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Service Innovation and New Service Development at Indian Institute of Technology (IIT), Delhi, India

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Purpose: *This article reports on study that attempted to find out the innovation, new product development, and new service development that meet user expectations and needs in this rapidly changing environment at IIT, Delhi.*

Design/methodology/approach: *The investigator conducted a survey with the help of structured questionnaire on 300 respondents. A total of 300 self-administered questionnaires were distributed among faculty members, research scholars, post graduate students and under graduate students by adopting stratified random sampling. 267 valid samples were collected and analyzed. The response rate is 89%.*

Findings: *This paper presents the issue of services and the innovation process and how services are viewed in relation to technological innovation. The analysis highlight that services are becoming more important within the innovation process. Fostering and facilitating innovation, the intelligent use of knowledge and an internal enterprise culture which embraces change are critical issues for IITs and their libraries. It is evident from current environmental indicators that IITs need to utilize two tools skilfully in order to create customer value: innovation and strategy. Therefore, IITs and their libraries positioning themselves for the 21st century need a vision, leadership and infrastructure for innovation.*

Originality/value: *This article is original because it generates new insights and innovation in library service at IIT library on the base of an in depth survey.*

Keywords: *Innovation; new service development; new product development; social networking sites; electronic resources; Instant Messaging. ZA3150-3159*

INTRODUCTION

Three recent developments automation, low- cost rapid communications capability, and demands for better managerial performance have led to a broader concept of innovation, which is centred on processes, functions and human behaviour. Drucker (1974) states that “Innovation is not a technical term it is an economic and social term. Its criterion is not science or technology, but a change in the economic or social environment, a change in the behaviour of people as consumers or producers as citizens, as students or as teachers and so on.

Innovation and transformation are important concept in today’s libraries especially in light of the libraries' ongoing transition from acquiring serials in print to providing access electronically, thus moving toward the virtual library (Carr, 2009). Library staff skills and library services all have to shift from book-centric to user-centric.

As the academic library continues to redefine its role in the digital environment, it needs to leverage its strengths and innovate to create responsive and convenient services (Li, 2006). By exploring the challenges facing libraries in the digital age Brindley (2006) considers ways in which they need to reshape and rethink their services and skills to maintain their relevance and contribution. Central themes identified by Brindley (2006) include: know your users and keep close to them; integrate marketing into the organization; invest more in innovation and digital activities; and develop the people and ensure the right mix of skills. Regarding the interaction with the users Rutherford (2008) found that participative elements of social software made it easier for users to provide feedback on all aspects of library services, thus contributing to the library innovation process.

The IIT Delhi Library System consists of a central library and 18 departmental libraries which collectively support the teaching, research and extension programmes of the Institute. The library, besides having a huge collection of books on engineering, science and humanities offers library services through its various divisions. The library is a part of the fibre optic-based campus-LAN. It has 20 Information Outlets (IOs) which link a computing node to the campus LAN and to the internet. The library has its own sub-LAN consisting of 20 terminals, two terminal controllers and two servers to support Libsys OPAC services and other in-house computerization activities within the library. The library has 97 PCs including 65 exclusively earmarked for the users for internet searches. All 20 terminals, 65 PCs and five servers available in the library are connected to the campus LAN. The terminals in the library can also be used for internet access in textual mode using Lynx browser. In a shrinking budget, cost-saving innovations in IIT libraries are greeted by academic community. The academic community can be expected to welcome innovation in library services or assume a reactionary stance toward change at IIT.

This article reports on study that attempted to find out the innovation, new product development, and new service development that meet user expectations and needs in this rapidly changing environment at IIT, Delhi.

1. RESEARCH PROBLEM

The libraries are responsible for building a comprehensive collection related to the country including negotiating licenses, providing a gateway proxy to allow access to content for those off-site, and implementing federated search across library and to their own purchasing, and that most either manages or is regarded as key advisors for the licensing and deployment of digital content for the organization or for its departments. A focus for most a library is on exploiting technologies to enable users to access content and e-services with one sign-on. In fact, a number of IIT libraries in India use high-cost electronic resources and databases. Therefore a study needs to explore the innovation in libraries services at IIT, Delhi in this digital environment.

2. SCOPE OF THE STUDY

The present study confined to Indian Institute of Technology (IIT) at capital of India, Delhi. The study shows an overall view of innovative uses of library services at IIT, Delhi for capturing best innovative learning.

3. REVIEW OF LITERATURE

A number of studies show innovation in library services and a view regarding the benefits of involving users in product or service development.

Von Hippel (1986) explore the problem and propose a solution: Marketing research analyses which focus on what term the "lead users" of a product or process and also explore how lead users can be systematically identified, and how lead user perceptions and preferences can be incorporated into industrial and consumer marketing research analyses of emerging needs for new products, processes and services.

Piller and Walcher (2006) define user innovation as an innovation where users have contributed to the problem solving process leading to a solution. A user is an actor who expects to profit from an innovation by consuming or using it.

Rogers' model (1995) defines the organizational innovation process as consisting of two broad activities: the initiation and the implementation process. Chesbrough (2003, 2006) has emphasized that the process of innovation has shifted from one of closed systems, internal to the firm, to a new mode of open systems involving a range of external players. He has also emphasised on the new knowledge-based economy that informs the concept 'open innovation'.

Lapp (1997) Summarizes the central goals of the German government report Information as Raw Material for Innovation, and focuses on the challenges for libraries that result from this programme. Suggestions are presented for project co-operation between libraries and their clients/partners.

Martins (2004) explore that in some organizations action is taken to stimulate creativity and innovation. The right steps may have been taken, such as involving employees in decision making, recruiting and appointing employees who evidence characteristics of creativity, setting standards for work performance and giving regular feedback, yet creativity and innovation are hampered in some way. The culture of an organization may be a factor contributing to the extent to which creativity and innovation occur in an organization. The current organizational culture and the demands of creativity and innovation may lead to a conflict situation.

Xiaoling Li (2009) explore why the university library should become the incubation centre of research innovation literacy (RIL) competency. The study states how the library develops RIL instruction and how the library impels university students to improve their independent knowledge innovation competence. The findings of the study shows that the university library possesses the information resources and advanced web technology, owns the experience in IL instruction, and has an advantage in terms of information instruction and research environment. The university library has the ability and responsibility to practice RIL instruction.

Cervone (2010) discuss the issues and impact of emerging technologies and innovation in libraries. He suggested that librarians need to be careful about how terminology such as emerging technology is used as emerging technology in one sector is not new in others and to have credibility, librarians must understand how those differences may play out within their overall organizations. When libraries are situated in parent organizations that value experimentation and innovation, libraries must be willing to experiment and innovate with services and processes. Furthermore,

because technology changes quickly, libraries need to be agile in evaluating and implementing technology.

4. RESEARCH OBJECTIVES

i) To investigate what common computing and communication devices owned by the academic community and what service they use;
ii) To find out new product development and new service development at IIT Delhi;
iii) To investigate new services added on top of old services;
iv) To find out research traditions relevant for innovation in IIT; and
v) To find out user's perception & preference on new services.

5. RESEARCH METHODOLOGY

To meet the objectives of the study close-ended structured questionnaire method is used to collect the data. The structured questionnaire is designed keeping in view of the stated objectives comprising of various types of questions, keeping in view of the aspects like total population of respondents in the IIT, selection/recommendation of library services, promotion of information communication technology (ICT), and future plans to improve services. In order to get adequate population size, the target population were faculty members, research scholars, post graduate students and under graduate students. A total of 300 self-administered questionnaires were distributed among the respondents by adopting stratified random sampling (procedure which first categorizes a population into subgroups and then randomly selects from each subgroup until a desired number is reached). 267 valid samples were collected and analysed. The response rate is 89%.

6. SURVEY RESULTS

The demographic characteristics of the respondents are shown in table 1. By job role; 87 (32.58%) were faculty members, 91 (34.08%) were research scholars, 46 (17.23%) were post graduate students and 43 (16.11%) were under graduate students. (See table 1).

Academic community on survey were asked to indicate ownership of range of common computing and communication devices. The resultant data thus obtained depicted in table 2. The results shown that majority of academic community reported owning of Smartphone (85.39%) which is followed by laptop (52.43%). While 30% owned desktop computer. The study shows that the academic community use Smartphone for using social networking sites or stay in touch with their friends. Whereas the equipments in library use only for study needs. (See table 2).

Investigator asked the respondents to specify the use of new services added on top to old services under six options. The resultant data thus obtained shows that majority of the academic community (78.28%) were used web-based product available on the Internet which is followed by downloading service (74.91%). Use of other services like 70.41% of research search, and 58.43% of printing also identified satisfactory. Whereas 1.49% respondents use computer bulletin board and 1.12% of respondents use instructional technology tools. (See table 3).

In a closed-ended structure questionnaire the investigator asked the respondents to specify the services most utilizes from the library. The resultant data thus obtained depicted in table 4. The analyses show that majority of the academic community use e-journals (75.28%) services provided by the library which is followed by E-Resources@INDEST-AICTE Consortium (74.16%). Database search (72.28%), CD-ROM search (68.16%), E-Textbooks (61.42%), E-Books (60.67%), Theses of IIT (59.93%) and Web-OPAC search (45.69%) are also widely used by the academic community. The tabulated data shows that the library services are mostly used by the research scholars of different disciplines to acquire latest information of their respective subject. (See table 4).

As a part of the survey, the respondents were asked to specify the use of e-resource services provided by the library. It is evident from the table 5 that majority of the academic community (65.91%) use e-print&edt@IITD which is followed by full text facility (65.54%). Use of other e-resource services like bibliographic database (52.43%), DELNET database (50.19%), E-Journals back files (47.19%), JSTOR: The scholarly journal archive (40.45%), Macmillan online courses (31.84%), techno portals (31.09%), Indian standards (25.84%), and ASTM standard-intranet (20.59%) are also found satisfactory. The result shows that the academic community utilize e-resource services mainly to meet their subject information. (See table 5).

The investigator had collected the responses from the academic communities to ascertain the extent to which they are using search facility available at the library. It is evident from table 6 that majority of the academic community (76.40%) use e-journals search facility, followed by those who use e-journals back files (47.19%). Equal percentage of the respondents (45.69%) use OPAC-intranet and Web OPAC search facility subsequently. Further it is observed that techno portals (31.09%), faculty publications (25.84%) and video library (14.73%) are also used subsequently. (See table 6).

While the increase in the use of social networking sites has generated concerns among parents, school officials, and government officials about the potential risks posting personal information on these sites, it is evident they have a series of positive pedagogical implications. Currently, users utilize these sites to stay in touch with their friends, to make plans, make new friends, or flirt with somebody online. Extending this idea, these sites could be used to establish a series of academic connections or to foster cooperation and collaboration in the higher education classroom. The respondents in this survey also asked to indicate their participation in social networking sites. The resultant data thus obtained shows that majority of academic community use Facebook (76.03%) which is followed by those who use LinkedIn (16.85%). While 8.61% respondents use Twitter. (See table 7).

The investigator took four statements to test how they are stay aware of new information related to their discipline. The resultant responses presented in table 8. It is observed that majority of the academic community stay aware via RSS Feeds/blogs/alert service (76.03%), which is followed by those who stay aware via direct e-mail from publishers (69.28%). (See table 8).

In the digital environment the library should incorporate social networking technologies into the library services. The website requires a significant, ongoing investment of time and creativity. The respondents were asked what Social networking or communication tools like to adopt by the library under five (5) statements. The observation showed that majority of the academic community (75.66%) stated that the library service should adopt Instant Messaging (IM) Reference Service which is

followed by those who stated that the library service should adopt RSS Feeds (72.28%). The respondents also suggest that Facebook (42.69%), Twitter (12.36%) and LinkedIn (8.61%) should also be adopted by the library. (See table 9).

The investigator provided evidence relevant to the diffusion of innovation in Indian Institute of Technology, Delhi under four statements by which innovation as a product or services likely to make IITs more profitable. The pertinent data collected presented in table 10. In this, research focus on structural determination of IITs innovativeness (74.15%) which is followed by evidence based approaches to innovation (67.79%). Whereas 63.67% of the respondents focus on knowledge utilization approaches to innovation in IIT in which innovation and diffusion are radically redefined as the construction and distribution on knowledge. (See table 10).

CONCLUSION

As a result in IIT terms services have barely registered in terms of their due recognition within the innovation process. The IIT concerning product and service has to be aimed at the user needs so that the single user is satisfied while the entrepreneurial goals are accomplished simultaneously. In the context of the service innovation this means that new services must custom-fitly be tailored to the user.

Academic community stated that the library service should adopt Instant Messaging (IM) Reference Service and RSS Feeds. The respondents also suggest that Facebook, Twitter and LinkedIn should also be adopted by the library in the context of the service innovation.

In this survey, research focus on structural determination of IITs innovativeness, evidence based approaches to innovation, knowledge utilization approaches to innovation in IIT in which innovation and diffusion are radically redefined as the construction and distribution on knowledge.

The survey results constitute a snapshot of the innovation, new product development, and new service development that meet user expectations and needs in this rapidly changing environment at IIT, Delhi. And also how academic community access information, what they desire from the library, and their attitudes toward a major realignment of library support for their research and teaching.

In the digital environment the librarians and library professionals need to possess, maintain add 21st century toolbox such as html, java scripting, web-based products, and instructional technology tools/competencies such as overheads/word processing. The librarians and library professionals at IIT Delhi Library possess and maintain all these. As the researchers can offer regarding needs and, often, prototype solutions for novel products, processes and services, the service innovation must be custom fitly.

Radical or significant incremental innovations are dependent on support and approval from the management group. Small incremental innovations take place locally at different levels and places in the library, mostly on an ad hoc base (Gallouj and Weinstein, 1997).

RECOMMENDATION

i) The library professional's role is not only to satisfy user information needs, but also to equip them with the necessary skills to utilise the information that is available online.

ii) Libraries should undertake regular studies in information seeking behaviour.

iii) It should be considered a standing practice, in order to understand users and potential user's information needs in order to design web sites, portals, information literacy training programs, web-based information retrieval systems and online education that suit the needs of users.

iv) In order to stay relevant and meet the needs of their users, IIT libraries therefore need to actively address the many challenges for the design and delivery of innovative resources and services in the socially networked world.

v) Reference librarians must keep up-to-date with the variety of products developed by Google. Although the Library webpage should have direct link to Google Scholar, the many other available products that scholars and academics are increasingly using should, where possible, be exploited by the subject reference specialists to their own advantage.

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APPENDICES

Table 1: Demographics of respondents

S.No.	Respondents	Questionnaires Distributed	Questionnaires Analysed	Response Rate (%)
1.	Faculty Members	100	87	32.58%
2.	Research Scholars	100	91	34.08%
3.	Post Graduate Students	50	46	17.23%
4.	Under Graduated Students	50	43	16.11%
	Total	300	267	100%

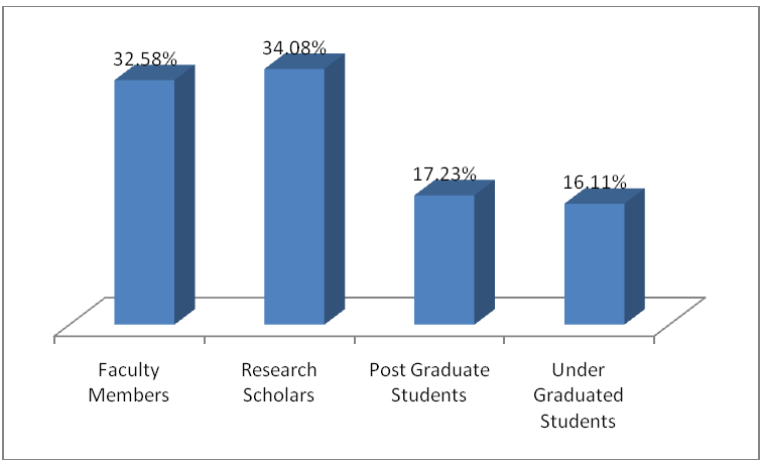

Figure 1: Demographics of respondents

Table 2: Technology ownership (N=267)

Technology Ownership	Faculty Members	Research Scholars	PG Students	UG Students	Average
Desktop Computer	47 (54.02%)	17 (18.68%)	14 (30.43%)	12 (27.91%)	90 (30.00%)
Laptop	32 (36.78%)	57 (62.63%)	23 (50%)	28 (65.12%)	140 (52.43%)
Smartphone	73 (83.91%)	85 (93.41%)	39 (84.78%)	31 (72.09%)	228 (85.39%)

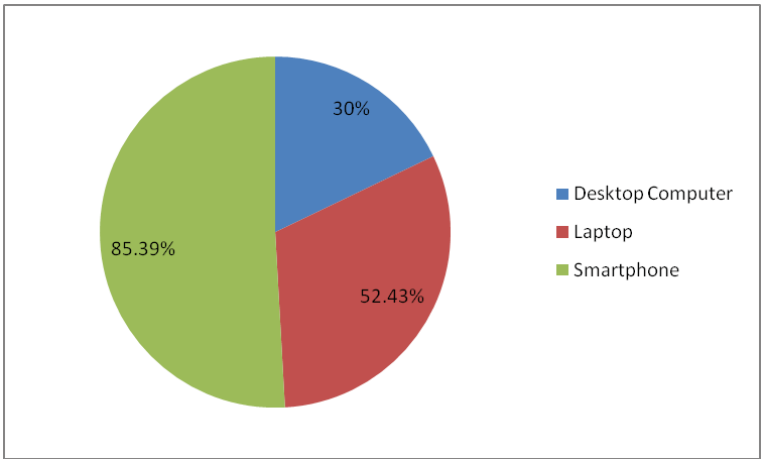

Figure 2: Technology ownership

Table 3: Use of New services added on top of old services (N=267)

Use of New services added on top of old services	Faculty Members	Research Scholars	PG Students	UG Students	Average
Printing	53 (60.92%)	72 (79.12%)	19 (41.30%)	12 (27.91%)	156 (58.43%)
Downloading	68 (78.16%)	87 (95.60%)	26 (56.52%)	19 (44.19%)	200 (74.91%)
Research Search	77 (88.50%)	89 (97.80%)	14 (30.43%)	8 (18.60%)	188 (70.41%)
Computer Bulletin Board	2 (2.29%)	1 (1.09%)	1 (2.17%)	0%	4 (1.49%)
Web-based products	72 (82.76%)	82 (90.11%)	29 (63.04%)	26 (60.47%)	209 (78.28%)
Instructional technology tools	1 (1.15%)	1 (1.09%)	1 (2.17%)	0%	3 (1.12%)

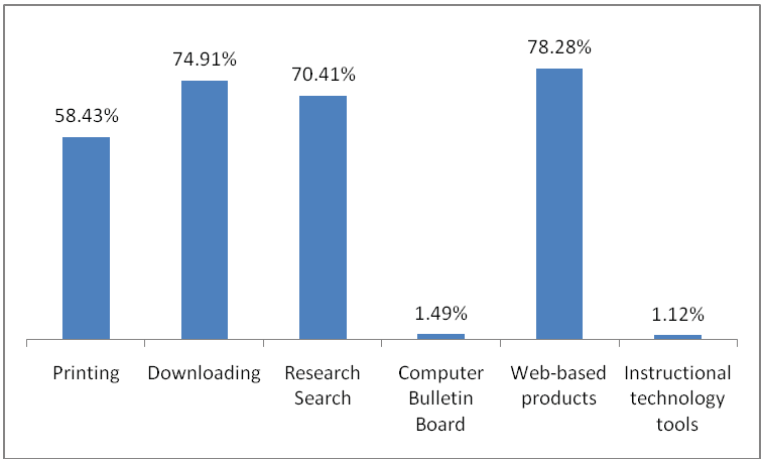

Figure 3: Use of New services added on top of old services

Table 4: Use of Library Services (N=267)

Library Services	Faculty Members	Research Scholars	PG Students	UG Students	Average
CD-ROM	51 (58.62%)	91 (100%)	23 (50%)	17 (39.53%)	182 (68.16%)
Database	57 (65.52%)	91 (100%)	26 (56.52%)	19 (44.19%)	193 (72.28%)
E-Journals	63 (72.41%)	91 (100%)	26 (56.52%)	21 (48.84%)	201 (75.28%)
E-Books	31 (35.63%)	91 (100%)	21 (45.65%)	19 (44.19%)	162 (60.67%)
E-Textbooks	33 (37.93%)	91 (100%)	21 (45.65%)	19 (44.19%)	164 (61.42%)
E-Resources@INDEST-AICTE Consortium	63 (72.41%)	91 (100%)	23 (50%)	21 (48.84%)	198 (74.16%)
Theses of IIT	51 (58.62%)	91 (100%)	11 (23.91%)	7 (16.28%)	160 (59.93%)
Web OPAC	29 (33.33%)	73 (80.22%)	12 (26.09%)	8 (18.60%)	122 (45.69%)

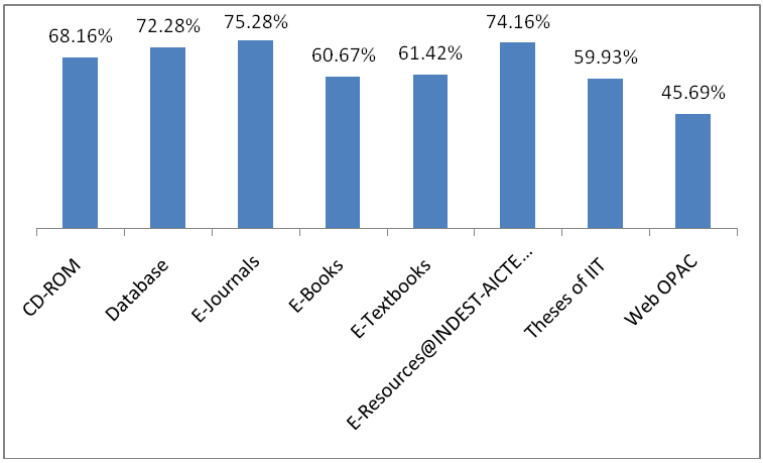

Figure 4: Use of Library Services

Table 5: Use of E-Resource Services (N=267)

E-Resource Services	Faculty Members	Research Scholars	PG Students	UG Students	Average
Full Text	53 (60.92%)	81 (89.01%)	22 (47.83%)	19 (44.19%)	175 (65.54%)
Bibliographic Database	41 (47.13%)	79 (86.81%)	11 (23.91%)	9 (20.93%)	140 (52.43%)
DELNET Databases	32 (36.78%)	73 (80.22%)	21 (45.65%)	8 (18.60%)	134 (50.19%)
Techno Portals	21 (24.14%)	42 (46.15%)	13 (28.26%)	7 (16.28%)	83 (31.09%)
Indian Standards	18 (20.69%)	37 (40.66%)	11 (23.91%)	3 (6.98%)	69 (25.84%)
ASTM Standard-Intranet	17 (19.54%)	26 (28.57%)	9 (19.56%)	3 (6.98%)	55 (20.59%)
e-print&etd@IITD	47 (54.02%)	81 (89.01%)	29 (63.04%)	19 (44.19%)	176 (65.91%)
E-Journals Backfiles	27 (31.03%)	73 (80.22%)	17 (36.96%)	9 (20.93%)	126 (47.19%)
Macmillan Online Courses	35 (40.23%)	23 (25.27%)	19 (41.30%)	8 (18.60%)	85 (31.84%)
JSTOR: The Scholarly Journal Archive	29 (33.33%)	57 (62.64%)	15 (32.61%)	7 (16.28%)	108 (40.45%)

Table 6: Use of Search Facility (N=267)

Use of Search Facility	Faculty Members	Research Scholars	PG Students	UG Students	Average
Techno Portals	21 (24.14%)	42 (46.15%)	13 (28.26%)	7 (16.28%)	83 (31.09%)
E-Journals Back Files	27 (31.03%)	73 (80.22%)	17 (36.96%)	9 (20.93%)	126 (47.19%)
Video Library	17 (19.54%)	13 (14.29%)	9 (19.56%)	3 (6.98%)	42 (15.73%)
e-journals	73 (83.91%)	89 (97.80%)	21 (45.65%)	21 (48.84%)	204 (76.40%)
Web OPAC Search	29 (33.33%)	73 (80.22%)	12 (26.09%)	8 (18.60%)	122 (45.69%)
Faculty Publications	18 (20.69%)	38 (41.76%)	9 (19.56%)	4 (9.30%)	69 (25.84%)
OPAC - Intranet	29 (33.33%)	73 (80.22%)	12 (26.09%)	8 (18.60%)	122 (45.69%)

Table 7: Use of Social Networking Sites (N=267)

Social Networking Sites	Faculty Members	Research Scholars	PG Students	UG Students	Average
Twitter	12 (13.79%)	8 (8.79%)	2 (4.34%)	1 (2.33%)	23 (8.61%)
LinkedIn	19 (21.84%)	23 (25.27%)	2 (4.34%)	1 (2.33%)	45 (16.85%)
Facebook	43 (49.43%)	78 (85.71%)	40 (86.96%)	42 (97.67%)	203 (76.03%)
ApnaCircle	12 (13.79%)	2 (2.19%)	2 (4.34%)	1 (2.33%)	17 (6.37%)
Flickr	2 (2.29%)	1 (1.09%)	1 (2.17%)	0%	4 (1.49%)
Orkut	1 (1.15%)	2 (2.19%)	5 (10.87%)	6 (13.95%)	14 (5.24%)
Myspace	1 (1.15%)	1 (1.09%)	1 (2.17%)	0%	3 (1.12%)

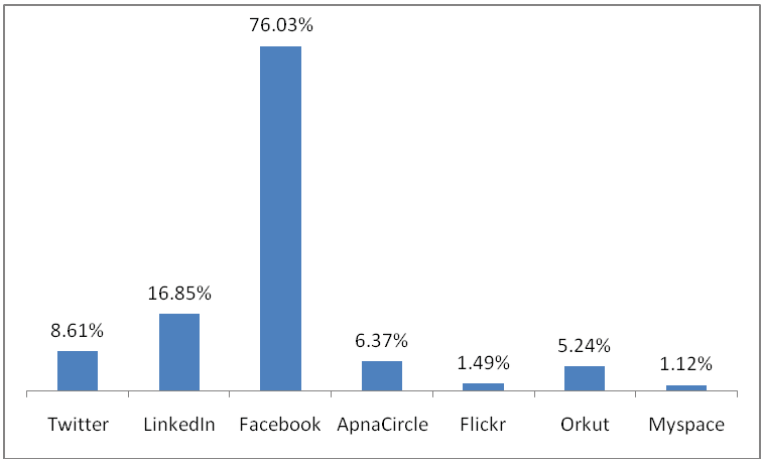

Figure 5: Use of Social Networking Sites

Table 8: Stay awareness of new information (N=267)

Stay aware of new information	Faculty Members	Research Scholars	PG Students	UG Students	Average
RSS Feeds/blogs/alert services	43 (49.43%)	78 (85.71%)	40 (86.96%)	42 (97.67%)	203 (76.03%)
Professional/scholarly e-mail lists	14 (16.09%)	17 (18.68%)	9 (19.56%)	6 (13.95%)	46 (17.23%)
Direct e-mail from publishers	53 (60.92%)	72 (79.12%)	32 (69.56%)	28 (65.12%)	185 (69.28%)
Book reviews in magazines or journals	12 (13.79%)	2 (2.19%)	2 (4.34%)	1 (2.33%)	17 (6.37%)

Table 9: Social networking or communication tools like to adopt by the library (N=267)

Social Networking or Communication Tools	Faculty Members	Research Scholars	PG Students	UG Students	Average
Facebook	18 (20.69%)	61 (67.03%)	17 (36.96%)	18 (41.86%)	114 (42.69%)
Twitter	10 (11.49%)	13 (14.29%)	4 (8.69%)	6 (13.95%)	33 (12.36%)
RSS Feeds	66 (75.86%)	84 (92.31%)	28 (60.87%)	15 (34.88%)	193 (72.28%)
Instant Messaging	76 (87.36%)	88 (96.70%)	25 (54.35%)	13 (30.23%)	202 (75.66%)
LinkedIn	5 (5.74%)	11 (12.09%)	5 (10.87%)	2 (4.65%)	23 (8.61%)

Table 10: Research tradition for innovation in IITs (N267)

Research Tradition	Faculty Members	Research Scholars	PG Students	UG Students	Average
Conceptualized as evidence based	62 (71.26%)	81 (89.01%)	16 (34.78%)	22 (51.16%)	181 (67.79%)
Conceptualized as structural determination of IITs innovativeness	78 (89.66%)	82 (90.10%)	12 (26.09%)	26 (60.46%)	198 (74.15%)
Conceptualized as inter-organizational studies	10 (11.49%)	45 (49.45%)	7 (15.22%)	5 (11.63%)	67 (25.09%)
Conceptualized as knowledge utilization	65 (74.71%)	75 (82.42%)	12 (26.09%)	18 (41.86%)	170 (63.67%)

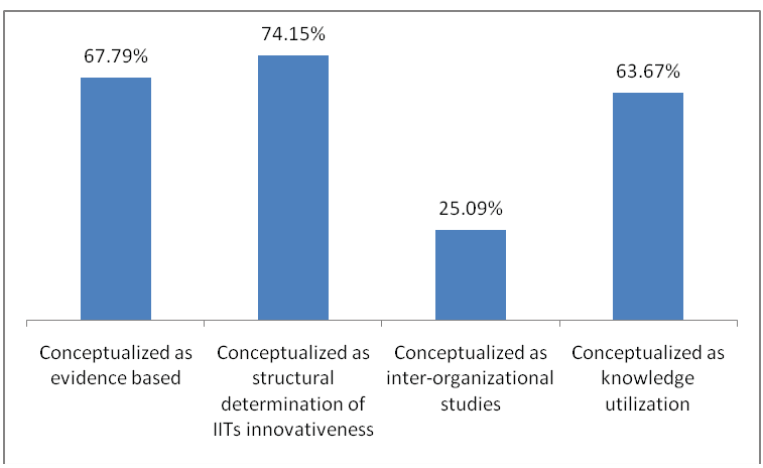

Figure 6: Research tradition for innovation in IITs

QUESTIONNAIRE FOR USERS

1. Are you a:

a. Faculty Members [ ]
b. Research Scholars [ ]
c. Post Graduate Students [ ]
d. Under Graduate Students [ ]

2. What common computing and communication devices do you have, please tick (√).

a. Desktop Computer [ ]
b. Laptop [ ]
c. Smartphone [ ]

3. Please specify (√) the use of new services added on top to old services.

a. Printing [ ]
b. Downloading [ ]
c. Research Search [ ]
d. Computer Bulletin Board [ ]
e. Web-based products [ ]
f. Instructional technology tools [ ]

4. Please specify (√) the services most utilizes from the library.

a. CD-ROM [ ]
b. Database [ ]
c. E-Journals [ ]
d. E-Books [ ]
e. E-Textbooks [ ]
f. E-Resources@INDEST-AICTE Consortium [ ]
g. Theses of IIT [ ]
h. Web OPAC [ ]

5. Please specify (√) the use of e-resource services provided by the library.

a. Full Text [ ]
b. Bibliographic Database [ ]
c. DELNET Databases [ ]
d. Techno Portals [ ]
e. Indian Standards [ ]
f. ASTM Standard-Intranet [ ]
g. e-print&etd@IITD [ ]
h. E-Journals Backfiles [ ]
i. Macmillan Online Courses [ ]
j. JSTOR: The Scholarly Journal Archive [ ]

6. Please ascertain (√) the extent to which you are using search facility available at the library

a. Techno Portals [ ]
b. E-Journals Back Files [ ]
c. Video Library [ ]
d. E-journals [ ]
e. Web OPAC Search [ ]
f. Faculty Publications [ ]
g. OPAC – Intranet [ ]

7. Please indicate (√) your participation in social networking sites.

a. Twitter [ ]
b. LinkedIn [ ]
c. Facebook [ ]
d. ApnaCircle [ ]
e. Flickr [ ]
f. Orkut [ ]
g. Myspace [ ]

8. How do you stay aware of new information, please (√).

a. RSS Feeds/blogs/alert services [ ]
b. Professional/scholarly e-mail lists [ ]
c. Direct e-mail from publishers [ ]
d. Book reviews in magazines or journals [ ]

9. What Social networking or communication tools would you like to adopt by the library.

a. Facebook [ ]
b. Twitter [ ]
c. RSS Feeds [ ]
d. Instant Messaging [ ]
e. LinkedIn [ ]

10. Please indicate the research tradition for diffusion of innovation in IITs.

a. Conceptualized as evidence based [ ]
b. Conceptualized as structural determination of IITs innovativeness [ ]
c. Conceptualized as inter-organizational studies [ ]
d. Conceptualized as knowledge utilization [ ]

Please make suggestions for innovation in the services provided by the Library (Separate sheet may be used, if required).

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