Factors Influencing Undergraduates' Satisfaction with the Library: with Special Reference to the Science Library, University of Peradeniya, Sri Lanka

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Abstract

University libraries play a vital role in the information society through the provision of quality information effectively and efficiently to the academic community. The proliferation of Information Technology opens avenues for easy accessibility of information and eliminates the need of physical library visits to satisfy information needs. It is crucial that university libraries adopt innovative strategies to satisfy tech-savvy users in this digital era. Therefore, the library management should identify the significant factors influencing students' satisfaction towards the library. In this study, undergraduates' satisfaction was assessed by a conceptual model with the dimensions of Library services, resources and staff. The simultaneous effects of these variables on satisfaction were also determined. Data were gathered through a survey performed among 442 Science undergraduates of University of Peradeniya, Sri Lanka and the model was tested using multiple regression analysis. The results indicated that Library services, Library resources and Library staff were strong determinants of undergraduate satisfaction. Library facilities accounted for 41.1% of the variance of students' satisfaction. It is recommended that the library management should improve Library facilities such as services, resources and staff to enhance the level of undergraduates' satisfaction with the Library.

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Introduction

University libraries play a significant role in the information society by delivering quality information effectively and efficiently to the scholarly community. The fundamental objective of the university library is to satisfy its prominent user base-the undergraduates. The exponential advancement of Information Technology has made information easily accessible for anyone from any location and has eliminated the need of visiting a library physically to seek information (Anyira, 2011). It is inevitable for university libraries to adapt to these technological changes and deliver innovative user services to meet the needs of the digital natives. It is important that university libraries become more user-oriented which will stipulate a better understanding of specific user needs for the provision of relevant services that aligns with those needs (Andaleeb & Simmonds,1998).

Libraries should continuously enrich their offered services to fulfill user expectations. The evaluation of user satisfaction is a reliable strategy to identify whether the library is compliant with the user requirements. It aids the management to update resources and services of the library and also helps to improve the quality of services. University libraries must remain focused on meeting the user needs by consistently examining user preferences and information behaviors (Tyler & Hastings, 2011). Thus, it is essential to identify what are the most influential factors that could enhance the satisfactory level of undergraduates with regard to the library and redesign the resources and services accordingly. This would in turn increase the use of the library by students. Moreover, Students' satisfaction is a crucial attribute in the survival of the university library (Sivathaasan, 2013).

Objectives of the study

The overall objective of the current study is to determine the factors influencing the satisfactory level of undergraduates with the facilities rendered by the Science Library, University of Peradeniya, Sri Lanka. Specific objectives of the study are as follows:
- To detect the relationship between library facilities spanning ' Library Services', 'Library Resources' and 'Library Staff' and the undergraduate satisfaction

- To provide pragmatic recommendations for improving the user satisfactory level towards the Library

Literature Review

Hemavathi and Chandrashekara (2018) sought to evaluate the user satisfaction with resources and services of Law College libraries in India. They surveyed 800 users and observed that the majority of the respondents were satisfied with regard to the organization of library resources, reading room facilities and the staff. In a related study, Singh and Kuri (2017) conducted a survey among 800 library users spanning students, members of the faculty and researchers to examine their satisfaction with the IIT (Indian Institutes of Technology) libraries in India. It was found that the libraries should provide more web-based services and apply web 2.0 technologies to enhance their user services. In the same way, Tiemo and Ateboh (2016) analyzed the level of user satisfaction with a Health Science Library in Nigeria. Data were gathered via a survey performed among a sample of 180 students. Findings exhibited that the users were satisfied with library services such as renewals, lending services and internet facilities. Yet, they expressed dissatisfaction towards outdated journals and insufficient reference resources.

On the other hand, Andaleeb and Simmonds (1998) proposed and tested a five-factor model to gain insight into the user satisfaction with academic libraries. Data were collected through a survey performed among students of three academic libraries. Findings suggested that the librarians should pay attention to two crucial factors, namely, resource strategy and demeanor of the library staff. Overall, the model explained 64% of the variation in the dependent variable.

Literature demonstrated several studies which focused on assessing user satisfaction towards the University library in the Sri Lankan context. Some authors observed that undergraduates were satisfied with the overall services and facilities in the university library (Gunasekera, 2010; Ranawella and Rajapaksha, 2017). Amarasekara and Marasinghe (2020) examined user satisfaction with the Open University library of Sri Lanka and identified that students were mostly satisfied with library staff. Similarly, Chandrasekar and

Murugathas (2012) carried out a survey among Bio students of University of Jaffna and observed that more than half of the respondents (64%) were satisfied with the library collection whereas 63% of them showed dissatisfaction towards the electronic collection. In a similar attempt, Vijeyaluxmy (2015) identified that undergraduates had a moderate level of satisfaction with regard to the library collection, access, services and library environment. Further, they were highly satisfied with the library staff as well as the procedures.

In a recent study, Soltani-Nejad et al. (2020) designed a new model for the empirical evaluation of the antecedents and consequences of the user satisfaction regarding digital library. Along similar lines with this study, Xu and Du (2018) investigated factors affecting users' satisfaction with digital libraries by formulating an integrated model using several prominent theories and used survey data of 426 to test the model. It was revealed that system and service quality significantly influenced perceived ease of use, perceived usefulness and digital libraries' affinity whereas perceived usefulness and affinity had significant effects on user satisfaction.

In his study, (Sivathaasan, 2013) formulated a conceptual model to express the relationship between library facilities and satisfaction with reference to Management undergraduates of Jaffna University. He found that library facilities had a significant effect on the satisfaction at the rate of 20.1%. Furthermore, it was revealed that the respondents articulated their satisfaction mostly towards the competency of the library staff, followed by information sources and the library environment. In another study, Sivathaasan and Chandrasekar (2013) attempted to measure the students' satisfaction with the library of Jaffna University, by applying factor analysis to detect the significant factors affecting user satisfaction. According to the findings nine factors were identified as determinants of the user satisfaction whereas "factors extracted from the analysis accounted for 64% of the total variability" (Sivathaasan & Chandrasekar, 2013, pp.40). Yet, there is a dearth of studies which have examined the significant factors that affect user satisfaction towards the library by employing a research model. Moreover, only a limited number of studies have focused on user satisfaction of the library among natural and applied science undergraduates. Therefore, the current study will contribute to fill this gap in library science literature while

extending the body of knowledge in the domain of undergraduates' satisfaction with the library.

Methodology

Conceptual Framework

The following conceptual framework (Figure I) was formulated in order to exhibit the relationship between library facilities and the satisfaction. The dependent variable is 'Undergraduate satisfaction' (with 7 measurement items) while the independent variable is 'Library facilities'. Further, 'Library facilities' included three variables: Library services (with 7 measurement items), Library resources (with 6 measurement items) and Library staff (with 4 measurement items). The model was designed to capture the individual contributions of each variable, namely Library Staff , resources and services to the undergraduate satisfaction as well as to detect the joint effect of these three variables (defined as Library Facilities) on the satisfaction.

User satisfaction is a reliable indicator to access the potential of a library. The evaluation of user satisfaction levels would aid the library management to improve the attributes which are identified as weak as well as to further strengthen the areas which users are already satisfied (Miraj and Naseer, 2013). It is evident that Library resources, services and the staff play a vital role in enhancing the user satisfaction towards the Library. Kim-Soon, Hasbi and Ahmad (2013) ascertained that good library resources, facilities and services are key to ensure user satisfaction with the library. Sivathaasan (2013) stated that students reached to a level of satisfaction with the "competence and helpfulness of Library staff, information sources, library environment and library services as a whole". He further outlined that Library facilities had a significant influence on user satisfaction. Thus, the following research hypotheses were proposed in this study.

Research Hypotheses

H_1: Library services will have a significant positive effect on the undergraduate satisfaction.

H_2: Library resources will have a significant positive effect on the undergraduate satisfaction.

H_3: Library staff will have a significant positive effect on the undergraduate satisfaction.

H_4: Library facilities spanning library services, resources and staff will have a significant positive effect on the undergraduate satisfaction.
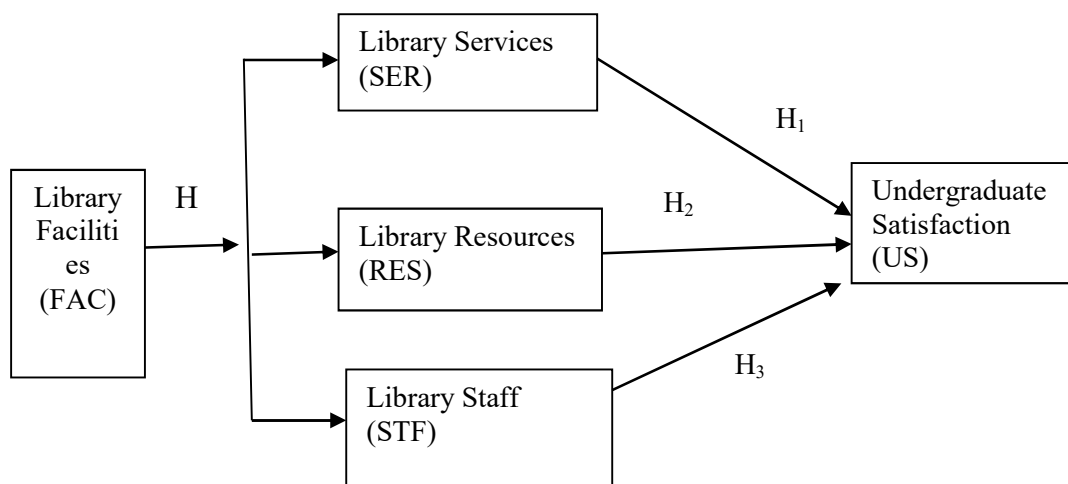

Figure 1. Research model

Equation of the conceptual model: SER+RES+STF= US;
FAC= SER+RES+STF

The study followed a quantitative approach by applying a questionnaire-based survey. A sample of 442 undergraduates of the Faculty of Science, University of Peradeniya, Sri Lanka was selected for the study based on convenient sampling method. Data were gathered from students who visited the library in the first three months of the year 2020 and this sample covered 25% of the total population relevant to each academic year. The research tool was a self-developed questionnaire which measured factors that captured perceptions of respondents towards the library resources and services. A multiple-item six point Likert scale was used to measure the variables (6="Very Satisfied", 5= "Satisfied", 4= "Indifferent", 3= "Dissatisfied", 2= "Very Dissatisfied", 1= "I don't know"). Data were analyzed using SPSS (Statistical Package for the Social Sciences). The model was tested using path analysis employing multiple regression analysis techniques.

Results & Discussion

374 duly-filled questionnaires were received yielding a response rate of 85%. The sample comprised of 37% males and 63 % females.

Table 1: Summary of the Cronbach's α values of the variables

Variables	No. of items	Cronbach's α	Reliability results
Library services	7	.832	Good
Library resources	6	.875	Good
Library staff	4	.827	Good
Undergraduate satisfaction	7	.832	Good

The reliability of the measurement items was tested using the Cronbach's coefficient alpha test and Table 1 presents the results obtained. All the Cronbach's α values of the variables exceeded the acceptable level of .7 (Sekaran, 2000), verifying that the questionnaire was a reliable tool of measurement.

Table 2: Mean scores for library facilities

Dimensions	Mean	Median	Standard deviation
Library services	4.54	4.67	0.89
Library resources	4.13	4.5	1.19
Library staff	4.75	5.0	0.90

Undergraduate satisfaction was assessed via three dimensions, namely, Library services, resources and staff. Table 2 indicates the overall mean and median scores with regard to satisfaction. Highest mean score (4.75) indicates that undergraduates had positive perceptions towards the library staff. Similarly, Vijeyaluxmy (2015) as well as Amarasekara and Marasinghe (2020) also found that undergraduates were highly satisfied with the Library staff. Based on the mean score of 4.54, it can be observed that most of the students were satisfied with the library services. This finding is in

accordance with the findings obtained by Gunasekera (2010) and Ranawella and Rajapaksha (2017). In order to test the hypothesized relationships among the variables in the model a path analysis was performed using multiple regression techniques. The results are demonstrated in Table 3. Furthermore, Table 4 summarizes how the independent variables of the model (SER, RES, and STF) jointly predict the dependent variable of undergraduate satisfaction.

Table 3: Results of hypothesis testing

Hypotheses	Path	Standard Co-efficient β	Result
H1	SER ⟶ US	0.525	Accepted
H2	RES ⟶ US	0.524	Accepted
H3	STF ⟶ US	0.707	Accepted
H4	FAC ⟶ US	0.643	Accepted

Table 4: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.643[a]	.414	.412	.55877	.414	262.879	1	372	.000

a. Predictors: (Constant), Facilities   b. Dependent Variable: overall satisfaction

H_1 assumed that Library services would have a positive effect on the satisfaction and it was evident from the results that this path was significant ($\beta=0.525$, $p<0.05$). Thus, H_1 was supported and it implies that Library services play a vital role in increasing undergraduates' satisfaction. H_2 which proposed that library resources would be a significant determinant of the satisfaction was also supported ($\beta=0.524$, $p<0.05$). In addition, the path from Library staff to satisfaction was significant ($\beta=0.707$, $p<0.05$) verifying H_3. These findings demonstrate that Library services, resources and staff were salient factors that contributed in improving the students' satisfaction with the library. Similar results were obtained by Sivathaasan (2013) who found that information sources, helpfulness of Library staff and Library general services were positively associated with the students' satisfaction. H_4 tested

the simultaneous effects of Library facilities which spanned Library services, resources and staff on the dependent variable of satisfaction. This path was significant (β=0.643, $p<0.05$) exhibiting that library facilities (services, resources and staff) as a whole, had a significant positive influence on the undergraduate satisfaction.

These findings provide some insight for library management to improve the library resources and services by delivering timely, prompt, innovative and professional services, as well as current, accurate, and comprehensive information resources. Meanwhile, improving capacities of library staff will help them to provide efficient services to students which will lead to the enhancement of user satisfaction.

R^2=0.414 (Table 4) suggests that all three independent variables (SER, RES and STF) in the model together explained 41.1% of the variance in undergraduate satisfaction (dependent variable). The remaining 58.9% of variance in the satisfaction is related to other variables which were not taken into account in this study. The R^2 value indicates that there may be numerous other variables which could impose an impact on the undergraduate satisfaction and this is an area in which future studies could be conducted.

Conclusion

The present study attempted to shed light on the factors that the library management should take into concern in order to tailor services to meet user demands and increase their satisfaction. It was found that Library services, Library resources and the Library staff were strong determinants of the undergraduate satisfaction. Moreover, Library facilities (including all independent variables of Library services, resources and staff) accounted for 41.1% of the variance of students' satisfaction. Based on the results it is recommended that the library management should focus on developing and reshaping library facilities such as the services, resources and staff in order to enhance the level of undergraduate satisfaction towards the Library and the following measures are suggested:

- Updating the existing collection via including new editions and removing outdated ones.
- Add new resources and services to cater current user requirements
- The Library collection should be frequently assessed in order to determine its adequacy and relevance to the requirements of present degree programs.
- Educating students about available resources and services continuously in order to enhance their awareness of the library
- The Library staff should be trained to deliver effective and efficient services to fulfill information requirements of the users.

In future research it is possible to improve that results of this study by extending the research model via incorporating various other factors in order to better explain the students' satisfaction with the Library. Furthermore, this study could be replicated using different samples of undergraduates from other academic disciplines. However, this study was restricted to the university context of Sri Lanka and the authors laid their focus on undergraduates of a single faculty of one state university in Sri Lanka.

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