Factors influencing the readers satisfation at VietNam National University of Forestry Library

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Abstract: *Measuring reader satisfaction is important in terms of adaptive of an academic library. The proliferation of Information Technology opens avenues foreasy accessibility of information and eliminates the need of physical library visits to satisfy information needs. The primary aim of this paper is to investigate the factors determining satisfaction of readers who use the VietNam National University of Forestry Library. The study was exploratory in nature and employed factor analysis to identify the important factors of reader satisfaction in relation to library facilities and services. Results revealed that five factors are considered important in determining reader satisfaction. Among those, most important factors are textBooks allowed for borrowing, digital library services, reading Tables & Chairs, opening hours and helpfulness of the Staff in the library.*

Keywords: *Factor Analysis, Library facilities and services, Reader satisfation*

1. Introduction

The primary role of academic libraries is to meet the information needs of their users, playing a vital role in intellectual development. However, with the rise of digital information, many students prefer accessing resources electronically rather than visiting the library in person. This shift, coupled with the increasing challenges of academic publishing and the digital revolution, has led libraries to adapt by integrating technology into their services. The Vietnam National University of Forestry Library (VNUFL), established in 1964, supports the university's mission by providing access to both physical and digital resources. Despite efforts to upgrade its facilities, including a large collection of books, e-journals, and digital services, many users remain dissatisfied with the library's offerings. This study explores the factors that affect reader satisfaction at VNUFL and aims to assess the impact of library services on user satisfaction.

2. Methodology

2.1. Methodology:
The research design is a structured framework for collecting relevant data. In this study, a self-administered questionnaire with 21 variables was used to assess reader satisfaction with library facilities. Data were collected from 400 randomly selected readers who visited VNUFL during the 2021–2023 academic sessions. The questionnaire, distributed online with instructions, utilized a five-point Likert scale to measure satisfaction. The first five responses served as a pilot study, and balanced keying was used to avoid acquiescence bias.

2.2. Data analysis:
Reliability and validity of the scale were tested before applying factor analysis. Cronbach's alpha was used to verify internal reliability, with values above 0.6 considered satisfactory. Exploratory Factor Analysis (EFA) was conducted to identify factors affecting user satisfaction with library facilities, using SPSS version 22. Data validity was assessed with the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity. Principal Component Analysis (PCA) with varimax rotation was used, considering components with Eigen values ≥ 1.

3. Results and suggestion

3.1. Readers demographic

Table 1. Demographic characteristics of the respondents

Demographic		Frequency (n)	Percentage (%)
Populaitons	Lecturer and staff	70	17,5
	PhD student	15	3,8
	Master student	50	12,5
	Student	265	66,3
Sex	Male	214	53,5
	Female	186	46,5
Major	Accounting	121	30,3
	Forest resource management	67	16,8
	Silviculture	34	8,5
	Business Administration	34	8,5
	Environmental science	33	8,3
	Land Management	29	7,3
	Forest Product Processing	20	5,0
	Landscape architecture	15	3,8
	Other	47	11,8

Source: Data from survey by authors

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Demographic in Table 1 shows that: Populaitons: 365(66.3%) of the readers were students; 70 (17,5%) were lecturers and staffs; 50(12,5%) were master students and 15(3,8%) were PhD students; Major: 121(30.3%) were from the Major of Accounting, 67(16.8%) were from the Major of Forest resource management, 34(8,5%) were from the Major of Silviculture, 34(8,5%) were from the Major of Business Administration, 33(8.3%) were from the Major of Environmental science, 29(7.3%) were from the Major of P Land Management, 15(3,8%) were from the Major of Landscape architecture and the other 47 (11,8). It shows that the Library is used by reader in all majors.

3.2. Determinants of Reader's satisfaction of VNUFL

Four hundred duly-filled questionnaires were selleced in 2021 – 2022 academic session and in 2022 – 2023 acadamic session. The reliability of the measurement items was tested using the Cronbach's coefficient alpha test and Table 2 presents the results obtained.

Table 2: Summary of the Cronbach's α values of the variables

Variables	Cronbach's α	Reliability
TextBooks allowed for borrowing outdoor	0.874	Good
TextBooks/refferencebooks/theses/dissertations / projects allowed for borrowing to reading indoor.	0,879	Good
Self and group studies	0,871	Good
Photocoppy textbooks.	0,877	Good
Digital library services	0,771	Good
OPAC facility services	0,871	Good
Library opening hours	0,875	Good
Textbook, reference book, thesis/disertation/ project and digitat textbook, reference book, thesis/disertation/project Collections	0,877	Good
Digitat textbook, reference book, thesis/ disertation/project allowed to reading online	0,870	Good
Reading Tables & Chairs	0,821	Good
Study Area	0,872	Good
Shelf Arrangement	0,870	Good
Air Conditioning (Temperature/Heat)	0,792	Good
Lighting	0,832	Good
Quietness	0,872	Good
Cleanliness	0,872	Good
Security of Personal Belongings	0,864	Good
Selective dissemination of information	0,862	Good
Library Guides, handouts, bibliographies & indexes	0,872	Good
Helpfulness of the Staff	0,872	Good
Staff Approachability	0,873	Good
Availability of Staff	0,871	Good
Knowledge of Staff	0,762	Good

Source: Data from survey by authors in 2022 and 2023

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.

In addition, the KMO measure and the Bartlett Sphericity's test were effected. The factor analysis resulted in 5 factors, whose Eigen values were greater than 1, and hence are significant. The Table 3 shows the actual variables that were extracted and those variables met the cut-off criterion (extraction method). In this study, minimum factor component loadings of 0.534 or higher are considered significant for EFA purposes. Reader satisfaction variables having highest loadings become the title of each factor component, determining the user satisfaction.

Table 3. Factor Loadings of Variables

Factor	Variable(s)	Factor Loadings	Eigen Value	Percent of Variation Explained	Cumulative %
Factor 1	TextBooks allowed for borrowing outdoor	0,776	6,932	23,107	23,107
	TextBooks/refferencebooks/theses/dissertations /projects allowed for borrowing to reading indoor.	0,755			
	Textbook, reference book, thesis/disertation/project and digitat textbook, reference book, thesis/disertation/project Collections	0,645			
	Digitat textbook, reference book, thesis/disertation/project allowed to reading online	0,534			
Factor 2	Digital library services	0,682	2,406	8,021	31,127
	OPAC facility services	0,649			
	Library Guides, handouts, bibliographies & indexes	0,596			
	Selective dissemination of information	0,594			
Factor 3	Reading Tables & Chairs	0,761	2,127	7,089	38,216
	Study Area	0,642			
	Shelf Arrangement	0,565			
Factor 4	Library opening hours	0,798	1,682	5,606	43,822
	Security of Personal Belongings	0,650			
Factor 5	Helpfulness of the Staff	0,756	1,010	3,367	64,461
	Knowledge of Staff	0,569			

Source: Data from survey by authors in 2022 and 2023

There are five factors with Eigen values greater than 1, explaining 64.461% of the variance.

- Factor 1 (23.107% variance): The most important factor is the allowance of borrowing textbooks for outdoor use, including related materials such as reference books and digital collections. The factor loadings range from 0.776 to 0.534.

- Factor 2 (8.021% variance): Digital library services, with factor loadings ranging from 0.682 to 0.594.

- Factor 3 (7.089% variance): Reading tables, study areas, and shelf arrangements. The factor loadings range from 0.761 to 0.565.

- Factor 4 (5.606% variance): Opening hours and security of personal belongings. The factor loadings range from 0.798 to 0.650.

- Factor 5 (3.367% variance): Helpfulness and knowledge of staff, with factor loadings of 0.756 and 0.569, respectively.

The ranking of these five factors based on their average mean values is shown in Table 4.

Table 4. Ranking of determinants of reader satisfaction

Factor	No of Variables	Mean	Std. Deviation	Rank
Factor 1: TextBooks allowed for borrowing outdoor	4	2.2375	0,7780	1
Factor 2: Digital library services	4	2.3200	0,7770	2
Factor 3: Reading Tables & Chairs	3	2.4800	0,7580	3
Factor 4: Library opening hours	2	2.8150	0,7045	4
Factor 5: Helpfulness of the Staff	2	2.9025	0,6595	5

Source: Data from survey by authors in 2022 and 2023

According to averaged mean values, readers highly satisfied with the library services such as, textBooks allowed for borrowing, digital library services, opening hours and helpfulness of the Staff in the library. Similarly, Vijeyaluxmy (2015) as well as Amarasekara and Marasinghe (2020) also found that undergraduates were highly satisfied with the Library staff, textBooks allowed for borrowing outdoor, reading Tables & Chairs and library opening hours
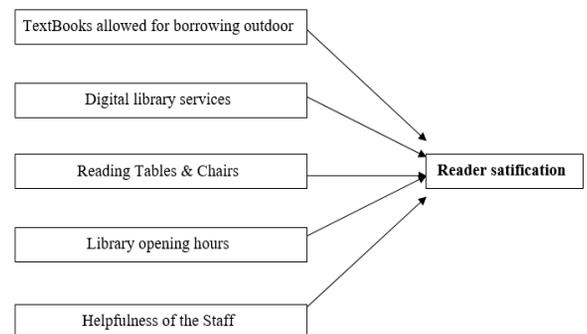

Figure 1. Proposed Model

On the basis of factor analysis, a model for factors determining reader satisfaction in relation to library facilities and services at the VNUFL is proposed (Figure 1). In this model, reader satisfaction is dependant variable and 5 factors are the independent variable. This model has been derived on the basis of statistical evidence; hence, it is validated. It can be further used and developed for similar purposes.

Based on the results, VNUFL management should focus on improving library services, resources, and staff to boost reader satisfaction. Key recommendations include:

Updating the textbook collection by adding new editions and removing outdated ones.

Adding resources and services to meet current reader needs.

Regularly assessing the library collection to ensure its relevance.

Continuously educating readers about available resources and services.

Training staff to provide effective services.

Future research could extend this model by incorporating additional factors and using different reader samples from other disciplines. This study was limited to the VNUF context.

3. Conclusion

Several studies have attempted to identify factors determining overall reader satisfaction in libraries. Through an empirical investigation, this study has identified five variables or indicators which contribute to the reader satisfaction of the VNUFL. The contribution of the study is the identification of variables that determine reader satisfaction with the facilities available and services provided by the VNUFL. Determinants identified are textBooks allowed for borrowing, digital library services, reading Tables & Chairs, opening hours and helpfulness of the Staff in the library. As per averaged mean values, readers well satisfied with the infrastructure facilities, whereas library has to more concentrate on improving textBook collection, Digital library services, Library opening hours and Library opening hours

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