FINDINGS, SUGGESTIONS AND CONCLUSION

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Findings

This chapter deals with the major findings, tenability of hypotheses, suggestions for the improvement of the use of UGC-INFONET, suggestions for further research and conclusion.

6.1 MAJOR FINDINGS

The following are the major finding of the study on the academic community in the four universities in Kerala.

1. Majority of the users in the universities in Kerala are experts in using computer except in Calicut University where the majority of the users have only average knowledge in using computer. The association between university libraries and the ability to use computers among the academic community is statistically significant.

2. The association between the academic category and the ability to use computer is statistically significant. The faculty members have more expertise in computer while the other two categories such as research scholars and students possess only average knowledge.

3. The association between the subject backgrounds and the ability in using computer is significant. The users belonging to Science & Technology, Social Sciences and Commerce & Management are experts. But the users from Humanities are found to be possessing only average skill and expertise in using computer.

4. Association between the ability to use internet and universities is significant. Majority of the users in the university libraries in Kerala are experts in using internet except in Kerala University where majority of the users possess only average knowledge in using internet.
5. The faculty members are more expert in using internet than others. Association between the ability in using internet and the academic categories is significant.

6. Association between the use of internet and subject categories is significant. Social Sciences category is at the top and the Humanities at the bottom in their expertise in using internet.

7. Most of the academic community frequently utilizes various e-resources offered by the university libraries in Kerala. The association between the frequency of use of e-resources among academic communities and the Universities is significant. The users from MG University use e-resources more frequently than users from other universities with Calicut University having the least frequent use of e-resources.

8. The association between academic categories and the frequency of use of e-resources is significant. A significant number of the research scholars have always been found to be using e-resources more than others.

9. The association between the frequency of use of e-resources and the subject categories of users is significant. The academic community, irrespective of their subject backgrounds, are using the various e-resources either frequently or always.

10. The association between the frequency of library visits of the users and the universities is significant. The respondents belonging to Calicut University are at the top among those who make daily visits to the library. Overall, majority of the academic community visit the library 2-4 times in a week.
11. Majority of the academic categories visit the library 2-4 times in a week and the faculty members are at the top in this group. Among the respondents who visit the library daily, the top position is recorded against the category of research scholars. The association between the frequency of library visits and the academic categories is significant.

12. The association between the frequencies of library visit and the subject categories is significant. The respondents belonging to Humanities is at the top among those who visit library daily and the users belonging to Social Sciences are placed last. Majority of the respondents visit the library 2-4 times a week, irrespective of their subject backgrounds.

13. The association between universities and the time spent by the users per visit is statistically significant. The longest duration of time spent per visit by the majority of users in the university libraries in Kerala is 2-3 hours.

14. Majority of the library users in different academic categories are spending 2-3 hours in the library per visit. Among the academic categories, the students are spending more time in the library than others in the 2-3 hours group. The association between the duration of time spent by the users per visit and their academic categories is statistically significant at one per cent level.

15. The Science & Technology group comes in the first position that spent 3-4 hours in the library than others. The association between the duration of time spent by the users per visit and their subject categories is statistically significant at one per cent level.

16. The study found that overall the main purpose of library visit by the academic community is to *access electronic information resources*. The users in Calicut University responded that the main purpose of
their visit to the library is for **accessing electronic information resources** while those belonging to MG University expressed a different opinion that their visits are for **consulting periodicals**. In Kerala University and Cochin University Libraries, the first preference of the users is to obtain **specific information in their subject field**.

17. The academic categories as a whole give more importance to ‘access electronic information resources’ as their main purpose of visits to libraries. At the same time the lowest mean score of 4.47 is for search CD-ROMs. This indicates that the academic community need to improve the skill of searching CD-ROMs.

18. In response to the query regarding the main purposes of visit to the library, the majority of the respondents in the subject categories of Science & Technology and Social Sciences answered that they use library to ‘access electronic information resources’ whereas those belonging to Humanities, and Commerce & Management give importance to ‘find specific information for their subject field’.

19. A large majority of the academic community are aware only about UGC-INFONET. The association between the awareness about the availability of library consortia facilities and the universities is statistically significant at one per cent level.

20. The association between the users of different academic categories and their opinion about the library consortia facilities available in their university libraries is not significant. Majority of the academic community are not aware about Library Consortium facilities other than UGC-INFONET provided in their university libraries.

21. The association between the subject categories and their opinion about the library consortia facilities available in their university libraries is
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statistically significant at five per cent level. It is clear from the
analysis that majority of the academic community are not aware of
Library Consortia facilities other than UGC-INFONET.

22. Generally Colleagues are the major source of information about UGC-
INFONET in all the university libraries followed by library
professionals.

23. Among the academic categories, majority of faculty members and
research scholars articulated that colleagues are their major sources of
information about UGC-INFONET. The student category ranks library
professionals as the main source to know about UGC-INFONET.

24. The respondents belonging to all subject categories supported
Colleagues as their major sources to get information about UGC-
INFONET. While the respondents from Science & Technology and
Humanities have given their first appreciation to Colleagues, those
from Social Sciences and Commerce & Management have given their
first priority to Library professionals as the source to know about
UGC-INFONET.

25. University- wise analysis reveals that central library is the main access
point of INFONET facilities in all the university libraries in Kerala.
Cochin University library is the only University library providing
UGC-INFONET facilities in their hostels.

26. Irrespective of the academic category the users mainly depend on
central library and department library for accessing INFONET
facilities. It may be due to the fact that most of the universities in
Kerala do not provide the facilities for accessing INFONET in their
hostels.
27. A vast majority of the academic community, irrespective of their subject backgrounds, depends on the central library as their main access point. Generally, below fifty per cent of users are approaching department libraries and a very less number of users are getting INFONET facilities in their hostels. Most of the universities in Kerala do not provide the INFONET facilities in their hostels.

28. The e-journals, e-books, databases and e-thesis / dissertations are the major e-resources available along with UGC- INFONET and the users are aware of it.

29. Majority of the users, irrespective of their academic categories are well aware of the electronic information resources along with UGC-INFONET.

30. The vast majority of the academic community, irrespective of their subjects of interest, are generally aware of the electronic information resources available through UGC-INFONET.

31. The study indicates that e-journals are the most preferred electronic resource by the academic community in all university libraries in Kerala.

32. Faculty members and research scholars are found to be ahead in the use of all the electronic information resources available along with UGC- INFONET. The study also revealed that e-journals are the most preferred e-resource by the academic categories in the universities of Kerala.

33. Subject wise analysis of preference towards e-resources indicates that all the users have given their most preference to E-journals and the least preference to E-thesis & Dissertations.
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34. One fourth of the respondents in all the university libraries are not satisfied with the available e-journals through UGC-INFONET. The association between the sufficiency of e-journals available through UGC-INFONET and the university libraries are not statistically significant.

35. Though the e-journals are considered as the most important component of electronic information resources available through UGC-INFONET one fourth of the respondents are not satisfied. They demand more e-journals in their subjects of interest. The association between the academic category and the availability of e-journals through UGC-INFONET is not statistically significant.

36. Even though majority of respondents belongs to various subject categories satisfied with the availability of e-journals, one fourth demanded more e-journals. The association between perceptions regarding the sufficiency of e-journals and the subject backgrounds of respondents is statistically significant. This understanding may help the concerned authority to know the area of discipline or subjects which requires more number of e-journals.

37. The association between university libraries and the sufficiency of full – text articles through UGC-INFONET is statistically significant at one per cent level. Majority of the respondents expressed that the available full-text articles accessed by them are not sufficient for their academic purposes.

38. The association between the academic categories and the sufficiency of full – text articles through UGC-INFONET is significant. Majority of the respondents belonging to different academic categories opined that
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the available full-text articles through UGC-INFONET are not sufficient for their various information requirements.

39. Majority of the academic community irrespective of their subject categories require more number of full-text articles for their various academic activities. The association between the subject backgrounds and the sufficiency of full-text articles through UGC-INFONET is significant.

40. The availability of current articles through UGC-INFONET is in an average level. The association between the universities and the availability of current articles through UGC-INFONET is statistically significant at one per cent level.

41. The association between the academic categories and the availability of current articles through UGC-INFONET is statistically significant. The availability of current articles through UGC-INFONET is found to be in an average level.

42. Majority of the academic community in different subject background opined that, the availability of current articles through UGC-INFONET is average. The association between the subject categories and the availability of current articles through UGC-INFONET is statistically significant.

43. The association between the universities and the sufficiency of e-books is statistically significant. University-wise analysis shows that most of the respondents are not getting sufficient number of e-books for their academic purposes.

44. Majority of the academic categories expressed that they are not getting sufficient number of e-books through UGC-INFONET. The
association between academic categories and the availability of e-books through UGC-INFONET is significant. Only 17.17 per cent of the students are satisfied with e-books.

45. The association between subject backgrounds and the sufficiency of e-books through UGC-INFONET is statistically significant. Subject-wise analysis shows that most of the respondents are not getting sufficient number of e-books for their academic purposes.

46. Most of the academic community opined that they can download the e-books through UGC-INFONET. The association between universities and the perceptions of users regarding the downloading of e-books is statistically not significant.

47. The association between the academic categories and the perceptions of users regarding the downloading of e-books through UGC-INFONET is statistically not significant. Majority of the academic community irrespective of their academic categories are positively responded to the downloading of e-books from UGC-INFONET.

48. The subject-wise variation about the downloading of e-books through UGC-INFONET is significant at one per cent level. The highest support for downloading of e-books is found among the users belonging to Science & Technology. Users from Commerce & Management are the least impression about the downloading of e-books in the university libraries. The association between the subject backgrounds and the perceptions of users regarding the downloading of e-books is statistically significant.

49. The association between universities and the facilities to print the downloaded e-books is statistically significant. The facilities provided
to print the downloaded e-books in the university libraries in Kerala are inadequate.

50. The association between academic categories and the facilities to print the downloaded e-books is not statistically significant. Most of the respondents are not satisfied with the facilities available to print the downloaded e-books through UGC-INFONET.

51. The association between subject categories and the facility to print the downloaded e-books is not significant even at five per cent level. All the university libraries in Kerala have to improve the facilities available to print the downloaded e-books.

52. Almost all the universities are getting sufficient number of databases. The association between universities and the accessibility of databases in their specific subject areas are statistically not significant.

53. The academic categories feel positively towards the accessibility of databases through UGC-INFONET in the University Libraries. The association between academic categories and the perception about the accessibility of databases in their specific subject areas are statistically significant.

54. The academic community irrespective of their subject backgrounds are accessing sufficient number of databases through UGC – INFONET. The association between subject backgrounds and the accessibility of databases in their specific subject areas are statistically significant.

55. University wise perceptions regarding the downloaded databases in all universities were found to be relevant. The association between universities and the perceptions of the academic communities
regarding the relevancy of databases downloadable from UGC-INFONET are significant.

56. The academic categories agreed that the downloaded databases are relevant for their various academic activities. The association between the academic categories and the opinion of respondents regarding the relevancy of downloaded databases from UGC-INFONET is statistically significant.

57. The academic community in all the subject categories have stated that the downloaded databases from UGC-INFONET are relevant for their various academic requirements. The association between subject categories and the relevancy of downloaded databases from UGC-INFONET is significant at one per cent level.

58. The availability of e-thesis/dissertations through UGC-INFONET is not adequate for the academic community in the universities in Kerala. The association between the universities and the availability of e-theses/dissertations is not significant.

59. The entire academic categories are generally dissatisfied with the sufficiency of e-thesis/dissertations through UGC-INFONET. The association between the academic categories and the perception regarding the sufficiency of e-theses/dissertations is statistically significant.

60. There is no significant association between the subject categories and the sufficiency of e-thesis/dissertations. The availability of e-thesis/dissertations is not being sufficient to the maximum level by the user community among various subject categories through UGC-INFONET.
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61 Large majority of respondents from the universities in Kerala recognised that they were accessing articles on request by post. There exists a significant association between the universities and their opinions regarding the methods adopted for accessing article on request through INFONET.

62 There is no significant association between the academic categories and their preference of methods for accessing articles on request through INFONET. Users belonging different academic categories generally accepted the method for accessing article on request is by post.

63 The methods for accessing article on request through INFONET from different subject backgrounds of the academic community are ‘by post’. 24.68 per cent of users belonging to Commerce & Management category are accessing requested articles by e-mail. The association between subject categories and the preference of using methods for accessing articles on request is significant.

64 The association between Universities and the timely availability of articles on request through INFONET is significant at one per cent level. A large majority of the respondents from all the universities opined that the articles on request are not getting in time.

65 Majority of the respondents from different academic categories remarked that they were not getting the requested articles in time. The association between the academic category and the timely availability of articles on request through UGC-INFONET is not statistically significant.

66 The association between subject- backgrounds and the timely availability of article on request through UGC-INFONET is
significant. Most of the respondents from all the subject categories opined that they were not getting the requested articles in time. Highest remark for this service has come from the users belonging to Science & Technology. The users of Commerce & Management rendered the least remark for the timely availability of article on request.

67 A large majority of the respondents in the university libraries in Kerala remarked that the articles on request available through INFONET are useful. The association between the universities and the usefulness of articles on request available through UGC-INFONET is statistically not significant even at five per cent level.

68 The association between academic categories and the rating of articles on request through INFONET is not significant. All the users irrespective of their academic categories expressed that the articles on request available through UGC-INFONET are useful.

69 The usefulness of articles on request available is being rated in a moderate level by majority of the academic community in Kerala. The association between the subject categories and the perception regarding the usefulness of articles on request available through UGC-INFONET in the university libraries in Kerala is statistically significant.

70. A huge majority of respondents depend on INFONET for their prime purpose to access resources for various academic purposes.

71. The research scholars and faculty members use INFONET for research as their most important purpose. In the student community the first preference is given to access INFONET resources for various academic purposes.
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72. A huge majority of respondents irrespective of their subject backgrounds depend on INFONET for their prime purpose to access electronic information resources for various academic purposes. The Science & Technology group is the top among them.

73. The association between the universities and the opinion about the adequacy of information through UGC-INFONET is statistically significant. Majority of respondents belonging in all Universities in Kerala agreed that the availability of electronic information resources through UGC-INFONET is adequate.

74. A large majority of the users in all academic categories are satisfied with the adequacy of information available through UGC-INFONET. The association between the academic categories and their opinion regarding the adequacy of information available through UGC-INFONET is not significant.

75. Majority of the respondents in all subject categories is satisfied with the adequacy of information through UGC-INFONET for their various academic activities. The association between the subject categories and the adequacy of information available through UGC-INFONET is significant.

76. The association between the universities and the frequency of use of UGC-INFONET is significant. Majority of the respondents from all the universities choose their frequency of use of UGC-INFONET is 2 to 4 times a week.

77. The association between the academic categories and the frequency of use of UGC-INFONET is statistically significant. The highest and the lowest level of frequency of visits are recorded against the research...
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scholars and students respectively. Majority of the academic categories use UGC-INFONET facilities 2 – 4 times in a week.

78. The association between subject categories and the frequency of use of INFONET is statistically significant. The use of INFONET by the subject categories is 2-4 times a week in all the universities in Kerala. 30.24 per cent users belonging to Science & Technology are using INFONET daily.

79. No respondents from M.G. University and CUSAT spend less than one hour per visit to the INFONET. The association between universities and the frequency of time spent in UGC-INFONET is statistically significant. Overall a large majority of respondents are spending one to three hours per visit.

80. The association between academic categories and the frequency of time spent in INFONET is statistically significant. Majority of the academic categories to spent one to two hours during a visit in INFONET. The research scholars are the majority to spend one to two hours per visit to INFONET compared to others.

81. The highest frequency of time (2-3 hours) spent in INFONET is by the users from Science & Technology and the least among them is Social Science. The association between the subject backgrounds and the frequency of time spent in UGC-INFONET is statistically significant.

82. Pen drive is the most widely used storage media by the academic community in the universities in Kerala for storing information. Usage of Pen drive as a storage media is found most in case of faculty members.
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83. Preference of desktop reading and printout is comparatively low among the academic categories. Majority of respondents from various academic categories does not go for paper storage of information, due either to their lack of preference or lack of provision for directly storing the information in the form of print outs from INFONET.

84. Majority of the academic community are widely using Pen Drive for storing information accessed from INFONET than other formats irrespective of their subject backgrounds. Only a less number of respondents were using the printout facility for storing information accessed through INFONET.

85. The association between the Universities and the opinion about the importance of e-portals available through INFONET is statistically significant. A vast majority of respondents irrespective of their universities agree that the e-portals are important for availing information.

86. The users in the university libraries in Kerala, by and large, agreed that the e-portals available through INFONET are important. The association between the academic categories and the opinion about the importance of E-Portals is statistically significant. Ninety seven per cent of the students think that e-portals are important source of information.

87. The maximum appreciation is shown against the subject categories of Science & Technology who are convinced that the e-portals available through INFONET are important. The association between subject categories and the importance of e-portals is significant.

88. Majority of the respondents from all the university libraries in Kerala are using Science-Direct as their most preferred e-portal available in
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INFONET. Among the respondents the highest and the lowest degree of preference are recorded against Cochin University Library and Kerala University Library respectively.

89. The most and the least preferred e-portals by the academic categories in the university libraries in Kerala are Science-Direct and Project Euclid. Less than 10 % prefer e-portals like Annual Review, APS, Projects Muse and Project Euclid. The users belonging to the faculty category is more convinced with the e-portals available in INFONET.

90. The study clearly indicates that even though the resources offered through UGC-INFONET are common and uniform among the respondents in all universities, the Science Direct resources are most preferred by the Science & Technology respondents. Whereas, the respondents belong to Humanities, Social Science and Commerce & Management have given their first priority to JCCC.

91. The highest percentage of respondents belonging to all the University libraries in Kerala used ‘phrase search’ as their favourite method for searching and accessing information. The least preference is given to truncation method.

92. The study substantiate that the users belonging to different academic category had generally given somewhat equal priority to the three major search methods namely ‘Phrase search’ ‘Boolean search’ and ‘Field search’. But in the case of ‘Truncation’ they give less importance irrespective of their academic category.

93. The study cleared that the respondents belonging to Science & Technology and Social Science are giving highest priority to ‘Boolean search’. For the users of Humanities and Commerce & Management,
‘Phrase search’ is their most preferred one. The least preference is given to Truncation method by all the subject categories.

94. The association between universities and the opinion about the evaluation of search result is statistically significant. Majority of the respondents belonging to MG and Calicut University libraries are more interested in evaluating their search results.

95. A large majority of the academic categories are interested in evaluating the search results. The association between academic categories and their opinion about the evaluation of search results is statistically not significant.

96. The association between subject categories and their opinion about the evaluation of search results is statistically not significant. The users belonging to Science & Technology comes in the top and the Commerce & Management is placed in the bottom level of appreciation regarding the evaluation of search results.

97. The Association between universities and the relevance of search result is statistically significant. Majority of the users belonging to Kerala university library agreed that the information available through UGC – INFONET is ‘very relevant’. For other three universities most of the users opined that the evaluation process of information resources accessed through UGC-INFONET is ‘relevant’.

98. In the category of research scholars 51.96 per cent stated that it is ‘highly relevant’ followed by faculty members (50.00 per cent). However, 57.10 per cent of the student category rated the evaluation process only as ‘relevant’. The association between academic categories and the relevance of search result is statistically significant.
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Over all, the academic categories moderately accepted the evaluation process of the searched results.

99 The association between subject categories and their opinion about the evaluation of search results is statistically significant. A large number of respondents in all categories covered under this study make use of the information available through INFONET for their various academic purposes, considering it as relevant.

100. A large majority of respondents from the universities in Kerala need assistance for accessing the relevant electronic information from INFONET. The users belonging to MG University and Calicut University libraries are more expert than others. The association between Universities and the opinion about the need for assistance to access INFONET resources is statistically significant.

101. Most of the academic categories need assistance for accessing information from INFONET. The students’ community have more expertise than their counterparts for accessing information. The association between academic categories and their opinion about the assistance needed for accessing information from UGC-INFONET is statistically significant.

102. The association between subject categories and their opinion about the assistance needed for accessing information from UGC-INFONET is statistically significant. The users belonging to Science & Technology and Commerce & Management are the highest and the least-persuaded groups with the assistance needed for accessing information than others. The users belonging to Science & Technology have more expertise than their counterparts for accessing information.
103. A huge majority of respondents in the universities in Kerala need assistance in the area of advanced searching. The association between the Universities and the area in which they need assistance for accessing information is significant.

104. The association between the academic categories and the area in which they need assistance is not statistically significant. Majority of the respondents in all academic categories acknowledged that they need assistance in the area of advanced searching.

105. The users from Science & Technology group need more assistance than other groups. The association between the subject categories and their opinion about the area in which they need assistance is statistically significant.

106. ‘Easy to use’ is found as the most preferred advantage of the e-resources in INFONET among the users of all the universities. But the acceptance is found comparatively low for the advantage of ‘any time /anywhere access’. It indicates that the Universities may think of providing more access points for increasing the efficient and effective use of INFONET.

107. The academic community in Kerala irrespective of their academic categories widely accepted the popular advantages of the electronic resource available through INFONET, except ‘any time / anywhere access’. ‘Easy to use’ is the most preferred advantage of the users belonging to faculty group, whereas for research scholars it is ‘time saving’ and in the case of students’ category, the electronic resource available through INFONET is ‘up-to-date’.

108. According to the Subject backgrounds, the Science & Technology and the Commerce & Management categories accept ‘time saving’ as the
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most favoured advantage of electronic resources. At the same time the category of social Sciences preferred ‘easy to use’ as the best advantage. In the case of Humanities, the quality of being ‘up to date’ is considered as the most useful advantage. But a considerable per cent of respondents in all categories did not accept that the e-resources can be accessed ‘any time/anywhere’.

109. The Universities in Kerala widely accepted the print form in addition to electronic forms. The association between the Universities and the perception about the need of conventional print format v/s electronic format is statistically significant. Among those who expressed the opinion that print format is ‘very much needed’, the Kerala University is at the top and the Cochin University is at the bottom.

110. The association between the academic category and the perception about the need of conventional print format v/s electronic format is statistically significant. Among the academic categories, the option for ‘very much needed’ got the maximum support from the faculty category and the minimum from students. While the option for ‘needed’ was advocated more vehemently by student category, the least demand came from the faculty group.

111. The association between the subject backgrounds and the perceptions regarding the existence of traditional print form v/s electronic form is statistically significant. The users belonging to Science & Technology need the traditional print form more than the other groups.

112. The association between the universities and perceptions regarding the inclusion of more e-journals under UGC-INFONET is statistically not significant. Even though the academic community is satisfied with the available e-resources through UGC-INFONET, they looked for more
and more e-journals in their subjects of interest irrespective of their universities.

113. The association between the academic categories and the perceptions regarding the inclusion of more e-journals under UGC-INFONET is statistically not significant. The demand for e-journals is increasing day-by-day because it gives more up to date and scholarly literature and it is very vital for their academic activities.

114. The association between the subject backgrounds and their perceptions regarding the inclusion of more e-journals under UGC-INFONET is statistically not significant.

115. The association between universities and their response to the recommendation to use INFONET is statistically significant. Among the universities the intensity of recommendations is very high in Cochin University, while it is comparatively low in Calicut University.

116. The association between the academic categories and their response to the recommendation to use INFONET is not significant. Most of the respondents in all the academic categories recommended the ‘very often’ use of UGC-INFONET.

117. The association between the subject categories and their opinion about recommendation to use INFONET is not significant. The academic community in Kerala accepted UGC-INFONET to a great extent. So, they are recommending INFONET services and its importance to their students/ friends/ colleagues extensively.

118. The association between universities and the opinion about E-resources is statistically significant. A wide majority of academic community in Kerala are well aware that the e-resources are a good substitute for
conventional resources while, a considerable number of respondents
did not accept this. The respondents from Calicut University occupy
the first position and those from Cochin University the last position
with regard to this perception.

119. The association between academic categories and their perceptions
about the E-resources - a good substitute for conventional resources is
statistically not significant. Majority of respondents in all academic
categories viewed that the e-resources are a good substitute for
conventional resources.

120. The association between the subject categories and their perceptions
regarding the e-resources as a good substitute for conventional
resources is statistically not significant. It is observed that there exists a
common consensus that the e-resources would not replace but coexist
with the conventional resources.

121. The level of usefulness of INFONET is moderate in all the university
libraries in Kerala as their mean scores range between 3 and 4. The
variation is found significant at one per cent level as the p-value is
zero. The usefulness is found high in the case of Kerala University.

122. The Scheffe test indicates that the variation is found only between
Kerala University and other Universities Libraries in the usefulness of
INFONET.

123. The academic category wise difference in the usefulness of INFONET
is not statistically significant. The aggregate mean score of 3.88 shows
that the users are using INFONET facilities offered by the university
libraries on a moderate level.
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124 The usefulness of INFONET resources in the subject categories has a moderate level of acceptance. The subject wise difference is significant at one per cent level. The usefulness is found most in the case of users belonging to Science & Technology.

125 It is clear from the Scheffe test that with regard to the usefulness of INFONET according to subject categories of users in the university libraries in Kerala, the variation are found only among the users belonging to Science & Technology, Humanities and Commerce & Management.

126 A moderate level of effectiveness is revealed by the users in all universities in Kerala with regard to the INFONET facilities available in their respective university libraries. The effectiveness is found most in the case of Kerala University. The university wise variation is significant.

127 The mean score of each statement under this component clearly indicates that the effectiveness of INFONET facilities in the University libraries in Kerala is moderate. The statement number 8 & 9 are the weaker links under this component, which stated as ‘INFONET allow the users to contact the publisher directly’ (8) and ‘INFONET provide the freedom to suggest e-resources in their subject interests’ (9).

The result of the Scheffe test shows that all the university libraries vary with each other in their perceptions regarding the effectiveness of INFONET. So, they should not be treated as homogeneous sample. The user perceptions regarding effectiveness are different according to universities they belong to.
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128. The academic category wise response of users relating to the Effectiveness of INFONET is not statistically significant. It is found that the effectiveness of UGC-INFONET among the academic categories is in a moderate level.

129. The users belonging to Science & Technology feel the effectiveness of INFONET more than other categories. The analysis of variance of the mean score reveals that the Effectiveness of INFONET in the university libraries in Kerala varies significantly according to the subject backgrounds of the respondents.

130. The Scheffe test shows that, regarding the Effectiveness of INFONET, the variation is significant only between the users belonging to Science & Technology and Humanities. In the case of others the variations in relation to all other subject categories are not statistically significant.

131. The users are moderately satisfied with the Infrastructure and Supporting Facilities provided in the university libraries in Kerala. The university wise variation is significant. The Infrastructure and Supporting Facilities available in Calicut and Cochin university libraries are rated as the best among the university libraries. The lowest rating is shown against Kerala University.

132. The infrastructure facilities available for accessing INFONET resources and services in the university libraries are generally acceptable to the academic community except in the area of reprographic services. The university wise variation is significant.

As per the Scheffe test the Infrastructure and Supporting Facilities provided in the university libraries in Kerala found significant in relation to Kerala University only. The variations in relation to other universities are not significant even at five per cent level.
133. The academic category wise variation in infrastructure facilities available in the university libraries is significant. The highest and lowest appreciation for the infrastructure facilities are shown against students and research scholars respectively.

134. The Scheffe test highlights that the variation is found significant only in relation to student category with other categories. The variations in relation to other categories regarding infrastructure facilities are not significant even at five per cent level.

135. The perceptions of users regarding Infrastructure and Supporting Facilities do not differ significantly according to their subject backgrounds. They are moderately acceptable to all the users irrespective of their Subject backgrounds.

136. The quality of Human Resource at the disposal of the university libraries in Kerala has a High level of acceptance among their user community except Calicut University Library, where there is only moderate level of acceptance. The university wise difference in Human Resource is statistically significant.

137 The Scheffe test shows that the variation in Human Resources of INFONET among the users according to their respective University Libraries is found significant in relation to each other, except Cochin and Kerala University Libraries.

The areas existing under this component are providing ten statements. The quality of Human resources at the disposal of the university libraries in Kerala has a moderate level of acceptance among the academic community. It was found that the professionals in the
INFONET centers are not available to the users for help as much as they wish. Inability of the library professionals to give information about the new e-resources provided through INFONET is another area for improvement.

138. The academic category wise difference regarding Human Resources is not significant. The users in the university libraries in Kerala are highly satisfied with the Human resources available in their libraries.

139. The difference in the quality of Human resources according to Subject categories of the users is significant. The highest appreciation for the quality of human resources is found among the users belonging to the Science & Technology category. Commerce and Management category is the least convinced group. The quality of Human resource available at the disposal of the university libraries in Kerala has got a high level acceptance among the user community.

140. The Scheffe test shows that the variation in the user perception regarding the quality of Human resources is highest in the case of Science & Technology group when compared to that of the other subject categories.

141. The users are moderately satisfied with the resources and services provided through INFONET in the university libraries in Kerala. The variation is significant with regard to the university wise satisfaction. The highest score for satisfaction with the UGC-INFONET resources and services is shown against MG University. Calicut University Library has the lowest score for satisfaction among the university libraries.
142. The Scheffe test shows that the variation in the satisfaction level of UGC-INFONET is the highest in the case of MG University and Cochin University when compared to that of other university libraries.

The areas existing under this component are providing seven statements. The least mean scores is recorded against the statement number five i.e. ‘the e-portals available in the UGC-INFONET are inadequate’. Thus the users in the university libraries are not fully satisfied with the e-portals available in the UGC-INFONET.

143. The users are generally satisfied with the INFONET resources and services available in the university libraries, irrespective of their academic categories. The highest and the lowest scores are shown against Students (Mean Score = 3.63) and Faculty members (Mean score = 3.57) respectively. The variation in satisfaction level against UGC-INFONET based on the academic category is significant.

144. The variation in satisfaction level against UGC-INFONET based on the subject categories is significant. The highest satisfaction level is shown against those who belong to the Science & Technology category and the lowest against Commerce & Management.

145. As per the Scheffe test the satisfaction level of the academic community about UGC-INFONET does not vary significantly according to their subject backgrounds except Commerce and Management.

146. The hindrances faced by the users in all university libraries are in a moderate level. The university wise variation is significant. The lowest mean score of 3.22 is recorded against Cochin University Library and the highest level of mean score 3.29 is recorded against Mahatma Gandhi University Library.
147. The major hindrances under this component are *printout facility is not provided in the INFONET Centre*, *Direct data transfer is not allowed*, *Accessibility of full-text articles is inadequate* and *High bandwidth connectivity is needed*. The variation is found significant only between the MG and Cochin Universities at five per cent level. The perception of the users belonging to Calicut and Kerala University Libraries regarding the hindrances in the use of INFONET are same.

148. The academic category wise variation regarding the hindrances is significant. Among the three categories the Students community is facing more hindrances than the other two groups. The category of Faculty members is facing lowest range of obstacles.

149. The Scheffe test reveals that even though the category wise variation of hindrances in the use of INFONET is found significant, the variation is only found between the student and teacher categories.

150. The variation regarding the hindrances according to the subject backgrounds of the users is significant. Among the subject categories the Social Science category is facing more hindrances than others. The category of Humanities is facing lowest range of obstacles.

151. The Scheffe test indicates that the perception according to subject categories, the users belonging to the Commerce & Management group regarding the hindrances while using INFONET in the universities in Kerala is similar to that of other three subject categories.

### 6.2 TENABILITY OF HYPOTHESES

Based on the results of the statistical analysis the tenability of hypotheses tested is given below.
The first hypothesis states that “the e-resources accessed by the academic community through UGC-INFONET are in a high level of usefulness”. As per the analysis, a moderate level of usefulness is exposed by the users in all university libraries in Kerala. Thus the first hypothesis is partially substantiated (Table 5.121 to 5.123).

The second hypothesis states that “the information resources and services offered through UGC-INFONET are effective”. A moderate level of effectiveness is revealed by the users in all universities towards the INFONET facilities available in their respective university libraries. Thus the second hypothesis is substantiated (Tables 5.125 to 5.128).

The third hypothesis states that “the e-portals of UGC-INFONET are considered as a good source of electronic information resources and have high importance among the user community”. As per the result of the tables 5.85, to 5.87 the users are aware of the importance of the e-portals available through UGC-INFONET. Thus the third hypothesis stands accepted.

The fourth hypothesis states that “the infrastructure facilities provided for accessing INFONET resources are satisfactory”. All the users are moderately satisfied with the infrastructure and supporting facilities available in the university libraries in Kerala irrespective of their universities, academic categories and subject interests. Thus the fourth hypothesis is substantiated (Tables 5.132, 5.133 and 5.135).

The fifth hypothesis states that “the academic community is highly satisfied with the information resources and services provided through the UGC-INFONET”. All the users in the university libraries in Kerala are moderately satisfied with the facilities available through UGC-INFONET in the university libraries in Kerala irrespective of their universities,
academic categories and subject backgrounds. Thus the fifth hypothesis is partially substantiated (Tables 5.136 to 5.139).

The sixth hypothesis states that “the quality of human resources at the disposal of the university libraries in Kerala is high”. As per the Tables 5.141 to 5.144 the quality of human resource available in the university libraries in Kerala has got a high level acceptance among the user community, as the aggregate mean score is 4.05. Thus the sixth hypothesis is substantiated.

6.3 SUGGESTIONS

The findings of the study have come out with an insight on the use and effectiveness of UGC-INFONET among the academic community in the university libraries in Kerala. The academic community in the Universities in Kerala does not utilize the electronic information resources available through UGC-INFONET to the maximum. The following suggestions have evolved from the responses made by the respondents of the study regarding the maximum use of UGC-INFONET resources and services.

1. For enhancing the quality of academic activities it is necessary to introduce and demonstrate the new electronic resources available in varied subject fields at regular intervals.

2. Providing more computer systems with high speed connectivity in department libraries and hostels may lead to better accessing and downloading of e-resources available through UGC-INFONET.

3. The acceptance is found comparatively low for ‘any time anywhere access’, a popular advantage of e-resources. It indicates the need for the Universities to think of providing more access points for increasing the efficient and effective use of INFONET.
4. The university libraries and department libraries may organize workshops and information literacy programmes for increasing awareness about the available e-resources.

5. It will be better if the university libraries organize orientation programmes regarding UGC-INFONET which will reduce the workload of the library professionals and will directly deliver the desired information for the user community.

6. It is necessary for the users to be intimated about the availability of new arrivals of resources for access in time. This will surely enhance the academic activities of all categories of users.

7. In the present dynamic information environment it will be in the fitness of things that the university libraries undertake user study and feedback methods at regular intervals to locate the areas weaker in service and to act better to satisfy the information needs of the academic community.

8. A network of printers may be provided in the INFONET centers so that the users can take print out of the resources accessed from INFONET. The provision of this facility on payment basis can also be thought about.

9. There is a need for extensive training programme on regular basis at the beginning of each semester. This is required for all the categories of library users so that they can know how to make optimum use of the e-resources for their studies and research.

10. The university libraries can play a proactive role by providing the requisite training to the academic community to better equip them with the essential skills needed in the area of advanced search to enable them for more efficient use of INFONET.
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11. Proper policy decisions are to be taken by the university authorities to include more e-resources for fulfilling the diversified needs of the users.

In the context of the increasing need for the e-resources in the university libraries in Kerala and the many kinds of constraints experienced in this regard, the suggestions listed above deserve serious consideration for implementation.

6.4 SUGGESTIONS FOR FURTHER RESEARCH

Each research work offers wide scope for study, but its scope should be confined within certain limits for the sake of the completion of the work in a particular time frame. Therefore, every research work leaves lots of areas unexplored for further research. The present study also puts forward the areas, which have vast scope for further research.

1. This study may be conducted by expanding the geographical area covered by including more number of samples.

2. Cost benefit analysis of various resources available through UGC-INFONET can be initiated.

3. Role of UGC-INFONET for the enhancement of research in affiliated colleges under the universities in Kerala can be conducted.

4. A comparative study of use and effectiveness of UGC-INFONET and other library consortia initiatives may be carried out.

5. Impact of UGC-INFONET on the marketing of electronic information products and services in the university libraries in Kerala can also be conducted.
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6.5 CONCLUSION

The growth of Information and Communication Technology (ICT) is so unprecedented that it has become the backbone of any knowledge system of our times. This ICT explosion has led to the digitization of information resources, creation of databases and expanding networks of systems of communication. Providing adequate services by a single library to its users in a digital environment is beyond its means. It is quite encouraging that initiatives for formation of library consortia are on the increase in the country. The formation of UGC-INFONET is such a mile stone in the history of Indian higher education system.

The present study has brought out the current scenario in respect of the use and effectiveness of the UGC-INFONET by the academic community in the universities in Kerala; it is a gateway of electronic information resources for the academic community. Though majority of the users are aware of the UGC-INFONET consortia, they don’t make maximum use of the resources available through it. The UGC-INFONET has facilitated the academic community to improve their academic excellence by providing them with access to a wide variety of the relevant and comprehensive information. Proper and better utilization of these resources enables the users to improve their academic output. The various analyses in this study make it evident that the university libraries in Kerala have only a moderate level of information dissemination activities through UGC-INFONET. Hence the university authority may take necessary steps to improve the usage of UGC-INFONET into an optimum level.

This study conducted in the four major university libraries in Kerala clearly reflects the current status of awareness about the UGC-INFONET and patterns of its use by the faculty members, research scholars and students. It
can be inferred from the study that the academic community needs to accept and adapt to new technology and electronic information skills in order to effectively utilize the wide variety of e-resources being made available to them. It is also seen that the University Central Libraries and the Department libraries are the most-frequented places for accessing the INFONET. Two other grim observations made are that the various academic communities in the universities in Kerala do not have facilities for access to e-resources through UGC-INFONET in their hostels and that the INFONET centres are not equipped with direct print out facilities. Moreover, INFONET does not provide the freedom to suggest e-resources in users’ subjects of interest and not allows the user to contact the publisher directly.

Accessing electronic information resources for various academic purposes has been found by the study as the prime purpose of the use of UGC INFONET by the academic community. The majority of users accessing INFONET seem to have a preference for the e-resources since they take the electronic journals more suited to their purposes than any other ones. As far as the impact is concerned, electronic journals are really helpful in finding out the appropriate references and are useful to each and every user. Even though there are a number of e-journals available through INFONET, the users are demanding more and more e-journals in their subjects of interest.

One interesting thing the study reveals is the continuing preference for printed documents by a majority among the academic communities despite the drastic shift from the print to electronic format. The printout facilities provided in most of the university libraries in Kerala are, however, low and inadequate. This is one of the major hindrances that can adversely affect the information transfer process. The academic community generally uses the INFONET benefits to access the current and comprehensive information. The dependence on consortium-based resources and services is increasing day by
day and users of university libraries too show increased dependence on information resources available through INFONET for their various academic purposes. Sciencedirect and JSTOR are the most preferred e-portals used by the academic community for accessing electronic resources. The other e-portals are not adequately utilized by the academic community.

The users prefer both basic and advanced search options. The most preferred advanced search option is ‘phrase search’. For better utilization of electronic information resources the academic community needs to be made aware of using advanced search options available in search menu of electronic information resources. The users should become familiar with latest search techniques for optimum utilization of available electronic information resources.

Most of the respondents who participated in this study feel that e-resources need to be supplemented with print resources because a considerably large number of users from the academic community still feel more comfortable with the printed format when compared to e-resources. Gauging the rating given by the respondents in respect of resources available from INFONET, many of them still hold print format relevant and easy to use. Majority of the users feel that the INFONET is a more useful, informative, easy to use and less expensive information source that helps them in saving their time and money. Most of the respondents admit to the increased dependence on INFONET by the academic community. The information accessed through UGC- INFONET has proved to be a great asset to many respondents. The entire academic community feels that the consortium has provided easier and faster access to information and helps in enhancing academic efficiency. All respondents, therefore, desire that the UGC-INFONET should subscribe to more e-resources in addition to the currently available.
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The study vouches for the increasing popularity of the e-resources and considers it an adequate substitute for print resources. Majority of the respondents are satisfied with the facilities provided by the universities in Kerala for accessing the UGC-INFONET resources and services. The electronic resources in the UGC-INFONET represent a large investment of users’ effort, money and knowledge.

Right now the users have some problems regarding the accessibility and use of INFONET. They harbour some doubts and anxieties. These can surely be overcome. As of now, the facility of direct data transfer is not made available to users in most of the university libraries. Technology improvisations like the one for increasing the speed of the internet should be expedited by the universities. They should organize studies, workshops and orientation programmes etc., for the users at regular intervals in order to keep them equipped in tune with latest changes and improvements in technology. Finally it can be concluded that UGC-INFONET has an imperative role in information dissemination process in a higher education environment. The academic community in the universities in Kerala is quite familiar with its uses. They are realizing their academic requirements with the assistance of the INFONET and they have been keeping themselves abreast of the latest information which would lead them to a good academic output.