
Utilization of Library Resources and Services as Correlates of Research Activities among Research Scholars in the University of Horticulture Science, Bagalkote, Karnataka

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Abstract

This study examines the use of library resources and services by 52 research scholars at the University of Horticulture Science in Bagalkote, Karnataka, and their relationship with their research. A survey research design was used, with a structured questionnaire and focus group discussions to collect data on library resources and services that support research activities. The study also analyzed the frequency of library resources and services used for research and the limits on their use. The findings provide valuable insights into the importance of libraries in the academic landscape.

Keywords

Library resources and services; Utilization, Research activities; Academic libraries; Information access; Scholarly resources

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Introduction

Research activities are essential for the expansion of knowledge and the progress of society. In academic contexts, research scholars are at the forefront of this effort, devoting themselves to discovering new frontiers, solving complicated issues, and pushing the limits of human understanding. Their work revolves around the use of numerous resources and services provided by university libraries, which serve as vital stores of information and knowledge. The University of Horticulture Science, Bagalkote, was founded on the objective of encouraging excellence in agricultural education and research. The institution was founded to meet the particular challenges and opportunities in horticulture, and it has emerged as a pioneer in the sector by encouraging interdisciplinary collaboration and pushing innovation in agricultural methods. Its enormous campus, complete with cutting-edge laboratories, research facilities, and greenhouses, creates an ideal atmosphere for intellectual inquiry and exploration.

The university library is essential to the support of research scholars' research activities in this ever-changing academic ecology. Serving the varied requirements and interests of the university's academic community, the library is an unrivalled source of information owing to its enormous collection of books, journals, electronic databases, and archive resources. The collection of the library ranges from rare botanical literature to innovative research papers, demonstrating the depth and breadth of knowledge in horticulture and agriculture.

The Significance of Library Resources and Services

Utilizing library resources and services is integral to the research process, enabling scholars to access, evaluate, and synthesise information critical to their work. In the pursuit of knowledge, researchers rely on libraries as repositories of information and as hubs of scholarly communication and collaboration. Whether seeking primary sources for historical research or the latest peer-reviewed articles in scientific journals, scholars depend on libraries to provide timely and reliable access to the needed resources.

At the University of Horticulture Science, Bagalkote, library resources and services play a crucial role in supporting the diverse research interests of scholars. From agronomy to entomology, from plant breeding

to post-harvest technology, the library's collections encompass various subjects relevant to agricultural and horticultural research. Moreover, the library's dedicated staffs, including subject specialists and reference librarians, provides invaluable assistance to scholars, guiding them in their search for information and helping them navigate the complex landscape of academic literature.

In addition to traditional print resources, the university library offers a host of electronic resources and digital services, reflecting the evolving nature of scholarship in the digital age. Scholars have access to online databases, e-journals, and electronic theses and dissertations, allowing them to stay abreast of the latest developments in their fields and to engage with scholarly discourse on a global scale.

The library serves as the store house of intellectual knowledge of the society and manages them in a manner that research scholars can have access to them. Research scholars need access to different type and formats of library resources, including textbooks, journals, indexes, abstracts, newspapers, magazines, reports, CD-ROM databases, internet, email, video tapes/cassettes, diskettes, computers and microforms. Also, electronic resources such as functional computers, photocopying machines, microforms, microform readers, fax machines, internet, local area network. These resources available in the university libraries must be capable of supporting research activities of Research scholars. Library needs to provide them with important library resources such as online journals, user friendly Online Public Access Catalogue (OPAC), well organised and easy to use.

The ability of research scholars to use computer to search for information largely depend on user's knowledge of the search system (Ankrah and Atuase 2018). Also, the ability to locate, identify, retrieve and manage information effectively can be a transferable skill useful for lifelong learning in human endeavours. It is therefore necessary for scholars to acquire computer skills which are aspects of information literacy skills that enable them to access and make effective use of electronic information resources from various sources for research activities.

Access to electronic resources enhances research activities, improves efficient delivery of information economically to all users; encourages cooperative efforts in research resources, computing, and communication networks; strengthens

communication and partnership between and among research scholars and take leadership role in the generation and dissemination of knowledge (Anyim 2018). The influence of electronic library on research according to Trivedi (2010) includes provision of access to multiple services of information to users wherever they are and whenever they need them.

Furthermore, the library's interlibrary loan service facilitates access to resources beyond its own collections, enabling scholars to tap into the collective knowledge of academic institutions worldwide. Further this study delves deeper into the dynamics of library utilization among research scholars, exploring the patterns of usage, the factors influencing engagement, and the implications for scholarly productivity and innovation.

Review of Literature

Library utilization among research scholars in academic settings has been extensively studied, focusing on the frequency and purpose of visits and preferences for various resources and services. Library resources include textbooks, journals, indexes, abstracts, newspapers, periodicals, reports, CD-ROM databases, email and internet access, computers, diskettes, magnetic discs, video tapes/cassettes, microforms, and other pertinent materials. These resources act as the foundational materials required for scholarly study and academic endeavors. Nkoyo's study on students' perceived effectiveness in using library resources at Nigerian universities found that most users obtained information via catalogue indexes. However, unhappiness was reported due to factors such as lack of physical materials and the library's complex organization. Recommendations for improvement include expanding the function of e-libraries, guaranteeing order, increasing the relevance of materials, and encouraging user education through orientation programs.

Arinawathi's study on the effective use of electronic journals by the academia found that people rely on both print and electronic sources of information, with most respondents learning how to use electronic journals effectively from friends or colleagues. They also indicated a preference for quality-controlled scientific and scholarly periodicals. Oki's research suggests that a comprehensive library should have a large collection of books and periodicals spanning a wide range of subjects to support advanced study and research. Onuoha's study on Babcock University's

library services in Nigeria found that photocopying services were the most popular, while circulation and reference services were highly used. NilaranjanBarik's study on the library services at Einstein Academy of Technology and Management in Bhubaneswar found that most faculty members were happy with the materials and services provided.

Adegun's study found that there is a proportional increase in the utilization of library services and resources when they are sufficient and conveniently available. Better user service results in an expanded library collection and better utilization of resources.

Objectives

- 1) To assess the library resources available to support research scholars' research activities in University of horticulture science, Bagalkote.
- 2) To identify the library services available to support research scholars' research activities in University of horticulture science, Bagalkote.
- 3) To analyse the frequency of use of library resources and services by research scholars in University of horticulture science, Bagalkote.

Methodology

This study adopted a survey research design that involved the collection of data using self-constructed, self-administered questionnaire. The target population for the present study is the research scholars who were pursuing their PhD at horticultural sciences university, Bagalkote. The total population was 92 during the 2021-22 academic years out of which a

sample size of 52 research scholars were derived based on (degree of accuracy/margin error 0.025 and confidence 95 percent). The researcher adopted purposive sampling method to select the respondents.

Results

Table 1: Demographic information of the respondents

Distribution of respondents by Gender		
Gender	Frequency	Percentage (%)
Male	24	46.2
Female	28	53.8
Total	52	100
Distribution of respondents by Age		
Age	Frequency	Percentage (%)
25 to 30 years	28	53.8
31 to 35 years	18	34.7
Above 35 years	6	11.5
Total	52	100

Table 1 shows the demographic information of the respondents of the study, namely gender and Age. The table reveals that 24 (46.2%) of the respondents are males and 28(53.8%) are females among the respondents of this study. The table also shows that 28 (53.8%) of the respondents are in the age group of 25 to 30 years, about 18 (34.7%) are in the age group of 31 to 35 years and 6 (11.5%) are above 35 years. The results on demographic information of the research scholars examined shows that, there were more female than male counterparts. In addition, a higher percentage of the respondents are in the age group of 25 to 30 years.

Availability of Library resources

Table 2: Library resources available to support research scholars' research activities

Library resources	Available	Not Available	Not Sure	Mean	Std. Dev.
Print books (Text Books/Reference Books)	51(98.1)	0(0)	1(1.9)	2.96	.277
Print journals/magazine	50(96.2)	0(0)	2(3.8)	2.92	.388
Journals bound volumes (Back volumes)	9(17.3)	0(0)	43(82.7)	1.35	.764
Conference/seminar proceedings	43(82.7)	0(0)	9(17.3)	2.60	.810
Annual reports	7(13.5)	0(0)	45(86.5)	1.27	.689
E-books	46(88.5)	0(0)	6(11.5)	2.77	.645
E-journals	48(92.3)	1(1.9)	3(5.8)	2.87	.486
E-reports	13(25.0)	1(1.9)	38(73.1)	1.52	.874
CeRA	39(75.0)	3(5.8)	10(19.2)	2.56	.802
J-Gate Agricultural & Biological Science	21(40.4)	3(5.8)	28(53.8)	2.35	.590
IndoAgriSat	42(80.8)	8(15.4)	2(3.8)	2.77	.509

Subject gateways-AGRIGATE	49(94.2)	1(1.9)	2(3.8)	2.90	.409
CDs/ DVDs	50(96.2)	1(1.9)	1(1.9)	2.94	.308
Theses and Dissertations	50(96.2)	1(1.9)	1(1.9)	2.94	.308
Technical reports	49(94.2)	1(1.9)	2(3.8)	2.90	.409

Note: Figures in parenthesis denotes percentage

In order to identify the library resources that support research scholars' research activities in the Horticulture science university in Bagalkote, Karnataka, respondents were asked to indicate the level of agreement or disagreement with 15 items on library resources. The result presented in Table 2 showed that a three point Likert scale classified into available, not available and not sure were used to elicit information from the respondents. "Print books (Text Books/Reference Books)" (2.96) was ranked highest by the mean score as the major library resources available to support research scholars' research activities and was followed by "Thesis and Dissertations," "CDs/DVDs" (2.94 respectively) and "Print journals/magazines" (2.92). "Annual reports"

(1.27) were the least item indicated by the respondents.

Specifically with regard to horticulture and agriculture science resources "Subject gateways-AGRIGATE" (2.90) was ranked highest by the mean score as the major library resources available to support research scholars' research activities followed by "IndoAgriSat" (2.77), "CeRA - Consortium for e-Resources in Agriculture" (2.56) and "J-Gate Agricultural & Biological Science" (2.35) as indicated by the respondents.

Availability of Library Services

Table 3: Library services available to support research scholars' research activities

Library services	Not sure	Not Available	Available	Mean	Std. Dev.
Reference desk	1(1.9)	0(0)	51(98.1)	2.96	.277
OPAC/Web OPAC	2(3.8)	0(0)	50(96.2)	2.92	.388
Circulation service	3(5.8)	0(0)	49(94.2)	2.88	.471
Reference service	3(5.8)	0(0)	49(94.2)	2.88	.471
Web portal services	5(9.6)	1(1.9)	46(88.5)	2.79	.605
Reprographic service	3(5.8)	0(0)	49(94.2)	2.88	.471
Indexing/abstracting Service	26(50.0)	1(1.9)	25(48.1)	1.98	1.000
Newspaper clipping services	2(3.8)	1(1.9)	49(94.2)	2.90	.409
Internet services	4(7.7)	1(1.9)	47(90.4)	2.83	.550
Inter library loan	20(38.5)	5(9.6)	27(51.9)	2.13	.950
Book bank scheme	7(13.5)	1(1.9)	44(84.6)	2.71	.696
Web based services	1(1.9)	1(1.9)	50(96.2)	2.94	.308
Current awareness service	5(9.6)	0(0)	47(90.4)	2.81	.595
Selective dissemination of information	4(7.7)	1(1.9)	47(90.4)	2.83	.550
Bibliographic service	17(32.7)	3(5.8)	32(61.5)	2.29	.936
E-mail alert services	4(7.7)	2(3.8)	46(88.5)	2.81	.561
Services using social media platforms	3(5.8)	2(3.8)	47(90.4)	2.85	.500

Note: Figures in parenthesis denotes percentage

In order to determine the library services that support research scholars' research activities in the Horticulture science university in Bagalkote, Karnataka, the respondents were asked to indicate the level of availability of 17 different library services. The result is presented on Table 3. The findings from the respondents revealed that, "Reference desk"

(2.96) was ranked highest as the main library services available to support research scholars' research activities, this was followed by "Web based services" (2.94) and "OPAC/Web OPAC" (2.92). The least service indicated was "Indexing/abstracting Service" (1.77).

Frequency of use of library resources

Table 4: Frequency of the use of library resources by research scholars.

Library resources	N	R	S	O	A	Mean	SD
Text/subject books	5 (9.6)	1 (1.9)	1 (1.9)	3 (5.8)	42 (80.8)	4.46	1.26
Reference books	4 (7.7)	2 (3.8)	1 (1.9)	44 (84.6)	1 (1.9)	3.69	0.9
Printed journals and magazines	4 (7.7)	0(0)	3 (5.8)	43 (82.7)	2 (3.8)	3.75	0.86
Newspapers	3 (5.8)	3 (5.8)	2 (3.8)	1 (1.9)	43 (82.7)	4.50	1.18
Theses and Dissertations	3 (5.8)	2 (3.8)	27 (51.9)	19 (36.5)	1 (1.9)	3.25	0.81
Back volumes of journals	3 (5.8)	3 (5.8)	25 (48.1)	20 (38.4)	1 (1.9)	3.25	0.84
Conferences proceedings/ seminar papers	2 (3.8)	1 (1.9)	3 (5.8)	45 (86.5)	1 (1.9)	3.81	0.69
E-journals	6 (11.5)	0 (0)	1 (1.9)	41 (78.9)	4 (7.7)	3.71	1.04
E-databases	3 (5.8)	3 (5.8)	2 (3.8)	9 (17.3)	35 (67.3)	4.35	1.17
E-books	3 (5.8)	2 (3.8)	1 (1.9)	37 (71.2)	9 (17.3)	3.90	0.93
Reports	1 (1.9)	3 (5.8)	21 (40.4)	23 (44.2)	4 (7.7)	3.50	0.8
Microfilms / Microfiches	0 (0)	17 (32.7)	11 (21.1)	17 (32.7)	7 (13.5)	3.27	1.07

Note: Figures in parenthesis denotes percentage.Keys: (N-Never; R-Rarely; S-Sometimes; O-Often; A-Always).

To gauge the extent of library resource utilization among research scholars at the Horticulture Science University in Bagalkote, Karnataka, respondents were asked to rate their frequency of usage using a 5-point Likert scale. This scale ranged from 1 (indicating 'never') to 5 (reflecting 'always'), with respondents assessing twelve statements related to their engagement with library resources. Table 4 revealed that Traditional print resources, such as "newspaper," "text/subject books," "printed journals" and "reference books" exhibit moderate to high usage, with mean scores 4.50, 4.46, 3.75 and 3.69 respectively. Electronic resources, including "e-databases," "e-books" and "e-journals" their usage, as indicated by mean scores, falls within the moderate

range, i.e. 4.35, 3.90 and 3.71 respectively. However, disparities exist in the usage of certain resources. "Microfilms/microfiches" and "reports" demonstrate lower usage, with mean scores of 3.27 and 3.50 respectively, suggests they are less frequently utilized compared to other resources. These findings underscore the importance of maintaining a balanced collection that caters to diverse user needs. While digital resources play a significant role in modern research and learning, it's essential not to overlook the value of traditional print materials and to address any gaps in access to less-utilized resources like microfilms/microfiches and reports.

Frequency of use of library services

Table 5: Frequency of the use of library services by research scholars.

Library services	N	R	S	O	A	Mean	SD
Circulation service	45 (86.5)	0 (0)	1 (1.9)	1 (1.9)	5 (9.6)	1.48	1.26
Catalogue/OPAC service	24 (46.2)	1 (1.9)	2 (3.8)	0 (0)	25 (48.1)	3.02	1.97
Reference services	20 (38.5)	1 (1.9)	30 (57.7)	1 (1.9)	0 (0)	2.23	1.00
Reprographic services	42 (80.8)	0 (0)	3 (5.8)	1 (1.9)	6 (11.5)	1.63	1.37
Translation service	20 (38.5)	26 (50.0)	1 (1.9)	5 (9.6)	0 (0)	1.83	0.88
Selective dissemination of information	20 (38.5)	1 (1.9)	29 (55.8)	2 (3.8)	0 (0)	2.25	1.03
Current awareness service	20 (38.5)	2 (3.8)	23 (44.2)	2 (3.8)	5 (9.6)	2.42	1.3
Inter library loan	5 (9.6)	39 (75.0)	1 (1.9)	5 (9.6)	2 (3.9)	2.23	0.9
Referral service	40 (76.9)	3 (5.9)	1 (1.9)	2 (3.8)	6 (11.5)	1.67	1.38
Newspaper clipping service	20 (38.5)	22 (42.3)	3 (5.8)	2 (3.8)	5 (9.6)	2.04	1.22
User orientation programme service	20 (38.5)	6 (11.5)	3 (5.8)	22 (42.3)	1 (1.9)	2.58	1.42
Online database service	3 (5.8)	2 (3.8)	27 (51.9)	19 (36.5)	1 (1.9)	3.25	0.81
Bibliographical service	25 (48.1)	1 (1.9)	3 (5.8)	23 (44.2)	0 (0)	2.46	1.46
Index/Abstracting service	5 (9.6)	39 (75.0)	7 (13.5)	1 (1.9)	0 (0)	2.08	0.56
Bulletin board services	5 (9.6)	42 (80.8)	5 (9.6)	0 (0)	0 (0)	2.00	0.44

Note: Figures in parenthesis denotes percentage.

Keys: (N-Never; R-Rarely; S-Sometimes; O-Often; A-Always).

The data provides a comprehensive analysis of the frequency of utilization of various library services by research scholars at the Horticulture Science University in Bagalkote, Karnataka, respondents were asked to rate their frequency of usage using a 5-point Likert scale. This scale ranged from 1 (indicating 'never') to 5 (reflecting 'always'), with respondents assessing 15 statements related to their engagement with library services. Table 5 findings reveal a range of utilization levels across different services. Highly utilized services, such as online database services and catalogue/OPAC service, with a mean score of 3.25 and 3.02 respectively, indicate high usage. On the other hand services such as Current awareness service, User orientation programme service and Bibliographical service with a mean score of 2.42, 2.58 and 2.46 respectively, indicating moderate usage. Services such as circulation service and Reprographic services, witness a mean score of 1.48 and 1.63 respectively, suggesting low usage. Overall, the statistics indicate a diverse landscape of library service utilization, with some services being highly utilized while others demonstrate more moderate levels of engagement. These findings underscore the importance of understanding the varying needs and preferences of research scholars to optimize the delivery of library services effectively.

Discussions

The present study underscores the enduring significance of traditional print resources, such as text/subject books and printed journals, which remain highly available and moderately utilized among research scholars. This observation echoes the findings of Zhao and Rosson (2009) and Al-Hariri and Al-Badi (2012), affirming the enduring relevance of print materials in academic research despite the proliferation of digital resources. Interestingly, the study also reveals a balanced reliance on electronic resources, with e-databases and e-books exhibiting moderate utilization. This finding resonates with research by Tenopir, King, and Bush (2012) and Nicholas et al. (2016), emphasizing the growing importance of electronic resources in contemporary research endeavours.

The findings also elucidate a nuanced landscape of library services utilization, with varying levels of engagement across different services. Notably, online database services emerge as highly utilized, while

services like circulation exhibit lower usage. This aligns with studies by Lim and AbdKarim (2014) and Wang et al. (2018), emphasizing the importance of understanding user preferences to optimize service provision.

By synthesizing the findings with existing literature, this study contributes to a deeper understanding of library resource utilization among research scholars. The coexistence of traditional and electronic resources underscores the dynamic nature of scholarly research. Moreover, the emphasis on user-centric service provision echoes the broader discourse on the evolving role of libraries in meeting the diverse needs of academic communities (Nicholas et al., 2016; Wang et al., 2018).

Recommendations

Based on the understanding gained from the findings and discussions, the subsequent suggestions are drawn:

- 1) **Enhance Electronic Resource Accessibility:** Prioritize initiatives to broaden access to electronic resources such as e-databases, e-books, and e-journals.
- 2) **Promote Underutilized Resources:** Increase visibility and utilization of resources like microfilms and reports through targeted promotion and digitization efforts.
- 3) **Strengthen User Education:** Develop robust user orientation programs to familiarize scholars with available library resources and services.
- 4) **Optimize Physical Service Delivery:** Streamline processes and facilities for services like circulation and reprographics to improve efficiency and user experience.
- 5) **Implement Feedback Mechanisms:** Establish regular feedback channels to solicit input from users, enabling continuous improvement in library services and resource offerings.

Conclusion

The study concludes by emphasising how crucial it is to match library services to the changing requirements and preferences of research scholars. Library administrators might modify tactics for resource allocation and service enhancement by comprehending the utilisation trends uncovered by

this study. It is imperative to underscore the accessibility and efficacy of both digital and traditional library services in order to guarantee that students receive the support they need to succeed in their academic endeavours. To effectively respond to the changing needs for information and the dynamic character of academic research, more study and on-going assessment of library services are required.

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