

# Educational Service Quality at Public Higher Educational Institutions: Difference between Perceived Service and Expected Service

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**Abstract**—The objective of this paper is to empirically investigate the difference between perceived service and expected service. This study employs a modified SERVQUAL model to look into educational service quality. The sub-dimensions of Educational Service Quality according to this model are reliability, assurance, empathy, responsiveness, tangibles (program quality and servicescapes), communication, knowledge/ expertise, systems/secondary services, social responsibility and self-development. A survey instrument was used to gather information. A differencing technique and t-test was used to analyze the data. The results of the empirical study show that there is a significant difference between perceived service and expected service with regard to all the sub-dimensions. It is interesting to note that even though the score for the difference between perceived service and expected service are negative for all the sub-dimensions, the respondents are satisfied with the services. The findings of this research may help academics and administrators allocate their resources and prioritize their efforts.

**Index Terms**—Education business, strategic management, educational service quality, analysis of variance (ANOVA).

## I. INTRODUCTION

Service quality has been receiving much prominence lately especially in service industry such as banking, hotel, insurance, etc. However, one setting that has been relatively neglected in service quality research is higher education [1]. One method of measuring service quality is by comparing the difference between perceived service and expected service. The objective of this study was to empirically measure educational service quality at Public Higher Educational Institutions in Malaysia. According to Riordan [2], the eight core abilities desired of higher education are: 1. Communication – verbal and written, 2. Analysis, 3. Problem solving, 4. Valuing in decision-making, 5. Social interaction, 6. Developing a global perspective, 7. Effective citizenship and 8. Aesthetic engagement.

According to [3], higher education play an important role in teaching, learning and research for the benefit of the public. In Malaysia, some of the driving forces toward achieving quality education are the National Education Policy and Vision 2020. Education and training are essential to Malaysia's Vision 2020 program and have been given priority status by the Malaysian government. Extensive resources has been allocated to the public sector in order to

ensure that the Malaysian population receives the best possible training, especially in the field of science and technology, and the government aims to export its educational offerings in the future. The Malaysian government is fully committed to building a world-class educational system that is flexible and innovative, one that will enhance the country's role as a hub for education, research and development in South East Asia.

## II. LITERATURE REVIEW

### *Conceptions of Higher Education and Quality*

Service quality remains as a critical measure of organizational performance in marketing, especially services marketing [4]. Academic researchers and marketers are keen on accurately measuring service quality in order to understand its essential antecedents and consequences, and to establish methods for improving quality [5]-[8]. The global educational marketplace promotes accelerated international linkages, branch campuses, as well as other forms of trans-national education. However, the key to their sustainability is quality [9]. Total Quality Management and its linkage to Strategic Management has often been stressed in terms of its importance and relevance for organizations [10], [11]. The momentum towards customer service has impelled researchers and practitioners alike to conceptually and empirically study service quality within a wide array of setting. [12] stated that inadequate attention has been given to quality process from the perspective of quality of the students' experiences. [13] noted that most academics have focused on conceptual issues and the underlying processes and not much attention was given to the task of measurement.

Ref. [14] cited five reasons for the rising concern with quality control and quality assurance by key decision-makers in higher education:

- It is an inevitable consequence of reduction in funding by governments, even though the governments' claim no necessary connection between resources and quality.
- There is a reaction to the prevailing 1980s view that market mechanisms are sufficient guarantors of quality. Rather, external assurance and intervention by government agencies are necessary on behalf of the public interest. [For example, the setting up of Quality Assurance Division and National Accreditation Board at the Ministry of Higher Education, Malaysia].
- The move to provide higher education to the masses [democratization of higher education] resurrects fears that 'more inevitably means worse'.

- The industry [and public] are increasingly aware of Total Quality Management and the related processes, and are likely to seek their adoption by their suppliers, including universities and polytechnics.
- The ‘politics of quality’ helps to reconcile conflicts between higher educational institutions and governments. Institutions use ‘quality’, a self-evident ‘good thing’ to rebuke governments for declining resources, while governments use ‘quality’ to seek public accountability from institutions.

Ref. [15] identified five root causes of the quality system failure in higher education as: Weak students (poor input), Lack of focus in teaching systems (poor delivery of services), Lack of attention paid to performance standards and measurement, Unmotivated staff (internal customer satisfaction), and Neglect of students’ skills (quality potential). According to [16], elements of a quality system of education are: An education system relevant to changes in the global environment, the “production” of skilled workers who are able to compete successfully in the global market place, The establishment of a community with high moral values, knowledgeable, and tolerant, and The catalyst towards life-long learning. [17] defined total quality in education as ‘educational cultures characterized by increased customer satisfaction through continuous improvements in which all employees and students participate actively.’ The term educational culture reflects the long-term planning of educational inputs and management processes, with gradual impact leading the institution towards the fulfillment of its vision.

Even though the term ‘quality’ has broad and subjective meanings such as excellence, value, conformance to specifications, meeting and/or exceeding customers’ expectations, quality is market perception, and quality is ‘strategic quality’, there has always been a great relevance and concern for quality in higher education. In British Standard 4778, quality management in higher education was defined as ‘the totality of features and characteristics of product services (learning process) that bear on its ability to satisfy stated or implied stakeholder expectations. [18] summarized the contested nature of ‘quality’ as follows:

TABLE I: NATURE OF ‘QUALITY’

TABLE NUMBER OF QUESTIONS		
Quality is both .....		
a strategic concept	And	an operational concept
a visionary idea		a practical idea
an absolute concept		a relative concept
People		Systems
defined by the institutions		defined by its customers
allied to 'hard' and measurable standards		allied to 'soft' and intangible standards
The definition of quality is never static. Quality cannot stand still. Quality is a dynamic concept. Today's high quality may be tomorrow's poor quality.		

Adapted from Sallis, E. (1994) From systems to leadership: the development of the quality movement in further education, in: G.D. Doherty (Ed.) Developing Quality Systems in Higher Education. London: Routledge.

Ref. [19] noted that:

- Quality does not just happen in an organization or institution. In order for quality to happen, it requires

leadership, well-designed processes, diligent follow-up, and continuous improvement.

- Teaching and learning quality processes requires a significant degree of interaction among academic [and non-academic] staff. Good quality teaching [and learning] does not stem from individual performance only.
- Institutional, faculty, and departmental teaching and learning quality processes and consistency of these processes can be observed.
- The internalization of teaching and learning processes by the academic staff is more important the formal aspects of an institution’s quality assurance mechanisms.
- Quality review process can be approached holistically rather than focusing mainly on formalities and written documents.

According to [20], the challenges confronting the management of higher education in Malaysia are: expanding enrolment, quality and relevance, and funding higher education.

*“Along with the challenges posed by the expansion in enrolment, of paramount concern to us is how quality and relevance of higher education can be continuously enhanced and ensured. We do not dismiss the motion that measures to enhance quality and relevance are to some extent constrained by insufficient financial resources. We acknowledge that the quality of teaching, staff, infrastructure and research for instance require substantial financial support. However, we also believe that putting in place appropriate policies and practices with regards to staff recruitment, rigorous quality assessment, appropriate use of technology and forward-looking management can contribute profoundly towards enhancement of quality and relevance in higher education”* [20].

The commodification of higher education may have a negative effect on the quality of education [21]. Quality education is labor-intensive because it depends upon a low teacher-student ratio, and a significant interaction between teacher-student. Effort to offer quality in education must therefore presuppose a substantial and sustained investment in educational labor, whatever the medium of instruction. However the requirements of commodity production undermine the labor-intensive foundation of quality education. In essence, pedagogical promise and economic efficiency are in contradiction.

Ref. [22] identified four conceptions of quality:

- Quality is excellence. It is the “mark of uncompromising standards and high achievement.” However, there are measurement difficulties because the attributes of excellence may change and a sufficient number of customers must be willing to pay for the “excellence”
- Quality is value. Value incorporates multiple attributes, however, it is difficult to extract “individual components of value judgment.” Furthermore, value and quality are not synonymous.
- Quality is conformance to specifications. Conformance is based on reducing errors, defects, or mistakes to improve quality. This will facilitate precise measurement and leads to increased efficiency. However, the consumers do not know or even care about internal specifications. Thus, this

perspective focused on internal quality and therefore inappropriate for the service sectors.

- Quality is meeting and/or exceeding expectations. This perspective focused on expectations and evaluates service quality from the perspective of the customers. But customers may not know exactly their expectations, and there may also be confusion between customer service and customer satisfaction.

Ref. [23] suggested two other conceptions: 1) Quality is market perception. This is the market evaluation or ranking of how well an organization is doing compared to its' competitors. 2) Quality is "strategic quality". This is the combination of price and quality the organization wants to provide to the market.

### III. METHODOLOGY

#### Service Quality Framework

The theoretical framework which proposes to explain "Educational Service Quality and Customer Satisfaction at Public Higher Educational Institutions" in the context of contemporary quality concerns is denoted by the following general expressions:

$$ESQ = f(\text{AQUALD}, \text{NON-AQUALD})$$

where

ESQ = Educational Service Quality  
AQUALD = Academic Quality Dimensions  
NON-AQUALD = Non-Academic Quality Dimensions  
Or more precisely,

$$ESQ = f(\text{RELAIBILITY, TANGIBLES, RESPONSIVENESS, ASSURANCE, EMPATHY, COMMUNICATION, KNOWLEDGE, SYSTEMS, SOCIAL RESPONSIBILITY, SELF DEVELOPMENT})$$

where

$X_1$  = Reliability  
 $X_2$  = Tangibles  
 $X_3$  = Responsiveness  
 $X_4$  = Assurance  
 $X_5$  = Empathy  
 $X_6$  = Communication  
 $X_7$  = Knowledge/ Expertise  
 $X_8$  = Systems/ Secondary services  
 $X_9$  = Social Responsibility  
 $X_{10}$  = Self-Development

The general expression can be stated in the form of a regression equation as follows:

$$ESQ = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + b_{10}X_{10} + e$$

According to [24], the following three concepts are related to the scope of service quality to be used as a variable:

- *Service quality attributes*: defined as a quality that can be classified by generic characters. In this study it is assumed that service quality is classified to ten attributes (sub-dimensions), i.e. reliability, tangibles, responsiveness,

assurance, empathy, communication, knowledge, systems, social responsibility and self-development.

- *Service quality elements*: defined as an element that composes overall service quality. A customer perceives overall service quality with the total amount of individual's perception for all the quality elements. In this research, 50 questions were used to measure the quality element scales.
- *Overall service quality*: defined as overall perception about the quality of service provided by the service providers.

The schematic diagram showing the relationship between the quality dimensions and service quality and customer satisfaction is shown in Fig. 1 below. The Service Quality and Customer Satisfaction Model as depicted in Fig. 1 was adapted and modified from a combination of models as proposed by:

- Ref. [25] *Delivering Quality Service*.
- Ref. [26] *Measuring Service Quality in Higher Institution*.
- Ref. [27] *Customer Perception of Service Quality*.
- Ref. [28] A conceptual model of *service quality and customer satisfaction*.

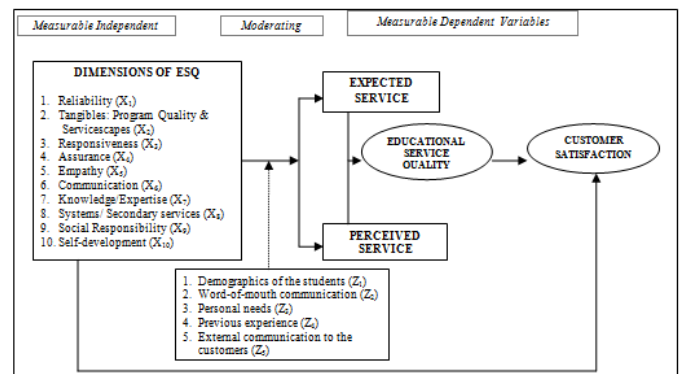


Fig. 1. Educational service quality and customer satisfaction at public higher educational institutions.

### IV. FINDINGS

#### A. Educational Service Quality Differencing

TABLE II: RESPONDENTS' DEMOGRAPHICS PROFILE

Variable	Category	Frequency (n=517)	Percent (Total=100%)
Gender	Male	233	45.1
	Female	284	54.9
Ethnic	Malay/Bumiputera	356	68.9
	Chinese	89	17.2
	Indian	27	5.2
	Others	45	8.7
Nationality	Malaysian	472	91.3
	Non-Malaysian	45	8.7
Program	Technical/Science	105	20.3
	Business/Economics	262	50.7
	Arts	150	29
Mode	Full-time	315	60.9
	Part-time	202	39.1
Age	20-24 years old	17	3.3
	25-29 years old	90	17.4
	30-34 years old	235	45.5
	35-39 years old	138	26.7
	>40 years old	37	7.2

The data for this study was obtained from 517 postgraduate students from four PHEIs; two of which are research universities as designated by MOHE and two non-research universities. Table I below gives summary of the respondents' demographics. Of the total 517 respondents, 262 were from the two research universities, research universities. Cronbach's alpha for the sub-whereas the remaining 255 were from the two non-dimensions range from 0.7737 to 0.9468.

TABLE III: ESQ DIFFERENCING FOR TOTAL RESPONDENTS (N=517)

Item No.	P Mean	Std Dev	P	E	E Mean	Std Dev	Difference (P.Mean - E.Mean)
1	5.4816	0.9329	RELIABILITY		6.5126	0.6336	-1.0310
2	5.7756	0.9544	5.6454	6.5854	6.4932	0.6056	-0.7176
3	5.6789	0.6858			6.7505	0.4634	-1.0716
4	6.2631	0.6260	TANGIBLES		6.7234	0.4477	-0.4603
5	6.0135	0.7837	5.7328	6.5584	6.6325	0.5322	-0.6190
6	6.0116	0.8804			6.3191	0.6710	-0.3075
7	5.5338	0.9909			6.6325	0.5675	-1.0987
8	5.6712	1.0856			6.6538	0.5410	-0.9826
9	5.2998	1.0235	6.6074		0.5379	-1.3076	
10	5.3366	0.9917	RESPONSIVENESS		6.3404	0.6648	-1.0038
11	5.5687	0.9713	5.3849	6.0658	5.9246	0.8537	-0.3559
12	5.2921	1.0426			6.0774	1.0426	-0.7853
13	5.2940	0.7916	6.1954		0.8367	-0.9014	
14	5.4797	0.8705	ASSURANCE		6.0638	1.0181	-0.5841
15	5.6596	0.8377	5.5893	6.1747	6.0909	0.9572	-0.4313
16	5.6286	0.7981			6.3694	0.7425	-0.7405
17	5.4255	0.8050	EMPATHY		5.4739	1.0555	-0.0484
18	5.0097	0.9931	5.0261	5.5368	5.6015	1.0728	-0.5918
19	4.8221	1.0074			5.4043	1.1314	-0.5822
20	4.8472	1.0125	5.6673		1.0331	-0.8201	
21	6.1006	0.5260	COMMUNICATION		6.5996	0.6070	-0.4990
22	5.8317	0.7131	5.8439	6.5384	6.4894	0.7665	-0.6577
23	5.5996	0.6381			6.5261	0.6747	-0.9265
24	6.0406	0.5909	KNOWLEDGE/EXPERTISE		6.6228	0.6248	-0.5822
25	5.9865	0.5584	5.8704	6.5238	6.5706	0.7375	-0.5841
26	5.7466	0.7648			6.3675	0.7342	-0.6209
27	5.8433	0.7265	6.7718		0.4469	-0.9285	
28	5.7350	0.7053	6.2863	0.8161	-0.5513		
29	5.5474	0.7315	SYSTEMS/SECONDARY SERVICES		6.4352	0.5989	-0.8878
30	4.1180	0.9295	5.3443	6.5027	6.4410	0.6981	-2.3230
31	5.5551	0.7993			6.3585	0.6733	-0.8034
32	5.6267	0.5585	6.4836		0.5002	-0.8569	
33	5.8743	0.4758	6.7950	0.4041	-0.9207		
34	5.2882	0.9129	SOCIAL RESPONSIBILITY		6.6712	0.4943	-1.3830
35	5.4816	0.8010	5.4534	6.7072	6.6634	0.5198	-1.1818
36	5.5397	0.9302			6.6325	0.5359	-1.0928
37	5.5745	0.6169	6.8414		0.3962	-1.2669	
38	5.3830	0.5909	6.7273	0.4712	-1.3443		
39	5.4720	0.7245	SELF-DEVELOPMENT		6.2611	0.6845	-0.7891
40	5.6499	0.7771	5.3520	6.3998	6.4952	0.6809	-0.8453
41	5.6035	0.8510			6.3520	0.6932	-0.7485
42	5.6093	0.8526	6.2263		0.6357	-0.6170	
43	5.4487	0.6130	6.2747	0.7030	-0.8260		
44	5.3424	0.8146	6.5261	0.6018	-1.1837		
45	5.2727	0.8963	6.4217	0.7341	-1.1490		
46	5.1586	0.8705	6.3462	0.6947	-1.1876		
47	5.0832	0.7618	6.3095	0.6683	-1.2263		
48	5.1219	1.0186	6.4468	0.6788	-1.3249		
49	5.2089	0.7411	6.4720	0.6301	-1.2631		
50	5.2534	0.9920	6.6654	0.5588	-1.4120		

From Table II it is evident that at PHEIs, service quality elements where the difference between perception and expectation is equals to or more than negative one are with regard to the following items:

- Item 1: Keeping promises.
- Item 3: Keeping records accurately.
- Item 7: Having ambient condition such as temperature, ventilation, noise, and odor.
- Item 9: Neat and professional appearance of employees.
- Item10: Visually appealing materials and facilities associated with the services.
- Item 30: Having adequate parking.
- Item 34: Getting good service at a reasonably minimal cost, but not at the expense of quality.

- Item 35: Having a sense of public responsibility among employees (in terms of being punctual, regular, sincere and without going on strike).
- Item 36: Leads as a corporate citizen and promotes ethical conduct in everything it does.
- Item 37: Treating students equally, stemming from the belief that everyone should be treated alike.
- Item 38: 'Service transcendence', i.e. making students realize their unexpressed needs by giving more than what they expected.
- Item 44: Developing students' critical thinking skills.
- Item 45: Developing students' computer or software application skills.
- Item 46: Developing students' aesthetic appreciation.
- Item 47: Developing students' socio-emotional skills.
- Item 48: Developing students' entrepreneurship or career skills.
- Item 49: Developing students' global outlook.
- Item 50: Developing students' leadership skills.

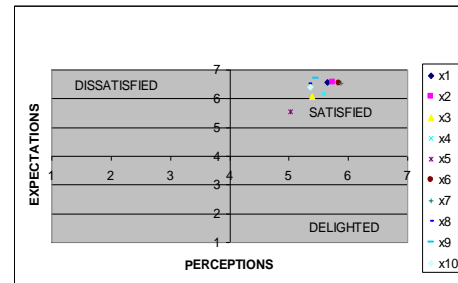


Fig. 2. Two dimensional differencing plane for total respondents.

TABLE IV: DIFFERENCE BETWEEN PERCEPTION AND EXPECTATION FOR TOTAL RESPONDENTS

	Perception	Expectation	Difference
Reliability	5.6454	6.5854	-0.9400
Tangibles	5.7328	6.5584	-0.8256
Responsiveness	5.3849	6.0658	-0.6809
Assurance	5.5893	6.1747	-0.5854
Empathy	5.0261	5.5368	-0.5107
Communication	5.8439	6.5384	-0.6945
Knowledge/Expertise	5.8704	6.5238	-0.6534
Systems/Secondary services	5.3443	6.5027	-1.1584
Social Responsibility	5.4534	6.7072	-1.2538
Self-development	5.3520	6.3998	-1.0478

TABLE V: PAIRED SAMPLES TEST FOR TOTAL RESPONDENTS

Pair	Paired Differences					T	df	Sig. (2-tailed)
	Mean	Std Dev	Std Error Mean	95% Confidence Interval of the Difference				
				Lower r	Upper			
ERELIA – PRELIA	.9400	.9013	3.963E-02	.8621	1.0179	23.709	516	.000
ETAN- PTAN	.8256	.6443	2.834E-02	.7700	.8813	29.130	516	.000
ERESPON- PRESPON	.6809	.9154	4.026E-02	.6018	.7599	16.913	516	.000
EASSU- PASSU	.3854	.9689	4.261E-02	.3017	.6691	13.739	516	.000
EEMPT - PEMPT	.5106	1.0782	4.742E-02	.4175	.6038	10.769	516	.000
ECONM- PCOMM	.6944	.7683	3.379E-02	.6280	.7608	20.550	516	.000
EKNOW- PKNOW	.6534	.4941	2.173E-02	.6107	.6961	30.068	516	.000
ESYST- PSYST	1.1663	.6499	2.858E-02	1.1102	1.2225	40.807	516	.000
ESOCRESP- PSOCRESP	1.2538	.6885	3.028E-02	1.1943	1.3133	41.404	516	.000
ESELFDEV- PSELFDEV	1.0477	.8061	3.545E-02	.9781	1.1174	29.552	516	.000

From Fig. 2 it can be seen clearly that though perceived service quality is less than expected service quality,

customers or service recipients “may be” satisfied. This can be attributed to:

- Satisfaction depends on the magnitude of difference between perception and expectation.
- There is a degree of “tolerance”.

Satisfaction can be achieved even though perceived service quality (PSQ) is less than expected service quality (ESQ)

In order to determine if the difference between perception and expectation is significant at PHEIs, a paired sample T-test was carried out. The result of the paired t-test shows that the difference between perception and expectation are significant with regard to all the sub-dimensions or service quality attributes. The result of the paired sample t-test is shown in Table IV below.

## V. CONCLUSION

### A. Research Limitations

The present study is cross-sectional in nature. Therefore the results of the study pose some limitations. Since the results of this study are based on a cross-sectional data, no statement of causation, and particularly, the direction of causation can be made. Studies based on associations are not appropriate for causal interpretation [29]. Therefore the results should be interpreted within the usual limitations of survey research. In this study, it was not possible for the researcher to control the possible “third factor variable” as in the case with an experimental design. Thus, it was possible that the relationships between the independent and dependent variables are not causal.

A survey research design provides only information with regard to the degree of association or relationship between variables. Therefore, in the present study, whilst it may be speculated that educational service quality depends upon a set of independent variables (reliability, tangibles, responsiveness, assurance, empathy, communication, knowledge/ expertise, systems/ secondary services, social responsibility, and self-development) and moderating variables (demographics of the students, word-of-mouth communication, personal needs, previous experience, external communication to customers, and ethos in higher education), the research design precluded genuine claims of causality. It would therefore be more appropriate to say that the independent variables demonstrate an ability to predict educational service quality.

Inherent in the present study are some methodological limitations with respect to its strength. The limitations are:

- This study used a seven-point Likert-type scale in which respondents were asked to indicate their degree of agreement towards statements concerning educational service quality, importance of the sub-dimensions, satisfaction with regard to the dimensions and other variables. The use of Likert-type scale, as pointed out by [30] might result in the possibility of patterned responses, i.e. a tendency for respondents to respond automatically to the statements or questions without paying careful attention to what the statements/ questions intended to address. This problem may be due to different

interpretations of respondents to the numbers used in the scale. Although the researcher attempted to define this numbers, it is impossible to ensure that all respondents interpret the score definitions equally.

- The present study used quantitative technique in its design and analysis. It should be noted that quantitative technique has its limitations, especially the use of quantitative technique to translate feelings into number (quantifying feelings). It is suggested that qualitative technique be incorporated in future research. By combining quantitative and qualitative research techniques, the study would benefit from the strength of both and offset the weaknesses of the other.
- This study assumed that the respondents do not misrepresent the truth (consciously or unconsciously). A self-administered survey may be subjected to social desirability bias [31]. Social desirability bias (the respondents consciously or unconsciously intended to create a favorable impression), agreement bias (the respondents tended to agree to all the statements) and deliberate falsification are common type of respondent errors in survey research [32].

Theoretically, the aim of this study was to generalize to all public higher educational institutions (PHEIs) in Malaysia. However there are some limitations on its generalizability:

- Owing to the lack of resources and time constraint, this study used a cross-sectional descriptive research design. The use of a longitudinal study in future research may reveal added knowledge with regard to service quality and customer satisfaction.
- Participation in this survey was voluntary. Although an invitation to participate was sent to all seventeen public higher educational institutions, only four responded positively to the invitation. It was possible that the PHEIs which decline to participate were different from those which participated.
- This research presented results obtained from the study on students’ expectation and perception with regard to the variables understudy. Since the individual respondents were not followed over time, it was not possible to describe the sequence of changes with regard to psychological aspects experienced by the respondents over time.

### B. Organizational Implications

This research highlights the important aspects of educational choice experience as perceived by post graduate students. Thus, educational Institutions should emphasize the key important aspects needed to market and sell their unique educational programs in order to attract more students. The strategic management of these educational programs and products, in terms of resource allocation management and communication and information system management must focus on the relevant quality issues in educational experiences of students. Each educational organization must strategize in developing their own educational business model, utilizing perhaps, a blue ocean strategy that can ensure them a sustainable competitive advantage. Education business, today, is in a highly competitive industry environment and students’ satisfaction must also be handled and managed effectively.

### C. Direction for Future Research and Recommendations

Opportunities for future research have emerged as a result of this research. Other than minimizing the limitations outlined earlier, the following aspects would entail further consideration and study:

- The respondents in this study were postgraduate students at PHEIs. The PHEIs were categorized into research universities and non-research universities. Future research should include private universities, academic staff, administrative staff, and employers. This may provide a richer data for analysis. Data taken from multiple sources are better than data taken from a single source [33].
- To introduce an overall trend dimension in the multi-item measures in order to incorporate the time aspect in each sub-dimensions, thus making it possible to measure the perceived direction of change.
- To incorporate psychographics of the students as one of the variable in the model.
- Though the underlying theme of the ESQ instrument addresses the service quality issues at educational institutions, the study has been confined to the higher educational sector, particularly PHEIs. Further research investigating the criticality of the ESQ dimensions in other educational institutions is required in order to effectively generalize the findings across the entire education sector.
- Educational managers need to give attention to the “zone of tolerance.”

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