Implementation and use of Embedded Library Services at IITs in India

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ABSTRACT

IIT Council having the Union Minister of HRD as a Chairman, co-ordinates the activities at all the IITs and is responsible for policy matters. The Council includes the Chairpersons of the Board of Governors and Directors of each IIT, UGC Chairperson, Chairman of CSIR, Director General of CSIR, Director of IISc, as well as elected members from Loksabha and Rajyasabha and nominated members. The officer concerned with the Technical Education in Dept. of Education, Government of India. MHRD will be the Secretary of the Council. His Excellency, The President of India is the Visitor of each IIT in India. Each IIT has Senate. Deans, Departments and Centres as well as the Board of Governors. Central Library, Laboratories, Research labs, etc. for smooth working of academic activities as well as other facilities for running the administration and campus life.

Embedding requires more direct and purposeful interaction than acting in parallel with another person, user group, or activity. Dewey sees embedded librarianship as a means thoroughly which academic librarians become more integrally involved and participate in collaboration with faculty research, participate as a member of research project team, strategic campus development and growth: through faculty senate, strategic planning committees, the Librarian creates a content module within Blackboard and provides relevant materials (Research Project), etc.

1. INTRODUCTION

Studies on Implementation and use of the EL services relating to the general Implementation and use of the Embedded Library services is considered. This covers the Implementation of Embedded Library services by Institutions or library professional's and use of the Specialized Information services by potential users (i.e., Faculty/scientists/students, etc.) for performing the jobs that are assigned to them.

Studies on Model programs: initiating, operating and evaluating covers the assessment of embedded library and information services made with an increase in the sense of initiating and operating by library professionals. This group covers services of all types of embedded library and information services: General like 'Quick Fact checking' service as well as specific services like 'In-depth-topical research' or, 'Competitive Intelligence for Research work team' etc.

2. Training Underwent for use of EL Service

Figure: 1. and Table 1. exhibits that, Training Underwent for use of Embedded Library and Information Services for Embedded Users (Faculty & Scientists) of central libraries of IITs wherein old IITs, the highest 267 (99.26%) Embedded Users (Faculty & Scientists) of central libraries of IITs, trained by 'Library Professional' for the use of EL Services; and 2 (0.74%)Embedded Users (Faculty & Scientists) of central libraries of IITs, trained by 'Webmasters' for use in EL Services.
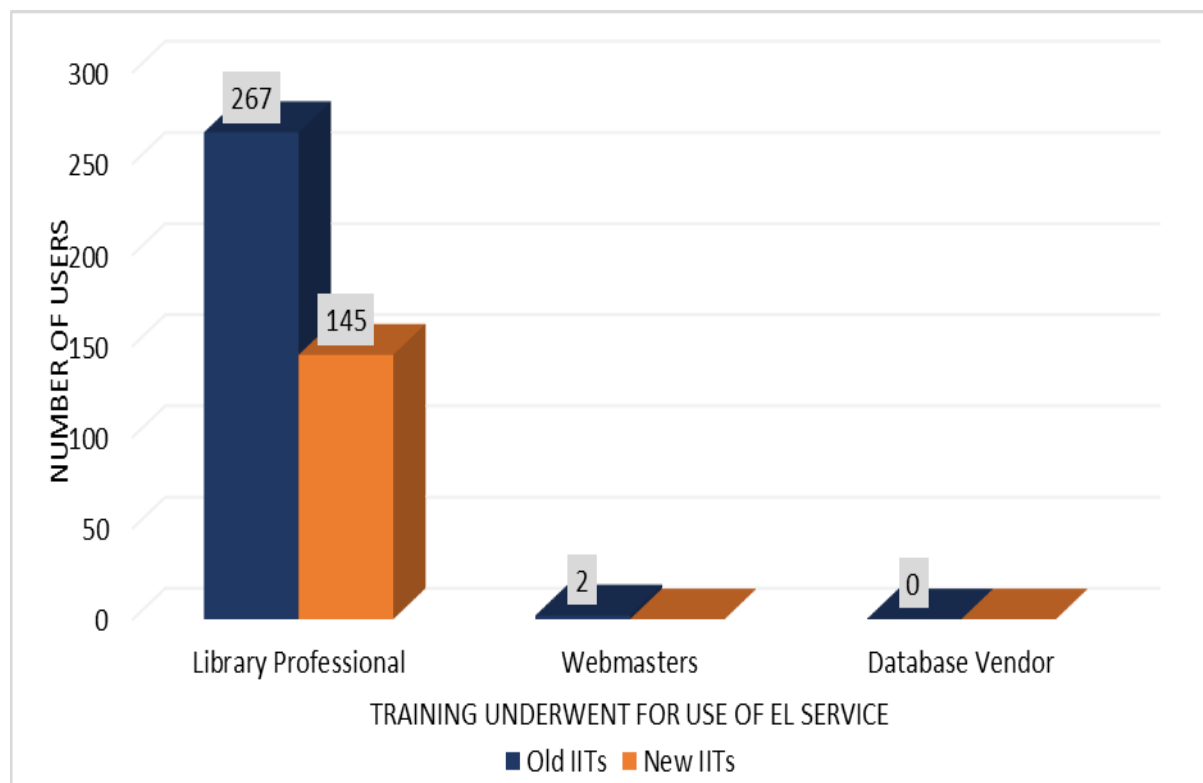
 In new IITs, all145 (100%) Embedded Users (Faculty & Scientists) of central libraries of IITs, trained by 'Library Professional' for use EL Services.

Table: 1. Training underwent for use of EL Service

"Indian Institutes of Technology"		Training Underwent for use of EL Service		
		1	2	3
		Library Professional	Webmasters	Database Vendor
Old IITs (N=7)	IITKGP48	48	0	0
	IITB 40	40	0	0
	IITK 49	49	0	0
	IITM 14	12	2	0
	IITD 46	46	0	0
	IITG 37	37	0	0
	IITR 35	35	0	0
Total=		267 (99.26%)	2 (0.74%)	0 (0%)
New IITs (N=9)	IITBBS 10	10	0	0
	IITGN 34	34	0	0
	IITRPR 12	12	0	0
	IITI 10	10	0	0
	IITBHU 36	36	0	0
	IITPKD 12	12	0	0
	IITTP 8	8	0	0
	IITISM 15	15	0	0
	IITGOA 8	8	0	0
Total=		145 (100%)	0 (0%)	0 (0%)
Grand Total=		412 (99.52%)	2 (0.48%)	0 (0%)

(Source: Compile by Researcher)

Figure: 1. Multiple bar diagram showing Training Underwent for use of EL Service

It is concluded that:

a)99.52% (412) Embedded Users (Faculty & Scientists) of central libraries of IITs, trained by 'Library Professional' for the use EL Services; out of 414 Embedded Users (Faculty & Scientists).

b)0.48% (2) Embedded Users (Faculty & Scientists) of central libraries of IITs, trained by 'Webmasters' for use EL Services; out of 414 Embedded Users (Faculty & Scientists). and

c)0% (0) Embedded Users (Faculty & Scientists) of central libraries of IITs, trained by 'Database Vendor' for use of EL Services; out of 414 Embedded Users (Faculty & Scientists).

3. Embedded Library Services Provided by Central Libraries of IITs in India

Figure: 2 and Table No. 2 reveal that, Embedded Library Services are provided by Central Libraries of IITs in India. Where in the old IITs, at251 (93.31%) Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Citation verification, Quick Fact checking for Researcher' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 217 (80.67%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'In-depth, topical research' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;205 (76.21%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Competitive Intelligence for Research work 'Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;202 (75.09%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'E-Mail Based specialized reference service' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;189 (70.82%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'research-focused discussion forum' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;186(69.14%)Embedded Users (Faculty & Scientists) of central libraries

of old IITs responded 'Evaluating, synthesizing, summarizing the literature' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 183(68.03%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Current awareness, news alerting' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;180 (66.91%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Support to Access to Network Consortia's, Institutional Repository's Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;171(63.57%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Support to Online database search' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;165 (61.34%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'content module within Blackboard (Research Project/work)' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 157 (58.36%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded with 'Data analysis (such as trends, industry, research)' and 'Provide "How To" Pathfinders or Manuals' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;155 (57.62%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Graded Discussion Board' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;142(52.79%)Embedded Users (Faculty & Scientists) of central libraries old IITs responded

Embedded Library Services	Old IITs							
	IITKG P 48	IITB 40	IIT K 49	IITM 14	IITD 46	IITG 37	IITR 35	Total
Development & Evaluating Information Resources	30	21	16	11	24	17	14	133 (49.44)
Citation verification, Quick Fact checking for Researcher	46	36	46	14	42	33	34	251 (93.31)
In-depth, topical research	44	35	43	14	34	22	25	217 (80.67)
Interlibrary Loan and/or document delivery	40	26	8	8	7	15	16	123 (45.72)
Evaluating, synthesizing, summarizing the literature	40	32	35	9	35	18	17	186(69.14)
Current awareness, news alerting	40	23	34	5	26	29	26	183(68.03)
Competitive Intelligence for Research work	42	33	39	10	33	27	21	205 (76.21)
Data analysis (such as trends, industry, research)	37	29	26	4	28	12	21	157 (58.36)
Provide "How To" Pathfinders or Manuals	31	23	30	8	21	22	22	157 (58.36)
Content management for wiki, intranet and web sites	23	15	13	0	9	4	11	75 (27.88)
As an 'Embedded librarian' playing role of a classroom instructor	18	19	33	0	23	17	9	119 (44.24)
Training on the use of information services	24	16	14	7	7	9	14	91 (33.83)
Dissemination of specialized information on What's app Group	18	14	24	4	21	14	6	101(37.55)

Service								Total
E-Mail Based specialized reference service	34	33	39	12	38	23	23	202 (75.09)
Virtual Library Tour	14	11	11	0	12	5	9	62 (23.05)
E-Content Alerts	24	21	19	13	18	24	23	142 (52.79)
Support to Online database search	24	27	27	9	34	27	23	171 (63.57)
Video conferencing/ webinar with Faculty/Scientists	31	23	8	4	15	16	8	105 (39.03)
Embedded Q.R. code to resources for quick delivery service	18	15	20	5	13	6	10	87 (32.34)
Graded Discussion Board	27	21	33	11	32	25	8	155 (57.62)
content module within Blackboard (Research Project/work)	31	23	33	8	35	22	9	165 (61.34)
Journal Citation Reports	24	15	13	11	12	13	15	105 (39.03)
research-focused discussion forum	37	19	36	1	33	28	25	189 (70.82)
Support to Access to Network Consortia's, Institutional Repository	34	27	28	12	30	24	22	180 (66.91)

New IITs										
IITBBS 10	IITGN 34	IITRPR 12	IITI 10	IITBHU 36	IITPKD 12	IITTP 8	IITISM 15	IITGOA 8	Total	Grand Total
4	28	2	3	30	1	0	15	0	83 (57.24)	216 (52.17)
10	32	6	5	33	6	2	15	2	111 (76.55)	362 (87.44)
5	25	4	3	19	2	0	13	0	71 (48.97)	288 (69.57)
2	23	2	8	19	1	5	14	0	74 (51.03)	197 (47.58)
1	22	6	1	1	2	4	13	0	51 (35.17)	237 (57.25)
5	30	6	2	24	9	0	14	7	97 (66.90)	280 (67.63)
5	32	5	8	21	9	0	14	5	100 (68.97)	305 (73.67)
0	27	2	3	17	0	5	14	5	68 (46.90)	225 (54.35)
3	30	4	8	20	1	0	14	0	80 (55.17)	237 (57.25)
2	25	1	7	20	0	3	14	0	72 (49.66)	147 (35.51)
1	22	1	2	15	0	0	13	0	54 (37.24)	173 (41.79)
1	22	2	0	13	0	4	13	0	55 (37.93)	146 (35.27)
0	0	3	2	3	1	0	14	0	23 (15.86)	124 (29.95)

8	26	8	3	26	2	7	15	0	95 (65.52)	297 (71.74)
2	26	9	1	19	9	0	0	2	68 (46.90)	130 (31.40)
10	31	9	4	32	12	0	15	8	121 (83.45)	263 (63.53)
9	32	6	10	30	12	7	15	7	125 (86.21)	296 (71.50)
2	23	3	2	17	7	0	9	0	63 (43.45)	168 (40.58)
8	26	3	7	1	5	3	10	0	63 (43.45)	150 (36.23)
9	0	1	1	14	0	3	13	0	41 (28.28)	196 (47.34)
1	0	0	1	15	4	3	13	0	37 (25.52)	202 (48.79)
9	27	4	8	26	1	4	9	0	88 (60.69)	193 (46.62)
1	26	4	2	14	0	2	12	0	61 (42.07)	250 (60.39)
8	32	9	9	32	4	6	12	0	112 (77.24)	292 (70.53)

(Figures within parenthesis are percentage)

Figure: 2. Multiple bar diagram showing Embedded Library Services Provided by Central Libraries of IITs in India
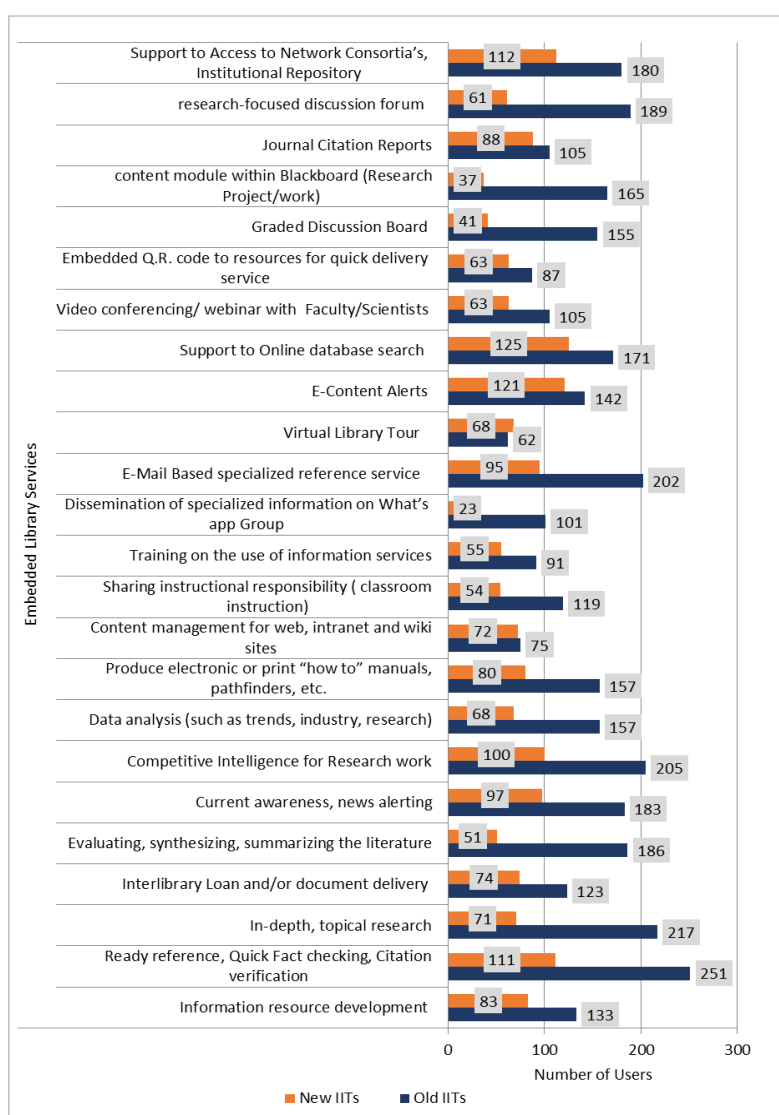
'E-Content Alerts' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;133 (49.44%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Development & Evaluating Information Resources ' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;123 (45.72%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Inter-library Loan and/or document delivery' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 119 (44.24%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Sharing instructional responsibility (classroom instruction)' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;105 (39.03%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Video conferencing/ webinar with Faculty/Scientists' and 'Journal Citation Reports'Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;101(37.55%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Dissemination of specialized information on What's app Group' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;91 (33.83%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Training on the use of information services' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;87 (32.34%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Embedded Q.R. code to resources for quick delivery service' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;75 (27.88%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Content management for wiki, intranet and web sites' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; and 62 (23.05%)Embedded Users (Faculty & Scientists) of central libraries of old IITs responded 'Virtual Library Tour' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs.

In new IITs, 125(86.21%)Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Support to Online database search' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 121(83.45%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'E-Content Alerts' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;112 (77.24%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Support to Access to Network Consortia's, Institutional Repository' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;111 (76.55%)Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Citation verification, Quick Fact checking for Researcher' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;100 (68.97%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Competitive Intelligence for Research work' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;97 (66.90%)Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Current awareness, news alerting' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;95 (65.52%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'E-Mail Based specialized reference service' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 88 (60.69%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Journal Citation Reports' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 83 (57.24%)Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Development & Evaluating Information Resources ' Embedded Library Services provided to faculty, Scientists

and Research Scholars at CLIITs;80 (55.17%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Provide "How To" Pathfinders or   Manuals' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 74 (51.03%)Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Interlibrary Loan and/or document delivery' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 72 (49.66%)Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Content management for wiki, intranet and web sites' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;71 (48.97%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'In-depth, topical research' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 68 (46.90%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Data analysis (such as trends, industry, research)' and 'Virtual Library Tour'   Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;63 (43.45%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Data analysis (such as trends, industry, research)' and 'Embedded Q.R. code to resources for quick delivery service'   Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;61 (42.07%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'research-focused discussion forum' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 55 (37.93%)Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Training on the use of information services' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;54 (37.24%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Sharing instructional responsibility (classroom instruction)' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; 51 (35.17%) Embedded Users (Faculty &Scientists) of central libraries of IITs responded 'Evaluating, synthesizing, summarizing the literature' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;41 (28.28%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Graded Discussion Board' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs;37 (25.52%) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'content module within Blackboard (Research Project/work)' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs; and 23 (15.86%)Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Dissemination of specialized information on what's app Group' Embedded Library Services provided to faculty, Scientists and Research Scholars at CLIITs.

It is observed that:

a) 87.44% (362) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Citation verification, Quick Fact checking for Researcher' Embedded Library Services provided at CLIITs; out of a total 414 Embedded Users (Faculty & Scientists).

b) 73.67% (305) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Competitive Intelligence for Research work' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

c) 71.74% (297) Embedded Users (Faculty & Scientists) of central libraries of IITs responded by e-mail specialized reference service' Embedded Library Services provided at CLIITs; out of a total 414 Embedded Users (Faculty & Scientists).

d) 71.50% (296) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Support to Online database search' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

e) 70.53% (292) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Support to Access to Network Consortia's, Institutional Repository' Embedded Library Services provided at CLIITs; out of a total 414 Embedded Users (Faculty & Scientists).

f) 69.57% (288) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'In-depth, topical research' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

g) 67.63% (280) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Current awareness, news alerting' Embedded Library Services provided at CLIITs; out of a total 414 Embedded Users (Faculty & Scientists).

h) 63.53% (263) Embedded Users (Faculty & Scientists) of central libraries of IITs responded to 'E-Content Alerts' Embedded Library Services provided at CLIITs; out of a total 414 Embedded Users (Faculty & Scientists).

i) 60.39% (250) Embedded Users (Faculty & Scientists) of central libraries of IITs responded with 'research-focused discussion forum' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

j) 57.25% (237) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Evaluating, synthesizing, summarizing the literature 'and 'Providing "How To" Pathfinders or Manuals' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

k) 54.35% (225) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Data analysis (such as trends, industry, research)' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

l) 52.17% (216) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Development & Evaluating Information Resources ' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

m) 48.79% (202) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'content module within Blackboard (Research Project/work)' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

n) 47.58% (197) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Interlibrary Loan and/or document delivery' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

o) 47.34% (196) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Graded Discussion Board' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

p) 46.62% (193) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Journal Citation Reports' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

q) 41.79% (173) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Sharing instructional responsibility (classroom instruction)' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

r) 40.58% (168) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Video conferencing/ webinar with Faculty/Scientists' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

s) 36.23% (150) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Embedded Q.R. code to resources for quick delivery service' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

t) 35.51% (147) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Content management for wiki, intranet and websites' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

u) 35.27% (146) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Training on the use of information services' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

v) 31.40% (130) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Virtual Library Tour' Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists). and

w) 29.95% (124) Embedded Users (Faculty & Scientists) of central libraries of IITs responded 'Dissemination of specialized information on what's app Group's Embedded Library Services provided at CLIITs; out of total 414 Embedded Users (Faculty & Scientists).

4. Embedded Library Services Using in Years

Figure: 3. and Table No. 3 exhibit that, Embedded Library Services Using in Years by Embedded Users (Faculty & Scientists) of Central Libraries of IITs in India. Where in the old IITs, at 62 (23.05%) Embedded Users (Faculty & Scientists) of central libraries of old IITs UsingEmbedded Library Services from '5-6 years (from 2014-2015)'; 59 (21.93%)Embedded Users (Faculty & Scientists) of central libraries of old IITs Using Embedded Library Services from '1-2 years (from 2016-2017)'; 52 (19.33%)Embedded Users (Faculty & Scientists) of central libraries of old IITs Using Embedded Library Services from '3-4 years (from 2015-2016)';50 (18.59%)Embedded Users (Faculty & Scientists) of central libraries of old IITs Using Embedded Library Services from 'Less than 1 year (from 2017-2018)'; and 46 (17.10%)Embedded Users (Faculty & Scientists) of central libraries of old IITs Using Embedded Library Services from '7 or more (from 2012 or before)
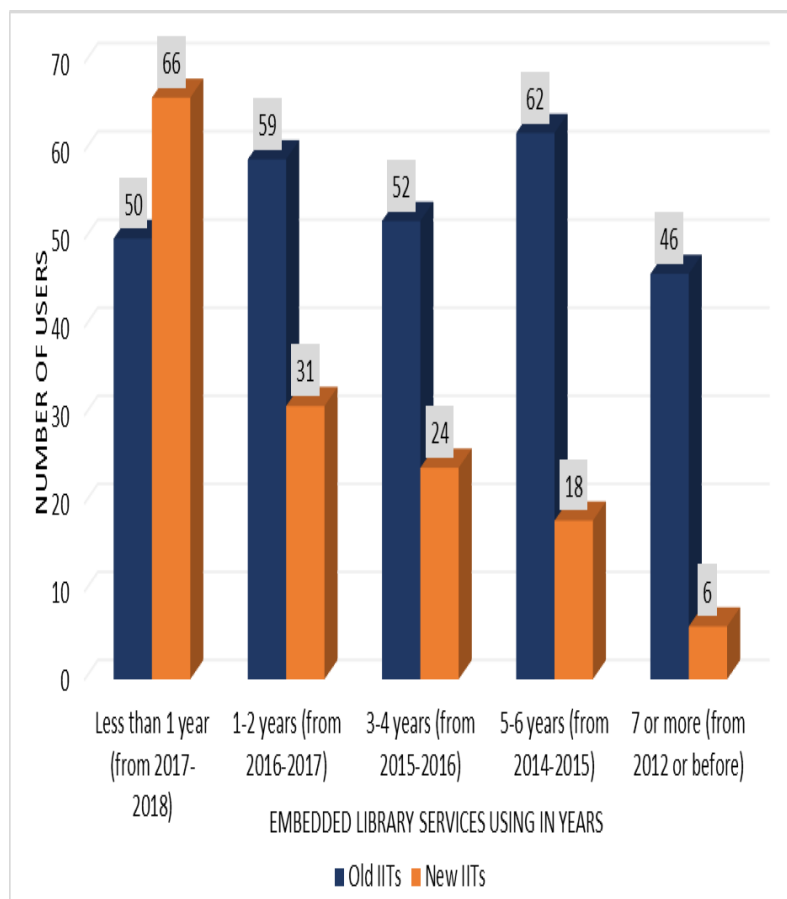
Table: 3. Embedded Library Services Using in Years

"Indian Institutes of Technology"		Embedded Library Services Using in Years				
		1	**2**	**3**	**4**	**5**
		Less than 1 year (from 2017-2018)	**1-2 years (from 2016-2017)**	**3-4 years (from 2015-2016)**	**5-6 years (from 2014-2015)**	**7 or more (from 2012 or before)**
Old	IITKGP 48	5	2	11	20	10

	IITB 40	6	6	6	11	11
	IITK 49	8	18	10	7	6
	IITM 14	1	4	2	3	4
	IITD 46	7	9	10	11	9
	IITG 37	10	11	7	5	4
	IITR 35	13	9	6	5	2
	Total=	50 (18.59%)	59 (21.93%)	52 (19.33%)	62 (23.05%)	46 (17.10%)
New IITs (N=9)	IITBBS 10	3	4	3	0	0
	IITGN 34	8	11	7	8	0
	IITRPR 12	6	4	1	1	0
	IITI 10	3	2	3	2	0
	IITBHU 36	16	6	5	3	6
	IITPKD 12	12	0	0	0	0
	IITTP 8	8	0	0	0	0
	IITISM 15	2	4	5	4	0
	IITGOA 8	8	0	0	0	0
	Total=	66 (45.52%)	31 (21.38%)	24 (16.55%)	18 (12.41%)	6 (4.14%)
	Grand Total=	116(28.02%)	90(21.74%)	76 (18.36%)	80 (19.32%)	52 (12.56%)

(Source: Compile by Researcher)

Figure: 3. Multiple bar diagram showing the Embedded Library Services Using in Years

In new IITs, 66 (45.52%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using Embedded Library Services from 'Less than 1 year (from 2017-2018)';31 (21.38%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using Embedded Library Services from '1-2 years (from 2016-2017)';24 (16.55%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using Embedded Library Services from '3-4 years (from 2015-2016)';18 (12.41%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using Embedded Library Services from '5-6 years (from 2014-2015)';and 6 (4.14%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using Embedded Library Services from '7 or more (from 2012 or before)'.

It is concluded that:

a)   28.02% (116) Embedded Users (Faculty & Scientists) of central libraries of IITs Using Embedded Library Services from 'Less than 1 year (from 2017-2018)';out of total 414 Embedded Users (Faculty & Scientists).

b)   21.74% (90) Embedded Users (Faculty & Scientists) of central libraries of IITs Using Embedded Library Services from '1-2 years (from 2016-2017)'; out of total 414 Embedded Users (Faculty & Scientists).

c)   19.32% (80) Embedded Users (Faculty & Scientists) of central libraries of IITs Using Embedded Library Services from '5-6 years (from 2014-2015)'; out of total 414 Embedded Users (Faculty & Scientists).

d)   18.36% (76) Embedded Users (Faculty & Scientists) of central libraries of IITs Using Embedded Library Services from '3-4 years (from 2015-2016)'; out of total 414 Embedded Users (Faculty & Scientists).

e)   12.56% (56) Embedded Users (Faculty & Scientists) of central libraries of IITs Using Embedded Library Services from '7 or more (from 2012 or before)'; out of total 414 Embedded Users (Faculty & Scientists).

4. Technological Embedded Library Services

Table No. 4 reveals that "Technological Embedded Library Services" Using by Embedded Users (Faculty & Scientists) of Central Libraries of IITs in India. Where in the old IITs, at the highest 215 (79.93%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Development of Information architecture' "Technological Embedded Library Services";183 (68.03%) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Content management for wiki, intranet and websites 'and 'Information Network/Computer system management' "Technological Embedded Library Services";155 (57.62%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Structured database development and/or management "Technological Embedded Library Services";

Table: 4."Technological Embedded Library Services"

Indian Institutes of Technology"	"Technological Embedded Library Services"					
	1	2	3	4	5	6
	Content management for wiki, intranet and web sites	Structured database development and/or management	Manipulation of data using analytical software	Information Network/Comp uter system management	Development of Information architecture	Repository for Document Management System

Old IITs (N=7)	**IITKGP 48**	30	26	35	29	35	25
	IITB 40	28	22	4	27	31	23
	IITK 49	39	32	5	36	43	26
	IITM 14	7	8	7	2	12	11
	IITD 46	19	24	20	39	41	25
	IITG 37	31	21	11	27	23	24
	IITR 35	29	22	15	23	30	17
Total=		**183 (68.03%)**	**155 (57.62%)**	**97 (36.06%)**	**183 (68.03%)**	**215 (79.93%)**	**151 (56.13%)**
New IITs (N=9)	**IITBBS 10**	10	1	1	8	8	5
	IITGN 34	32	0	1	32	7	28
	IITRPR 12	3	0	0	9	8	8
	IITI 10	9	2	1	10	2	9
	IITBHU 36	34	20	1	24	22	16
	IITPKD 12	1	0	0	2	4	0
	IITTP 8	1	1	3	7	4	2
	IITISM 15	13	13	13	13	0	15
	IITGOA 8	0	0	0	0	0	8
Total=		**103 (71.03%)**	**37 (25.52%)**	**20 (13.79%)**	**105 (72.41%)**	**55(37.93%)**	**91 (62.76%)**
Grand Total=		**286 (69.08%)**	**192 (46.37%)**	**117 (28.26%)**	**288 (69.56%)**	**270 (65.21%)**	**242 (58.45%)**

(Source: Compile by Researcher)

151 (56.13%) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Repository for Document Management System ' "Technological Embedded Library Services";and97 (36.06%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Manipulation of data using analytical software' "Technological Embedded Library Services".

In new IITs, at the highest 105 (72.41%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Information Network/Computer system management' "Technological Embedded Library Services"; 103 (71.03%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Content management for wiki,

intranet and web sites' "Technological Embedded Library Services";91 (62.76%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Repository for Document Management System ' "Technological Embedded Library Services"; 55 (37.93%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Development of Information architecture' "Technological Embedded Library Services"; 37 (25.52%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Structured database management or development' "Technological Embedded Library Services"; and 20 (13.79%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Manipulation of data using analytical software' "Technological Embedded Library Services".

It is observed that:

a) 69.56% (288) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Information Network/Computer system management' "Technological Embedded Library Services"; out of total 414 Embedded Users (Faculty & Scientists).

b) 69.08% (286) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Content management for wiki, intranet and web sites' "Technological Embedded Library Services"; out of total 414 Embedded Users (Faculty & Scientists).

c) 65.21% (270) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Development of Information architecture' "Technological Embedded Library Services"; out of total 414 Embedded Users (Faculty & Scientists).

d) 58.45% (242) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Repository for Document Management System ' "Technological Embedded Library Services"; out of total 414 Embedded Users (Faculty & Scientists).

e) 46.37% (192) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Structured database management or development' "Technological Embedded Library Services"; out of total 414 Embedded Users (Faculty & Scientists); and

f) 28.26% (117) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Manipulation of data using analytical software' "Technological Embedded Library Services"; out of total 414 Embedded Users (Faculty & Scientists).

5. Training and Educational Service

Figure: 5and Table No. 5 exhibit that, Training and Educational Services Using by Embedded Users (Faculty & Scientists) of Central Libraries of IITs in India. Where in the old IITs, at the highest 228 (84.76%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'User training on the use of Research Intelligent ' Training and Educational Services;179 (66.54%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Provide "How To" Pathfinders or   Manuals' Training and Educational Services; 161 (59.85%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'As an 'Embedded librarian' playing the role of a classroom instructor ' Training and Educational Services; 131 (48.70%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'E-communications as an author via podcasts, wikis, RSS feeds & blogs or website ' Training and Educational Services; and 123 (45.72%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Co-authorship for research report writing ' Training and Educational Services.

In new IITs, at highest 120 (82.76%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'User training on the use of Research Intelligent ' Training and Educational Services;103 (71.03%) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Provide "How To" Pathfinders or   Manuals' Training and Educational Services; 74 (51.03%) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'As an 'Embedded librarian' playing the role of a classroom instructor' Training and Educational Services; 73 (50.34%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'E-communications as author via podcasts, wikis, RSS feeds & blogs or website' Training and Educational Services; and 55 (37.93%)Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Co-authorship for research report writing ' Training and Educational Services.

It is concluded that:

a) 84.06% (348) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'User training on the use of Research Intelligent ' Training and Educational Services; out of total 414 Embedded Users (Faculty & Scientists).

b) 68.12% (282) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Provide "How To" Pathfinders or   Manuals' Training and Educational Services; out of total 414 Embedded Users (Faculty & Scientists)

c) 56.76% (235) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'As an 'Embedded librarian' playing role of a classroom instructor ' Training and Educational Services; out of total 414 Embedded Users (Faculty & Scientists).

d) 49.28% (204) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'E-communications as author via podcasts, wikis, RSS feeds & blogs or website ' Training and Educational Services; out of total 414 Embedded Users (Faculty & Scientists). and

e) 43.00% (178) Embedded Users (Faculty & Scientists) of central libraries of IITs Using 'Co-authorship for research report writing ' Training and Educational Services; out of total 414 Embedded Users (Faculty & Scientists).

**Table: 5.** Training and Educational Service

"Indian Institutes of Technology"		Training and Educational Service				
		1	2	3	4	5
		User training on the use of Research Intelligent	As an 'Embedded librarian' playing role of a classroom instructor	E-communications as author via podcasts, wikis, RSS feeds & blogs or website	Provide "How To" Pathfinders or Manuals	Co-authorship for research report writing
Old IITs (N=7)	IITKGP 48	35	34	36	31	26
	IITB 40	34	20	28	29	29
	IITK 49	46	31	21	31	8
	IITM 14	13	11	8	12	4
	IITD 46	35	23	26	34	26

IITG 37	33	20	8	20	24
IITR 35	32	22	4	22	6
Total=	**228 (84.76%)**	**161 (59.85%)**	**131 (48.70%)**	**179 (66.54%)**	**123 (45.72%)**
New IITs (N=9) **IITBBS 10**	10	2	6	6	3
IITGN 34	34	27	24	29	27
IITRPR 12	12	0	0	1	1
IITI 10	9	6	2	2	0
IITBHU 36	29	22	24	32	23
IITPKD 12	4	0	2	11	0
IITTP 8	7	3	3	3	1
IITISM 15	15	14	12	14	0
IITGOA 8	0	0	0	5	0
Total=	**120 (82.76%)**	**74 (51.03%)**	**73 (50.34%)**	**103 (71.03%)**	**55 (37.93%)**
Grand Total=	**348 (84.06%)**	**235 (56.76%)**	**204 (49.28%)**	**282 (68.12%)**	**178 (43.00%)**

(Source: Compile by Researcher)

Figure: 5. Multiple bar diagram showing the Training and Educational Service
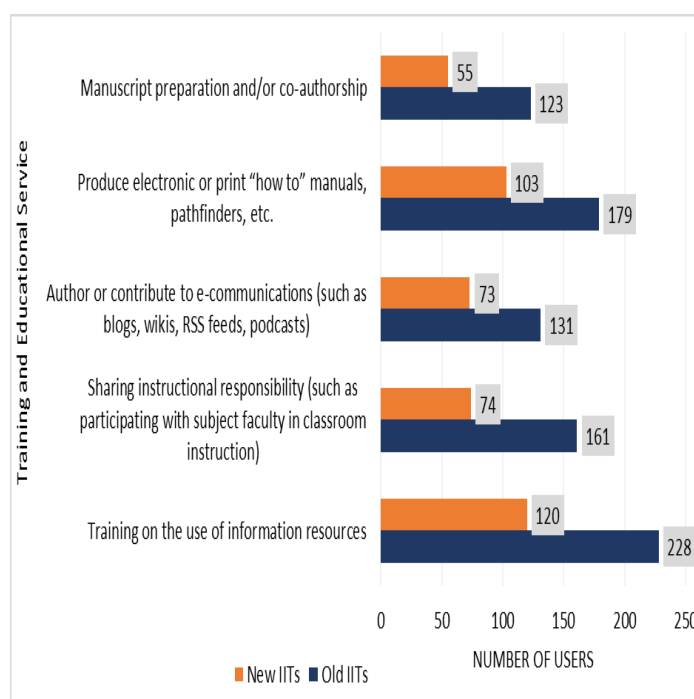
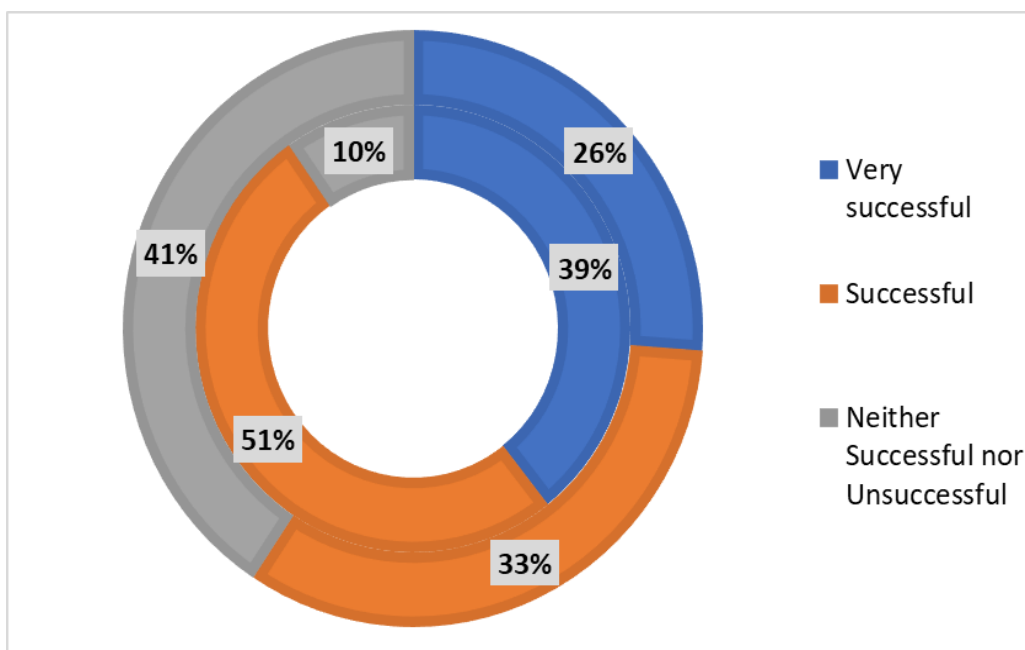## 6. Overall, Response of Faculty and Scientists to EL Services

Table: 6 and Table No. 6 shows that, Overall, Response of Faculty and Scientists to Embedded Library Services in IITs in India. Where in the old IITs, at highest 137 (50.93%)of central libraries of IITs, Overall Response of Embedded Users (Faculty & Scientists) are 'Successful'; 106 (39.41%) of central libraries of IITs, Overall Response of Embedded Users (Faculty & Scientists) are 'Very Successful'; and 26 (9.67%) of central libraries of IITs, Overall Response of Embedded Users (Faculty & Scientists) are 'Neither Successful nor Unsuccessful'.

Table: 6. Overall, Response of Faculty and Scientists to EL Services

Indian Institutes of Technology		Overall, Response of Faculty and Scientists to EL Services		
		1	**2**	**3**
		Very successful	**Successful**	**Neither Successful nor Unsuccessful**
Old IITs (N=7)	**IITKGP 48**	32	14	2
	IITB 40	16	21	3
	IITK 49	16	31	2
	IITM 14	4	8	0
	IITD 46	20	20	6
	IITG 37	9	24	4
	IITR 35	8	18	9
Total=		**106 (39.41%)**	**137 (50.93%)**	**26 (9.67%)**
New IITs (N=9)	**IITBBS 10**	1	7	2
	IITGN 34	14	12	8
	IITRPR 12	1	6	5
	IITI 10	4	5	1
	IITBHU 36	10	13	13
	IITPKD 12	0	0	12
	IITTP 8	0	0	8
	IITISM 15	8	5	2
	IITGOA 8	0	0	8
Total=		**38 (26.21%)**	**48 (33.10%)**	**59 (40.69%)**
Grand Total=		**144 (34.78%)**	**185 (44.69%)**	**85 (20.53%)**

(Source: Compile by Researcher)

Table: 6. Doughnut chart showing Overall, Response of Faculty and Scientists to EL Services (Inner Layer - Old IITs, Outer Layer - New IITs)

In new IITs, at highest 59 (40.69%) of central libraries of IITs, Overall Response of Embedded Users (Faculty & Scientists) are 'Neither Successful nor Unsuccessful'; 48 (33.10%) of central libraries of IITs, Overall Response of Embedded Users (Faculty & Scientists) are 'Successful'; and 38 (26.21%) of central libraries of IITs, Overall Response of Embedded Users (Faculty & Scientists) are 'Very Successful'.

It is concluded that:

a) 44.69% (185) Overall Response of Embedded Users (Faculty & Scientists) of central libraries of IITs are 'Successful'; out of total 414 Embedded Users (Faculty & Scientists).

b) 34.78%% (144) Overall Response of Embedded Users (Faculty & Scientists) of central libraries of IITs are 'Very Successful'; out of total 414 Embedded Users (Faculty & Scientists).

c) 34.78%% (144) Overall Response of Embedded Users (Faculty & Scientists) of central libraries of IITs are 'Neither Successful nor Unsuccessful'; out of total 414 Embedded Users (Faculty & Scientists).

CONCLUSION

Relationships, as the director of our library will almost daily remind me, are everything we have both witnessed and experienced the power of relationships to transform experience, nurture collaboration, and then sustain those collaborative efforts. As librarians, we have traditionally played in our own backyard, not particularly feeling as though we were wanted (or needed) anywhere but the building we were housed in-ready and waiting when and if we were called upon for our expertise.

Traditionally, faculty have not seen librarians as equals, and have, in react, seen them strictly in the sense of being in a position to offer support if they gave any thought to what their actual role happened to be in the first place. Library Professionals staff have often felt themselves to be in a subordinate and submissive position, figuratively, not only speaking when spoken to, but harbouring both secret frustrations and desires for more involving collaboration and teaching.

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