

User's Perceptions of Effectiveness of Computerized Services at the VTU Research Center Libraries, India: A Study

J.Chandrashekar¹, H.Adithyakumari² and Apoorva James³

¹Librarian, ³Assistant Professor, Vidya Vikas Institute of Engineering and Technology, Mysore, Karnataka, India
Email: jpcshekar@gmail.com, adithyakumarih@gmail.com

Abstract - The 21st century technical Era of library science & its services has given access to connect to a wide platform. The effectiveness of computerized services from which choose to complete daily tasks, an assessment of the Visvesvaraya Technological University (VTU), India 92 research centers libraries shows a great disparity of computerized services made available through university research center libraries computerized services. Seven areas (Issue and return, Reservation of materials services, OPAC search services, E-mail notification service, Article alert service, New arrivals lists services, Table of contents service) are discussed. Outcomes indicate that issue and return services, reservation of materials services, OPAC search services, and new arrivals lists services this services are around 50% of effectiveness. This paper investigates this phenomenon of consistent computerized library services.

Keyterms: Effectiveness, Computerized services, Visvesvaraya Technological University, Research center libraries

I. INTRODUCTION

The main purpose of a university library is to supports in the area which University is specialized in learning, teaching and research. The library is regarded as the "Heart" of any academic, institution & university. Hence, to a large extent the quality of a university is measured by the services provided by the library because of its unique contributions in the over-all goals of the university.

Computerized services are being increasingly used in library and information services for the acquisition, processing and dissemination of information. Libraries and information centers have been using computerized services to satisfy the diverse information needs of their users. However, these services are not utilized fully. Under-utilization of these services has been a cause of concern to librarians worldwide. The use of information technologies has become increasingly important in special libraries. Special libraries are switching over to IT based services at an accelerated pace. Issue and return services, reservation of materials services, OPAC search services, E-mail notification services, article alert services, arrangement of electronic

resource services and table of contents services and a variety of other IT base services are fast replacing the traditional services of VTU research centers libraries.

Therefore, this study investigates the researchers' perceived effectiveness, their satisfaction levels and expectations with the use of library computerized for their learning.

II. REVIEW OF LITERATURE

According to Robin (1990) one consequence of the library's increasing dependence on computerized information and library systems is the tendency for a gap to grow between systems librarians and reference librarians. Using the experience of George Mason University Library, Virginia, in providing on-line and CD-ROM searching facilities, demonstrates how reference staff and systems staff can bridge the gap. Hernon's (2001) reference to library users as customers indicates an acceptance of libraries as service organizations with business principles. Not only have libraries adopted the measurement tools of service quality from the business and marketing fields, but they have also become highly dependent on the conceptualization of service quality and electronic-service quality, as denoted by the increasing research contribution to the phenomenon of service quality. Echt (1997) described the realities of teams in technical services at Michigan State University Libraries. "There are many kinds of teams that can function in the workplace, but in order to be a successful team, members should support one another, collaborate freely, and communicate openly both among each other and with other teams. In order to accomplish this level of effectiveness in Technical Services, the library administration has to demonstrate a commitment to support team building. Goldberg et al. (2001) reported that, with the reorganization at University of Louisville in the 1990s, a new team structure was formed to facilitate the cooperative efforts between technical services and public services in serials management. "The effective use of the OPAC for serials information and the development of the serials database

reject the University of Louisville Libraries' vision of how two traditionally isolated wings of periodicals management could and should work together. Now much of the team structure further supports this integrated approach as well as benefiting from the more effective and efficient hybrid of serials management.

III. OBJECTIVE OF THE STUDY

The study is set out:

1. To identify researchers effectiveness in Computerized issue and return services and reservation of materials services.
2. To assess students reasons for satisfaction in OPAC search services and e-mail notification services and article alert services.
3. To understand the level of table of contents services and new arrivals services.

IV. STUDY DESIGN AND METHODOLOGY

Data for the study were collected through questionnaire survey from 92 research centers in Visvesvaraya Technological University, India. The designed questionnaires was pretested and validated in the Visvesvaraya Technological University after which 1600 copies of the questionnaires were then distributed to final year library users in the universities respectively. Respondents who are regular users of the research centers libraries under study were requested to complete the questionnaire within three to four month. A total of 1072 (67%) of the questionnaires were completed and used for data analysis & 528 (33%) were not returned at all. Data was analyzed using descriptive statistics (SPSS) and percentage tabulation. The study was conducted during the 2011/2012 academic session. The results are presented below:

V. DATA AND ANALYSIS

TABLE I USER OPINION ABOUT EFFECTIVENESS OF COMPUTERIZED ISSUE AND RETURN

User Opinion	Departments								Total
	CSE	Applied technology	Civil	E&C	Basic Science	E&E	Mech	MBA	
Not Available	0 (0.0%)	0 (0.0%)	1 (0.8%)	2 (1.4%)	3 (1.9%)	0 (0.0%)	2 (0.8%)	4 (5.3%)	12 (1.1%)
Very ineffective	11 (5.9%)	5 (6.4%)	4 (3.3%)	3 (2.1%)	12 (7.8%)	2 (3.5%)	9 (3.5%)	1 (1.3%)	47 (4.4%)
Ineffective	7 (3.7%)	2 (2.6%)	3 (2.5%)	9 (6.4%)	8 (5.2%)	1 (1.8%)	5 (1.9%)	4 (5.3%)	39 (3.6%)
Somewhat effective	44 (23.5%)	11 (14.1%)	21 (17.2%)	27 (19.3%)	23 (14.9%)	9 (15.8%)	52 (20.1%)	18 (24%)	205 (19.1%)
Effective	38 (20.3%)	22 (28.2%)	46 (37.7%)	42 (30%)	35 (22.7%)	16 (28.1%)	73 (28.2%)	14 (18.7%)	286 (26.7%)
Very effective	87 (46.5%)	38 (48.7%)	47 (38.5%)	57 (40.7%)	73 (47.4%)	29 (50.9%)	118 (45.6%)	34 (45.3%)	483 (45.1%)
Total	187 (100%)	78 (100%)	122 (100%)	140 (100%)	154 (100%)	57 (100%)	259 (100%)	75 (100%)	1072 (100%)

CC = .222; P Value=.015

Note: CC-Contingency Co-efficient

The table I shows the data about researcher's perception about effectiveness of computerized issue and return service in the research center libraries. There were 483 (45.1%) researchers who opined that the computerized issue and return service in their research center libraries is 'very effective', followed by 286 (26.7%) researchers indicated 'effective', 205 (19.1%) found 'somewhat effective', 47 (4.4%) found 'very ineffective', 39 (3.6%) researchers found 'ineffective' and remaining only 12 (1.1%)

researchers responded that it is not available. Contingency coefficient test revealed a significant association between categories of issue and return and departments (CC=.222; P=.015) where more higher levels of satisfied is reported by E&E, more satisfied reported by Civil, natural is reported of MBA, strongly dissatisfied were reported by respondents in Basic science and not available reported by MBA departments.

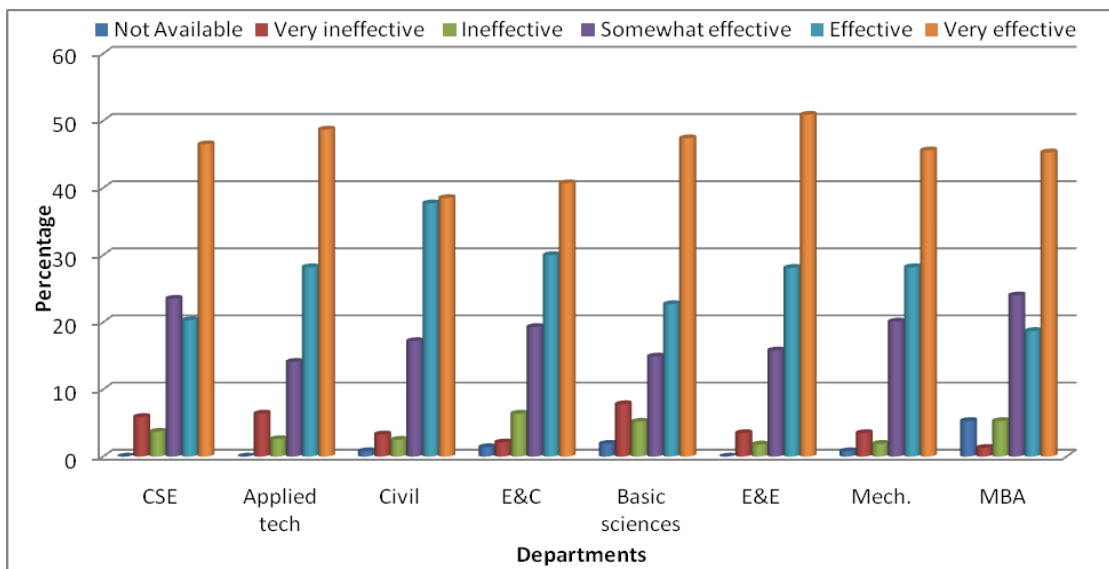


Fig.1 User Opinion about Effectiveness of Computerized Issue and Return

TABLE II USER OPINION ABOUT EFFECTIVENESS OF COMPUTERIZED RESERVATION OF BOOKS

User Opinion	Departments								Total
	CSE	Applied technology	Civil	E&C	Basic Science	E&E	Mech	MBA	
Not Available	1 (0.5%)	0 (0.0%)	1 (0.8%)	2 (1.4%)	3 (1.9%)	0 (0.0%)	2 (0.8%)	5 (6.7%)	14 (1.3%)
Very ineffective	28 (15%)	11 (14.1%)	12 (9.8%)	18 (12.9%)	31 (20.1%)	8 (14%)	31 (12%)	11 (14.7%)	150 (14%)
Ineffective	24 (12.8%)	12 (15.4%)	23 (18.9%)	23 (16.4%)	22 (14.3%)	8 (14%)	50 (19.3%)	13 (17.3%)	175 (16.3%)
Somewhat effective	53 (28.3%)	18 (23.1%)	38 (31.1%)	29 (20.7%)	40 (26%)	15 (26.3%)	69 (26.6%)	20 (26.7%)	282 (26.3%)
Effective	35 (18.7%)	22 (28.2%)	29 (23.8%)	36 (25.7%)	31 (20.1%)	11 (19.3%)	56 (21.6%)	10 (13.3%)	230 (21.5%)
Very effective	46 (24.6%)	15 (19.2%)	19 (15.6%)	32 (22.9%)	27 (17.5%)	15 (26.3%)	51 (19.7%)	16 (21.3%)	221 (20.6%)
Total	187 (100%)	78 (100%)	122 (100%)	140 (100%)	154 (100%)	57 (100%)	259 (100%)	75 (100%)	1072 (100%)
CC = .203; P Value= .103									

Note: CC-Contingency Co-efficient

Table II shows data about user opinion about effectiveness of computerized reservation of books in the research center libraries. There are 282 (26.3%) researchers opined that the computerized reservation of books are ‘somewhat effective’, followed by 230 (21.5%) researchers found ‘effective’, 221 (20.6%) indicated ‘very effective’, 175 (16.3%) indicated ‘ineffective’, 150 (14%) opined ‘very ineffective’ and remaining only 14 (1.3%) researchers indicated that it is not available. Contingency coefficient

revealed a non-significant association between reservation of books and various departments (CC=.203; P=.103) indicating a similarity in the reservation of materials services by respondents in different departments.

The table III and figure 2 shows the data about effectiveness of computerized OPAC search service in the research center libraries. There are 351 (32.7%) researchers who opined that the OPAC search service is ‘very effective’, followed

by 309 (28.8%) researchers opined 'effective', 235 (21.9%) opined 'somewhat effective', 127 (11.8%) opined 'very ineffective', 36 (3.4%) researchers opined 'ineffective' and remaining only 14 (1.3%) researchers opined that it is not available. Contingency coefficient revealed a non-

significant association between OPAC search facilities and various departments ($CC=.203$; $P=.103$) indicating a similarity in the OPAC search facilities by respondents in different departments.

TABLE III USER OPINION ABOUT EFFECTIVENESS OF COMPUTERIZED OPAC SEARCH

User Opinion	Departments								Total
	CSE	Applied technology	Civil	E&C	Basic Science	E&E	Mech	MBA	
Not Available	0 (0.0%)	0 (0.0%)	1 (0.8%)	3 (2.1%)	3 (1.9%)	0 (0.0%)	2 (0.8%)	5 (6.7%)	14 (1.3%)
Very ineffective	27 (14.4%)	13 (16.7%)	12 (9.8%)	22 (15.7%)	20 (13%)	7 (12.3%)	19 (7.3%)	7 (9.3%)	127 (11.8%)
Ineffective	12 (6.4%)	3 (3.8%)	3 (2.5%)	3 (2.1%)	2 (1.3%)	2 (3.5%)	8 (3.1%)	3 (4%)	36 (3.4%)
Somewhat effective	43 (23%)	13 (16.7%)	27 (22.1%)	34 (24.3%)	34 (22.1%)	11 (19.3%)	57 (22%)	16 (21.3%)	235 (21.9%)
Effective	41 (21.9%)	27 (34.6%)	48 (39.3%)	40 (28.6%)	40 (26%)	16 (28.1%)	78 (30.1%)	19 (25.3%)	309 (28.8%)
Very effective	64 (34.2%)	22 (28.2%)	31 (25.4%)	38 (27.1%)	55 (35.7%)	21 (36.8%)	95 (36.7%)	25 (33.3%)	351 (32.7%)
Total	187 (100%)	78 (100%)	122 (100%)	140 (100%)	154 (100%)	57 (100%)	259 (100%)	75 (100%)	1072 (100%)

CC = .226; P Value= .009

Note: CC-Contingency Co-efficient

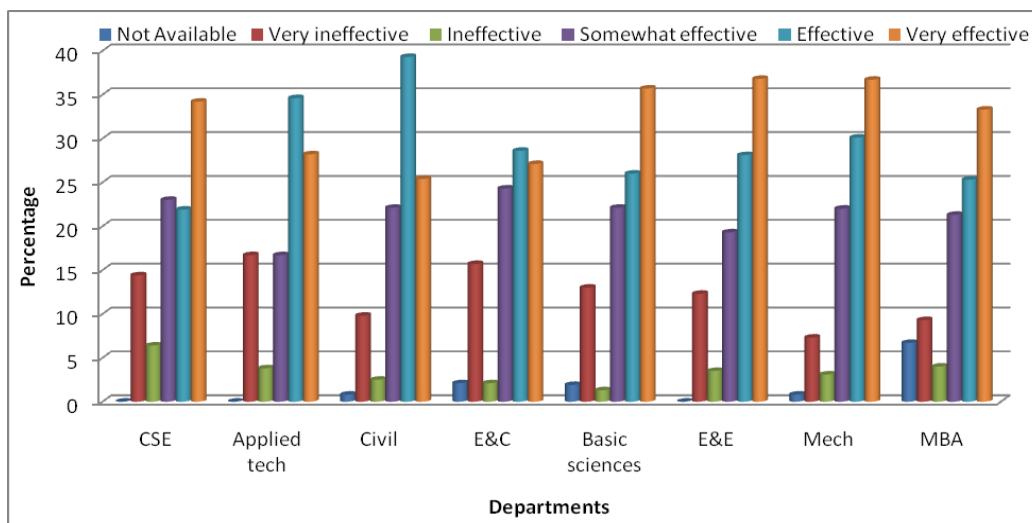


Fig. 2 User Opinion about Effectiveness of Computerized OPAC Search

The table 4 and figure 3 shows the data about effectiveness of e-mail notification service in the research center libraries. There are 186 (17.4%) researchers who opined the E-mail notification service in the research center libraries is 'somewhat effective', followed by 132 (12.3%) researchers indicated 'ineffective', 110 (10.3%) researchers indicated 'effective', 89 (8.3%) researchers indicated 'very effective', majority of the researchers (541; 50.5%) indicated 'very ineffective' and remaining 14 (1.3%) researchers indicated

that it is not available. Contingency coefficient revealed a significant association between E-mail notification facilities and various departments ($CC=.247$; $P=.000$) where more higher levels of satisfied is reported by MBA, more satisfied reported by CSE, neutral is reported by Applied technology, somewhat dissatisfied were reported by Basic science, strongly dissatisfied were reported by respondents in Civil and not available reported by MBA departments.

TABLE IV USER OPINION ABOUT EFFECTIVENESS OF E-MAIL NOTIFICATION

User Opinion	Departments								Total
	CSE	Applied technology	Civil	E&C	Basic Science	E&E	Mech	MBA	
Not Available	0 (0.0%)	0 (0.0%)	1 (0.8%)	2 (1.4%)	3 (1.9%)	1 (1.8%)	2 (0.8%)	5 (6.7%)	14 (1.3%)
Very ineffective	96 (51.3%)	39 (50%)	80 (65.6%)	57 (40.7%)	75 (48.7%)	29 (50.9%)	134 (51.7%)	31 (41.3%)	541 (50.5%)
Ineffective	24 (12.8%)	8 (10.3%)	7 (5.7%)	25 (17.9%)	30 (19.5%)	9 (15.8%)	18 (6.9%)	11 (14.7%)	132 (12.3%)
Somewhat effective	34 (18.2%)	19 (24.4%)	18 (14.8%)	29 (20.7%)	21 (13.6%)	6 (10.5%)	49 (18.9%)	10 (13.3%)	186 (17.4%)
Effective	19 (10.2%)	7 (9%)	11 (9%)	17 (12.1%)	15 (9.7%)	6 (10.5%)	26 (10%)	9 (12%)	110 (10.3%)
Very effective	14 (7.5%)	5 (6.4%)	5 (4.1%)	10 (7.1%)	10 (6.5%)	6 (10.5%)	30 (11.6%)	9 (12%)	89 (8.3%)
Total	187 (100%)	78 (100%)	122 (100%)	140 (100%)	154 (100%)	57 (100%)	259 (100%)	75 (100%)	1072 (100%)

CC = .247; P Value= .000

Note: CC-Contingency Co-efficient

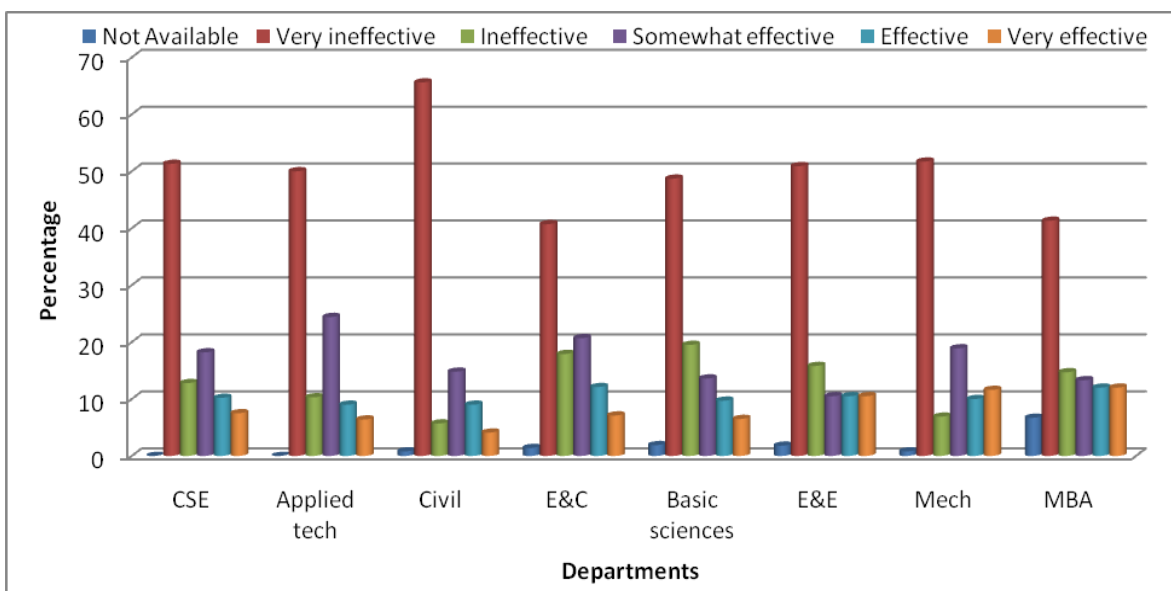


Fig. 3 User Opinion about Effectiveness of E-mail Notification

The table V shows data about effectiveness of computerized article alert service in research center libraries. There are 578 (53.9%) researchers who found that the computerized article alert service is ‘very ineffective’, followed by 199 (18.6%) researchers found ‘ineffective’, 155 (14.5%) researchers found ‘somewhat effective’, 96 (9%) researchers found ‘effective’, 29 (2.7%) researchers found ‘very effective’, and remaining only 15 (1.4%) researchers

found that it is not available. Contingency coefficient revealed a significant association between article alert services and various departments (CC=.225; P=.010) where more higher levels of satisfied is reported by MBA, more satisfied reported by Mechanical, natural is reported of Other technology, somewhat dissatisfied were reported by E&C, strongly dissatisfied were reported by respondents in Civil and not available reported by MBA departments.

TABLE V USER OPINION ABOUT EFFECTIVENESS OF COMPUTERIZED ARTICLE ALERT SERVICE

User Opinion	Departments								Total
	CSE	Applied technology	Civil	E&C	Basic Science	E&E	Mech	MBA	
Not Available	0 (0.0%)	0 (0.0%)	1 (0.8%)	3 (2.1%)	3 (1.9%)	1 (1.8%)	2 (0.8%)	5 (6.7%)	15 (1.4%)
Very ineffective	99 (52.9%)	45 (57.7%)	84 (68.9%)	68 (48.6%)	76 (49.4%)	33 (57.9%)	142 (54.8%)	31 (41.3%)	578 (53.9%)
Ineffective	40 (21.4%)	12 (15.4%)	17 (13.9%)	34 (24.3%)	33 (21.4%)	9 (15.8%)	38 (14.7%)	16 (21.3%)	199 (18.6%)
Somewhat effective	27 (14.4%)	14 (17.9%)	14 (11.5%)	22 (15.7%)	17 (11%)	7 (12.3%)	43 (16.6%)	11 (14.7%)	155 (14.5%)
Effective	13 (7%)	6 (7.7%)	5 (4.1%)	11 (7.9%)	19 (12.3%)	6 (10.5%)	28 (10.8%)	8 (10.7%)	96 (9%)
Very effective	8 (4.3%)	1 (1.3%)	1 (0.8%)	2 (1.4%)	6 (3.9%)	1 (1.8%)	6 (2.4%)	4 (5.3%)	29 (2.7%)
Total	187 (100%)	78 (100%)	122 (100%)	140 (100%)	154 (100%)	57 (100%)	259 (100%)	75 (100%)	1072 (100%)

CC = .225; P Value= .010

Note: CC-Contingency Co-efficient

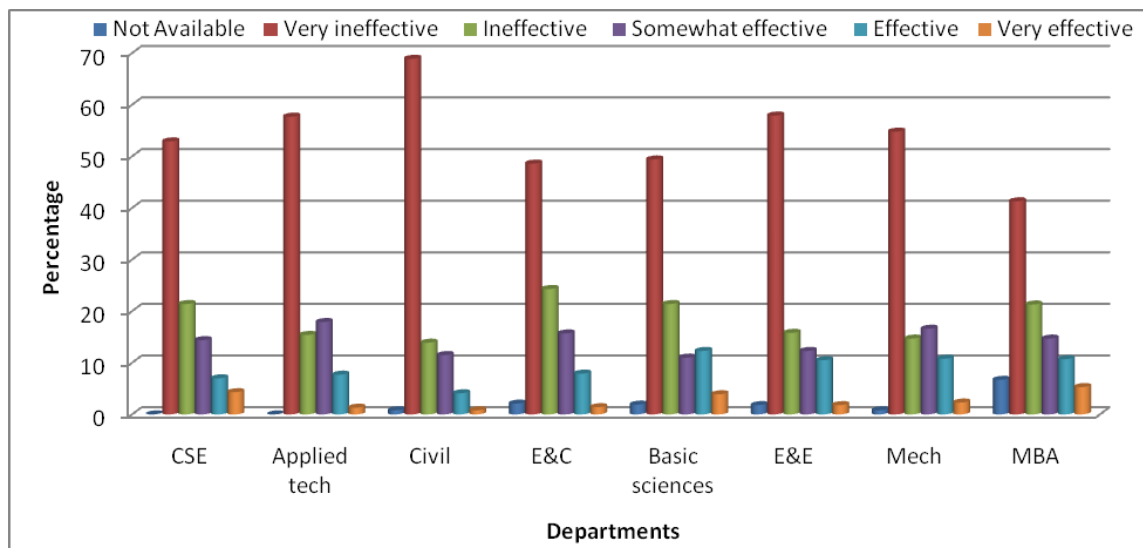


Fig. 4 User Opinion about Effectiveness of Computerized Article Alert Service

The table VI and figure 5 indicates data about effectiveness of table of contents service in the research center libraries. There are 406 (37.9%) researchers who opined that the table of contents service in their research center libraries is 'ineffective' followed by 287 (26.8%) researchers opined 'very ineffective', 207 (19.3%) researchers opined 'somewhat effective', 110 (10.3%) researchers opined 'effective', 49 (4.6%) researchers opined 'very effective' and remaining only 13 (1.2%) researchers opined that it is

not available. Contingency coefficient revealed a significant association between table of contents services and various departments (CC=.223; P=.013) where more higher levels of satisfaction is reported by MBA and E&E, neutral is reported of E&C, somewhat dissatisfaction were reported by Mechanical, strongly dissatisfied were reported by respondents in CSE and not available reported by MBA departments.

TABLE VI USER OPINION ABOUT EFFECTIVENESS OF COMPUTERIZED TABLE OF CONTENT SERVICE

User Opinion	Departments								Total
	CSE	Applied Tech.	Civil	E&C	Basic Sci.	E&E	Mech	MBA	
Not Available	0 (0.0%)	0 (0.0%)	1 (0.8%)	3 (2.1%)	3 (1.9%)	0 (0.0%)	2 (0.8%)	4 (5.3%)	13 (1.2%)
Very ineffective	52 (27.8%)	28 (35.9%)	34 (27.9%)	27 (19.3%)	45 (29.2%)	18 (31.6%)	59 (22.8%)	24 (32%)	287 (26.8%)
Ineffective	75 (40.1%)	27 (34.6%)	48 (39.3%)	50 (35.7%)	59 (38.3%)	19 (33.3%)	107 (41.3%)	21 (28%)	406 (37.9%)
Somewhat effective	32 (17.1%)	9 (11.5%)	28 (23%)	35 (25%)	25 (16.2%)	13 (22.8%)	51 (19.7%)	14 (18.7%)	207 (19.3%)
Effective	20 (10.7%)	7 (9%)	10 (8.2%)	14 (10%)	17 (11%)	7 (12.3%)	30 (11.6%)	5 (6.7%)	110 (10.3%)
Very effective	8 (4.3%)	7 (9%)	1 (0.8%)	11 (7.9%)	5 (3.2%)	0 (0.0%)	10 (3.9%)	7 (9.3%)	49 (4.6%)
Total	187 (100%)	78 (100%)	122 (100%)	140 (100%)	154 (100%)	57 (100%)	259 (100%)	75 (100%)	1072 (100%)

CC = .223; P Value= .013

Note: CC-Contingency Co-efficient

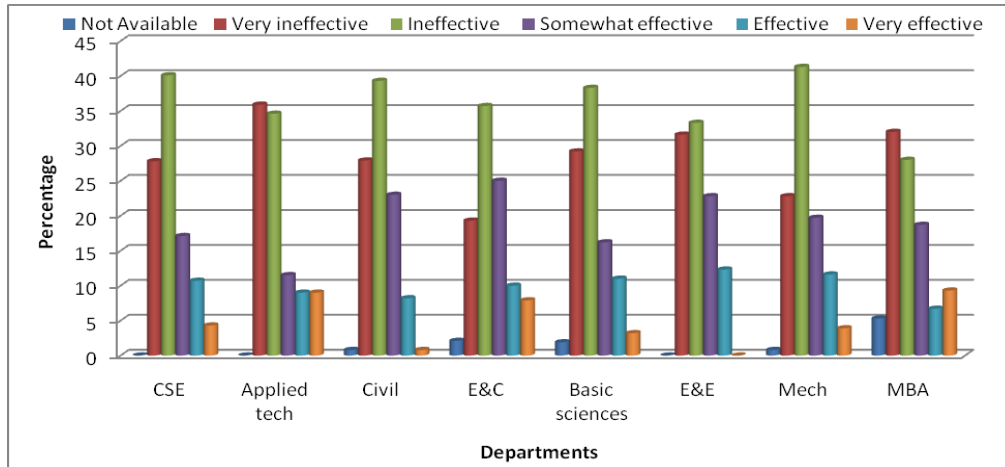


Fig. 5 User Opinion about Effectiveness of Computerized Table of Contents Service

TABLE VII USER OPINION ABOUT EFFECTIVENESS OF COMPUTERIZED NEW ARRIVALS LISTS

User Opinion	Departments								Total
	CSE	App.Tech.	Civil	E&C	Basic Sci.	E&E	Mech	MBA	
Not Available	0 (0.0%)	0 (0.0%)	1 (0.8%)	0 (0.0%)	3 (1.9%)	0 (0.0%)	2 (0.8%)	2 (2.7%)	8 (0.7%)
Very ineffective	11 (5.9%)	6 (7.7%)	7 (5.7%)	11 (7.9%)	16 (10.4%)	2 (3.5%)	9 (3.5%)	3 (4%)	65 (6.1%)
Ineffective	11 (5.9%)	5 (6.4%)	3 (2.5%)	4 (2.9%)	3 (1.9%)	2 (3.5%)	15 (5.8%)	6 (8%)	49 (4.6%)
Somewhat effective	51 (27.3%)	16 (20.5%)	31 (25.4%)	34 (24.3%)	46 (29.9%)	13 (22.8%)	70 (27%)	22 (29.3%)	283 (26.4%)
Effective	89 (47.6%)	39 (50%)	75 (61.5%)	74 (52.9%)	73 (47.4%)	29 (50.9%)	130 (50.2%)	29 (38.7%)	538 (50.2%)
Very effective	25 (13.4%)	12 (15.4%)	5 (4.1%)	17 (12.1%)	13 (8.4%)	11 (19.3%)	33 (12.7%)	13 (17.3%)	129 (12%)
Total	187 (100%)	78 (100%)	122 (100%)	140 (100%)	154 (100%)	57 (100%)	259 (100%)	75 (100%)	1072 (100%)

CC = .212; P Value= .044

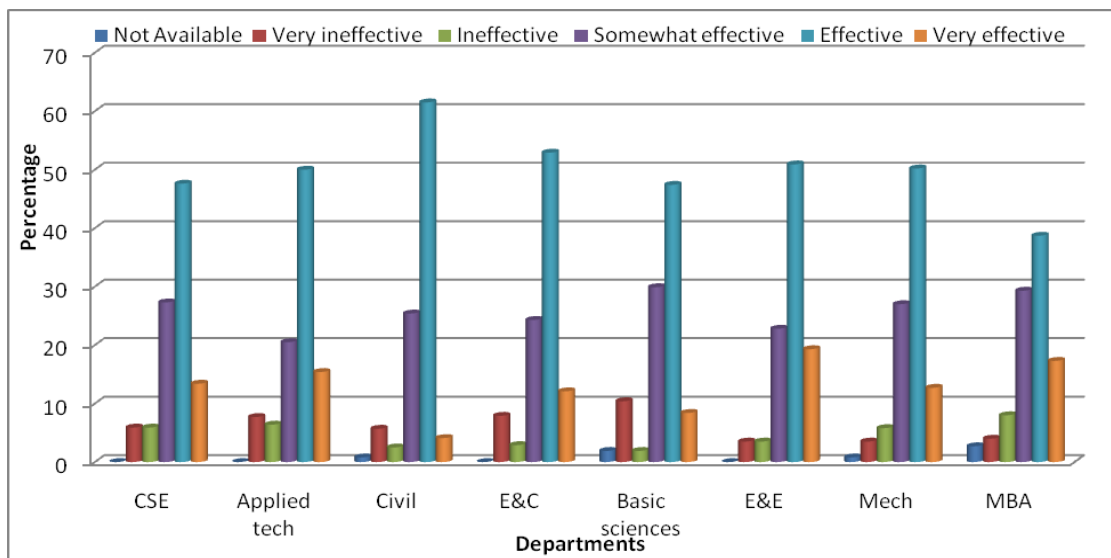


Fig. 6 User Opinion about Effectiveness of Computerized New Arrivals Lists

The table VII and figure 6 shows the data about computerized new arrival list service in the research center libraries. There are 538 (50.2%) researchers who indicated that the new arrivals lists service is 'effective', followed by 283 (26.4%) researchers indicated 'somewhat effective', 129 (12%) researchers indicated 'very effective', 65 (6.1%) researchers indicated 'very ineffective', 49 (4.6%) researchers indicated 'ineffective' and remaining only 8 (0.7%) researchers indicated that it is not available. Contingency coefficient revealed a significant association between new arrivals lists services and various departments (CC=.212; P=.044). Contingency coefficient revealed a significant association between new arrival lists service and various departments (CC=.212; P=.044) where more higher levels of satisfied is reported by E&E, more satisfied reported by Civil, natural is reported of Basic science, somewhat dissatisfied were reported by MBA, strongly dissatisfied were reported by respondents in Basic science and not available reported by MBA departments.

VI. FINDINGS AND CONCLUSION

Present study it is attempted to find the effectiveness of computerized services at the Visvesvaraya Technological University (VTU) Research Center Libraries. These researchers are attached to an institution that is called as VTU in India.

Today library introduces many new services either converting existing services into computerized services or by developing and implementing entirely new services for searching, delivery and use of information. Such new or

converted services to enhance the quality of library services. Quality will be mainly defined by the speed, Issue and return, Reservation of materials services, OPAC search services, E-mail notification service, Article alert service, New arrivals lists services, Table of contents service Etc.,

Computerized library services should be looked as a support for user's in information search. Users are looking for an information system that is easy and intuitive to use. This study applies user-centered formal usability testing technique to measure usability from the perspectives of effectiveness, efficiency & satisfaction of the user's, and learn ability which considers both performance elements as well as satisfaction.

Early studies suggest that several factors need to be studied to effectiveness of computerized library services. The present study investigated different user's perspective it is observed that 72% exist with issue and returns, 42% with reservation of materials, about 51% with OPAC search services and 62% with new arrivals list for effectiveness.

Around 63% with e-mail notifications, 72% with article alert services and 64% with table of contents services was very ineffective.

Today's young generation/researchers are using the speed services, e-resource which is flexible and more relevant. Increasing the e-mail notification services, article alert services and table of contents services leads to better results. It was found that library computerized services were considered more effective.

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