

# Utilization of Electronic Books by the Researchers in Academic and Research Institutes in Karnataka: A Study

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**Abstract** - The paper investigated the use of open access and licensed electronic books by the research scholars in academic and research institutions in Karnataka. The rate of response is 92.5%. In addition to questionnaire method, interview schedule and observation method were also used to collect required information. It is clear from the study that a large number of research scholars rely upon open access and licensed e-books for academic and research purposes. The institutions have to subscribe large number of e-books for target users and proper training should be given to maximize utilization of open access and licensed e-books.

**Keywords:** E-Books, Electronic Resources, E-Reading, Electronic Book, Digital Books

## I. INTRODUCTION

The e-book is beginning to have a significant role in both class room and distance learning as well as in research activity in the twenty-first century. This sharp growth has occurred for a variety of reasons. E-books have allowed libraries to continue to acquire new content despite tighter budgets and limited physical space. The e-book collections allow libraries to acquire a wide selection of valued resources in a highly efficient acquisition model that does not require staff time to be spent on selecting and acquiring single titles. At the right price, the risk of acquiring less relevant content is offset by the convenience and time saved in the acquisition process. The e-book collections enable libraries to meet the needs of a wide range of users and help the library to move rapidly to an electronic content dominated catalogue that provides users with remote 24/7 access and much easier discovery. E-books may be defined as the digital media equivalent of printed textbooks, read on computers or other digital devices (Rickman, Von Holzen, Klute, & Tobin, 2009). The recent years various studies have been carried out which have demonstrated the importance, the increase in use and the progressive penetration e-books in the academic and scientific sectors. The present study is carried out to know the use of open access and licensed e-books by the researchers in academic and research institutes in Karnataka.

## II. OBJECTIVES OF THE STUDY

The main objectives of the study are:

1. To know the gender wise use of electronic books for academic and research needs.
2. To know the purchase and use of e-books by the research scholars.
3. To examine the way of access to e-books by the research scholars.
4. To know the frequency of the use of e-books for academic and research needs.
5. To identify the type of problems faced while accessing e-books.
6. To know the reasons for not attending the training programme on using e-resources.

## III. SCOPE, LIMITATIONS AND METHODOLOGY

The scope of the study is restricted to research scholars of selected academic and research institutes in Karnataka. The questionnaire method was used for the present study to collect the necessary data, keeping in view the objectives of the study.

A total of 1200 questionnaires were distributed among research scholars of academic and research institutes in Karnataka covered under the study and 1110 duly filled in questionnaires were received back. The rate of response is 92.5%.

In addition to questionnaire method, interview schedule and observation method were also used to collect required information as a supplement to the questionnaire method. The SPSS statistical software has been used for testing the results.

## IV. ANALYSIS AND INTERPRETATION OF DATA

The data collected by different methods were analyzed, interpreted and same has been presented in the form of tables below.

### A. Gender Wise Distribution

The gender wise distribution of research scholars under the study has been shown in Table I. The Table I shows that out of 1110 research scholars, 639(57.6%) are male and 471(42.4%) are female.

TABLE I GENDER WISE DISTRIBUTION

Gender	Gulbarga University (N=139)	University of Mysore (N=141)	Bangalore University (N=140)	JNCAR (N=140)	RRI (N=140)	NAL (N=140)	Astrophysics (N=140)	IISC (N=140)	Total (N=1110)
Male	78 (56.1%)	76 (53.9%)	81 (57.9%)	94 (67.1%)	76 (54.3%)	78 (55.7%)	77 (55.0%)	79 (60.8%)	639 (57.6%)
Female	61 (43.9%)	65 (46.1%)	59 (42.1%)	46 (32.9%)	64 (45.7%)	62 (44.3%)	63 (45.0%)	51 (39.2%)	471 (42.4%)

The Table I also depicts that majority of research scholars, 94(67.1%) of JNCAR are male and 65(46.1%) of research scholars of University of Mysore are female.

### B. Purchase and Use of E-Books

The purchase and use of e-books by research scholars has been projected in Table II.

The Table II depicts that 553(49.8%) of research scholars probably purchase and use of e-books, followed by 299(26.9%) of research scholars not at all purchase and use of e-books and 258(23.2%) of research scholars definitely purchase and use of e-books.

TABLE II PURCHASE AND USE OF E-BOOKS

Institution	Not at all	Probably	Definitely	Total
Gulbarga University	47(33.8%)	86(61.9%)	6(4.3%)	139(100%)
University of Mysore	40(28.4%)	94(66.7%)	7(5%)	141(100%)
Bangalore University	33(23.6%)	53(37.9%)	54(38.6%)	140(100%)
JNCAR	11(7.9%)	113(80.7%)	16(11.4%)	140(100%)
RRI	39(27.9%)	9(6.4%)	92(65.7%)	140(100%)
NAL	50(35.7%)	81(57.9%)	9(6.4%)	140(100%)
Astrophysics	33(23.6%)	40(28.6%)	67(47.9%)	140(100%)
IISC	46(35.4%)	77(59.2%)	7(5.4%)	130(100%)
Total	299(26.9%)	553(49.8%)	258(23.2%)	1110(100%)
$X^2 = 387.043, P = .000$				

The Table II also depicts that majority of 50 (35.7%) of research scholars of NAL not at all purchase and use of e-books, followed by 113(80.7%) of research scholars of JNCAR probably purchase and use of e-books and 92(65.7%) of research scholars of RRI definitely purchase and use of e-books.

The  $X^2$  test was conducted; there exists significant relationship between purchase and use of e-books by research scholars and institutions. ( $X^2 = 387.043, P = .000$ ).

### C. Way of Access to E-Books

The way from where research scholars access e-books has been shown in Table III. The Table III depicts that 1043 (94.0%) research scholars access e-books purchased by their institute, followed by 149(13.4%) research scholars access e-books from Consortia (network) and 62(5.6%) research scholars access e-books from other libraries.

The Table III also depicts that Majority of 139 (99.3%) of research scholars of JNCAR access e-books purchased by the institute, followed by 39 (27.9%) of research scholars of Bangalore University access e-books from Consortia (network) and 18 (12.9%) of research scholars of RRI access e-books from other libraries.

TABLE III WAY OF ACCESS TO E-BOOKS

Institution	Purchased by our institute	Consortia (network)	From other libraries
Gulbarga University	127(91.4%)	10(7.2%)	3(2.2%)
University of Mysore	141(100%)	17(12.1%)	6(4.3%)
Bangalore University	129(92.1%)	39(27.9%)	10(7.1%)
JNCAR	139(99.3%)	21(15%)	4(2.9%)
RRI	124 (88.6%)	11(7.9%)	18(12.9%)
NAL	131(93.6%)	17(12.1%)	3(2.1%)
Astrophysics	130(92.9%)	18(12.9%)	14(10%)
IISC	122 (93.8%)	16(12.3%)	4(3.1%)
Total	1043 (94.0%)	149(13.4%)	62(5.6%)
Statistical Result	$X^2 = 26.041, P = .000$	$X^2 = 4.372, P = .000$	$X^2 = 0.098, P = .000$

The  $X^2$  test was conducted; there exists significant relationship between way of access to e-books by research scholars and institutions.

( $X^2 = 26.041, P = .000$  significant for purchased by their institute, followed by  $X^2 = 34.372, P = .000$  significant for consortia (network), and  $X^2 = 30.098, P = .000$  significant for access from other libraries.)

#### D. Frequency of Use of E-Books

The frequency of use of e-books by the research scholars in the current academic year has been shown in Table IV. The Table IV depicts that 600 (54.1%) of research scholars use

frequently, followed by 239 (21.5%) of research scholars use moderately about 154 (13.9%) of research scholars use occasionally and 117 (10.5%) of research scholars use very frequently.

TABLE IV FREQUENCY OF USE OF E-BOOKS

Institution	Occasionally	Moderately	Frequently	Very Frequently	Total
Gulbarga University	20(14.4%)	28(20.1%)	84(60.4%)	7(5.0%)	139(100%)
University of Mysore	23(16.3%)	32(22.7%)	75(53.2%)	11(7.8%)	141(100%)
Bangalore University	10(7.1%)	40(28.6%)	81(57.9%)	9(6.4%)	140(100%)
JNCAR	13(9.3%)	19(13.6%)	34(24.3%)	74(52.9%)	140(100%)
RRI	27(19.3%)	33(23.6%)	80(57.1%)	-	140(100%)
NAL	19(13.6%)	24(17.1%)	91(65.0%)	6(4.3%)	140(100%)
Astrophysics	29(20.7%)	35(25%)	72(51.4%)	4(2.9%)	140(100%)
IISc	13(10.0%)	28(21.5%)	83(63.8%)	6(4.6%)	130(100%)
Total	154(13.9%)	239(21.5%)	600(54.1%)	117(10.5%)	1110(100%)
Statistical Result	$X^2=333.716$ , $P=.000$				

The Table IV also depicts that 29 (20.7%) of research scholars of Astrophysics use e-books occasionally, followed by 40 (28.6%) of research scholars of Bangalore University have often use moderately, about 84 (60.4%) of research scholars of Gulbarga University of use e-books frequently and 74 (52.9%) of research scholars of JNCAR use e-books very frequently. The  $X^2$  test was conducted; there exists significant relationship between frequency of use of e-books by research scholars and institutions. ( $X^2=333.716$ ,  $P=.000$ ).

#### E. Type of Problems Faced While Accessing E-Books

The types of problems faced while accessing e-books by research scholars has been shown in Table V. The Table V depicts that 586 (52.8%) of research scholars opine that many of the e-books are not useful for research scholars, followed by 384 (34.6%) of research scholars opine that e-books file do not open, 367 (33.1%) of research scholars opine that server is not accessible for accessing e-books and 297(26.8%) of research scholars opine that e-books of

recent years have not been purchased / subscribed. The Table V also depicts that 99 (70.2%) of research scholars of University of Mysore face the problem because the e-books file do not open, followed by 118 (84.3%) of research scholars of RRI, opine that Server is not accessible, about 80 (56.7%) of research scholars of University of Mysore opine that e-books of recent years has not been purchased / subscribed and 109 (77.35%) of research scholars of University of Mysore opine that many of the e-books are not useful.

The  $X^2$  test was conducted; there exists significant relationship between types of problems faced while accessing e-books by research scholars and institutions. ( $X^2=142.967$ ,  $P=.000$  significant for e-books file do not open,  $X^2=426.076$ ,  $P=.000$  significant for server not accessible,  $X^2=99.422$ ,  $P=.000$  significant for e-books of recent years not purchased / subscribed,  $X^2=188.214$ ,  $P=.000$  significant for many of the e-books are not useful).

TABLE V TYPE OF PROBLEMS FACED WHILE ACCESSING E-BOOKS

Institution	E-Books file do not open	Server is not accessible	E-Books of recent years not purchased / subscribed	Many of the e-books are not useful
Gulbarga University	18(12.9%)	3(2.2%)	18(12.9%)	28(20.1%)
University of Mysore	99(70.2%)	29(20.6%)	80(56.7%)	109(77.35)
Bangalore University	49(35.0%)	77(55%)	38(27.1%)	84(60%)
JNCAR	49(35.0%)	29(20.7%)	22(15.75)	34(24.3%)
RRI	19(13.6%)	118(84.3%)	25(17.9%)	108(77.1%)
NAL	51(36.4%)	10(7.1%)	48(34.3%)	73(52.1%)
Astrophysics	51(36.4%)	92(65.7%)	29(20.7%)	92(65.7%)
IISC	48(36.9%)	9(6.9%)	37(28.5%)	58(44.6%)
Total	384(34.6%)	367(33.1%)	297(26.8%)	586(52.8%)
Statistical Result	$X^2=142.967$ , $p=.000$	$X^2=426.076$ , $p=.000$	$X^2=99.422$ , $p=.000$	$X^2=188.214$ , $p=.000$

### F. Information about Training Programmes Attended

The information gathered about training programmes attended by the research scholars for accessing e-resources has been summarized in Table VI. The Table VI depicts that 669 (60.3%) of research scholars opine as yes as they have attended training programmes for accessing e-resources and 441 (39.7%) of research scholars opine as no as they have not attended training programmes for accessing e-resources.

TABLE VI INFORMATION ABOUT TRAINING PROGRAMMES ATTENDED

Institution	Yes	No	Total
Gulbarga University	120(86.3%)	19(13.7%)	139(100%)
University of Mysore	107(75.9%)	34(24.1%)	141(100%)
Bangalore University	58(41.4%)	82(58.6%)	140(100%)
JNCAR	90(64.3%)	50(35.7%)	140(100%)
RRI	22(15.7%)	118(84.3%)	140(100%)
NAL	124(88.6%)	16(11.4%)	140(100%)
Astrophysics	31(22.1%)	109(77.9%)	140(100%)
IISC	117(90%)	13(10%)	130(100%)
Total	669(60.3%)	441(39.7%)	1110(100%)
Statistical Result	$X^2=371.361$ , $P=.000$		

The Table VI also depicts that 124 (88.6%) of research scholars of NAL have expressed that they have attended training programmes of accessing e-resources and 118 (84.3%) of research scholars of RRI opine that they have not attended training programmes of accessing e-resources.

The  $X^2$  test was conducted; there exists significant relationship between information gathered about training programmes attended by the research scholars for accessing e-resources and institutions. ( $X^2=371.361$ ,  $P=.000$ )

### G. Reasons for Not Attending the Training

The reasons for not attending the training programme by the research scholars have been shown in Table VII. The Table VII depicts that out of 493 research scholars, 267 (54.2%) of research scholars opine that there is no need of training for accessing e-resources like e-books, e-journals etc., followed by 169 (34.3%) of research scholars opine that they are too busy to attend the training programme and 57 (11.6%) of research scholars opine that their institute do not organize training programmes on e-resources.

The Table VII shows that 25 (17.9%) of research scholars from RRI have not organized training programme on e-resources, 75 (53.6%) of research scholars opine that they do not need of training on e-resources and 169 (34.3%) of research scholars opine that they are too busy to attend e-resources.

TABLE VII REASONS FOR NOT ATTENDING THE TRAINING

Institution	Institute Does Not	No Need of Training	Too busy to attend	Total
Gulbarga University	-	9(47.4%)	10 (52.6%)	19(100%)
University of Mysore	-	22(64.7%)	12(35.3%)	34(100%)
Bangalore University	9(9.4%)	49(51.0%)	38(39.6%)	96(100%)
JNCAR	4(7.7%)	24(46.2%)	24(46.2%)	52 (100%)
RRI	25(17.9%)	75(53.6%)	40(28.6%)	140(100%)
NAL	-	13(81.3%)	3(18.8%)	16(100%)
Astrophysics	19(15.4%)	65(52.8%)	39(31.7%)	123(100%)
IISC	-	10(76.9%)	3(23.1%)	13(100%)
Total	57(11.6%)	267(54.2%)	169(34.3%)	493(100%)
Statistical Result	$X^2=30.037$ , $P=.000$			

The  $X^2$  test was conducted; there exists significant relationship between reasons for not attending the training programme by the research scholars and institutions. ( $X^2=30.037$ ,  $P=.000$ )

## V. RECOMMENDATIONS AND SUGGESTIONS

Based on the result of the study following recommendations and suggestions are made for further improvements in utilization of open access and licensed electronic books by the research scholars in academic and research institutes in Karnataka.

1. The research scholar should further improve their e-books searching skills to make better use of available e-books.
2. Publishers should provide user manual for better utilization of open access and licensed e-books.
3. The library and information centers should create awareness about recent trends in e-publishing and availability of various forms of e-resources like e-books, e-journals, e-reports, e-patents etc.
4. University/ Institutions libraries should subscribe large number of e-books for users and do organise necessary activities to improvise the utilization of e-books.

5. The researchers should be trained in using advance search options for retrieval of relevant electronic books.
6. University should organize seminar, training and workshops for research scholars at regular interval to keep them in in phase with emerging techniques in electronic publishing.

## VI. CONCLUSION

The large majority of researchers of academic and research institutes opine that e-books are too useful resource; electronic books are familiar to most of the users in academic institutions and universities nowadays. The subscription with limited user access to the e-book databases is also noticed from the users. The e-book allows libraries to continue to acquire new content despite tighter budgets and limited physical space. The research scholars of academic and research institutions should try to maximize the use of e-books. The e-books provide quick access to information and to the vast audience.

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