EXPLORING STUDENTS' PERCEPTION OF POSTGRADUATE RESEARCH SERVICE QUALITY

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Abstract

Given that education is a service, the postgraduate (PG) education environment has become increasingly competitive, and whilst the service quality perceptions of undergraduates have been extensively measured, similar postgraduate-based research, especially in South Africa, has been negligible. Furthermore, although the development of an ideal instrument to measure higher education service quality has also occupied the minds of several researchers over the years, not much has been achieved in the area of postgraduate research (PG) service quality.

This paper presents the results of the assessment of the PG students' perception of research service quality by surveying the 2011 cohort of graduating postgraduates of one of the top five research universities in South Africa by using a specially developed postgraduate service quality measurement instrument (PSQUAL). By adapting the SERVQUAL instrument (Parasuraman, Berry & Zeithaml 1988), the PREQ (Drennan 2008) and SREQ (Ginns, Marsh, Behnia, Cheng & Scalas 2009), a 26-item postgraduate research service quality assessment instrument known as PGSQUAL was developed, validated and administered electronically to a population of 816 Master's and doctoral graduates.

Keywords: higher education, service quality, postgraduate students, research service encounter.

1. INTRODUCTION

The concept of 'student as customer' is not new (Craford 1991 and Yorke 1999, as cited by Douglas, McClelland & Davies 2008), and what is applicable to customers generally should also be applicable to postgraduate (PG) students. Postgraduate research student satisfaction has become an extremely important issue for universities and their management, and the aim is to try to maximize students' satisfaction with their education experience, not only to retain students, but also to improve the institution's performance ratings and so aid the recruitment of postgraduates.

A great deal of attention has been paid recently nationally and internationally to completion rates of PhD and Master's students, and much of the interest stems from student completion rates becoming a performance indicator for university departments for funding.

In South Africa the existence of a policy document (the Higher Education Act, No. 101 of 1997) that links base research funding of higher education institutions to successful postgraduate work makes it increasingly imperative that the problem of non-completion be addressed. Of concern is that, many students in South Africa successfully complete the coursework component of postgraduate degrees and then spend a number of years attempting to complete the research component of the programme. Some students ultimately drop out because of not being able to complete the research dissertation and thus do not gain a formal qualification (Sayed, Kruss & Badat 1998: 275).

Concern about PG research completion is international (Wright 2003: 210) and comparative studies have addressed a variety of issues in PG research in the past decade. Rudd (1985) as cited by Wright (2003) examined the reasons why some PG students do not complete their studies or take an inordinate length of time to do so, and suggested a set of interconnected contributing factors that centre on the qualities of the students, and also on research-related problems that emanate from, inter alia, lack of institutional support and lack of adequate research supervision. In the United Kingdom, the first year of postgraduate study has been highlighted as being the period most vulnerable to dropout (Becher 1994, as cited by Wright 2003: 210) because of isolation and/or marginalization, and inadequate supervision and institutional support. Similar results have been reported in Australia (ZuberSkerritt 1994).

2. RATIONALE AND OBJECTIVE

According to Angell, Heffernan and Megicks (2008), given that education is a service, the postgraduate education environment has become increasingly competitive, and whilst service quality in relation to undergraduates has been extensively measured, postgraduate-based research has been negligible. Furthermore, the decision on what constitutes an 'ideal' assessment tool has also presented a challenge for researchers attempting to report on higher education service quality, with the majority using the SERVQUAL (Parasuraman, Zeithaml & Berry 1988) instrument or sometime minor adaptations thereof.

The objective of this paper is to report on the results of an exploratory study to assess PG research service quality using a specifically developed post graduate service quality (PGSQUAL) instrument.

3. THE POSTGRADUATE RESEARCH SERVICE ENCOUNTER AND SERVICE QUALITY

Service delivery and customer satisfaction in an educational environment are dependent on the personal interaction between students and staff, and this personal interaction and the labour-intensive nature of this service translates into a potentially highly heterogeneous service quality experience (Hill 1995, as cited by De Jager & Gbadamosi 2010: 253).

These interactions, which are known as service encounters, are recognized within the service-quality research field as a key concept (Zeithaml & Bitner 2000; Dale 2003), since what happens during the encounter is important in understanding what affects the customers' perception of service quality.

It has been well articulated in the service quality literature that each service encounter has an impact on a service consumer's overall impression and evaluation of the service, and ultimately on his or her perceptions of service quality. Understanding the service encounter has also been identified as a key challenge for service firm managers, having implications for service design, quality control, employee screening and training, and relationship marketing (Bitner, Booms & Mohr 1994).

The importance of the human element in the service encounter cannot be overemphasized, since it can embed itself in several ways. For example, most service-production processes require the service organizations' personnel to provide significant inputs, both at the front line of delivery and in those parts of the production process that are relatively removed from the customer (Keltner & Finegold 1996: 57-58). Furthermore, most services require the active involvement of the consumer; thus, the consumer becomes the co-producer. This is equally true of the education services, especially PG research encounters. Inseparability as one of the defining characteristics of services also results in the producer-consumer interaction assuming great importance within the service offer, and there are many opportunities for things to go wrong during the PG service encounter since the interaction is a complex variable that may be affected by subtle factors of verbal and non-verbal communications between the higher education personnel and PG students.

Bitner et al. (1994: 95) assert that the customer's perception of the service encounter is a crucial component in the evaluation of the total quality of the service. This is particularly true of repetitive services (such as between PG students and their supervisors/the institution), where long-term relations depend on a number of 'moments' of truth', since PG students interact closely with their supervisors for several years.

According to the relationship marketing literature (Christopher, Payne & Ballantine 1993) the practice of relationship marketing is most applicable to a service organization in which, inter-alia, the service customer controls the selection of the service supplier and there is ongoing or periodic desire for the service on the part of the service customer. The encounter between the PG student and his/her supervisor (and the institution) can be described as a 'relationship-based' series of encounters, since each encounter cannot be viewed in isolation and as being discrete from preceding exchanges. Thus the service experience and overall perception of the service and service quality is the sum total of the student's perception of all encounters (personal and non-personal) with the institution and its representatives.

Although the amount of day-to-day contact between the individual PG students and their supervisor(s) can vary dramatically, it is largely via this route that the individual PG students have their direct contact and are guided through their interactions with the administrative/academic functions of the institution (Cryer & Mertens 2003: 93). Many of the regulations and guidelines for postgraduate training programmes therefore both rely and place responsibility on the supervisor to complete research activities as well as a significant number of administrative tasks.

Hair (2006: 9) postulates that the supervisory relationship is very important in the PG encounter. In order to manage quality and build lasting relationships, it is important to understand what happens in these encounters and what affects the customer's perception of them. Furthermore, Dann (2008: 333) asserts that postgraduate research supervision is a complex service encounter drawing on the pedagogical structures of higher education and the interpersonal dynamics of highly customized service delivery. Some researchers, such as Dann (2008: 336) identified the tensions between the students' expectations of the research degree and their lived experience of the process (expected experience and the reality of the supervision) as a contributing factor to thesis delays or dropout. McCormack (2004, as cited by Dann 2008) identified the gap between the expectations of the research process and the reality of the research experience as a primary factor in the non-completion of a student's thesis. In order to identify and measure the cause of the breakdown and 'gaps' between what is promised and what is actually delivered, Parasuraman, Zeithaml and Berry (1988) developed the SERVQUAL instrument, which became the most widely used and sometimes contested tool to measure service quality in different types of institutions.

Some researchers, such as De Beer and Mason (2009, as cited by De Jager and Gbadamosi 2010: 237), argue for a blended approach to research supervision, where much contact takes place on an electronic basis, and less on a traditional written or face-to-face basis. However, even if the personal contact is minimized, the students will develop perceptions of the supervisory relationship based on their electronic interactions, which in turn will contribute towards their perception of the overall PG service experience. While there has been sufficient consensus on the importance of service quality issues in higher education, the identification and implementation of the right measurement instrument remains a challenge for practitioners who aim to gain a better understanding of the quality issues that affect students' experiences (De Jager & Gbadamosi 2010: 251). Since education is essentially a service industry, its management practices are typically concerned with issues such as quality, which fall within the aegis of services marketing. Perhaps the most straightforward manner in which to apply the services marketing perspective is to borrow general marketing measurement instruments directly from the field and apply them to PG education. Thus, in an effort to address this challenge, the next section of this paper presents an attempt to develop an instrument developed to measure PG service quality.

4. ASSESSING SERVICE QUALITY IN HIGHER EDUCATION

Service quality has been conceptualized as a subject and various instruments to measure service quality perceptions have been developed; however, measuring service quality in higher education has received limited attention (Firdaus 2006) and a review of the literature reveals that the most popular instrument is SERVQUAL (Parasuraman et al. 1988). The SERVQUAL instrument, which is also known as the GAPS model, since service quality is conceptualized as the gap between customer expectations and perceptions, presents the respondent with 22 service attributes grouped into five dimensions, namely, tangibles, reliability, responsiveness, assurance and empathy, which they rate using a Likert-type scale response format.

Alridge and Rowley (1998: 200) assert that the application of SERVQUAL in higher education has not been without criticism. Some of the criticisms include the need to ask the same questions twice, and the fact that the instrument captures a snapshot of perceptions at one point in time. To overcome some of the criticisms, Alridge and Rowley (1998) opted to survey perceptions only and exclude expectations in their survey of student satisfaction. Furthermore, Hair (2006: 11), asserts that the work carried out so far using SERVQUAL in a higher education context would seem to suggest that the instrument can be used successfully, as long as the modifications are kept to a minimum. However, the author goes on to state that there is little or no research specifically using SERVQUAL on PhD students or on supervisors. In their quest to develop better research instruments that are also more appropriate to the nature of the service, some researchers (Drennan 2008) report on the PREQ (Postgraduate Research Questionnaire), which was introduced in Australia in 2002 against a background of increased attention to quality and accountability in the Australian higher education sector. PREQ is a multidimensional measure of graduate students' experience of research and research supervision and is based on the principle that students' perceptions of research supervision, infrastructural and other support, intellectual climate, goals and expectations will influence their evaluations of the outcomes achieved as a consequence of their research experience (ACER 2000, as cited by Drennan 2008: 490).

Other researchers, such as Ginns et al. (2009) further adapted PREQ to develop the SREQ (Student Research Experience Questionnaire) to investigate the PhD students' evaluations, in which the focus was on the overall postgraduate experience at the broad level of university and disciplines (faculties and departments) within a university, rather than on the effectiveness of the individual supervisor. Ginns et al. (2009: 582) further emphasize that the SREQ's design applies theory derived from studies of teaching and learning in higher education to the experiences of postgraduate research students. The PREQ, which consists of 28 items rated using a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree', as well as a 'do not apply' option, was developed to gather data concerning the

experience of research degree (master's and doctoral) graduates with respect to broad aspects of their studies. This research instrument focuses on six areas of the research higher degree experience, namely, supervision, climate, infrastructure, thesis/dissertation examination, goal clarity and generic skill development. Ginns et al. (2009: 580) report that the PREQ instrument had a clear factor structure, and that the scales had acceptable internal consistency estimates of reliability.

For the purpose of this study, the PGSQUAL (Postgraduate Research Service Quality) instrument was developed primarily by adapting the SERVQUAL instrument (Table 1), which encapsulates the perceptions–expectations gap covering all five service quality dimensions (Zeithaml, Parasuraman & Berry 1990), and incorporating certain elements from the PREQ instrument, as was done in previous studies (Stodnick & Rogers 2008; Dann 2008; Drennan 2008). The adaptation entailed making minor changes to the SERVQUAL statements to fit the context, and combining expectations and perceptions, as was done in previous studies (Govender 1998).

Table 1 reflects the PGSQUAL statements developed to fit the five dimensions of the SERVQUAL instrument, namely, tangibles, reliability, responsiveness, assurance and empathy.

Table 1: Postgraduate Service Quality Measurement: PGSQUAL instrument

Items	Label	Criteria
The accuracy of PG research student records	PGSQ1	Reliability
The ability of staff to understand PG research students' needs	PGSQ2	Empathy
The willingness of staff to assist PG research students	PGSQ3	Responsiveness
The courteousness of staff towards PG research students	PGSQ4	Responsiveness
The promptness of the services offered to PG research students	PGSQ5	Responsiveness
The convenience of operating hours for PG research students	PGSQ6	Responsiveness
The personal attention given by staff to PG research students	PGSQ7	Empathy
The confidentiality with which staff deal with PG research issues	PGSQ8	Empathy
The ability of staff to answer PG research students' queries	PGSQ9	Reliability
Delivering on promises to PG research students do something by a certain time	PGSQ10	Reliability
Always having PG research students' best interests at heart	PGSQ11	Empathy
The sincerity of staff in solving PG research students' problems	PGSQ12	Responsiveness
Performing the PG research service right the first time	PGSQ13	Reliability
The personal attention PG research students receive	PGSQ14	Empathy
Never being too busy to respond to PG research students' requests	PGSQ15	Responsiveness

Telling PG research students exactly when the services will be performed	PGSQ16	Reliability
The financial support for PG research activities	PGSQ17	Tangibility
Honouring promises made to PG research students	PGSQ18	Reliability
The research support services provided for PG research students	PGSQ19	Reliability
The opportunities provided to PG research students for social contact with other PG research students	PGSQ20	Empathy
The PG research ambience in the department/school/ university	PGSQ21	Tangibility
The modernness of library resources and services for PG research studies	PGSQ22	Tangibility
The efforts made to ensure that PG research students develop an understanding of the standard of work expected	PGSQ23	Empathy
The seminar programmes provided for PG research students	PGSQ24	Assurance
The freedom allowed to PG research students to discuss their research needs	PGSQ25	Assurance
The opportunities provided to PG research students to become integrated into the broader school/university research culture	PGSQ26	Assurance

In order to assess the PG research service quality, the PGSQUAL instrument was administered to a sample of PG research graduates at a large research university in South Africa.

5. METHODOLOGY

The cohort (816) of master's and doctoral candidates who completed their degrees in 2010 and graduated in 2011 comprised the sample. The names and e-mail contact details of the graduates were obtained from the graduation office, and two approaches were used to reach the population. The electronic version of the questionnaire, using QuestionPro (2010), was sent via e-mail to all graduates. Hard copies accompanied by a letter explaining the objectives of the survey and instructions on how to complete and return the questionnaire were distributed at the graduation venues in special envelopes together with the degree certificates. Graduates were asked to return the completed questionnaire or complete the survey within a month from the date of the graduation.

6. FINDINGS

6.1 Response Rate

Of the 816 graduates contacted by e-mail and through the distribution of questionnaires, 220 respondents viewed the questionnaire, and 120 attempted the electronic survey but only 117 completed it. It became evident from the data extracted via an electronic survey instrument (Questionpro.com), that the average time taken to complete the questionnaire was 17 minutes.

The survey was conducted over a month (April–May 2011), during which period weekly e-mail reminders were sent encouraging the graduates to participate by completing the online questionnaire. The analysis was conducted from a final response rate of 40% (based on the 220 who viewed the questionnaire).

6.2 Descriptive Data

The sample comprised 58% black graduates, 23.2% white graduates and 16.1% Indian graduates. The majority of the graduates completed the coursework Master's (35.1%) and full research Master's (37.7%) degrees. The breakdown per faculty of the graduates was as follows: Human Development and Social Studies (27.4%), Management Studies (17.1%); Science and Agriculture (21.4%). The faculties that were least represented were Education (6%), Law (0.9%) and the Medical School (6.8%). For unknown reasons, many graduates had not completed this section of the questionnaire.

6.3 Validity and Reliability of the PGSQUAL Instrument

Since the PGSQUAL was a newly developed research instrument, it was necessary to validate it before being able to comment on the PG students' perceptions of the PG research service quality.

Coakes and Steed (2003: 140) state that although there is a number of different reliability coefficients, one of the most commonly used is the Cronbach's alpha. A value of 0.7 or higher is a very good value that can lead us to say that we would get the same results if we conducted this survey with a larger sample of respondents. The 26-item PGSQUAL instrument produced a Cronbach's alpha value of 0.978, which validates the use of the questions and the scales used since this revealed good internal consistency.

Factor analysis was carried out to identify unique factors present in the data, and as such assess the discriminant validity of the measuring instruments. Principal component analysis was adopted with varimax rotation, using the SPSS version 18 software. It is evident from Table 2 that two factors explained 72.180% of the cumulative variance among the items comprising the PGSQUAL instrument.

Table 2: Total Variance Explained: PGSQUAL

Component	Initial Eigen Values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
PGSQ1	16.957	65.221	65.221	16.957	65.221	65.221	11.288	43.415	43.415
PGSQ2	1.810	6.960	72.180	1.810	6.960	72.180	7.479	28.765	72.180
PGSQ3	.920	3.538	75.718						
PGSQ4	.785	3.020	78.738						
PGSQ5	.695	2.674	81.413						
PGSQ6	.603	2.320	83.733						
PGSQ7	.556	2.137	85.870						
PGSQ8	.448	1.723	87.593						
PGSQ9	.434	1.671	89.265						
PGSQ10	.414	1.592	90.857						
PGSQ11	.328	1.260	92.117						
PGSQ12	.278	1.068	93.185						
PGSQ13	.269	1.033	94.219						
PGSQ14	.230	.883	95.102						
PGSQ15	.220	.846	95.949						
PGSQ16	.185	.712	96.661						
PGSQ17	.159	.611	97.271						
PGSQ18	.144	.555	97.826						
PGSQ19	.119	.458	98.284						
PGSQ20	.105	.405	98.689						
PGSQ21	.099	.380	99.070						
PGSQ22	.074	.285	99.355						
PGSQ23	.065	.251	99.606						
PGSQ24	.052	.198	99.805						
PGSQ25	.035	.136	99.941						
PGSQ26	.015	.059	100.000						

Extraction method: Principal component analysis

The rotated factor loadings' table was further examined to find out which questions were not loading at all on the factors and could hence be eliminated, and the factor analysis rerun. Although the literature (Kline 1994) suggests that a factor loading of 0.3 or greater can be considered to be significant, given the large number of items in the PGSQUAL instrument, it was advisable to adopt the principle that factor loadings of 0.4 or higher are considered to be significant. Without doing so, the number of items in the data set would not have been reduced, and the key reason for conducting a factor analysis, which is to reduce the number of items to a possible set of items, would have been defeated.

It is evident from Table 3 that all the items loaded on two factors, with all loadings above 0.4. Factor 1 ('Research Supervisor') comprised the following PGSQUAL items: SQ1-SQ16, SQ18 and SQ23. Factor 2 ('Institutional Support') comprised items SQ17, SQ19-25 and Sq26.

Table 3: Rotated Component Matrix[a]

PGSQUAL Items	Component	
	1	2
PGSQ3: The willingness of staff to assist PG research students	.868	.200
PGSQ4: The courteousness of staff towards PG research students	.861	.178
PGSQ10: Delivering on promises to PG research students to do something by a certain time	.833	.280
PGSQ5: The promptness of the services offered to PG research students	.817	.338
PGSQ13: Performing the PG research service right the first time	.813	.398
PGSQ2: The ability of staff to understand PG research students' needs	.797	.351
PGSQ14: The personal attention PG research students receive	.794	.442
PGSQ9: The ability of staff to answer PG research students' queries	.780	.327
PGSQ7: The personal attention given by staff to PG research students	.768	.427
PGSQ12: The sincerity of staff in solving PG research students' problems	.763	.466
PGSQ6: The convenience of operating hours for PG research students	.747	.521

PGSQ15: Telling PG research students exactly when the services will be performed	.735	.477
PGSQ11: Always having PG research students' best interests at heart	.689	.539
PGSQ8: The confidentiality with which staff deal with PG research issues	.679	.462
PGSQ23: The efforts made to ensure that PG research students develop an understanding of the standard of work expected	.663	.500
PGSQ1: The accuracy of PG research student records	.656	.352
PGSQ18: Honouring promises made to PG research students	.648	.574
PGSQ6: The convenience of operating hours for PG research students	.634	.390
PGSQ17: The financial support provided to PG research students	.263	.798
PGSQ19: The research support services provided to PG research students	.407	.796
PGSQ26: The opportunities provided to PG research students to become integrated into the broader department/school/university research culture	.290	.795
PGSQ20: The opportunities provided to PG research students for social contact with other postgraduate research students	.299	.736
PGSQ22: The modernness of library resources and services for PG research studies	.199	.706
PGSQ25: The freedom allowed to PG research students to discuss their research needs	.520	.699
PGSQ21: The PG research ambience in the department/school/ university	.430	.688
PGSQ24: The seminar programmes provided for PG research students	.309	.685

Rotation method: Varimax with Kaiser normalization

In order to add further integrity to the analysis, a reliability analysis was carried out on the actual factors themselves. The two factors, namely, 'supervisor/service employee' and 'institutional support', produced acceptable Cronbach's alpha values (0.978 and 0.910 respectively), which implied that the two-factor PGSQUAL instrument revealed good internal consistency (Coakes & Steed 2003).

Given the results of the validity and reliability tests, it can be concluded that the PGSQUAL instrument developed through this study is fairly reliable and valid to assess the PG research service quality.

6.4 Perceptions of Postgraduate Research Service Quality

The PG research students were requested to indicate their assessment of the PG research service quality on a five-point scale, where 1 = Worse than expected and 5= Better than expected, by referring to each of the 26 items of the PGSQUAL instrument.

Considering the nature of the scale, the mean values for the PGSQUAL (above 3 and tending towards 4) show that for the majority of the questions, the respondents perceived the PG research service quality to be 'better than expected'. The one sample t-test was conducted to further verify whether the mean PGSQUAL score was less than or equal to 3, and it was ascertained that at the 5% significance level since the p-value is 0.000, the mean score is equal to and greater than 3. Hence, we conclude that the perceptions of the PG research students with respect to the overall PG research service quality is tending towards 'expected' or 'better than expected'.

It is also evident from Table 4 that PG research students did not perceive the financial support for PG research activities or the opportunities provided to PG research students for social contact with other PG students to have met their expectations. These two items are clustered under the 'institutional support' factor. Furthermore, additional 'institutional support' items (PGSQ18-21, PGSQ24-26), produced a mean perception score of almost less than 3.500, implying that the PG research students' were almost 'neutral' about their perceptions. Being 'neutral' does not mean that the higher education institution should remain complacent since this could lean towards either “better than expected' or 'worse than expected'. The objective should be to offer a research service which would result in PG research students perceiving the research service quality as being 'better than expected'. However, the interpretation of the perception 'better than expected' should also be with some caution, since PG research students could have had low expectations of the higher education institution due to among other factors, the institutions' marketing of its PG research service and from informal conversations with other PG research students.

A similar interpretation as the above could be made of items PGSQ2, 10-11; 14-16, with respect to the service offered by the research supervisor, since the mean perception score is also less than 3.500.

Table 4: PG Students Research Service Quality Perceptions

PGSQUAL items	Mean	Median	Mode	Std. Deviation
PGSQ1: The accuracy of PG research student records	3.836	4.000	4.00	1.080
PGSQ2: The ability of staff to understand PG research students' needs	3.425	4.000	4.00	1.177
PGSQ3: The willingness of staff to assist PG research students	3.666	4.000	4.00	1.106
PGSQ4: The courteousness of staff towards PG research students	3.670	4.000	4.00	1.054
PGSQ5: The promptness of the services offered to PG research students	3.470	4.000	4.00	1.183
PGSQ6: The convenience of operating hours for PG research students	3.669	4.000	3.00	1.060
PGSQ7: The personal attention given by staff to PG research students	3.529	4.000	4.00	1.157
PGSQ7: The confidentiality with which staff deal with PG research issues	3.611	4.000	4.00	1.021
PGSQ9: The ability of staff to answer PG research students' queries	3.466	4.000	4.00	1.178
PGSQ10: Delivering on promises to PG research students do something by a certain time	3.440	3.500	3.00	1.133
PGSQ11: Always having PG research students' best interests at heart	3.271	3.000	3.00	1.222
PGSQ12: The sincerity of staff in solving PG research students' problems	3.490	3.500	3.00	1.123
PGSQ13: Performing the PG research service right the first time	3.456	3.000	3.00	1.082
PGSQ14: The personal attention PG research students receive	3.382	3.000	3.00	1.053
PGSQ15: Never being too busy to respond to PG research students' requests	3.352	3.000	3.00[a]	1.191
PGSQ16: Telling PG research students exactly when the services will be performed	3.207	3.000	3.00	1.227
PGSQ17: The financial support for PG research activities	2.788	3.000	3.00	1.326
PGSQ18: Honouring promises made to PG research students	3.220	3.000	3.00	1.202
PGSQ19: The research support services provided for PG research students	3.029	3.000	3.00	1.246
PGSQ20: The opportunities provided to PG research students for social contact with other PG research students	2.960	3.000	3.00	1.265
PGSQ21: The PG research ambience in the department/school/university	3.294	3.000	3.00	1.182

PGSQ22: The modernness of library resources and services for PG research studies	3.626	4.000	4.00	1.174
PGSQ23: The efforts made to ensure that PG research students develop an understanding of the standard of work expected	3.640	4.000	4.00	1.083
PGSQ24: The seminar programmes provided for PG research students	3.349	3.000	3.00	1.185
PGSQ25: The freedom allowed to PG research students to discuss their research needs	3.392	3.500	4.00	1.211
PGSQ26: The opportunities provided to PG research students to become integrated into the broader department/school/university research culture	3.019	3.000	3.00	1.283

To sum up, the PG research students' perception of their research service quality experience guards against what Schneider and Bowen (1995) refer to as the “human resources trap”, by emphasizing both personal as well as non-personal contact, and by embracing the broader definition of the service encounter to refer to any situation in which students come into contact with any aspect of the institution and use that contact as a basis for judging quality. The higher education institution therefore has to manage each of these situations and encounters so as to ensure a seamless service experience for the PG research student. In view of the supervisor's pivotal role, better support for supervisors would be an effective mechanism to provide better support for postgraduate students.

7. CONCLUSION, LIMITATIONS AND OPPORTUNITIES FOR FUTURE RESEARCH

Since all the PGSQUAL items loaded reliably on two factors, 'Research Supervisor' (SQ1-SQ16; SQ18 and SQ 23) and 'Institutional Support' (SQ17; SQ19-25 and SQ26), it can be concluded that higher education managers, particularly those responsible for PG research education, should take careful note of the items that comprise these two factors, and should monitor and manage these in a manner that would contribute towards improving the PG service experience and perceptions of PG research quality. Strategies need to be developed on the premise that giving and receiving regular and ongoing feedback between students and supervisors plays a crucial role in addressing previously identified student and supervisor concerns. This strategy may support the development and maintenance of quality student–supervisor relationships with the potential to increase degree-completion rates and perceptions of PG research service quality. A postgraduate manual that includes guidelines for discussion and reflection between student and supervisor could also be developed.

It must be emphasized that the rationale for conducting this research is 'improvement', which is sometimes referred to as 'closing the quality loop' (Nair, Bennett & Mertova 2010: 554), because although many tertiary institutions around the world collect student feedback, the translation of this feedback into actual institutional change is not always clearly evident or properly understood.

The mere collection of student feedback using questionnaires does not in itself lead to improvement in teaching and learning; instead, there should be evidence that such feedback is factored into staff development plans, curriculum development, assessment development, institutional postgraduate policies, and so on.

Academic research supervisors can benefit from the use of service quality delivery systems that aid in supervision design, understanding of student needs and expectations, and addressing gaps between what the student perceives, and the supervisor believes is occurring in the supervision arrangement.

As was pointed out in the literature, the use of the SERVQUAL instrument and any adaptations of this instrument to assess service quality in education had been somewhat problematic. Thus, the suggestion by Alridge and Rowley (1998) that performance be measured against a 'student charter' could be an alternative method of assessing PG students' perceptions of the service experience and service quality.

A common problem in using surveys of graduates' experience at the time of graduation as performance indicators is the lag between experience and report. This may be true for the current study as well. Research into the service experience should be as real and recent as possible: that is, interviews should be conducted as close to the consumption of an actual service as possible, so that evaluations remain fresh in the consumers' minds and so that experiential benefits are not forgotten or replaced with more cognitively accessible functional benefits.

While this research has enhanced our understanding of the PG research quality, it is somewhat static in nature and does not provide detailed insights into the dynamics of the service encounter. For example, it does not indicate how PG students might trade off their evaluations of different aspects of the service experience in arriving at an overall satisfaction.

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