Exploring Postgraduate Research Service Quality: Comparing Supervisors' and Students' Perceptions

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Abstract

Since most studies on postgraduate (PG) research have been conducted from the PG students' perspective, this study explores the perceptions of PG research service quality from the perspective of both 'actors' in the PG service encounter. By conducting an electronic survey among a group of postgraduates and research supervisors in a leading research university in South Africa, using a specially developed and validated 26 items PG research quality measurement instrument (PGSQUAL), it was ascertained that although overall the perceptions between the groups does not differ much, however with regard to nine of the 26 service quality measurement items, there was a difference in perception. Since the difference in service quality perception between both groups should be minimal, after validating the study among a larger sample, university management responsible for PG research promotion and development, should focus on implementing strategies which minimize the 'gap' in service quality perception.

Keywords: service quality, postgraduate research, research service quality

Introduction

The post graduate (PG) higher education environment is becoming very competitive and higher education institutions (HEIs) are exploring and implementing various strategies, inter-alia, improving the service experience

and service quality, to attract and retain postgraduate (PG) students. Enhancing the PG experience and PG service quality (PGSQUAL) will serve to not only attract PG students through 'word of mouth' and other means, but may contribute to successful completion of masers and doctorates.

Considering that the interaction between the supervisor and PG student (the service encounter) is key to enhancing the service experience and service quality, it is important to understand how each 'role player' perceives the service quality so that differences in perception may be identified and strategies implemented to rectify the situation, by strengthening areas where there is agreement and modifying areas where differences occur.

Postgraduate Education as a Service

Two different approaches have been adopted in the way higher education institutions (HEIs) treat their students, namely the customer-oriented (student-customer) approach and, the student-product approach. While some researchers (Albanese 1999; Emry, Kramer & Tian 2001) contend that students should not be viewed as customers, there is overwhelming support for the contrary view, namely viewing students as customers and, adopting the principles of customer service and Total Quality Management to the education environment (Obermiller, Fleenor & Raven 2005: 27-36). Angell, Hefferman and Megicks (2008: 236) assert that given that higher education provision is a service, it is understandable for HE providers to adopt a more 'customer-led' approach.

Certain researchers (Sunanto, Taufiquarrahman & Pangemanan 2007; Liu 2010), argue that whether we view the (PG) student as a customer or not depends on how we define a customer. According to these researchers, if we think customers need specialized services and our assistance to accomplish a task, as is the case of PG research students, and if we believe students are full partners in their education and that they can help to improve our teaching through their thoughtful comments, then they should be considered as our primary customers. The aforementioned view, upon which this study is premised, implies that the theory and methodologies applied in services management, are equally applicable to the higher education environment. Thus, by borrowing from and, adapting the service quality

measurement and management literature and tools, the perceptions of PG research quality are determined from both the service providers' and service recipients' perspective.

Assessing Postgraduate Research Service Quality

Although the conceptualization and measurement of service quality as a subject and, service quality perceptions has been widespread, however measuring service quality in HE has received limited attention (Firdaus 2006). A review of the literature reveals that the most popular scale is the SERVQUAL (Parasuraman, Zeithaml & Berry 1988) 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 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.

Against a background of increased attention to quality and accountability in the Australian higher education sector, the PREQ (Postgraduate Research Questionnaire) was developed and introduced in Australia in 2002 (Drennan 2008). The PREQ is a multidimensional measure of graduate students' experience of research and research supervision and is based on the principle that student's perception 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).

The PREQ was further modified 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 at the effectiveness of the individual supervisor (Ginns, Marsh, Behnia, Cheng & Scalas 2009). Ginns et al. (2009: 582) emphasized that the SREO's design applies theory derived from studies of teaching and learning in higher education to the experiences of PG research students. The PREQ which consists of 28 items 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 (masters and doctorate) 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) reported that the PREQ instrument had a clear factor structure, and the scales had acceptable internal consistency estimates of reliability.

For the purpose of this study, a 26 item PGSQUAL (postgraduate research service quality) instrument was developed (Govender & Ramroop 2011) primarily by adapting the SERVQUAL instrument which encapsulates the perceptions-expectations gap covering all five service quality dimensions (Parasuraman *et al.* 1988), 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).

With respect to the 26 items (Table 1) pertaining to specific aspects of the PG research service quality, the respondents were requested to indicate their perceptions on a 5-point Likert scale whether the service quality was 'better' or 'worse' than expected, where 1= Worse than expected and 5= Better than expected.

Methodology

Two groups of respondents, PG research supervisors and graduating post-graduates were surveyed using the same (PGSQUAL) instrument. The first

group comprised masters and doctorate candidates who graduated at a large research university in 2011 and, PG research supervisors of the same group of students. The name list and e-mail contact details of the graduates was obtained from the graduations office, and two approaches were used to reach the graduates. The electronic version of the questionnaire, using QuestionPro (2010) was sent via an e-mail to all graduates by providing the specific link. This was supported by hardcopies of the questionnaire accompanied by an explanatory letter explaining the objectives of the survey and instructions on how to complete and return the questionnaires which were distributed at the graduation venues in special envelopes together with the degree certificates. Graduates were asked to return the completed questionnaire within a month from the date of the graduation.

A general e-mail was also sent to all PG research supervisors of the same university which produced the 816 research (masters and doctorate) graduates. The e-mail explained the purpose of the research and requested the research supervisors to follow the link to the questionnaire which was also uploaded onto QuestionPro. Regular (weekly) e-mail reminders were sent to the research supervisors appealing to them to complete the survey.

Empirical Findings

Response Rate and Biographic Data

Although 221 graduates (out of 816) viewed the questionnaire, the final response in terms of those who completed the questionnaire was 40%; and although 200 PG research supervisors viewed the questionnaire, only 46 started it and 44 completed it, implying a high (95.65%) completion rate, but a poor (22%) response rate.

In terms of supervision experience, for the majority (67.7%) of research supervisors, the modal supervision experience was 'more than 5 years'. The modal number of years that the respondents spent at UKZN was 1-5 years (27%), followed by 5-10 years (16.2%), and 15-20 years (16.2%).

Validity and Reliability of the Research Instrument

Since the PGSQUAL was a newly developed research instrument, there was need to validate it before being able to comment on the PG research

supervisors' perception of service quality. Coakes and Steed (2003: 140) state that although there are a number of different reliability coefficients, one of the most commonly used is the Cronbach's alpha, and that a value of 0.7 or higher is a very good value that can lead us to say that we will get the same results if we conducted this survey with a larger sample of respondents.

The 26 item PGSQUAL instrument administered to the research supervisors and PG research students produced Cronbach alpha values of 0.944 and 0.978 respectively, which implies that the questions and the scales used are fairly reliable, since they 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. The Principal Components method was adopted with varimax rotation using the SPSS Version 18 software. It is evident from Table 1 that the PGSQUAL instrument used to assess the research supervisor's perception of the PG research service quality comprised fairly valid and reliable items, since the factor loadings exceeded 0.4 and, the Cronbach's alpha values for each factor was as follows: 0.94; 0.85; 0.88; 0.83; 0.70; 0.70, all of which exceeded 0.7 (Coakes & Steed 2003).

Table 1: Factor Loadings-PGSQUAL-Research Supervisor

	1	2	3	4	5	6
Delivering on promises made to PG students to do something by a certain time	82	.26	.25	-0.0	.24	02
Sincerity of staff in solving PG students' problems	.81	.36	.12	01	.22	.18
Performing the PG services right the first time	.79	.35	.13	.06	.09	.09
Opportunities provided to PG students for social contact with other PG students	.74	15	.15	.15	.07	.26
Always having the PG students' best interest at heart	.73	.45	.25	08	.24	.19
Research support services available to PG students	.72	22	.22	.37	- .14	00

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The ability of staff to answer PG students' queries	.68	.20	.27	.24	.21	.34
Honouring promises made to PG students	.65	.34	.38	04	.18	.10
The personal attention given to PG students	.57	.44	.38	.12	.31	.20
Willingness of staff to assist PG students	.10	.78	.10	.13	.14	.47
The courteousness of staff towards PG students	.13	.77	.25	.17	.12	.34
Accuracy of PG records	.35	.77	09	.06	.12	00
Financial support for PG students' research activities	.24	18	.78	.32	.06	.07
Never being too busy to respond to PG students' requests	.38	.38	.70	.03	.19	.08
Telling the PG student exactly when the services will be performed	.39	.22	.61	.15	.25	.31
The promptness of the services offered to PG students	.44	.16	.58	01	.27	.37
The personal attention given by staff to PG students	.46	.44	.47	.15	.24	.17
PG research ambience in the department/school	.14	.23	08	.87	.05	00
Seminar programmes provided to PG students	03	.08	.39	.79	.1 1	.15
Opportunities provided to PG students to become integrated into the broader department/ school/university research culture	.07	13	.11	.65	.49	.13
Freedom allowed to PG students to discuss their research needs	.35	.40	.15	.55	.50	.13

The confidentiality with which staff deal with PG student issues	.29	.17	.31	11	.76	.10
Efforts made to ensure that PG students develop an understanding of the standard of work expected	.12	.23	.10	.46	.73	03
Modernness of library resources and services for PG students	.49	.14	31	.17	.50	.23
The convenience of university operating hours for PG students	.24	.12	.19	.14	.04	.83
Ability of staff to understand PG students' needs	.14	.31	.08	.01	.17	.73

A similar procedure was implemented to validate the PGSQUAL instrument administered to the PG research students. The results reflected in Table 2, also indicate that the instrument was valid and reliable.

Table 2: Factor Loadings-PGSQUAL-Research Students

ITEM	DESCRIPTION	COMPONENT	
	DESCRIFTION	1	2
SQ3	The willingness of staff to assist PG research	.86	.20
	students		
SQ4	The courteousness of staff towards PG	.86	.17
	research students		
SQ10	Delivering on promises to PG research	.83	.28
	students to do something by certain time		
SQ5	The promptness of the services offered to PG	.81	.33
	research students		
SQ13	Performing the PG research service right the	.81	.39
	first time		
SQ2	The ability of staff to understand PG	.79	.35
	research students' needs		

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SQ14	The personal attention PG research students receive	.79	.44
SQ9	The ability of staff to answer PG research students' queries	.78	.32
SQ7	The personal attention given by staff to PG research students	.76	.42
SQ12	The sincerity of staff in solving PG research students' problems	.76	.46
SQ16	The convenience of operating hours for PG research students	.74	.52
SQ15	Telling PG research students exactly when the services will be performed	.73	.47
SQ11	Always having PG research students' best interest at heart	.68	.53
SQ8	The confidentiality with which staff deal with PG research issues	.67	.46
SQ23	The efforts made to ensure that PG research students develop an understanding of the standard of work expected	.66	.50
SQ1	The accuracy of PG research student records	.65	.35
SQ18	Honouring promises made to PG research students	.64	.57
SQ6	The convenience of operating hours for PG research students	.63	.39
SQ17	The financial support provided to PG research students	.26	.79
SQ19	The research support services provided to PG research students	.40	.79
SQ26	The opportunities provided to PG research students to become integrated into the broader department/school/university research culture	.29	.79
SQ20	The opportunities provided to PG research students for social contact with other postgraduate research students	.29	.73

SQ22	The modernness of library resources and	.19	.70
	services for PG research studies		
SQ25	The freedom allowed to PG research students	.52	.69
	to discuss their research needs		
SQ21	The PG research ambience in the	.43	.68
	department/school/university		
SQ24	The seminar programmes provided for PG	.30	.68
	research students		
	Cronbach's Alpha	0.97	0.91

Discussion of Findings

Table 3 reflects the respondents mean (on a scale of 1-5) service quality perception scores. Considering the nature of the scale, the mean values for the PGSQUAL (above 3 and closer to 4) show that for the majority of the questions, both the PG research supervisor and student perceived the PG research service quality to be 'better than expected'. The one sample t-test was conducted to further verify the proposition that the mean PGSQUAL score was equal to or greater than 3, and it was ascertained that at the 5% significance level, we accept the proposition, since the p-value is 0.000. Hence, it can be concluded that the perceptions of the respondents with respect to the overall PG research service quality is tending towards 'expected' or 'better than expected'.

Table 3: Mean Research Service Quality Perception Scores

ITEMS	DESCRIPTION	SUPERVISO	STUDENT
		R	
SQ1	Accuracy of PG records	3.0000	3.8365
SQ2	Ability of staff to understand PG students' needs	2.9459	3.4257
SQ3	Willingness of staff to assist PG students	3.2703	3.6667

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SQ4	The courteousness of staff towards PG students	3.2973	3.6700
SQ5	The promptness of the services offered to PG students	2.7838	3.4706
SQ6	The convenience of university operating hours for PG students	2.8108	3.6699
SQ7	The personal attention given by staff to PG students	3.4054	3.5294
SQ8	The confidentiality with which staff deal with PG student issues	3.5135	3.6117
SQ9	The ability of staff to answer PG students' queries	3.1622	3.4660
SQ10	Delivering on promises made to PG students to do something by a certain time	2.8108	3.4405
SQ11	Always having the PG students' best interest at heart	3.0811	3.2718
SQ12	Sincerity of staff in solving PG students' problems	3.1351	3.4902
SQ13	Performing the PG services right the first time	2.9189	3.4563
SQ14	The personal attention given to PG students	3.2432	3.3824
SQ15	Never being too busy to respond to PG students' requests	2.9189	3.3529
SQ16	Telling the PG student exactly when the services will be performed	2.7838	3.2079
SQ17	Financial support for PG students' research activities	2.4054	2.7885
SQ18	Honouring promises made to PG students	3.0000	3.2200
SQ19	Research support services available to PG students	2.7568	3.0294

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SQ20	Opportunities provided to PG students for social contact with	2.2973	2.9608
	other PG students		
SQ21	PG research ambience in the	3.5405	3.2941
	department/school		
SQ22	Modernness of library resources	3.3243	3.6263
	and services for PG students		
SQ23	Efforts made to ensure that PG	3.4865	3.6408
	students develop an		
	understanding of the standard of		
	work expected		
SQ24	Seminar programmes provided to	3.1622	3.3495
	PG students		
SQ25	Freedom allowed to PG students	3.5405	3.3922
	to discuss their research needs		
SQ26	Opportunities provided to PG	3.0000	3.0194
	students to become integrated into		
	the broader		
	department/school/university		
	research culture		

It is also evident from Table 3, that PG research students did not perceive the financial support for PG research activities as well as the opportunities provided to PG research students for social contact with other PG students as meeting their expectations. These two items are clustered under the 'institutional support' factor. Furthermore, additional 'institutional support' items (SQ18-21; SQ24-26), produced a mean perception score of almost less than 3.500, implying that the PG research students' were almost 'neutral' about their perceptions of institutional support. Being 'neutral' does not mean that the HE institution should remain complacent since this could lean towards either 'better than expected' or 'worse than expected'. The objective should be to offer 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 HE 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 SQ2, SQ10-11; SQ14-16, with respect to the service offered by the research supervisor, since the mean perception score is also less than 3.500.

The Mann Whitney U test was then applied to ascertain significant differences between the two groups with respect to the service quality perceptions. As reflected in Table 4, there are significant differences between the two groups with respect certain service quality measures. At the 5% level, for all the p-values less than 0.05 (items SQ1-SQ6, SQ10, SQ13 and SQ20), it can be concluded that there is a significant difference between the supervisor and the PG research students. These items include: Accuracy of PG Records; Ability of staff to understand PG students' needs; Willingness of staff to assist PG students; The courteousness of staff towards PG students; The promptness of the service offered to PG students; The convenience of university operating hours for PG students; Delivering on promises made to PG students to do something by a certain time; Performing the PG services right the first time; Opportunities provided to PG students for social contact with other PG students.

Table 4: Difference in Service Quality Perception Scores

	ITEMS	Z	p-value
SQ1	Accuracy of PG records	-3.61	.00
SQ2	Ability of staff to understand PG	-2.10	.03
	students' needs		
SQ3	Willingness of staff to assist PG	-2.01	.04
	students		
SQ4	The courteousness of staff towards	-2.21	.02
	PG students		
SQ5	The promptness of the services	-3.11	.00
	offered to PG students		
SQ6	The convenience of university	-4.13	.00
	operating hours for PG students		

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SQ22 Modernness of library resources and -1.09 .27	SQ21		-1.43	.15
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services for PG students	SQ22		-1.09	.27
		services for PG students		

SQ23	Efforts made to ensure that PG	52	.59
	students develop an understanding of		
	the standard of work expected		
SQ24	Seminar programmes provided to PG	90	.36
	students		
SQ25	Freedom allowed to PG students to	80	.42
	discuss their research needs		
SQ26	Opportunities provided to PG	23	.81
	students to become integrated into		
	the broader		
	department/school/university		
	research culture		

With regard to SQ2-SQ5, previous studies (Buttery & Filho 2005; Carrilat, Jaramillo & Mulki 2009) also confirm the findings of this study and emphasize the fact that research supervisors and research administrative staff need to be more courteous towards PG research students. It is therefore important that PG research institutions take note of all the differences in perceptions and implement strategies to minimize the differences, so as to create a PG research environment that reveres and promotes research. However, for the rest (SQ7-SQ9; SQ11-SQ12; SQ14-SQ19; SQ21-SQ260) of the items, since the p-values are all greater than 0.05, it is concluded that there is no difference between the PG research students and the supervisors with respect to these service quality items.

Conclusions, Limitations and Recommendations

In summing up, researchers and practitioners need to be cognizant that when researching the PG research students' perception of their research service quality experience, they should guard against what Schneider and Bowen (1995) refer to as falling into the 'human resources trap', by emphasizing both personal as well as the non-personal contact and embracing the broader definition of the service encounter to refer to anytime when students come into contact with any aspect, and use that contact as one basis for judging quality. The HE institution has to therefore manage all the evidence so as to

ensure a seamless service experience for the PG research student (Jospeh & Joseph 1997). In view of the supervisors' pivotal role, better support for supervisors (Zuber-Skeritt 1994) would be an effective mechanism to provide better support for postgraduate research students. Chung and Law (2010: 255) also assert that educational service quality should be assessed as the 'total experience' so as to capture the entire learning experience of the students during the period of enrolment at the university.

Considering that this study was conducted at the 'end' of the study period, the results may not fully reflect the reality. Thus futures studies should assess PG research students' perceptions before, during and at the end of their studies.

The relatively poor response rate, particularly from the research supervisors limited subjecting the data to specific statistical analysis. Since the study was conducted on the two groups separately, it was not possible to 'match' supervisors with PG students. This should be attempted in future studies.

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