also shared by Aghamolaei and Zare (2008), who also employed an adaptation of SERVQUAL to measure service quality in a HEI, finding a similar negative distance between expectation and perception, demonstrating the students' anticipation of better services than what they actually experience. Similarly, the work of Yousapronpaiboon (2014) and Tan and Kek (2004) further support these findings. For RQ2, a number of useful conclusions can be drawn. Q17 is related to administration employees' requirement to have sufficient knowledge and training to answer students' questions and falls into Quadrant IV and thus it is a field that has been overly emphasized without being required. Therefore, resources placed on this activity can be shifted towards areas identified in Quadrant II (Q1, Q6, Q10, Q14, Q19), which includes items regarding the modern equipment required for the secretaries, time required for the execution of students' requests by the employees, and the need for administrative employees to inspire confidence, should be explored more. On the other hand, it should not be ignored that a significant number of items in Quadrant I (Q2, Q4, Q5, Q7, Q8, Q9, Q12, Q13, Q15, Q16) show that the HEIs examined are already well-regarded by the respondents, and these items should be maintained and strengthened, including appropriate employee dress code, the clear documents, and instructions, the timely completion of tasks, employee willingness to help etc.

The dimension that the students considered most important was reliability, followed by responsiveness, assurance, empathy, and tangibility. The inclusion of reliability as among the most important dimensions of service quality agrees with Parasuraman et al. (1991) who report that the reliability or the capability of implementing a service precisely has the greatest impact in terms of service quality. In a similar context but in a different sector, that of public administration, Kakouris and Meliou (2011) confirm the importance of reliability, a finding that is of interest given the common characteristics administration has for education and the public sector. Notably, reliability also showed the largest gap between importance and performance indicating a priority field for action to improve the administrative service quality that the HEIs provide. However, if we examine the results of the IPA more closely, there is only one item in the reliability dimension, Q6, that falls into Quadrant II and requires immediate action, namely, the sincere interest that the respondents are expecting the administrative employees to show in solving the problems they are facing. The benefit that IPA provided to the research is associated with the identification of specific items that require attention and action, to which resources can be properly allocated.

In conclusion, it seems that HEIs receive and will most probably continue to receive increasing demands and pressure from stakeholders and customer groups to reduce the gap between expectation and perception (Tari & Dick, 2016). Several studies of the education field indicate that student satisfaction is influenced by perceived service quality (Ali et al., 2016). For example, in the private HE sector of Singapore, Khoo et al. (2017) report that officials are concerned with maintaining their students and are alert to the quality of service provided and consequent customer satisfaction. Similarly, Adikaram et al. (2015) discuss service quality and customer satisfaction in an HE environment, finding that service quality is positively correlated with customer satisfaction. Because students are the main decision-makers when it comes to choosing the right HEI, they will be, if they are not already, the main driver of HEIs' responses and reactions. Thus, the satisfaction of students may be a significant influencing factor for a HEI's future, and assessing its performance and service quality are important elements in its improvement and even more so in its continuous improvement, a key element of TQM.

Conclusions

Greater responsibility and accountability are being demanded of HEIs for producing graduates with the knowledge, competence, skills, and positive attitudes. Teeroovengadum et al. (2016) state that the environment of HE is dynamic, complex, and increasingly competitive, with a varying number of stakeholders and customer groups. Global competitiveness has an equal impact on HEIs, which, irrespective of size and status (private or public), all seek to attract large numbers of students. As Tóth and Surman (2019) claim, evaluating and monitoring service quality could help HEIs both differentiate themselves and increase their competitiveness. The application of TQM in education, although debatable, has received recognition, with customer satisfaction lying at its core, even in the context of education, being fundamentally associated with service quality. In this context, the present study explored the quality of administration services in HEIs and identified gaps between student expectations and perceptions.

This study employed the service quality scale SERVQUAL (Parasuraman et al., 1988), which was distributed to students at five Greek HEIs to explore the level of quality of administrative services that students received. The findings, although they were not directly comparable, macroscopically seemed to follow the results of similar studies. In summary, the perception of services is below expectation, showing gaps in all dimensions. The most critical quality dimension is reliability. The IPA identified in more detail the items needing immediate attention or maintenance and strengthening. Notably, the findings of the IPA demonstrated a good ratio of items (10/22) falling in Quadrant I, reflecting the strengths and pride of the HEIs that should be maintained to provide service excellence. In addition, the IPA indicated items that belong to major weaknesses and need immediate attention and improvement (5/22) and those that are not a priority (6/10) or items that are not of interest to the respondents (1/22). These results thus provide HEIs with a starting point to examine what they need to concentrate on to maintain their strengths as well as identifying weaknesses and seek for immediate attention to improve the quality of their services.

A significant part of this research is that it exclusively explores a specific non-academic category of services, namely, administrative services, and thus provided a clear perspective of how students perceive the specific field. Thus, it adds to the scholarly literature and offers empirical insight into student satisfaction and the implementation of TQM in HE. It may also provide useful feedback for HE management and decision and policy makers to identify areas that require improvement. Furthermore, it should also be noted that the observed gap in all the SERVQUAL dimensions may also be associated with the economic downturn in Greece, which has lasted for a decade, causing reductions in funding and consequent dissatisfaction among employees. Taking account of the TQM philosophical approach and the holistic approach it embraces, it cannot be ignored that unhappy human resources may be a significant reason for observed service quality gaps.

Recommendations

Future research should consider including discussions of service quality in comparable non-academic services. In addition, research should also consider a larger sample of respondents as well as a wider geographical selection. Future research, in this way, will be able to offer additional valuable insight to develop the understanding of service quality, student satisfaction, and the applicability of TQM.

Limitations

Finally, the limitations to the present study should be considered. The sample size was small, at 104, and the exploratory nature of the study limits the generalization of the findings. Only five HEIs were investigated, all of which are located in the Athenian region of Greece, making a geographical limitation. Adding respondents at universities in other regions would naturally improve and strengthen the conclusions. The examination of a specific non-academic service helps to focus the study, but it could also be considered a limitation.

Authorship Contribution Statement

Rizos: Data acquisition, data analysis / interpretation, drafting manuscript. Sfakianaki: Critical revision of manuscript, supervision, final approval. Kakouris: Concept and design, technical or material support, critical revision of manuscript.

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