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Importance level of post graduate student housing facility services: perceptions of students

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Abstract

This paper investigates students' perceptions about the level of importance of the services required in an on-campus student housing facility (SHF), with the aim of providing empirical information that can guide the provision and management of on-campus university SHF services. The paper adopted a survey research strategy. The study is exploratory in nature; a postgraduate residence was selected, and a closed-ended questionnaire was administered to students who are registered residents of the housing facility. Both descriptive and inferential statistics were used to analyse the data. The study found that security personnel, waste disposal, electricity, internet, fire safety, access control, cleaning, water, fumigation, CCTV, first aid, and room heater were perceived to be more important than services such as; gym equipment, indoor sports equipment, DSTV decoder, phone, receptionist, tuck shop, ATM service, vending machine and lift service. No statistically significant differences of the gender groups and the level of study categories regarding perception of services available and the importance level of services in the SHF were found. Although, several studies have been conducted on SHFs, studies that primarily focuses on the services requirements and prioritisation of the services is lacking. Therefore, the study provides empirical information that could serve as a guide for the provision and management of SHF services for both property investors and university facility and hostel managers. The study further contributes to the knowledge in the area of SHF services requirements by providing empirical information that could serve as a precursor for further studies.

Keywords: On-campus, South Africa, Services, Student housing, University.

Introduction

The development of every country is to some extent propelled by the country's education system. For universities to propel a country's development, resources such as financial, human and facilities would be required. One of the resources required by universities so as to achieve its purpose is 'facilities'. In fact, Alexander (2003) and Olanrewaju, Khamidi & Arazi (2010) view facilities as a factor of production. As a factor of production, facilities do contribute to the quality of university education. The physical facilities required in universities are wide ranging and their requirements will vary from one university to the other depending on the requirements of the programmes offered (Simpeh and Akinlolu, 2018). The variety of the physical facilities of a university may include but not limited to; administrative buildings, lecture theatres, offices, library, laboratories, workshops, refectories, sports fields, student housing and staff accommodation, and other support facilities (Gruber, Fuß, Voss & Gläser-Zikuda, 2010; and Olanrewaju *et al.*, 2010). All these facilities regardless of the role they play are indispensable if universities, would excel in teaching, learning and research. SHFs are one of the facilities which play a critical support role in university education. Fields (2011) defines a SHF as an accommodation specifically constructed to create an environment that supports the living and learning experience of students while pursuing their education. According to Bella-Omunagbe (2015), SHFs could be either a unit of an en suite single room or units of multiple

single rooms in shared apartments. It is also possible to get a SHF where students share both rooms and amenities. Simpeh and Akinlolu (2018) clarified that whether on the campus or outside; SHFs could be owned and managed by the university or by a private entity or by a partnership arrangement. On-campus SHFs, which is the focus of this study, provide students with accommodation within the boundaries of the university.

The influence of university on-campus SHFs on the learning experience and the general well-being of students has been researched by both researchers and universities for decades (Popelka, 1994; Khozaei, Hassan & Khozaei, 2001; and Department of Higher Education and Training, 2011; Rinn, 2004). SHFs do influence students' leaning experience as well as their social integration markedly. For example, Lanasa, Olsen and Alleman (2007) and Araujo and Murray (2010) argue that SHFs influences the behaviour, growth and study performance of students. Furthermore, SHFs could: enhance the integration of students, who might otherwise find it difficult to integrate in big cities or big institutions; promotes unity/coherence and diversity among students; provide an environment that stimulates intellectual development by allowing for easy interaction with fellow peers; make students see studying as their main occupation; helps to develop and maintain a vibrant student culture on campus; and also provide a community setting (Banning and Kuk, 2011; Department of Higher Education and Training, 2011; Addai, 2013). Although quite a number of studies on SHFs in the broader scope exist (Hassanain 2008; Cross, Zimmerman & O'Grady, 2009; Araujo & Murray, 2010; Bondinuba, Nimako & Karley, 2013, Nimako & Bondinuba, 2013; Abubakar, Kasim & Mamman, 2015; Bella-Omunagbe, 2015; Simpeh and Akinlolu, 2018), studies which primarily focuses on the importance levels of the services required in a SHF from the perspective of students is quite lacking. Actually, there is a lack of research on the importance level of services required in a SHF in the South African context. Thus, the aim of the paper is to determine the level of importance students attach to the services required in an on-campus SHF from the perspective of the students.

Student housing facility services

SHFs are generally composed of spaces and services. From the definition provided earlier by Fields (2011), it can be inferred that the uniqueness of a SHF lies in its serving the dual purpose of living and learning. Therefore, a SHFs ought to be well resourced with different spaces and several amenities (i.e. the facility services) so as to promote students learning and support their living experience. This paper concentrates only on the SHF services. Bondinuba et al., (2013) indicated that the learning experience students derive from their housing adds to the peculiarity of SHFs. Consequently, some unique services would be required in a SHF in addition to those generic facility services. Several authors have provided varying lists of generic services required in a facility. For example, Zheng (2012) divided FM services into three main groups as hard FM services, soft FM services and the other business support services. Chotipanich (2004) classified FM under nine headings: facility project management, maintenance and repairs, real estate and property management, planning and programming, space planning and management, building services and operations, office services, operation administration and employee support and services. Chotipanich (2004) further provided some specific services provided under each broad category; for example, waste disposal, pest control, health and safety, security, landscaping, cleaning, and disaster prevention were some of the services classified as building services and operations. Another example is the classification of FM services provided by Then (2004). Then (2004) classified FM services into four main headings (financial management, space management, operational management and behavioural management). The operational and space management services was further narrowed to specific services such as security, waste disposal, communication and cleaning. The Facility Management Association of Australia (FMAA) (2012) have also provided an extensive list of services required in a residential building facility. Since SHFs ought to serve the living needs of students in addition to the learning needs, the scope of FM services required in a residential building facility would also be required in a SHF.

Although studies on SHF have not exclusively concentrated on facility services, some few studies highlight services required in a SHF. For example, a study conducted in Malaysia by Najib *et al.*, (2011) reveals a number of services required in a SHF such as: catering, electricity, water supply, garbage disposal, mini markets or vender, ATM machines, security guards, phone, Closed Circuit Television (CCTV) surveillance systems, lift, and fire safety. Another example is the study conducted by Bella-Omunagbe (2015) in Nigeria. The main facility services that can be identified in the study are: maintenance service, internet, cleaning, electricity and ventilation. The study of Simpeh (2018) focused on both spaces and services required in a SHF; the author highlighted several SHF services. It also was apparent in the study that all the services are not of the same level of importance to students. In terms of the level of importance of services, Shen and Spedding (1998) indicated that services which are health, safety, security and environment related are the most essential to consider when setting priorities. The study of Simpeh (2018) revealed that students perceived electricity, water, security, internet, cleaning, library services, maintenance, study furniture, generator, refuse collection, pest control, health care, ventilation and fire safety to be more important than services such as banking (ATM), air-condition, DSTV, recreation and laundry services. Coincidentally, in most SHF satisfaction studies, infrequent water supply, slow response of maintenance departments, poor cleaning, poor security, high noise levels, lack of alternative power supply, poor management of rubbish collection, lack of laundry service, poor ventilation, and the lack of fire extinguishers are the main services that students generally express dissatisfied with (Addai, 2013; Bondinuba *et al.*, 2013; and Nimako & Bondinuba, 2013; Simpeh, 2018). This suggests that students place high importance on these services, consequently, they get disappointed (i.e. dissatisfied) if these services do not perform to their expectations. Table 1 shows an extracted facility services from the frameworks of Zheng (2012), Chotipanich (2004), Then (2004), FMAA (2012) and Simpeh (2018).

Table 1: FM services

Then (2004)	Chotipanich (2004)	Zheng (2012)	FMA Australia (2012)	Simpeh (2018)
• Health and safety • Electricity • Plumbing • HVAC • Painting • Communication • Transportation • Fire protection • Waste disposal • Cleaning • Security • Indoor air • Acoustics • Structure and fabric • Components and finishes • Road and car park • Landscaping • Out buildings	• Building maintenance • Plant repair and maintenance • Landscape maintenance • Cleaning and house keeping • Waste disposal • Pest control • Health and safety • Security • Post and mail distribution • Courier services • Telephone • Print and fax • Reprographics • Reception • Travel arrangements • Transportation • Business hospitality • Furniture and stationary provision • Child nursery • Restroom • Recreation	• Cleaning • Health and safety • Security • Mailroom • Catering • Courier service • Reprographics, • Waste disposal • Furniture and stationary provision • Laundry • Energy distribution and management • Pest control • Reception • Telecom service • Car parking • Travel and transportation • Grounds/ landscape maintenance • Business hospitality • Housekeeping • Security • Mechanical and Electrical Maintenance • Plant maintenance • Building structure and shell	• Lift service • Parking space • TVs • Gym equipment • Video surveillance • Security lighting • Fire protection equipment • Water supply • Hot water supply • Air conditioning (fan) • Reception • Mail services • Computer service • Printers • Telephone • Refrigerators • Ovens • Microwaves • Cook tops • Waste collection • Cleaning • Heaters • BBQ tables and chair • Landscape maintenance • Pool	• Electricity • Water • Generator • Security • Internet • Cleaning • Catering • Mini mart • Maintenance • Shuttle • Laundry • Banking • Healthcare • Ventilation • Air-condition • DSTV • Reprographics • Counselling and welfare • CCTV • Lift • Library service • Study furniture • Electric socket • Sports and recreation service • Refuse collection • Pest control • Intercom • Fire safety • Gym equipment

	• Catering • Employee special services	maintenance		• Saloon (massaging) • Tailoring • Vocational training • Cobbler • Drums
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Research Methodology

This is an exploratory study to serve as a precursor for further and bigger studies on SHF services requirements. The research strategy employed is a survey; quantitative data was collected by means of a close-ended questionnaire. A post graduate SHF in a university was selected and the questionnaire was administered to all the students who were registered members of the post graduate SHF. The residence manager indicated that the total number of registered students was 71. Therefore, to reach all the students, a total of 71 questionnaires were distributed, out of which 31 representing a response rate of 43.6% of the retrieved were analysed. While the questionnaires were distributed, the researchers observed the SHF to augment the data. The questionnaire was structured to ascertain three information; profile of respondents, services provided and the importance level of the services whether provided or not. A dichotomy scale ('Yes' or 'No') was used to determine the services which were provided in the SHF, whilst a 5- point Likert type scale was used to determine the level of importance students attach to the list of services provided on the questionnaire whether provided or not. The 5- point Likert type scale used read as follows, 1 = Not relevant, 2 = Unimportant, 3 = Somewhat important, 4 = Important, and 5=Very important. To allow for a consistent classification and interpretations, the mean score value range was determined; 1 was subtracted from 5 which equals 4, after that, the 4 was divided by 5 equalling 0.8 which becomes the mean score range. consequently, the mean score range for 'very important' becomes $4.20 \leq 5.00$; 'important' becomes $3.40 \leq 4.20$; 'somewhat important' becomes $2.60 \leq 3.40$; 'unimportant' becomes $1.80 \leq 2.60$; and 'not relevant' becomes $1.00 \leq 1.08$. The data was statistically analysed using the Statistical Package for Social Sciences (SPSS); both descriptive and inferential statistics were used.

The test for normality was carried out using the Kolmogorov-Smirnov and Shapiro-Wilk tests for a normal distribution and non-normal one (Pallant, 2016). The Shapiro-Wilk test and Kolmogorov-Smirnov test made a comparison between the scores obtained with the same mean and standard deviation. The Kolmogorov-Smirnov and Shapiro-Wilk tests are commonly affected by large samples in which small variations produce important outcomes (Pallant, 2016). For this study, the Shapiro-Wilk test was used because of the study's small sample size.

FINDINGS

Profile of respondent

Table 2: Profile of participants

Profile of respondents	N	%
Gender		
Male	23	74.2
Female	8	25.8
Total	31	100
Level		
Masters	17	54.8
PhD.	14	45.2
Total	31	100

Year		
1 yr	7	22.6
2yrs	10	32.3
3yrs	6	19.4
4yrs	4	12.9
5yrs	4	12.9
Total	31	100

Table 2 indicates that 74.2% (23) are male and 25.8% (8) are female. 54.8% (17) of the respondents are Masters students and 45.2% (14) are PhD students. 22.6% (7) of the students have been living in the hostel for about 1year, 32.3% (10) for 2 years, 19.4% (6) for 3 years, 12.9% (4) for 4 years and 12.9% (4) for 5 years. It is evident that about 77% of the respondents have stayed in the SHF least two years or more. Thus, the majority of the respondents have a good understanding of the levels of importance of the different services required to promote their living and learning experience in a SHF.

Results from the test for normality

Table 3 presents the findings from the test for normality. The test for normality for the services available in the SHF was found to have a significance level of 0.01 in Shapiro-Wilk which was less than 0.05 indicating a non-normal distribution, thereby indicating that a non-parametric test should be used (Pallant, 2016; Field, 2017). For the level of importance of services in the SHF, a significance level of 0.00 was obtained which was less than 0.05. This shows that the distribution was not normal and that a non-parametric test should be adopted. Therefore, the technique adopted for the inferential analysis in this study was the Man-Whitney U test.

Table 3: Test for normality

	Kolmogorov-Smirnov			Shapiro-Wilk			Test
	Statistic	df	Sig.	Statistic	df	Sig.	
Available services	0.18	31	0.01	0.90	31	0.01	Mann-Whitney U
Important services	0.14	31	0.11	0.89	31	0.00	Mann-Whitney U

Services provided in the SHF

Table 4 shows the services perceived by students to be available in the SHF. It is evident from the percentages recorded that security personnel, fire safety, electricity supply, water supply, room heater, internet, cleaning, waste disposal, fumigation, maintenance, TV and DStv decoder were available in the SHF. On the other hand, the percentages obtained shows that CCTV, air condition, lift service, first aid, printing, photocopy, scanning, fax, postal, phone service, receptionist, gym equipment, indoor sports equipment, vending machine, ATM service and tuck shop are unavailable in the SHF.

It is important to note that although there was no gym equipment and sports equipment in the SHF, there was a gym and sports hall on campus (near the SHF). Similarly, there was a cafeteria where students could buy food and other basic provisions just like what the tuck shop can offer. Reprographic services (e.g. photocopy, scanning, and printing) and ATM services were also available on campus, which students could utilise.

Furthermore, the findings show that 18 (58.1%) students indicated that an access control service was available while 13(41.9%) perceived it as unavailable. It was, however, observed that there is access control in the SHF, but it was not operational at the time the data was collected. It is possible that some of the new students are unaware of the access control or possibly responded negative because of the malfunctioning of the access control system.

Table 4: services available in the SHF

	Services	Yes		No	
		N	%	N	%
1	Security Personnel	31	100	0	0
2	CCTV	5	16.1	26	83.9
3	Access control	18	58.1	13	41.9
4	Fire safety	31	100	0	0
5	Electricity supply	30	96.8	1	3.2
6	Water supply	30	96.8	1	3.2
7	Air condition	0	0	31	100
8	Lift service	0	0	31	100
9	Room heater	30	96.8	1	3.2
10	Internet	31	100	0	0
11	Cleaning	29	93.5	2	6.5
12	Waste disposal	31	100	0	0
13	Fumigation	31	100	0	0
14	Maintenance	29	93.5	2	6.5
15	First aid	0	0	31	100
16	Printing	0	0	31	100
17	Photocopy	0	0	31	100
18	Scanning	0	0	31	100
19	Fax	0	0	31	100
20	Postal	1	3.2	30	96.8
21	Phone Service	0	0	31	100
22	Receptionist	5	16.1	26	83.9
23	TV	28	90.3	3	9.7
24	DSTV decoder	28	90.3	3	9.7
25	Gym equipment	2	6.5	29	93.5
26	Indoor sports equipment	4	12.9	27	87.1
27	Vending machine	0	0	31	100
28	ATM Service	0	30	31	100
29	Tuck shop	0	30	31	100

Gender group's perception of services available in the SHF subjected to Mann-Whitney U test

Figure 1 presents the results of the Mann-Whitney U test conducted to determine whether there is any variance (p) between gender groups with regards to their perception of services provided in the SHF. Mann-Whitney test is non-significant for available services across categories of gender because the p-value of 0.203 is higher than the critical value of 0.05. Findings based on the distribution of the ranks

and mean ranks shows that the distributions in the male and female group are not significantly different: Male (mean rank=17.24); Female (mean rank =12.44).

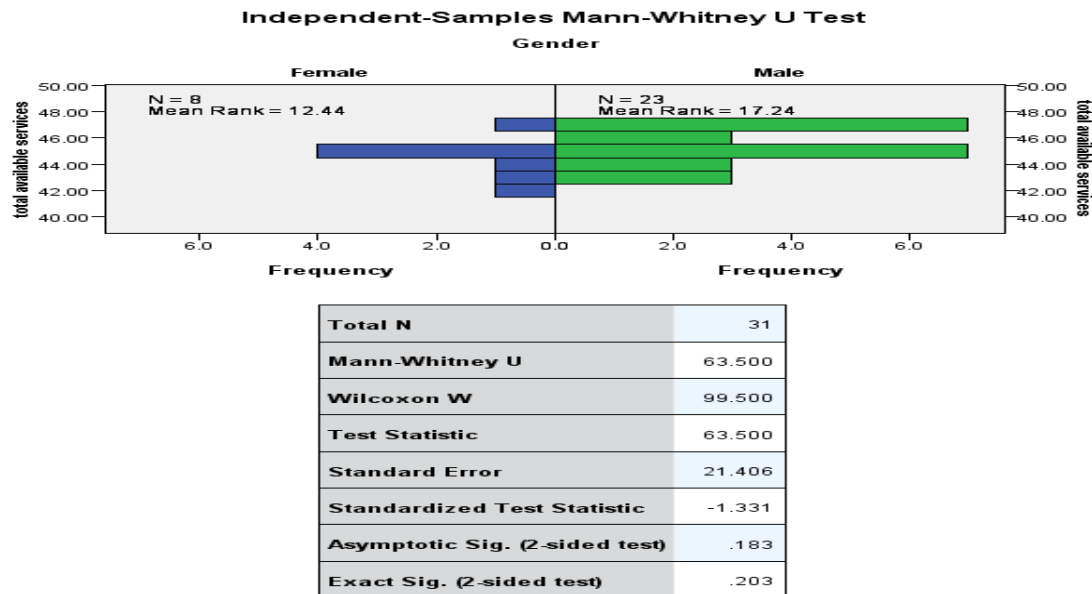


Figure 1: Mann-Whitney U Test: Perception of services available among gender groups

Level of study group's perception of services available in the SHF subjected to Mann-Whitney U test

The Mann-Whitney U test was carried out to determine if there was a statistical difference between the perceptions of the level of study groups on the services available in the SHF. Figure 2 shows that across categories of level of study, the results were non-significant because the exact p-value of 0.922 is greater than the critical value of 0.005. Findings also indicate a non-significant variance between the mean ranks of the groups: Masters (mean rank= 15.85); PhD. (mean rank=15.18).

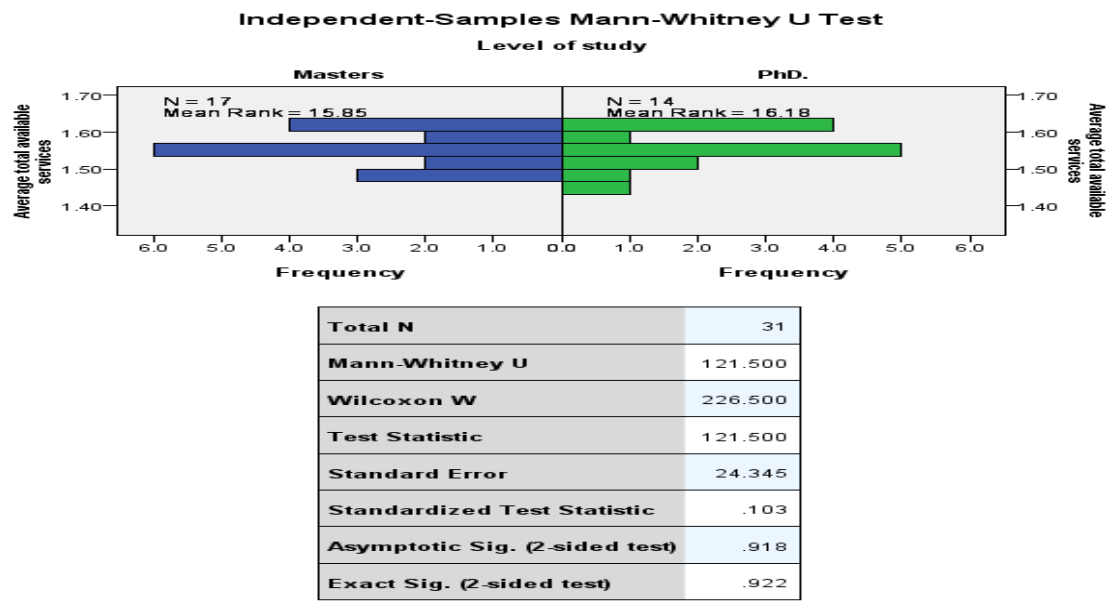


Figure 2: Mann-Whitney U Test: Perception of services available among categories of level of study

Importance level of services

Table 5 shows how students rated the importance of SHF services. The mean scores obtained were in the range of 4.96 (highest) and 2.87 (lowest). Except for lift service (2.87), all the other services obtained a mean score higher than or equal to 3.0. Twelve services (security personnel, waste disposal, electricity supply, internet, fire safety, access control, cleaning, water supply, fumigation, CCTV, first aid, room heater) received a mean score above 4.20. Therefore, students perceived all these services to be ‘very important’. This is an indication that these services are very essential for the living and learning experience of students. A study conducted by Simpeh (2018) also shows that all these services (except room heater which was not used in that study) were rated as very important by students. The study of (Addai, 2013; Bondinuba et al., 2013; and Nimako & Bondinuba, 2013) also suggest that these services are important to students. Services including; lawn maintenance, printing and photocopy, scanning, postal, air-condition, fax, gym equipment and indoor sports equipment were perceived as ‘important’. While students perceived these services as ‘very important’ or ‘important’, findings from the study shows that CCTV, first aid, reprographics (printing, photocopy, scanning, fax) and air-condition are not provided in the SHF. All the remaining services (DSTV, phone, receptionist, tuck shop, T.V, ATM, vending machine and lift) were perceived as somewhat important. It can be inferred that these services have less influence on the living and learning experience of students. None of the service was rated as unimportant or not relevant by the students.

Table 5: Importance level of services in the SHF

	Services	N	Mean	SD	Rank
1	Security personnel	31	4.96	0.17	1
2	Waste disposal	31	4.93	0.24	2
3	Electricity supply	31	4.93	0.35	3
4	Internet	31	4.90	0.30	4
5	Fire safety	31	4.87	0.42	5
6	Access control	31	4.83	0.45	6
7	Cleaning	31	4.80	0.79	7
8	Water supply	31	4.80	0.60	8
9	Fumigation	31	4.77	0.61	9
10	CCTV	31	4.58	0.84	10
11	First aid	31	4.54	0.99	11
12	Room heater	31	4.51	0.85	12
13	Lawn maintenance	31	4.19	1.16	13
14	Printing	31	4.06	1.28	14
15	Photocopy	31	4.00	1.26	15
16	Scanning	31	3.96	1.25	16
17	Postal	31	3.90	1.27	17
18	Air condition	31	3.70	1.32	18
19	Fax	31	3.54	1.31	19
20	Gym equipment	31	3.51	1.17	20
21	Indoors sports equipment	31	3.41	1.11	21
22	Dstv decoder	31	3.35	1.11	22
23	Phone service	31	3.32	1.16	23
24	Receptionist	31	3.25	1.31	25
25	Tuck shop	31	3.25	1.18	26
26	T.V	31	3.22	1.23	27
27	ATM service	31	3.19	1.30	28
28	Vending machine	31	3.00	1.18	29
29	Lift service	31	2.87	1.28	30

Gender groups, categories of level of study perceptions on the importance level of services in the SHF subjected to Mann-Whitney U test

Figure 3 and Figure 4 indicates that the test statistics for the gender group and across the level of study categories concerning importance of services shows there is no statistically significant difference between the male and female group ($p=0.386$) and also the Master and PhD group ($p=0.769$). This was also evident from the mean scores achieved for the Gender group: Male (15.15); Female (18.44) and the Level of Study group: Masters (16.44); PhD (15.55).

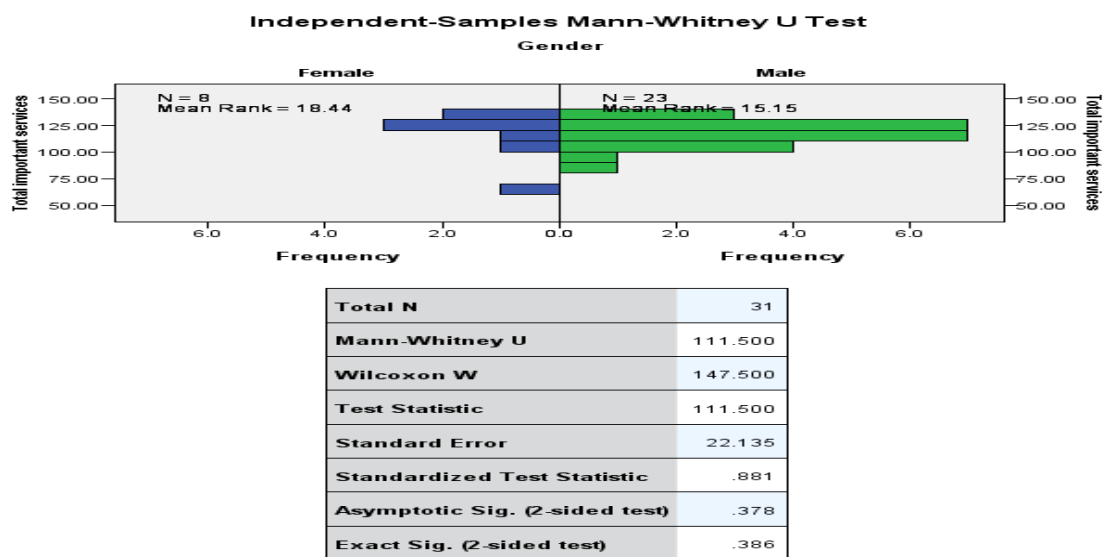


Figure 3: Mann-Whitney U Test: Perception on importance level of services among gender groups

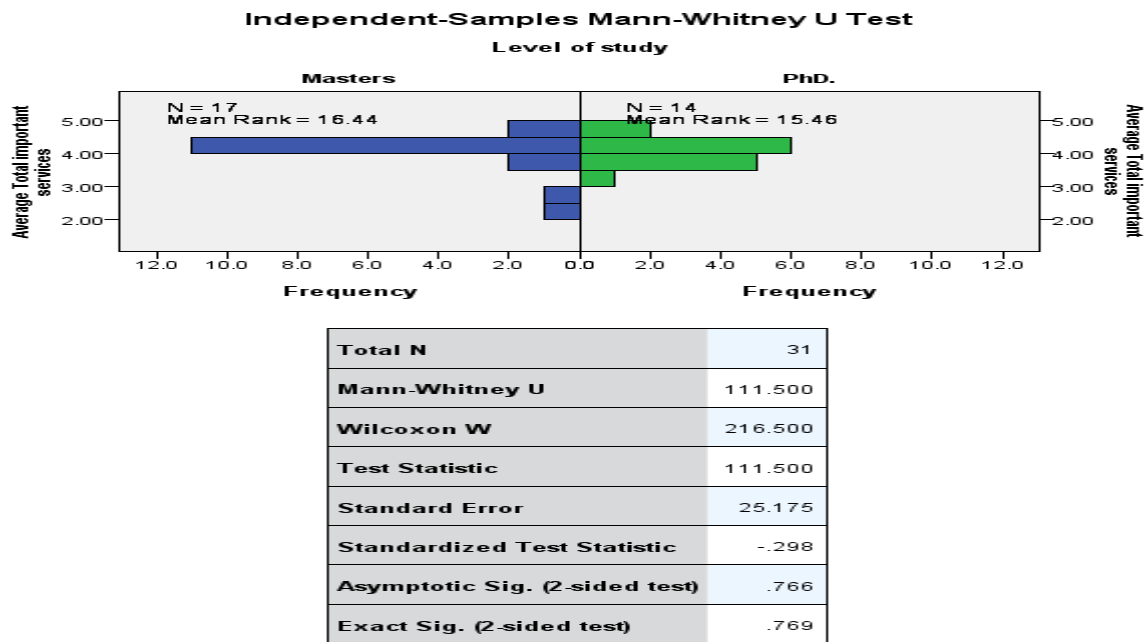


Figure 4: Mann-Whitney U Test: Perception on importance level of services among categories of level of study

Conclusions

Lack of adequate funds makes it difficult for developers and facility managers to satisfy all the requirements/needs of building users. Therefore, it becomes important for developers and facility managers to develop a better understanding of the different level of importance facility users attach to the various requirements (e.g. services) of their facility. With this understanding, developers and facility managers would be in the position to appropriately provide and prioritise such requirements (e.g. services) to meet students' expectations without compromising value. The study sort to investigate students' perception about the level of importance of the services required in an on-campus student housing SHF. It is evident that students have different perception about the importance level of the services required in a SHF. The majority of the SHF services were perceived as 'very important' and 'important'. None was perceived to be 'unimportant' or not 'relevant'. At a minimum an 'on campus' SHF must be resourced with all the services that are deemed to be critical for both the learning and living experiences of students. These services include; electricity, water, security and safety (fire safety, access control, CCTV, security personnel), internet, cleaning, maintenance, room heater, health (first aid), waste disposal, pest control.

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