A Service Quality Framework for private higher open distance e-learning institutions in South -Africa

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ABSTRACT

The primary purpose of this paper was to develop an industry-specific service quality framework for private higher education institutions in an open distance e-learning environment in South Africa. Service quality for higher education operations is a key performance objective due to the increasingly competitive, marketing-oriented and highly regulated environment. Using a quantitative research approach, this research was conducted at two private higher education institutes. Data analysis included an exploratory factor analysis (EFA) approach followed by confirmatory factor analysis (CFA). Finally, a service quality framework was compiled consisting of four primary constructs. The paper makes a pioneering contribution and bridges a significant gap with the development of the first Open Distance and e-Learning service quality framework for private higher education institutions in South Africa.

Keywords: service quality dimensions - service quality - higher education - private higher education – OdeL - service quality frameworks

Introduction

Higher education (HE) can be considered as an important driving force of the economic development and innovation of a country, and is regarded as the fastest growing segment of postsecondary education globally. Public and private higher education institutions (HEIs) have differing strategies for knowledge sharing because of their distinct cultural and organisational environments. It can be argued that public HEIs operate within a conservative sphere as a result of their ownership (government) and limited competition, compared to private HEIs (PHEIs) that have to satisfy the needs of their clients (external stakeholders), and have to ensure that they have a good reputation (Hrnčia & Madzík, 2017). Private HEIs need to offer a higher service quality to their students than public universities need to do to become more appealing to students.

Literature review

Competitiveness in higher education

The stiff competition pertaining to tuition fees, decreases in government funding, and demographic and social changes in the HE environment are forcing public HEIs to consider strategies aimed at competitive advantage, distinguishing academic and administrative services, and to focus on student satisfaction. Kruja et al. (2021) espoused that HEIs primarily offer services that establish relationships between them, as service providers, and their students. However, HEIs need to adhere to the higher education sustainability goals that include the following dimensions, namely, education, research, outreach and campus operations (Kanwar et al., 2018; Nage-Sibande & Morolong, 2018; Son-Turan & Lambrechts, 2019).

A thorough review of the relevant academic literature revealed that HEIs acknowledge that for the sake of competitive advantage, their long-term success depends on the quality of services they render to their external stakeholders (Mbise & Tuninga, 2016; Surman et al., 2019). Thus, the quality of the educational services offered by public or PHEIs might be their strong strategy over others to gain a competitive advantage. This is even more important for PHEIs as they do not receive any subsidies from government, private companies, or private listed companies. While service quality is a challenge for any enterprise, it is of particular concern for PHEIs, and is one of their key challenges due to the increasingly competitive, marketing-oriented, and highly regulated environment. In this environment, these institutions must function, survive and compete, not only with one another, but also with public institutions of HE; hence, the problem – competition is on the increase, and PHEIs need to find new ways to compete if they wish to survive in this dynamic service industry environment. The need to develop a service quality (SQ) framework, the implementation and application of which could be the differentiating factor for success.

PHEIs will lose market share if they ignore the importance of service quality in attracting students. The PHEI sector has changed dramatically over the last decade, for example, it is being exposed to global competitive pressures, reduced public funding, and higher expectations from stakeholders. This has transformed the focus of both HEIs and PHEIs to emphasise service quality. As in the broad services industry, PHEIs can distinguish themselves with superior service quality, and be set apart from the rest (Chong & Ahmed, 2014; Tsinidou et al., 2010, Hrnčia & Madzík, 2017).

Service quality

Hrnčia and Madzík (2017) postulated that quality can be viewed as exception, perfection, fitness for purpose, value for money, and finally, as transformative. HE is not only viewed as a pure service, but also an educational service that falls into the field of services marketing, which means that HE exhibits all the characteristics of a service provider (Adel, 2017). Service quality in HE is intangible and heterogeneous because it meets the criterion of inseparability by being produced and consumed simultaneously, and assumes students' participation in the delivery process. The concepts of service quality are, therefore, directly applicable to HE.

For the purpose of this article, service quality in PHE is defined as 'meeting and exceeding students' expectations and perceptions by constantly rendering a reliable service that conforms to pre-determined requirements for which the student is willing to pay, resulting in tangible and intangible benefits'.

Soni and Govender (2018) referred to the work of Wang (2012) and Dirkse van Schalkwyk and Steenkamp (2014) on the role that service quality plays in South African HEIs, with Vivek et al. (2019) who supported their argument by reflecting on Indian HEIs. The studies by Soni and Govender (2018), Marimon et al. (2019), Kruja et al. (2021), and Parasuraman et al. (1985) among others, to determine the dimensions of SQ in HEIs have identified different variations. The provision of good service quality is commonly associated with increased profitability, customer satisfaction, customer loyalty, customer retention, customer attraction, and positive word of mouth.

SQ is a critical element in HEIs, and there should be no confusion regarding what customers want and how it can be improved to deliver on quality, based on customers' expectations and needs. Only then can strategies and processes be formulated that can contribute to improve customer satisfaction. Several researchers have varying viewpoints as evident from their definitions of service quality, quality, its dimensions, and measurements, but they are all in agreement that defining the characteristics of quality in HE is a prerequisite for the measurement process. Adel (2017) emphasised the importance of fulfilling students' needs as effectively as possible, and to understand the impact of perceived e-learning quality on students' satisfaction.

Open Distance and e-Learning (ODeL)

Open distance learning (ODL) can be defined as a
> …multi-dimensional concept aimed at bridging the time, geographical, economic, social, educational and communication distance between student and institution, student and academics, student and courseware and student and peers. Open distance e-learning focuses on removing barriers to access learning, flexibility of learning provision, student-centredness, supporting students and constructing learning programmes with the expectation that students can succeed. (UNISA, 2018:2).

The integration of technology allows open distance and e-learning (ODeL) to reach a greater audience through the transformation of pedagogical approaches (Kanwar et al., 2018). As a result of the rapid growth of e-learning around the globe, it is becoming increasingly important to assess the perceived quality of e-learning, and its impact on student satisfaction (Adel, 2017). ODeL institutions are gradually becoming a preferred mode of learning, especially since the Covid-19 pandemic that changed the global landscape in March 2020. Considering the African content, countries such as South Africa, Tanzania, Namibia, and Zimbabwe offer dedicated ODeL to prospective students who cannot enrol at residential face-to-face HEIs due to various reasons, such as accessibility, full-time employment, flexibility, convenience, affordability, disability and second chances (Casado-Aranda et al., 2021).

The main objective of this paper is to develop a SQ framework (industry-specific) for ODeL PHE in SA.

Problem statement

The problem pertains to service quality, which is a challenge for any enterprise, but it is of particular concern for PHEIs and one of their key challenges due to the increasingly competitive, marketing-oriented and highly regulated environment. PHEIs in the HE sector are part of the fastest growing service industry in the world, and as such, require appropriate methods and strategies to meet the expectations of a dynamic market. The modern service economy also needs to be more dynamic because of its agile and responsive service demands. The PHEI sector is a growing industry in South Africa as well, and the critical need for excellence is emphasised by the evidence given in the literature review regarding economic survival, and particularly, the lack of an industry-specific ODeL SQ framework for PHEIs.

Research design and methods

The primary aim of the research was to address the problem through the development of an ODeL SQ framework from an external customer (student) perspective in the quest for a comprehensive SQ framework for PHEIs in the ODeL environment in South Africa.
This study followed a quantitative research approach that involved collecting, analysing and interpreting 'quantitative' (numeric) data during the research process. The current study was grounded within the pragmatic philosophical assumption or research paradigm and a deductive process was followed.

For the purpose of this study, the sample consisted of PHEI students from three prominent private ODeL institutions in South Africa. Initially, when this research study was conceptualised, proportional stratified sampling was considered to select participants for the study. However, this approach was reconsidered due to the high level of access to respondents, the support, agreement and acceptance from top management of all the PHEIs involved, as well as the expected low response rate from participants. Another reason for the reconsideration of this approach was the primary objective of this research project, namely: to develop a QS framework for PHEIs in South Africa. In other words, the objective was to develop a framework for the PHEI industry and not to measure and compare service quality between different providers.

After due consideration of the above-mentioned reasons, it seemed logical to distribute the questionnaire to all potentially specified respondents. Following the approach adopted by Tolmay (2012), the questionnaire was then distributed via an online survey platform to all specified students and lecturers of selected PHEIs in the sampling frame, which at the same time can be defined as the target population.

The research process

Figure 1 below indicates the methodological approach followed in this research study.
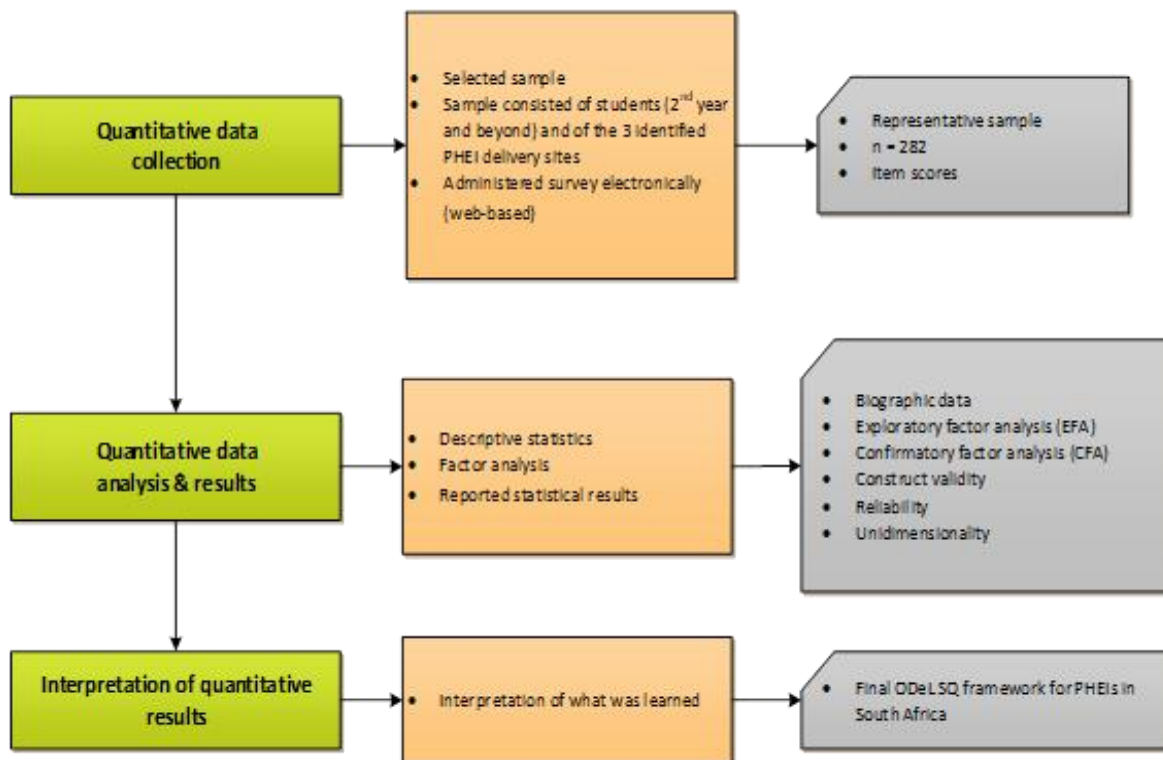
Figure 1: A visual presentation of the research process

An existing questionnaire was adapted according to the objectives of this study. The questionnaire consisted of 37 dimensions (items or constructs) where respondents could respond towards measuring, managing and improving service quality. A total of 282 completed questionnaires were received from the three sites of delivery. The next step was the generation of data from the questionnaire survey. This involved the exploration of the importance of SQ dimensions from the perspective of the external customers (students). After factor analysis, some primary SQ dimensions were identified for incorporation in the framework. The conceptual measurement model was presented in terms of four primary constructs. The data were integrated, culminated, and synthesised into the final ODeL SQ framework.

The use of the exploratory quantitative mono-method research design raised ethical issues had to be considered. Research ethics, according to Saunders et al. (2016:726), can be defined as "the standards of the researcher's behaviour in relation to the rights of those who become the subject of the research project, or who are affected by it". Leedy and Ormrod (2015) put forward that most ethical issues in research fall into one of the following four categories: protection from harm, voluntary and informed participation, right to privacy, and honesty with professional colleagues.

The researchers made every effort to ensure that the study conformed to the categories listed above. Permission to conduct the study was obtained from the institution's College of Economic and Management Sciences Ethics Review Committee (Ref #: 2014_CEMS_BM_017). The measuring instrument was language edited, analysed by a statistician, and a pilot study was conducted. The respondents participated voluntarily, and were informed about their right to withdraw from the study at any time without suffering any negative consequences. The respondents were informed about the purpose and objectives of the research study, and how the results would be used and published.

The quantitative results were captured on the LimeSurvey® web application; hence, respondents were guaranteed confidentiality and anonymity.

Data analysis

This section reports briefly on how the numeric data was analysed during the research process.

The data investigation entailed the factor analyses of the numeric data obtained from the 282 student respondents who participated in the survey. Pallant (2016) indicated that EFA (exploratory factor analysis) is widely used in the early stages of research to gather information about the interrelationships among a set of variables, whereas CFA (confirmatory factor analysis) is a set of more sophisticated techniques used later in the research process to confirm the structure of the underlying set of variables. Both EFA and CFA were used to assess the structure of the variables obtained (Hair et al., 2019).

The factor analysis process

This process provided a conceptual basis for understanding the relationships among variables, and the dimensions gave meaning to what they collectively represent. To this end, and with the development of an ODeL SQ framework in mind, EFA was applied to the data, followed by CFA, as a method of validating the results for further use. The five stages of factor analysis (EFA) recommended by Hair et al. (2019) were used as a guideline to find the structure of the correlations among a large number of variables.

The questionnaire consisted of 37 metric variables (Likert-type scale items) which ensured a reasonable number of variables per factor extracted. It was assumed that some underlying structure (or factors) did exist among the sets of variables. To derive the factors and assess the overall fit, three criteria were used as guidelines, namely, the latent root criterion, percentage of variance criterion, and scree test criterion. Finally, this EFA process provided a summary of the structure displaying each of four primary factors and their associated variables.

The CFA followed to assess and inform the underlying structure of the set of variables obtained from the EFA. This was a fundamental step towards developing an ODeL SQ framework, and the four-step approach for conducting a CFA (Hair et al., 2019) was followed, commencing with defining the individual constructs obtained from the EFA. Hence, the initial model comprised the four primary constructs with specific names. Scale reliability was achieved as a result of the pilot study during the development of the research instrument (questionnaire), and a Cronbach's alpha value of 0.992 indicated good scale reliability among the items (variables). Construct validity of the measurement scale was achieved as a result of using EFA in conjunction with the literature and relevant theory.

Secondly, the development of the overall measurement model implied the definition of the relationships between the constructs and the nature of each construct. The model consisted of 37 indicator variables, measured with a five-point Likert-type scale and four constructs. The assumptions were all constructs that were correlated with all other constructs, and unidimensionality existed among the set of variables. With each variable

relating to only one construct, all cross-loadings were zero to ensure there was no compromise in construct validity.

The third step was the design of the study to produce empirical results (the research design was explained previously). The statistical software package IBM SPSS AMOS 28 was used to specify the model as point of departure, and the fourth step was to assess measurement model validity. This provided an empirical measure of the relationships between variables and constructs, as represented by the initial measurement model. The results provided insight into how the theory (model) compared to practice or 'reality' (sample data), in other words, how well the model fitted the data. Construct validity was tested through several goodness-of-fit (GOF) measures, as well as the achievement of convergent validity with reference to Tables 1 and 2.

Table 1: A comparison of goodness-of-fit statistics

Statistic	Guideline	Observed value
		Conceptual model
CMIN/Df	< 3 Good < 5 Sometimes permissible	2.374
GFI	0.90 Traditional > 0.95 Great	0.93
RMSEA	0.05 Good 0.05–0.10 Moderate > 0.10 Bad	0.07
SRMR	< 0.09 Good	0.04
NFI	> 0.90 Good	0.93
CFI	0.80 Sometimes permissible 0.90 Traditional > 0.95 Great	0.96
TLI	> 0.90 Good	0.94
AGFI	> 0.80 Good	0.90

Source: Author's own compilation

To ensure careful data reduction, the modification approach included the elimination of those items with low loadings, while the average loading for the remaining constructs was near 0.7. It was suitable to follow a labelling procedure to provide each construct with a descriptive name, with an abbreviation for ease of reference. The four primary constructs with each abbreviation in brackets, were:

Construct 1 = Institutional service delivery (ISD)
Construct 2 = Customer focus (CRF)
Construct 3 = Product and processes (PAP)
Construct 4 = Facilities (FAC)

For ease of reference, the standardised loadings are displayed in Table 2 with the Cronbach's alpha, composite reliability (CR) and average variance extracted (AVE) values for each construct.

Table 2: Standardised loadings and reliability for the conceptual model

Construct	Items	Factor loading	Item mean (SD)	Item-total correlation	Construct mean (SD)	Cronbach's alpha	CR	AVE
Institutional service delivery (ISD)	B23	0.82	4.45 (0.711)	0.785	4.49 (0.589)	0.91	0.9	0.633
	B28	0.67	4.55 (0.721)	0.653				
	B24	0.87	4.52 (0.707)	0.807				
	B25	0.82	4.42 (0.708)	0.768				
	B27	0.77	4.48 (0.697)	0.747				
	B26	0.80	4.50 (0.712)	0.746				
Customer focus (CRF)	B10	0.70	4.29 (0.813)	0.599	4.43 (0.631)	0.78	0.7	0.553
	B9	0.77	4.41 (0.778)	0.655				
	B8	0.77	4.59 (0.670)	0.622				
Product and processes (PAP)	B20	0.74	4.32 (0.752)	0.511	4.36 (0.654)	0.67	0.6	0.512
	B19	0.69	4.40 (0.754)	0.511				
Facilities (FAC)	B34	0.86	3.23 (1.339)	0.664	3.21 (1.182)	0.79	0.8	0.668
	B31	0.77	3.19 (1.264)	0.664				

Source: Author's own compilation

Summary of the analysis

The measurement model is presented with the four primary constructs consisting of 13 dimensions (variables). Both the internal and composite reliability scores were strong, and the CFA yielded a model with good fit. The modified model thus demonstrated evidence of unidimensionality and construct validity, as depicted in Figure 2.
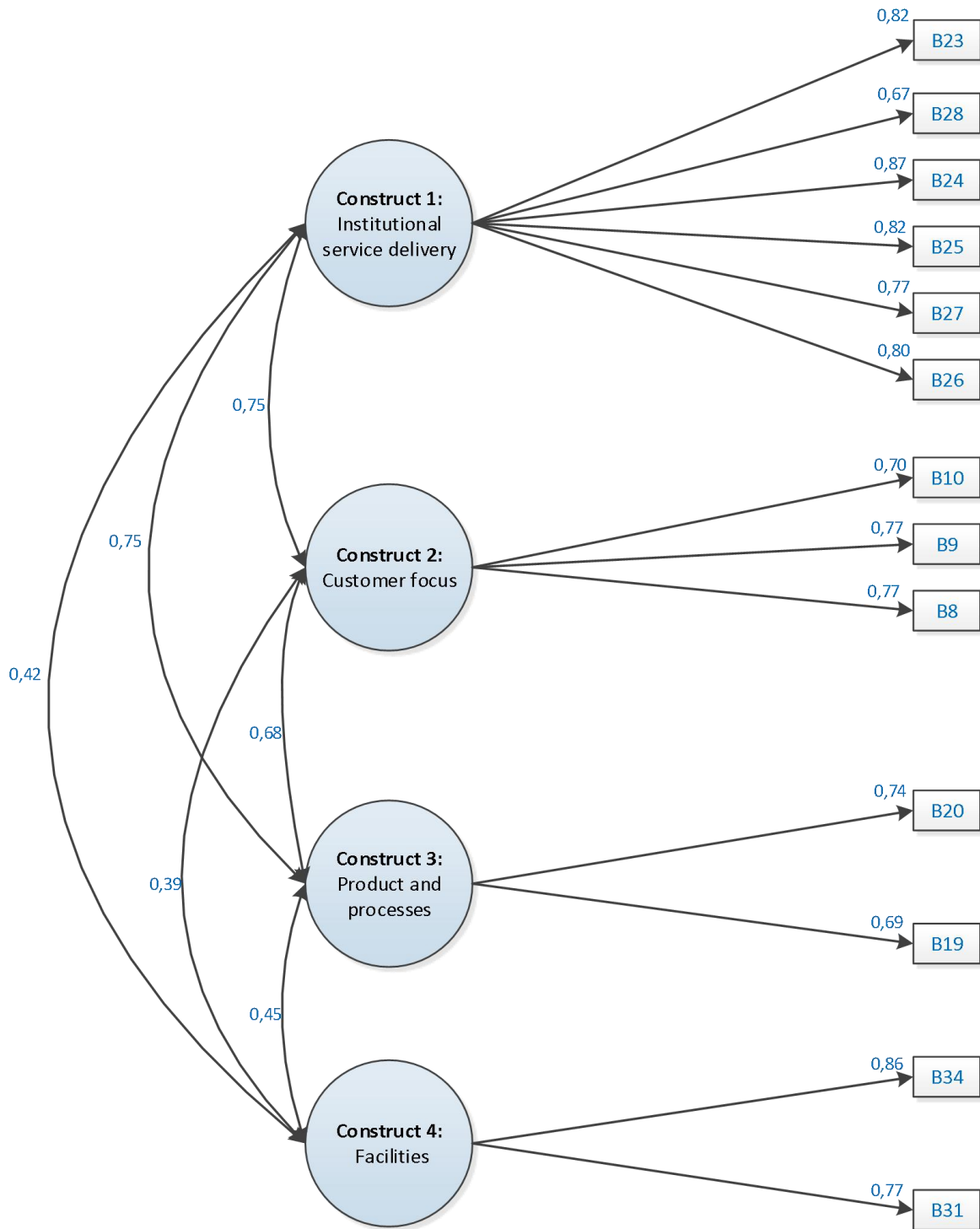
Figure 2: The final modified conceptual measurement model

The entire study is illustrated in Figure 2 in a simplified manner to portray the final ODeL SQ framework for South African PHEIs. The framework is the culmination of the comprehensive research process, and is the embodiment of the final outcome of this research project.

Conclusion

The current paper addressed the research problem and made a pioneering contribution that bridged a specific gap through the development of the first Open Distance and e-Learning (ODeL) service quality (SQ) framework for private higher education institutions (PHEIs) in South Africa. The findings and recommendations presented can be useful to the PHE service sector as a whole. The work provides a first building block towards a comprehensive ODeL SQ model for the measurement, management and continuous improvement of service quality.

The ODeL SQ framework for PHE in South Africa and is represented by Figure 3 below. The framework is the embodiment of the final product, representing project closure for this research article.
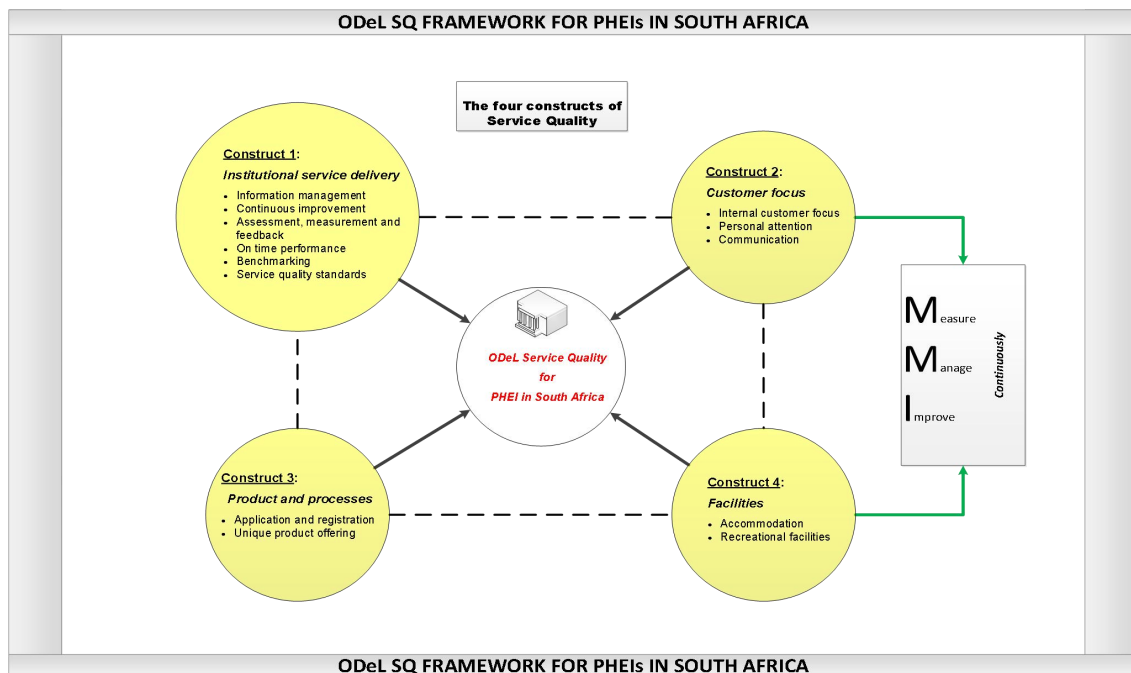
Figure 3: ODeL SQ framework for PHEIs in South Africa

The ODeL SQ framework will specifically contribute to the management of the service quality of PHEIs on a holistic and strategic basis. It expands the body of knowledge on service quality, and service quality improvement for the sustainability of ODeL PHEIs

in South Africa. Despite the various generic SQ models and frameworks found in literature, it is only by developing industry-specific SQ frameworks that service quality can be truly understood and improved.

Research contributions
- Research on PHEIs in South Africa is extremely limited and the study contributes to the paucity of literature related to the SQ concept in ODeL PHE in South Africa.
- The study developed an ODeL SQ framework for the management of service quality and sustainability of PHEIs.
- The framework could eventually be developed into a refined model as a practitioner tool to manage SQ.

Limitations and recommendations for future research
There were two main limitations to this study. Firstly, public ODeL higher education institutions and not-for-profit PHEIs did not form part of this study. Secondly, the respondents included students only. Other stakeholders, such as lecturers, top management, parents, industry and administrative workers did not from part of the sampling frame. The authors recommend that this ODeL SQ framework for PHE provides a foundation for further research. Future researchers could involve additional PHEIs and may include more PHEIs stakeholders. A comparative study with public higher education institution frameworks will provide more research opportunities.

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