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Determining university library loyalty using library service quality of a public university in Ghana

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Abstract

The purpose of this study is to examine the effect of the dimensions of the LibQUAL model on customer loyalty. The study uses the LibQUAL+^{TM} to measure the level of library service quality of a public university library in Ghana. The study was conducted using a university library users as respondents. From the findings, apart from Library as place, all dimensions of the LibQUAL+^{TM} were found to affect library customer loyalty. Service affect was found to be the strongest predictor of library customer loyalty. One implication of this study is that the management of libraries must continuously improve the service quality of services delivered in an attempt to improve the reuse of libraries. Also, the measure of service quality using the LibQUAL+^{TM} enables library management to assess user's perception of library services, and also to detect gaps. This study contributes to the literature on using the LibQUAL+^{TM} to measure service quality and provides empirical evidence on the effect of library service quality on library customer loyalty.

Keywords: Library service quality, Loyalty, LibQUAL, LibQUAL+^{TM}, Ghana

Introduction

Libraries are seen as important because they help in information and knowledge creation (Choshaly & Mirabolghasemi, 2019), and also aids in teaching and research (Adeniran, 2011). Also, Kiran (2010) asserts that libraries are at the "heart of the learning community" since they enable the advancement of knowledge through research. Specifically, Case (2008) states that libraries are always involved in creation of new knowledge by collecting past information, organising, and making it accessible to users. Hence, Rasul and Singh (2010) state that academic libraries in universities are regarded as gateways to information by providing not only books and space but also important services such as bibliographies, reference services, and information literacy classes to enhance research activities. Libraries are a source of information for users (students, researchers, academics), therefore making them very important in promoting academic and national development.

Libraries are very vital in knowledge creation and development, at the same time there seem to exist some current trends posing a challenge to the use of library services. Libraries in recent times are faced with challenges such as users resorting to other options such as mega book stores, e-learning platforms, multimedia products, online information providers, document delivery service providers, and other competitive sources of information (Kassim, 2017). Researchers now have the ability to get information online at no or low cost (Rasul & Singh, 2017). Another challenge faced by academic libraries is the increasing pressure to demonstrate their relevance in order to access funding (Womack, 2016). Funding institutions are seeking for quantitative measures of the outcome of library services.

In the wake of these challenges, the adoption of a marketing culture is proposed (Weinstein & McFarlane, 2016). To remain competitive, libraries must increase service usage (Bakti & Sumaedi, 2013) and loyalty to survive digital competition (Adeniran, 2017). Increasing patronage of libraries has implications for budgetary allocations (Kiran & Diljit, 2017), and student retention (Haddow, 2013). This makes loyalty (repeat library services usage) very important, hence requiring much research attention. For university libraries, increasing the number of users could be used to justify budgetary allocations and accountability (Kiran & Diljit, 2017). As libraries strive to remain competitive by introducing commercial marketing practices, there is also the need to measure marketing performance (service quality and loyalty). Apart from the SERVQUAL model, the LibQUAL has been used to measure library service quality (Nitecki, 1996). The use of LibQUAL in developing countries is emerging (Awan & Mahmood, 2013) but there seems to be little research attention in Ghana. A quantitative measure of library service quality, and level of repeat usage is likely to serve as a justification for budgetary allocations. Research on the use of the LibQUAL model to examine library service quality is required as this will provide empirical evidence of how service quality affects library repeat usage.

While some studies have found library service quality as having an effect on loyalty (Helgessen & Nesset, 2011; Christobal, 2018), some have found no direct relationship (Bakti & Sumaedi, 2013; Kiran & Diljit, 2017). The study considering the need to measure the level of library service quality dedicates the first part of the study on using the LibQUAL+^{TM} to examine the level of service quality of a public university library. The focus of the study will be on seeking from library users their perception of library service quality dimensions of service affect library as place, information access, and personal control. The second aspect of this study takes a look at the direct relationship between the LibQUAL+^{TM} dimensions and library customer loyalty.

Literature Review

Service Quality

Service quality is a measure of the extent to which the service provided meets the expectations of customers (Ghobadian et al., 1994). Also, Berry et al. (1988) define service quality as conformance to customer specifications. These definitions acknowledge the need to understand service quality from the perspective of the customer, and not that of management. This study defines library service quality as "the difference between a library user's expectations and perceptions of service performance" (Nitecki, 1996, p. 182). The study of Parasuraman et al. (1985) led to the identification of ten determinants of service quality namely: access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangible, and understanding/knowing the customer. The SERVQUAL model, a 22 item scale was later developed to measure service quality using dimensions of reliability, responsiveness, empathy, assurance, and tangibles (Parasuraman et al., 1988).

The service quality of a library is concerned with the relationship between the library and the users (Hernon & Altman, 2010). This assertion supports service quality models that lay emphasis on customer conformation of specifications (see Berry et al., 1988). The delivery of quality service entails satisfying users and not the adherence to professional rules and procedures in

acquiring and preserving materials (Hernon & Altman, 2010). Hence, the measurement of library service quality in the library context followed existing service quality measures.

The SERVQUAL model variables (tangibles, reliability, responsiveness, assurance, empathy) have been extensively used to measure library service quality. The SERVQUAL model developed by Parasuraman et al. (1985) formed the basis for the development of the LibQUAL scale (Cook & Thompson, 2000). Other measures of library service quality include LibWebSQ (Kiran and Diljit, 2012), and decision-making trial and evaluation laboratory DEMATEL approach (Chen, 2016). These measures despite the potency to assess the level of service quality, seem not to provide a standard model of library service quality.

To address the problem of having a standard model to measure library service quality, the Association of Research Libraries (ARL) in collaboration with Texas A&M University in 1999 developed the library quality (LibQUAL) model. Voordij (2012) asserts that the LibQUAL model evolved from the SERVQUAL, which was designed to measure service quality in a variety of service contexts. This is in line with other service measurement models for specific industries such as the hospitality service quality - HOLSERV (Mei et al., 1999), higher education service quality – HEdPERF (Abdullah, 2006), and country specific such as the GhanQUAL (Yalley & Agyapong,2017). In recent times, the LibQUAL model has become a common scale used by researchers to measure library service quality (see Guder, 2017; Pedramnia, et al., 2012). This study describes the four dimensions of LibQUAL+^{TM} (see Thompson B. et al., 2002) as follows:

Service Affect: the human side of service including assurance (the level of knowledge of service employees, courtesy, and ability to convey confidence and trust), empathy (the care and individual attention provided by library employees), and responsiveness (the willingness to help and provide prompt service) (Cook et al., 2001).

Library as Place: Cook et al. (2001) explain that the library as place variable was developed out of the tangibles dimension of the SERVQUAL model, which involves the appearance of physical facilities, equipment, personnel and communication materials. Thompson et al. (2003) considered measure items of library as place to include space that facilitate study, quiet and solitude, place for reflection, comfortable location, and contemplative environment.

Information Access: Information access dimension of the LibQUAL measures the perception of ubiquity of access of information that a library delivers in a location, time of choice, and format (Dash & Padhi, 2010). It explains the timely document delivery, run of journal articles, interdisciplinary needs, convenient business hours, and comprehensive collections (Thompson et al., 2003).

Personal Control: Dash and Padhi (2010) asserts that this dimension means the ability of the library to assist library users to navigate both the information universe in general and the internet. Thompson et al. (2003) used items such as electronic accessibility, ease of information access, website to help locate information, ease of using tools to find collection, encouraging independent use, and convenient access to measure library service quality.

Customer Loyalty

The concept of customer loyalty is viewed as the strength of the relationship between an individual's relative attitude and repeat patronage (Dick & Basu, 1994). It is regarded as primarily an attitude, which leads to a relationship with brands (Uncles, Dowling, & Hammond, 2003). Apart from an attitudinal approach, the behavioral aspect of customer loyalty represents the repeat patronage of a product over time (Yang & Peterson, 2004). Rowley and Dawes (1999) explain the applicability of customer loyalty in the context of libraries. The concept of customer loyalty in the view of Rowley and Dawes (1999) could imply "retaining registration over a period of time or someone who visits a service point, or accesses electronic information resources on a regular basis". Customer loyalty in this study explains the long term relationship with library users, which enables future usage and recommendation (Martensen & Grønholdt, 2003).

Hypotheses Development

A study by Martesen & Grønholdt (2003) and Helgesen and Nesset (2011) found that students' evaluation of affect of service of library services has a significant relationship with loyalty. Also, Christobal (2018) found that the minimum acceptable level on affect of service was weak but is positively related with loyalty of the library users. Keshvari et al. (2015) did not find this variable as a predictor of loyalty. These studies provide the basis to assume that libraries that put in place measures to improve service behaviour and performance of library staff are likely to increase level of customer loyalty. The following hypothesis was therefore formulated:

H1: Service Affect has a significant effect on library customer loyalty

A study by Martesen & Grønholdt (2003) found that the relationship between collection of printed publications and customer loyalty is significant. Also, Christobal (2018) found that observed performance level on the access to information is weakly but positively related with respondent's loyalty. These findings though few show that library services that provide information access are capable of increasing the number of patronage and repeat use. Based on the findings, this study hypothesised that:

H2: Information access has a significant effect on library customer loyalty

Library as place was found to have a significant relationship with loyalty (Helgesen & Nesset, 2011). A study by Martesen and Grønholdt (2003) found that technical facilities have a significant effect on loyalty. Also, Martensen and Grønholdt (2003) found that library environment affects customer loyalty. A study by Christobal (2018) found library as place to have a weak and positive relationship with customer loyalty. However, the study of Keshvari et al. (2015) found that library as place is not a predictor of loyalty. The attainment of library customer loyalty could be achieved through improvements in the library environment and facilities. These results lead to the following hypothesis:

H3: Library as place has a significant effect on library customer loyalty

The effect of information control on library loyalty was found to be significant in a study by Helgesen and Nesset (2011). Martensen and Grønholdt (2003) found that electronic resources of libraries affects customer loyalty. Christobal (2018) found that personal control is weakly but positively correlated with customer loyalty. It is expected that libraries that provide the opportunity for users to be given ubiquitous library services will increase patronage and reuse. This study therefore hypothesized that:

H4: Personal control has a significant effect on library customer loyalty

The proposed hypotheses lead to the research model in figure 1.

Figure 1: Research Model
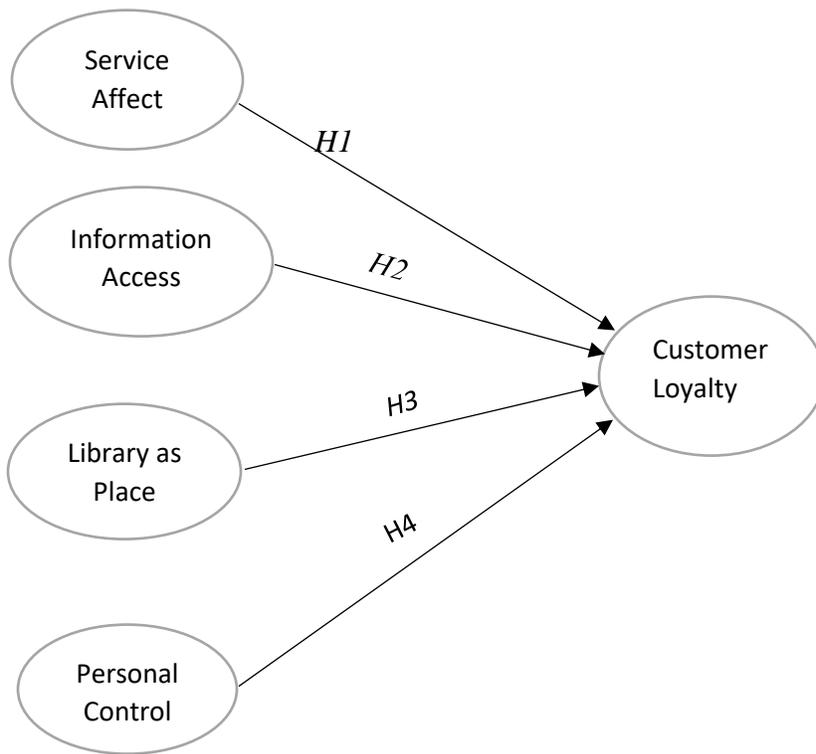
Methods

The study was conducted using the main library of a public university in Ghana. A convenient sampling technique was used due to the unavailability of data on university library users and difficulty in locating people who have used the library. The respondents were identified at the library premises and were handed the questionnaires. This follows the approach used by Bakti and Sumaedi (2013) to ensure library users were identified. It was difficult to identify library uers who had used the library outside the library premises. The researchers ensured the study includes respondents who use the library and are familiar with the service delivered. This

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approach in the view of Dahan et al. (2016) ensures that researchers have access to respondents who have experienced the library service. Library service users who agreed to be part of the study were selected. About 400 survey questionnaires were distributed. Out of the 400 questionnaires administered, 349 survey questionnaires obtained and were found to be appropriate for further data analysis. This represents a response rate of 87.25 %.

The four (4) dimensions namely: service affect, library as place, information access, and personal control from the LibQUAL+^{TM} scale were adopted to measure service quality (see Thompson B. et al., 2002). The reliability scores of the scales are service affect (.946), library as place (.929), information access (.758), and personal control (.869). The library customer loyalty items were adopted from Bakti and Sumaedi (2013) and Martensen and Grønholdt (2003). The reliability score of customer loyalty in the study of Bakti and Sumaedi (2013) was 0.79. This included two (2) items on users repeat patronage behaviour and recommendation to others. Finally, after conducting reliability test, eight indicators (SA1, SA9, IA2, IA4, IA5, PC2, LP3, LP5) were not included in further analysis. The scale items used are presented in Table 1. The data was analysed using SPSS and SEM- PLS (SmartPLS3). The analytical approach adopts partial least squares to test for the hypotheses. To report the reflective measurement model, this study checked for reliability and validity. Also, the target endogenous variable variance was explained. The model path coefficients and significance and boostrapping were done to test for the hypotheses.

Results

In all the data from 349 users of a university library in Ghana was used to perform the analysis. The respondents were made up of 158 males, and 191 females. The users of the library include 237 students, 58 academic staff, and 54 administrative staff. Majority of the respondents are regular users of the library services. The analysis indicates that 23 respondents use the service every day, 163 of them use the service once a week, 93 indicated they use it several times in a week, and 71 use it less than once a week.

The respondents perceived the level of service quality of the library to be higher. Among the items measuring service affect, the highest response was recorded for the item "the library has a space that facilitates a quiet study" (mean = 4.089).

Table 1. Scale Items and Mean

	Items	**Mean**
	Service Affect	
SA1	The library is willing to help users	3.943
SA2	The library gives users individual attention	3.659
SA3	The library employees deal with users in a caring fashion	3.510
SA4	The library employees are consistently courteous	3.639
SA5	The library employees have knowledge to answer questions	3.587
SA6	The library employees understand need of users	3.728
SA7	The library employees are ready to respond to users' questions	3.819
SA8	The library employees instill confidence in users	3.407
SA9	I can depend on library to handle service problems	3.330

	Library as Place	
LP1	The library is a haven for quiet and solitude	4.063
LP2	The library is a meditative place	3.900
LP3	The library is contemplative environment	3.464
LP4	The library has a space that facilitates a quiet study	4.089
LP5	The library is a place for reflection and creativity	3.696
	Personal Control	
PC1	The library website enables me locate information on my own	3.487
PC2	The library electronic resources are accessible at home or in the office	2.797
PC3	The library has accessible tools to help me find information on my own	3.645
PC4	The library has modern equipment that helps me to access information I need	3.272
PC5	I am able to easily access information from the library for use	3.676
PC6	I can conveniently access library collections of information	3.708
	Information Access	
IA1	The library as a comprehensive collection of information	3.794
IA2	The library has information on many topical issues	3.788
IA3	The library address interdisciplinary needs	3.722
IA4	The library provides timely document delivery	3.415
IA5	The library opens at convenient hours	3.716
	Loyalty	
LOY1	I will use more of the library services in future	3.880
LOY2	I would recommend the library to other users	3.997

There library users indicated relatively low satisfaction for the item "the library electronic resources are accessible at home or office" (mean = 2.797). The library users provided very high responses to loyalty items.

Measurement Model

The proposed relationship between the latent variables used in this study are tested using partial least squares (PLS) approach (Ringle, Wende, & Will, 2005). Specifically, the study used SmartPLS to perform the analysis. The study performed reliability (indicator reliability, internal consistency reliability, and validity (convergent validity, discriminant validity) tests Internal consistency was tested using the Composite Reliability values (Hair, Sarstedt, Pieper, & Ringle, 2012). Bagozzi and Yi (1988) propose that a composite reliability higher than 0.7 is preferred. The results of the analysis show that all the composite reliability values are higher than 0.7, indicating the demonstration of higher levels of consistent reliability among the latent variables.

The convergent validity of latent variables was also checked. Bagozzi and Yi (1988) propose that Average Variance Extracted (AVE) should be 0.5 or higher. From the results, it was found that all the AVE values are greater than the acceptable level, meaning a convergent validity was confirmed. Discriminant validity was also obtained. To establish discriminant validity, the

Fornell-Larcker test was used. Fornell and Larcker (1981) suggest that the square root of Average Variance Extracted of each latent variable can be used to establish discriminant validity.

Table 2. Reliability and Validity

	Factor Loadings	Composite Reliability	Average Variance Extracted (AVE)	R Square
Service Affect				
SA2	0.702			
SA3	0.698			
SA4	0.755			
SA5	0.759	0.894	0.547	
SA6	0.773			
SA7	0.779			
SA8	0.707			
Library As Place				
LP1	0.734			
LP2	0.730			
LP4	0.891	0.830	0.622	
Personal Contact				
PC1	0.754			
PC3	0.804			
PC4	0.757	0.889	0.615	
PC5	0.822			
PC6	0.782			
Information Access				
IA1	0.897			
IA2	0.915	0.901	0.821	
Loyalty				
LOY1	0.907	0.921	0.854	0.469
LOY2	0.915			

**Table 3**. **Fornell-Larcker Criterion**

	Information Access	Library as place	Personal Control	Service Affect	Loyalty
Info Access	**0.906**				
Library as Place	0.306	**0.788**			
Personal Control	0.640	0.315	**0.784**		
Service Affect	0.403	0.336	0.507	**0.740**	
Loyalty	0.529	0.328	0.583	0.563	**0.924**

Structural Model

To test the significant level of the various hypotheses proposed, the t-statistics, using bootstrapping was employed (Wong, 2013). The path coefficients of the inner model were considered to detect a significant level. The study hypothesized that the four (4) dimensions of the LibQUAL+[TM], which are information access, library as place, personal control, and service affect is statistically significant with customer loyalty (H1 to H4). The R^2 of 0.469 for loyalty endogenous latent variable means that service quality variables explain 46.9% of the variance in loyalty. With a significant level of 5%, and t-statistics larger than 1.96, the study found that there is a statistically significant relationship between service affect, information access, and personal control and library customer loyalty. The model results indicate that service affect has the strongest effect on customer loyalty (0.321), followed by personal control (0.264), information access (0.208). Library as place (0.074) was found not to predict library customer loyalty. Hypothesis 4, is therefore not supported.

Figure 2: Structural model and path coefficient
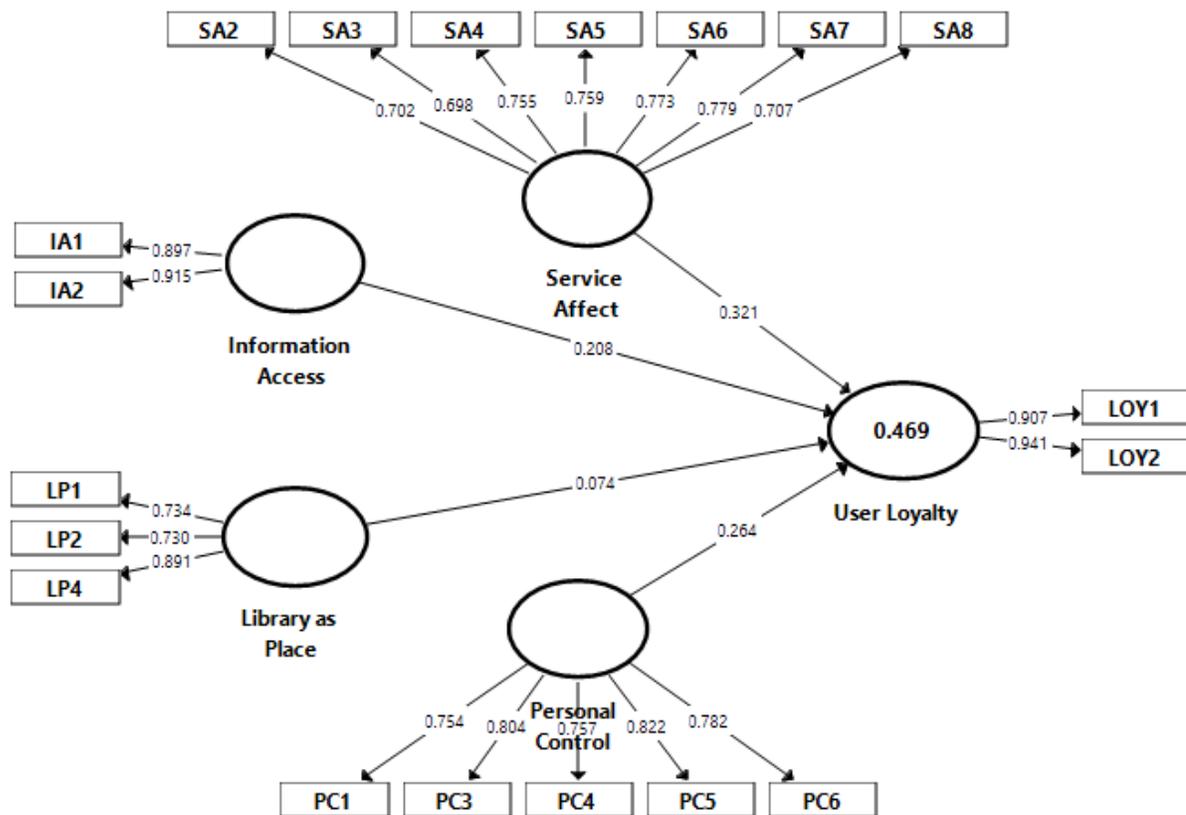
Table 4: T-Statistics of Path Coefficients

Hypothesis	Relationship	*B-estimate*	T Values	P Values	Decision
H1	Service affect → Loyalty	0.321	4.312	0.000	Supported
H2	Information Access → Loyalty	0.208	3.211	0.000	Supported
H3	Library as Place → Loyalty	0.074	2.451	0.066	**Not Supported**
H4	Personal Control → Loyalty	0.264	3.951	0.000	Supported

Discussion

This study examined the effect of library service quality on customer loyalty. The survey results provide some evidence of how library users perceive the service quality delivered. From the findings, there are perceptions of high service quality of the services provided by the library due to the high scores of most the items. The library users expressed willingness to continue to use more of the service and recommend the library services to others.

There are existing studies that indicate there is no statistical relationship between library service quality and customer loyalty (see Bakti & Sumaedi, 2013; Kiran & Diljit, 2017). This study sought to examine the direct relationship with library customer loyalty. Also, to access the level of service quality of library, the LibQUAL+™ was used. The dimensions of the LibQUAL+™ provide a standard model for the measure of service quality in the library context.

The findings suggests service affect has a significant and positive relationship with customer loyalty. The regression results found that service affect has the strongest effect on customer loyalty. This means that the "people" factor in service delivery is an important determinant of ensuring repeat behaviour in the library setting. The ability of the library staff to deliver service to the expectations of library users affects the level of satisfaction. The service affect variable is an important determinant of library customer loyalty (see Helgesen & Nesset, 2011). In the library context, the level of service quality is dependent on the skills and attitudes of service employees.

The study found a significant relationship between information access and library customer loyalty. This study supports existing studies such as Helgesen and Nesset (2011) which established that information access has a significant relationship with customer loyalty. Information access in other studies in the library context including customer satisfaction have been found to be an important service quality issue (see Kassim, 2017; Martensen and Grønholdt (2003). Thompson B. et al. (2002) describe information access as a measure of quality entails a comprehensive collection and existence of information on many topical issues. The availability of information for users will enhance their reuse of the library service in higher education institutions.

The findings does not support the hypothesis that library as a place has a significant effect on customer loyalty. This finding does not support the study of Christobal (2018) and Helgesen and

Nesset (2011) that library as a place is important in ensuring library users continue to patronage the service. However, the issues relating to comfortable learning space, quiet environment, and a space that facilities studies very important in maintaining the relationship with users. Studies have proposed that having a conducive study environment is one of the basic feature users might expect. Hence, the inadequate facilities and unfriendly study environment will affect usage drastically. This study finding supports the study by Keshvari et al. (2015), which found library as place as not a predictor of loyalty. However, management of libraries must pay much attention to it since it a basic expectation by users.

The study also found that personal control affects library customer loyalty. Choshaly and Mirabolaghasemi (2019) states the shift to digital content and the provision of library services using electronic means is a major service issue. The delivery of library services by involving users to manage how they access information is very important to ensure continuous usage. In the view of Helgesen and Nesset (2011), the ability of the library to provide users with personal control of library services provides some cost benefits to users. Library management could encourage usage by improving the convenience of accessing data. The user is therefore given much autonomy, thus making them take control of the service delivery.

Theoretical Contribution

The study findings reveal that service quality dimensions (service affect, information access, and personal control) have a significant relationship with customer loyalty. Library as place was not found to predict loyalty. With most of the service quality dimensions in the LibQUAL+^{TM} model having a significant effect on customer loyalty, this study acknowledges the importance of service quality on library continuous usage. Caruana (2002) states that from a theoretical point of view, service quality has a direct relationship with customer loyalty. Studies, therefore, attempt to prove these links by adopting approaches that suggest the delivery of service quality will translate directly into customer loyalty, or through customer satisfaction. Some studies have found a no direct relationship between service quality and customer loyalty (Caruana, 2002; Kiran & Diljit, 2017; Bakti, & Sumaedi, 2013). However, for most of the library quality dimensions, this study supports the theory linking directly service quality and customer loyalty (see Helgesen & Nesset, 2011). The results contributes to the literature on the direct link between library service quality and customer loyalty. However, this is not always the case, where service quality dimensions could directly predict customer loyalty. The theory linking service quality, customer satisfaction (mediator) and customer loyalty could explain a need to study the indirect relationship between service quality and customer loyalty. Library as place could have an indirect relationship with loyalty through other mediating variables.

Managerial Implications

The study proposes the recognition of library users as customers. In the library context, this study results lays emphasis on the need for management to continuously measure and monitor the level of service quality delivery from the perspective of customers (library users). The attempts made by researchers to develop effective and standardized service quality scales for libraries could be put to use. The LibQUAL+^{TM} scale could be used to perform service quality

assessment of libraries. In doing so, the various aspects of service delivery could be examined. The results of such an assessment will help management determine the library user's perception of the current service provided. Library management will, therefore, be able to identify service gaps and come up with actions to improve quality. As recommended by Kumar and Mahajan (2019), findings using the LibQUAL model must be discussed with staff, especially, on the service affect issues.

For the library service environment, management of libraries must consider the library environment (library as place) as this ensures the use of the facility. Users must be provided with a conducive space to encourage study. This is a basic requirement for every library to ensure quiet study area, and with facilities to ensure customers are satisfied. However, library as place should not be a focus on this competitive information service era. This study though acknowledging the importance of the library place, see it as not too crucial to ensure loyalty. Library staff must be considered as an integral part of service delivery. Library staff experience, knowledge, and attitude towards library users must be looked. Also, the access to information must be a major concern. Library management must keep track of available information, and also attempt to provide information that users might need. This entails keeping in touch with current topical issues across many disciplines. Library management must embrace the use of electronic means of accessing information. In the wake of competition, higher education libraries must introduce innovative ways of giving access to informat

ion to users. The attempt to ensure the attainment of the numerous service quality issues identified in this study to help achieve user repeat patronage.

Conclusions, Limitations, and future research

There are empirical studies on library service quality and how this affects customer loyalty. Among this, the LibQUAL model has become a common measure of library service quality. This approach uses service affect, library as place, information access, and personal control as the main measures of service quality. The application of this service measure in developing countries is needed. This study is to contribute to research on determining the level of library service quality in a developing country. Also, the study contributes to the existing literature on the relationship between library service quality and customer loyalty. Apart from Library as place, the results is an indication that service quality dimensions of service affect, information access, and personal control influence customer loyalty. This supports theory indicating a direct link between service quality and customer loyalty. In sum, all service quality drivers must be considered as important in ensuring library user's reuse the service.

The importance of measuring library service quality needs to be supported by research. The use of the LibQUAL+^{TM} scale is recommended. The study seeks to develop a structural path of service quality dimensions on customer loyalty. This uses the perception of library users on the performance expectations of libraries but not on the gap score of the minimum acceptable service and the idle service. This study, therefore, does not conduct a gaps analysis on library service quality. Other studies could focus on gaps analysis approach proposed as a measure of service quality to determine whether the perceived service quality meets the expected level. The study focuses on customer loyalty as an outcome library service quality. Other variables such as

perceived value, trust, satisfaction, and university image, could be used as mediators in this relationship.

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