USAGE OF N-LIST E-RESOURCES OF THE SELECT DEGREE COLLEGES AFFILIATED TO PANJAB UNIVERSITY, CHANDIGARH; A COMPARATIVE ANALYSIS

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Abstract: This research paper explains the usage of the N-LIST E-resources among the student and faculty members of the various select Degree Colleges affiliated to Panjab University, Chandigarh. A questionnaire method was used as a tool for collection of data from the 32 select degree colleges in Punjab and Chandigarh. The total data was collected from the 466 out of 513 respondents. The total response rate is 90.84%. Out of 466 respondents, total 286 are users (faculty and student) respondents and 180 are non-users (faculty and student) respondents. The statistical test have been applied and the inferences have been drawn thereof.

Paper Type – Research Paper

Keywords: -E-Books, E-Journals, Bibliographical Databases, N-LIST, INFLIBNET, Usage of Resources, Degree Colleges of Panjab University, Statistical Analysis, Consortia

1.0 Introduction

With the advent of resource sharing, the Library Consortia have brought economy, efficiency and equality in information availability and its usage. Through Library Consortia, the gap between information resource-rich libraries and resource-deficient libraries is expected to be bridged. Although, there are many consortia in India like UGC-INFONET Digital Library Consortia, INDEST Consortia, CSIR Consortia etc which have already gained the popularity in India. Yet, N-LIST is one of such consortia which helps to bridge this gap and provides access to the E-resources to its users.

2.0 N-LIST: An Initiative of NMEICT

The National Mission on Education through Information and Communication Technology (NMEICT) was launched on 3rd Feb, 2009. It initiated a project called "National Library and Information Services Infrastructure for Scholarly Content (N-LIST)", popularly known as N-LIST which was formally launched by Shri Kapil Sibal, Union Minister for Human Resource Development, on 4th May, 2010.(ref. 1) The N-LIST Project is being jointly executed by the (University Grants Commission- Information Network) UGC-INFONET Digital Library Consortium, INFLIBNET Centre and the INDEST-AICTE Consortium, Indian Institute of Technology (IIT) Delhi. The project provides the cross-subscription to e-resources subscribed by the two Consortia, i.e.

subscription to INDEST-AICTE resources for universities and UGC-INFONET resources for technical institutions; and the access to selected e-resources to colleges.

The Faculty and the students from the colleges covered under section 12B/ 2F of UGC Act are eligible to access e-resources through the N-LIST project. These colleges are required to register themselves on the N-LIST Website. During the last three years, the collection has increased from 2,100 to 6,000 e-journals and from 51,000 to 1, 00,000 e-books (ref. 2 homepage), subscribed under the N-LIST Project.

3.0 Review of Literature

Akinola (2009) obtained the results from her study which revealed that majority of the respondents (35.4%) from the University of Ibadan sought information to update knowledge. It was also found that the respondents also sought information for writing of papers or books, reading, and for preparing class lectures. The study on Information seeking behaviour of Social Science Faculty was done by **Chattwal (2014)** which indicates the pen-drive is most preferred as an external storage device due to its large storage capacity as well as convenience of usage was found to be the most preferred by 50.20% participants database appears to be the most suitable usage pattern for the University faculty members. Present study indicates that the main reasons for not using N-LIST E-resources are due to 'lack of awareness' by student non-users respondents. A similar study by **Nikam & Pramodini (2007)** indicates that reasons of non-use of UGC-INFONET resources by the Faculty Members and research scholars was 59.50% of respondents attributed the reason as lack of training/ orientation. The other reason included 28.50% of respondents attributed the reasons as 'lack of awareness' whereas 10.50% opted 'Aware but internet connection is not proper'. The authors concluded that the use was marginal and the scientist in the Mysore University Campus need constant guidance and training to maximise the use of UGC-INFONET e-resources. The similar study by **Bhardwaj & Walia (2012)** analyse the rating of the quality of the Electronic Resources in the St. Stephens College library, where majority of the respondents (52.8%) agreed that the **'Quality of the N-LIST e-resources are excellent'** while 39.68% of the respondents rated the quality of the N-LIST e-resources were good. The authors also concluded that most of the respondents rated N-LIST e-resources very good. The similar study by **Chikkanmanju and Kumbar (2015)** identified the level of satisfaction of student respondents about the information retrieved through the N-LIST E-resources of the Tumkur University. The study reveals that 46.86% opined that the aided college students are extremely satisfied with the information retrieved through the N-LIST E-resources.

4.0 Objectives of the Study

The present study is an attempt to find out the accessibility of N-LIST E-resources and the usage trends used by the faculty and students of the Panjab University, Chandigarh.

The study was conducted with the following objectives:-

1. To analyze and compare the usage amongst the faculty and student users of the select Degree Colleges of Panjab University, Chandigarh.

5.0 Hypothesis: Hypotheses H0 1 – There is no significant variation in the usage of e-resources across faculty members and student of the member colleges.

H_1 1 - There is significant variation in the usage of e-resources across faculty members and student of the member colleges.

6.0 Methodology and Scope of the Study

A Survey method has been implemented to meet the objectives of the study. The author has collected the data through questionnaire method from the select Degree Colleges which are affiliated to Panjab University. The data have been collected from the 144 faculty users and 142 student users. In 144 faculty users, 114 are males and 30 are females whereas 142 student users, 33 are males and 109 are females. The statistical T-test has been applied to approve the null or alternate hypothesis. This method facilitates yearly accumulation of information from the member colleges in various settings under parameters relevant to the study.

7.0 Scope And Locale of the Study

This study is confined to 18 member colleges. These member colleges are located in Punjab and Chandigarh and are affiliated to Panjab University only.

8.0 Time period of the study

The time period of the study will be from Jan 2010 to May 2015.

9.0 Usage of N-LIST E-resources

Hypotheses $H_0 1$ - There is no significant difference in the usage of e-resources across faculty members and student of the member colleges.

$H_1 1$ - There is significant difference in the usage of e-resources across faculty members and student of the member colleges.

Tale 9.0 -- Usage of N-LIST E-resources

Sr. No.	Variable	Faculty		Student		t-statistics	p-value
		Mean	SD	Mean	SD		
i.	**Frequency of Using N-list E-Resource**	12.1597	1.67525	12.4014	1.52082	-1.278	.202
ii.	**Search strategy**	10.5069	1.55098	11.1338	1.35390	-3.643	.000**
iii.	**Advance Search**	15.0903	4.71705	17.0211	8.36954	-2.399	.017*
iv.	**Filter Result**	10.2083	1.32683	10.6761	1.35033	-2.954	.003**
v.	**Preferences of Resource type & Format**	8.3403	1.58297	8.5704	1.88084	-1.119	.264
vi.	**Purpose of using N-LIST E-resources**	24.2153	5.75874	27.1479	6.93429	-3.888	.000**
vii.	**Usage of E-Books**	20.4375	3.63302	20.5775	4.99407	-.271	.787
viii.	**Usage of E-Journals**	21.7361	4.66798	22.8592	5.86442	-1.790	.075
ix.	**Usage of Bibliographical E-resources**	1.9583	.28665	1.8873	.46278	1.557	.121
x.	**Usefulness of N-LIST E-resources**	44.1319	7.98096	45.3239	10.73111	-1.065	.288
xi.	**Common Features**	21.1667	11.21251	23.8310	12.01947	-1.938	.054
xii.	**Information Retrieved From N-LIST E-resources**	11.3611	4.10970	11.7817	5.81892	-.705	.481
xiii.	**Library Support for Users**	11.1597	5.26456	9.1549	6.17395	2.953	.003**
xiv.	**ICT Infrastructure for Users**	15.8194	6.41529	14.3169	7.48082	1.822	.070
xv.	**Training Programmes for Users**	15.3403	6.18951	14.2535	5.71850	1.543	.124
xvi.	**External Storage Media while using N-LIST E-resources**	12.5556	3.65616	10.4085	4.82334	4.238	.000**
xvii.	**Problems in N-LIST E-Resources**	27.4514	12.59805	31.5775	11.37580	-2.908	.004**
xviii.	**Suggestions for access of N-LIST E-Resources Users**	22.3194	9.11362	26.1197	8.94783	-3.558	.000**

From the above table 9.0, it has been analysed that:-

9.1 Frequency of Using N-LIST E-Resources - The average values of Frequency of Using N-LIST E-resources for "faculty" and "student" are 12.16 and 12.40 with standard deviation 1.68 and 1.52, respectively.

Since p-value for the N-LIST E-resources is .202 which is more than 5% level of significance, hence it supports the null hypothesis and there is non-significant difference in the Frequency of Using N-LIST E-Resources across faculty members and student of the member colleges.

9.2 Search Strategy: The average values of search strategy for "faculty" and "student" are 10.51 and 11.13 with standard deviation 1.55 and 1.35, respectively. Since p-value for the search strategy is .000 which is less than 5% level of significance, hence it contradicts the null hypothesis and there is a significant difference in the search strategy across faculty members and student of the member colleges.

9.3 Advance Search: The average values of advance search for "faculty" and "student" are 15.09 and 17.02 with standard deviation 9.71 and 8.37, respectively. Since p-value for the advance search is .017 which is less than 5% level of significance, hence it contradicts the null hypothesis and there is a significant difference in the advance search across faculty members and student of the member colleges.

9.4 Filter Result: The average values of filter result for "faculty" and "student" are 10.21 and 10.68 with standard deviation 1.33 and 1.35, respectively. Since p-value for the filter result is .003 which is less than 5% level of significance, hence it contradicts the null hypothesis and there is a significant difference in the filter result across faculty members and student of the member colleges.

9.5   Preferences of Resource Type and Format: The average values of resource type for "faculty" and "student" are 8.34 and 8.57 with standard deviation 1.58 and 1.88 respectively. Since p-value for the resource type is .264 which is more than 5% level of significance, hence it supports the null hypothesis and there is non-significant difference in the preferences of resource type and format across faculty members and student of the member colleges.

9.6 Purpose of using N-LIST E-Resources : The average values of E-resource for "faculty" and "student" are 24.21 and 27.15 with standard deviation 5.76 and 6.93, respectively. Since p-value for the E-resources is .000 which is less than 5% level of significance, hence it contradicts the null hypothesis and there is a significant difference in the purpose of using N-LIST E-resources across faculty members and student of the member colleges.

9.7   Usage of E-Books: The average values of E-books for "faculty" and "student" are 20.44 and 20.58 with standard deviation 3.63 and 4.99, respectively. Since p-value for the E-books is .787 which is more than 5% level of significance, hence it supports the null hypothesis and there is non-significant difference in the usage of E-books across faculty members and student of the member colleges.

9.8   Usage of E-journals: The average values of E- journals for "faculty" and "student" are 21.73 and 22.86 with standard deviation 4.67 and 5.86, respectively. Since p-value for the E-journals is .075 which is more than 5% level of significance, hence it supports the null hypothesis and there is non-significant difference in the usage of E-journals across faculty members and student of the member colleges.

9.9 Usage of Bibliographical E-resources: The average values of bibliographical e-resources for "faculty" and "student" are 1.96 and 1.89 with standard deviation 0.29 and 0.46, respectively. Since p-value for the bibliographical e-resources is .121 which is more than 5% level of significance, hence it supports the null hypothesis and there is non- significant difference in the usage of the bibliographical e-resources across faculty members and student of the member colleges.

9.10   Usefulness   of   N-LIST   E-resources   (E-Books,   E-Journals   and   Bibliographical Databases): The average values of types of N-LIST E-resources for "faculty" and "student" are 44.13 and 45.32 with standard deviation 7.98 and 10.73,   respectively. Since p-value for the types of N-list E-resources is .288 which is more than 5% level of significance, hence it supports the null hypothesis and there is non-significant difference in the Usefulness of N-LIST E-resources across faculty members and student of the member colleges.

9.11 Common Features: The average values of common features for "faculty" and "student" are 21.17 and 23.83 with standard deviation 11.21 and 12.02, respectively. Since p-value for the common features is .054 which is more than 5% level of significance, hence it supports the null hypothesis and there is non- significant difference in the common features across faculty members and student of the member colleges.

9.12 Information Retrieved from N-LIST E-resources: The average values of information retrieved for "faculty" and "student" are 11.36 and 11.78 with standard deviation 4.10 and 5.82, respectively. Since p-value for the information retrieved is .481 which is more than 5% level of significance, hence it supports the null hypothesis and there is non-significant difference in the information retrieved across faculty members and student of the member colleges.

9.13 Library Support for Users: The average values of library support for "faculty" and "student" are 11.16 and 9.15 with standard deviation 5.26 and 6.17, respectively. Since p-value for the library support is .003 which is less than 5% level of significance, hence it contradicts the null hypothesis and there is a significant difference in the library support across faculty members and student of the member colleges.

9.14 ICT Infrastructure for Users: The average values of ICT infrastructure for "faculty" and "student" are 15.82 and 14.32 with standard deviation 6.42 and 7.48, respectively. Since p-value for the ICT infrastructure is .070 which is more than 5% level of significance, hence it supports the null hypothesis and there is non-significant difference in the ICT infrastructure across faculty members and student of the member colleges.

9.15 Training Programme for Users: The average values of training programme for "faculty" and "student" are 15.34 and 14.25 with standard deviation 6.19 and 5.72, respectively. Since p-value for the training programme is .124 which is more than 5% level of significance, hence it supports the null hypothesis and there is non-significant difference in the training programme across faculty members and student of the member colleges.

9.16 External Storage Media while using N-LIST E-resources: The average values of external storage for "faculty" and "student" are 12.56 and 10.41 with standard deviation 3.66 and 4.82, respectively. Since p-value for the external Storage is .000 which is less than 5% level of significance, hence it contradicts the null hypothesis and that there is a significant difference in the external storage across faculty members and student of the member colleges.

9.17 Problems while using N-LIST E-resources: The average values of problems in N-LIST E-resources for "faculty" and "student" are 27.45 and 31.58 with standard deviation 12.59 and 11.38, respectively. Since p-value for the problems in N-LIST E-resources is .004 which is less than 5% level of significance, hence it contradicts the null hypothesis and there is a significant difference in the problems in N-LIST E-resources across faculty members and student of the member colleges.

9.18 Suggestions for access of N- LIST E-resources: The average values of access of N-LIST E-resources for "faculty" and "student" are 22.32 and 26.12 with standard deviation 9.11 and 8.95, respectively. Since p-value for the access of N-LIST E-resources is .000 which is less than 5% level of significance, hence it contradicts the null hypothesis and there is a significant difference in suggestions for access of N-LIST E-resources across faculty members and student of the member colleges.

10.0 Findings from the T-Test (Variables showing Significant Difference)

The table below displays the variables showing significant Difference. The variables are as follows:-

Table 10.0 Variables showing Significant Difference

Sr. No.	Variable	t-statistics	p-value	Testing of Hypothesis
1.	Search strategy	-3.643	.000**	Null Hypothesis is rejected
2.	Advance Search	-2.399	.017*	Null Hypothesis is rejected
3.	Filter Result	-2.954	.003**	Null Hypothesis is rejected
4.	Purpose of using N-LIST E-resources	-3.888	.000**	Null Hypothesis is rejected
5.	Library Support	2.953	.003**	Null Hypothesis is rejected
6.	External Storage Media	4.238	.000**	Null Hypothesis is rejected
7.	Problems in N-LIST E-Resources	-2.908	.004**	Null Hypothesis is rejected
8.	Suggestions for access N-LIST E-Resources Users	-3.558	.000**	Null Hypothesis is rejected

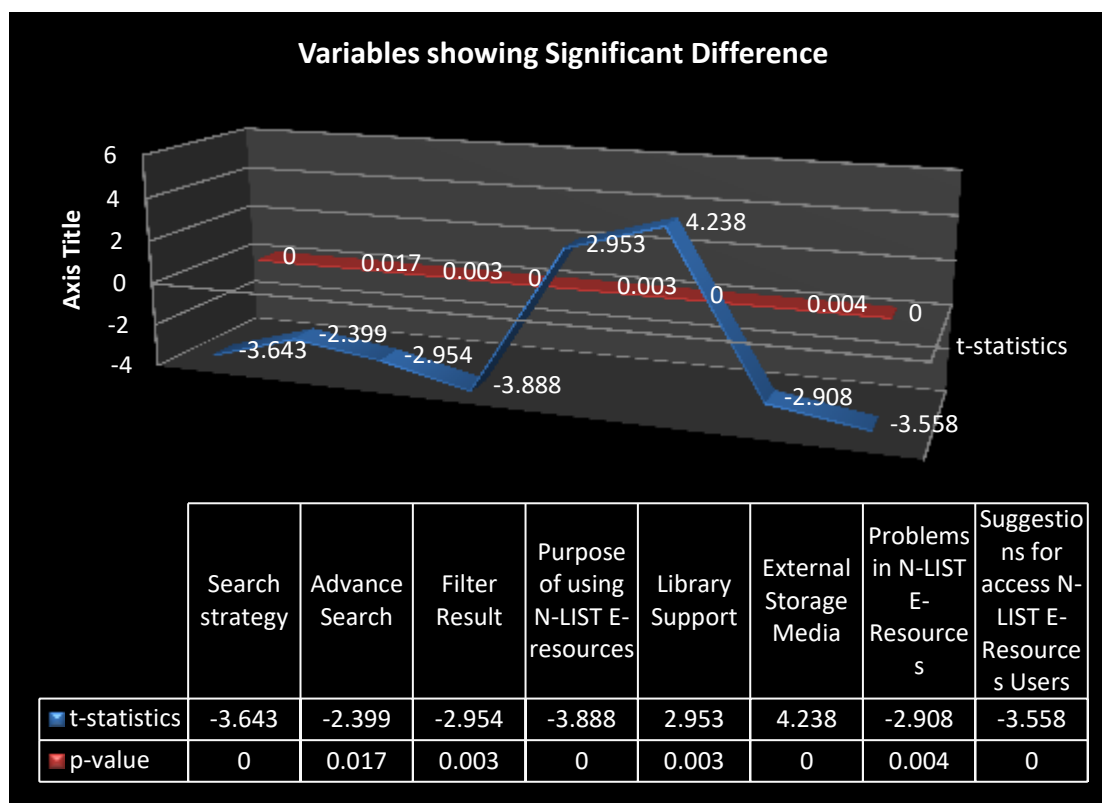|	Search strategy	Advance Search	Filter Result	Purpose of using N-LIST E-resources	Library Support	External Storage Media	Problems in N-LIST E-Resources	Suggestions for access N-LIST E-Resources Users
t-statistics	-3.643	-2.399	-2.954	-3.888	2.953	4.238	-2.908	-3.558
p-value	0	0.017	0.003	0	0.003	0	0.004	0

Figure: 10.0

The above figure illustrates the t-statistics and p-value of the Search strategy, advance search, filter results, E-resources, library support, external storage, problem in N-LIST E-resources and Suggestions for access of N-LIST across faculty members and student of the member colleges. In this the highest t-statistics is 4.24 for external storage media which is significant at .000 (p-value) and the least t-statistics value is -3.89 for purpose of Using N-LIST E-resources which is significant at .000 (p-value). Since the p-value for these 8 variables is less than 5% level of significance. Hence, the **Null Hypotheses for these variables are rejected and alternate hypotheses are accepted in all the 8 concerning variables**. Hence, it can be inferred that there is a significant difference among the above variables in the usage of N-LIST E-resources across faculty and student users.

10.1 Findings from the T-Test (Variables Showing Non-Significant Difference)

The table below displays the variables showing non-significant Difference. The variables are as follows:-

Table 10.1 Variables showing Non-Significant Difference

Sr. No.	Variable	t-statistics	p-value	Testing of Hypothesis
1.	Frequency of Using N-LIST E-Resource	-1.278	.202	Null Hypothesis is Accepted
2.	Resource types	-1.119	.264	Null Hypothesis is Accepted
3.	E-Books	-.271	.787	Null Hypothesis is Accepted
4.	E-Journals	-1.790	.075	Null Hypothesis is Accepted
5.	Bibliography	1.557	.121	Null Hypothesis is Accepted
6.	Usefulness of N-LIST E-resources	-1.065	.288	Null Hypothesis is Accepted
7.	Common Features	-1.938	.054	Null Hypothesis is Accepted
8.	Information Retrieved	-.705	.481	Null Hypothesis is Accepted
9.	ICT Infrastructure	1.822	.070	Null Hypothesis is Accepted
10.	Training Programmes	1.543	.124	Null Hypothesis is Accepted

Variables showing Non-Significant Difference

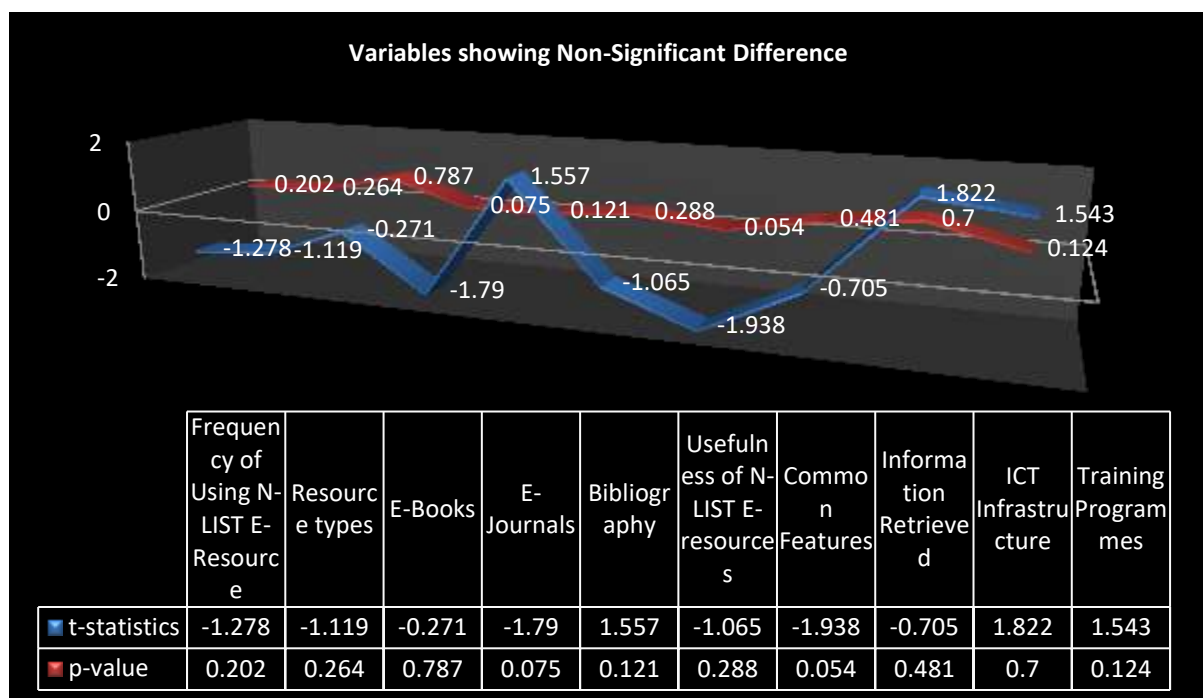|	Frequency of Using N-LIST E-Resource	Resource types	E-Books	E-Journals	Bibliography	Usefulness of N-LIST E-resources	Common Features	Information Retrieved	ICT Infrastructure	Training Programmes
t-statistics	-1.278	-1.119	-0.271	-1.79	1.557	-1.065	-1.938	-0.705	1.822	1.543
p-value	0.202	0.264	0.787	0.075	0.121	0.288	0.054	0.481	0.7	0.124

Figure: 10.1

The above figure illustrates the t-statistics and p-value of N-LIST E-resources, research type, E-books, E-journals, bibliography, types of N-LIST E-resources, common features, information retrieved, ICT infrastructure and training programming across faculty members and student of the member colleges. In this the highest t-statistics is 1.82 for ICT infrastructure and the p-value for the same is 0.70 and the least t-statistics value is -1.79 for Usefulness of E-journals and the p-value for the same is 0.07 which is more than level of significance (5%). Since the p-value for these 10 variables is more than 5% level of significance. Hence, **the Null Hypotheses for these variables are accepted and alternate hypotheses are rejected in all the 10 concerning variables. Hence, it can be inferred that there is non-significant difference in the above variables in the usage of N-LIST E-resources across faculty and student users.**

Hence, the findings partially accepts the Null Hypothesis H_o1.

11.0 Findings:-

11.1 It has been noted that out of 18 variables 10 variables shows the non-significant difference while 8 variables shows significant diffirence in the usage of N-LIST E-resources across faculty and student users.

11.2 It can be inferred that p-value of N-LIST E-resources, research type, E-books, E-journals, bibliography, types of N-LIST E-resources, common features, information retrieved, ICT infrastructure and training programming across faculty members and student of the member colleges are more than 5% level of significance, which shows the non-significant difference in the usage of N-LIST E-resources across faculty and student users.

11.3 It can be perceived that p-value of Search strategy, advance search, filter results, E-resources, library support, external storage, problem in N-LIST E-resources and Suggestions are less than 5% level of significance, which shows the significant difference in the usage of N-LIST E-resources across faculty and student users.

12.0 Suggestions and Recommendations

The study at hand was focussed on the evaluation of usage of N-LIST E-resources in the Select Degree Colleges Affiliated to Panjab University, Chandigarh. The libraries should endeavour to launch a marketing plan to promote the usage of N-LIST E-resources and its awareness among the users through email alerts, text messages, social networking sites, whatsapp groups, blogs, and wikis etc. It is suggested that the subscription cost of N-LIST E-resources should be reduced to the same as earlier for the Non-aided colleges also.

Further the research in this regard will widen the criteria of the study and identify as to how the faculty and the student from the member colleges affiliated to other Universities explore the usage of the N-LIST E-resources. The authors feel that there is a need for appropriate and constant evaluation of this study in order to enhance insight into the usage analysis and the relevance of the information retrieved from the N-LIST E-resources.

13. Referecnes:-

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