Chapter 6
FINDINGS, CONCLUSIONS AND IMPLICATIONS

6.1 INTRODUCTION

This chapter presents the major findings based on the analysis and interpretation; the findings in relation to the Objectives (1.8) and Hypothesis (1.9) have been discussed and presented here. Further this chapter summarized major implications, areas for further studies and conclusions were drawn and included in this unit.

Accordingly present chapter is divided into the following headings:

6.1 Introduction

6.2 Findings of the study

6.2.1 Findings based on Questionnaire

6.2.2 Findings based on Research productivity

6.2.3 Findings relating to Hypothesis

6.2.4 Findings relating to Cross-tabulation

6.3 Major implications

6.4 Areas for further studies

6.5 Conclusions

6.2 FINDINGS OF THE STUDY

The Findings based on the objectives of the study has been presented (consists of four different Parts) as follows:

6.2.1 FINDINGS BASED ON QUESTIONNAIRE

1. It was observed that out of 53 faculty members of six different schools, 51 questionnaires were received. The School of Commerce and Management Sciences and School of Social sciences were having majority of faculty members’ i.e. 12 (23.53%) and 100 percent response was received from these two schools each. School of Languages, Literature & Cultural Studies having 11 faculty members and all 11 (21.57%) responses was received from this school followed by School of Educational Sciences i.e. 10 (19.61%). Out of 06
faculties from School of Media studies only 05 (9.80%) responses were received. Whereas, out of 2 faculties only 01 i.e. 1.96% response received by School of Fine and Performing Arts, as only one faculty member is currently working in the same school. Overall good number of response was received from each school. (Table No. 5.1 and Figure No. 5.1)

2. It was seen that male faculties are more in number than the female faculties among the six different schools viz. SCMS, SES, SFPA, SLLCS, SMS and SSS under study. Altogether, 54 faculty members were presently working in these Schools and 51 (94.14%) response was received. Out of the 51 faculties, 40 (i.e. 78.44%) are males and 11 (i.e. 21.56%) are females. It depicts that Majority of male faculty members were working in the six different Schools under study. (Table No. 5.2 and Figure No. 5.2)

3. It was found that majority of the faculties are on the position of Assistant Professors i.e. 25 (49.01%), this is followed by Associate Professors i.e. 10 (19.61%). Only 6 (11.76%) faculty members were having Professors position, followed by 5 (9.81%) having Assistant Professors (Contractual) position and 3 (5.89%) Research Associates working within the schools under study and only 2 (3.92%) are holds the other position i.e. Training & placement officer and Producer. The mean value is 2.90 and Standard deviation is 1.171 with skewness of .587. (Table No. 5.3 and Figure No. 5.3)

4. It can be seen that majority of the faculties i.e. 22 (43.14%) from above 40 age group and occupied Professor’s position in the school, followed by 35-40 age group with 14 (27.45%) and 31-35 age group with 11 (21.57%). Only 4 (7.84%) respondents are from below 30 age group and they occupied Research associates position. It also revealed from this table that highest number of faculties belongs to Above 40 age group which having more than 20 years of professional experience in teaching and research activities. The mean value is 3.06 and Standard deviation is .988 with skewness of -.639. (Table No. 5.4 and Figure No. 5.4)
5. It reveals that maximum number of faculties i.e. 16 (31.37%) having 5-10 years professional experience followed by 13 (25.49%) having more than 20 years experience. Whereas, 12 (23.53%) faculties were working since less than 5 years and 10 (19.61%) faculties were having between 11-20 years of experience. The mean value is 2.47 and Standard deviation is 1.120 with skewness of .121. It revealed that majority of faculty members’ i.e.16 having 5 to 10 years of professional experience in the university during the period of study. *(Table No. 5.5 and Figure No. 5.5)*

6. It depicts that majority of the respondents i.e. 50 (24.4%) opted purpose of information need is the main factor governed to information search, followed by time availability with 47 (22.9%) and facility availability with 43 (21.0%). While 40 (19.5%) respondents selected resource availability factor and only 25 (12.2%) faculties chosen other factors. The mean value is 2.771 and Standard deviation is 1.351 with skewness of .123. It reveals that purpose of information need is the most desirable factor for their information search. *(Table No. 5.6 and Figure No. 5.6)*

7. It can be seen that E-mail is the most popular channel of communication preferred by the faculties with 44 (26.5%) followed by Mobile phones with 39 (23.5%) and social media sites with 31 (18.7%). The mean value comes out to be 2.921 and Standard deviation is 1.537 with skewness of .254. This is because increasing use of Mobile phones and Social media sites gives platform to the professionals to share their ideas and update their knowledge and it seems to be more convenient channel of communication as it is the fastest communication channel and takes less time as compare to Telephone with 20 i.e. 12.0% and other communication channels used by only 9 (5.4%) respondents. *(Table No. 5.7 and Figure 5.7)*

8. It seems that majority i.e. 20 faculties visited University Library occasionally with (39.2%), followed by 15 faculties visited twice in a week with (29.4%) and 13 faculties visited Once in a week with (25.5%). Further only 2 (3.9%) responses received for daily visit to library and 1 (2.0%) response was received for never visited university library. The mean value comes out to be
3.098 and Standard deviation is .944 with skewness of -.350. Hence, it is clear that faculties very occasionally visited the library as they were not much satisfied with the university library facilities. (Table No. 5.8 and Figure No. 5.8)

9. It was found that department is one among the foremost priority place to access e-resources by faculty members with 47 (52.8%), followed by residence with 18 (20.2%) and library with 10 (11.2%). Whereas only 9 (10.1%) response was received towards campus browsing centre and only 5 (5.6%) response was received for any others. The mean value is 2.787 and Standard deviation is .971 with skewness of .063. It is evident from this table that Department is the most preferred place to use internet and access e-resources, possibly for the reason of being the most comfortable place without any hassle. (Table No. 5.9 and Figure No. 5.9)

10. Majority of the faculties uses E-resources for teaching purpose i.e. 31 (41.9%), followed by research purpose with 25 (33.8%) and publications with 10 (13.5%). Only 7 (9.5%) faculties are of the view that they used e-resources for self improvement while only 1 (1.4%) opinion about the any other purposes. The mean value is 1.919 and Standard deviation is 1.030 with skewness of 1.015. It is also observed that the availability of e-resources is almost abundant for all the existing disciplines but the infrastructure to use these e-resources is not sufficient and should also be revised as per the requirements. (Table No. 5.10 and Figure No. 5.10)

11. E-books is used by majority of the faculties with 38 (31.9%) followed by 26 (21.8%) make use of E-journals/magazines and While 15 (12.6%) faculties make use of E-reference sources followed by E-thesis & dissertations with 14 (11.8%). Only 9 (7.6%) faculties used Abstracting & indexing data and 8 (6.7%) faculties make use of E-learning reports. Thus, only 6 (5.0%) faculties used Library portals followed by 3 (2.5%) faculties used any other sources. The mean value comes out to be 3.303 and Standard deviation is 3.303 with skewness of .402. It can be inferred from this table that only the well-known e-
resources are preferably used by the Faculty members and the rest of the e-resources are comparatively less used. (Table No. 5.11 and Figure No. 5.11)

12. Maximum number of the respondents i.e. 35 (34.0%) gives preference to access online journals from publisher websites, followed by Consortia provider websites with 22 (21.4%) and library websites with 18 (17.5%). Aggregators/Vendors sites received 13 (12.6%) and directories received 12 (11.7%) responses. Only 3 (2.9%) respondents preferred any other sites to access online journals. The mean value is 2.757 and Standard deviation is 1.361 with skewness of .595. It is evident that majority of the respondents make use of Google search and Yahoo search to get any kind of information due to lack of knowledge about availability of e-resources from different sites. (Table No. 5.12 and Figure No. 5.12)

13. A huge amount of i.e. 36 (36.7%) response was received by the faculties to they are in need of training by Computer professionals followed by subject expert with 28 (28.6%) and 17 (17.3%) faculties opined that they need training by library staff. Due to the insincere exertions of the universities less awareness among faculties observed regarding the availability and use of e-Resources. Similarly, 14 (14.3%) respondents opined that they needed training programme from combination of above all three. Only 3 (3.1%) responded that no training is required to access these e-resources at their counterparts. The mean value comes out to be 2.571, Std. Deviation is 1.035 and Skewness is seen .146. (Table No. 5.13; Table No. 5.13 (a) and Figure No. 5.13)

14. It was observed that majority of the faculties belongs to urban society with 33 (64.7%), followed by semi-urban with 13 (25.5%) and only 5 (9.8%) faculties from the rural area. The mean value comes out to be 2.157 and Standard deviation is .579 and skewness is seen -.008. It further studied cross-tabulation with motivational factor to know, does motivational factors varies on place of residence. (Table No. 5.14 and Figure No. 5.14)

15. It was seen that maximum faculties belongs to joint family with 27 (52.9%) followed by nuclear family with 24 (47.1). The mean value is 1.529 and
Standard deviation is .504 and skewness is seen -.121. It further studied cross-tabulation with motivational factor to know does motivational factor varies on types of family. (Table No. 5.15 and Figure No. 5.15)

16. It was found that majority of the faculties i.e. 25 (29.8%) highlighted academic rank as the most crucial factors amongst the other seven factors which affected on research activity followed by Awards and rewards factor with 16 (19.0%) and salary with 15(17.9%). Whereas, 13 (15.5%) respondents opted to family support followed by Self confidence factor with 10 (11.9%) and least response was received to organizational culture with only 5 (6.0%). While, Table No. 5.16 (a) shows the Descriptive Statistics for the same wherein, the mean value comes out to be 2.845, Std. Deviation is 1.690 and Skewness is seen .263. It reflects that different motivational factors motivate faculties to write and it depends on person to person. (Table No. 5.16; Table No. 5.16 (a) and Figure No. 5.16)

17. It reveals that easy access to IT is the most important and significant factor with 27 (38.6%) response was received for it, followed by introducing new IT tools and it was most preferably used for teaching purpose with 24 (31.6%) and 22 (28.9%) respectively. Thus, only 3 i.e. 3.9% respondents suggested there is need of information literacy skills and training programmes should be arranged for easy access to IT. The mean value comes out to be 2.145, Std. Deviation is .890 and Skewness is seen .058. (Table No. 5.17; Table No. 5.17 (a) and Figure No. 5.17)

6.2.2 FINDINGS BASED ON RESEARCH PRODUCTIVITY

18. It was seen that out of 54 Faculty members among six different schools, the highest number of response was received from School of Commerce & Management Sciences (SCMS) with 12 i.e. (22.22%) followed by School of Languages, Literature & Cultural studies with 11 i.e. (20.37%) response and School of Social Sciences (SSS) with 9 i.e. (16.67%) response. Further, 8 (14.81%) response was received from School of Educational Sciences (SES) followed by School of Media Studies with 4 i.e. (7.41%) response was
received and only 1 faculty member currently working in the School of Fine & Performing Arts (SFPA) hence, 1.85% response was received. (Table No. 5.18 and Figure No. 5.18)

19. It was found that out of 45 core faculty members 36 are male faculties and 9 are female, of which 36 male faculties published 741 research papers with (77.75%) and 9 female faculties published 212 research papers with (22.25%). It reveals that Female faculty members produce less number of publications than male faculties. (Table No. 5.19 and Figure No. 5.19)

20. It revealed that out of 953 research publications the school of Commerce & Management Sciences is top with 298 publications, which was 31.27% of the total contributions. The second rank is to the School of Educational sciences with 223 i.e. 23.40% publications. This is followed by School of Languages, Literature & Cultural studies with 177 i.e. 18.57% and School of Social sciences with 147 i.e. (15.42%). The less number of research publications is brought out by the School of Media studies with 108 i.e. (11.34%). While, School of Fine and Performing arts not having single output, however the reason behind this is that only one faculty is there and this school is moreover engaged with the Performing arts, dramas plays etc. however, least focus given on theoretical research by faculty. (Table No. 5.20 and Figure No. 5.20)

21. It was observed that out of 45 faculties majority of the research outputs are from School of Commerce & Management Sciences which contributed to total 298 (31.27%) outputs, wherein 10 male faculties contributed 228 (23.92%) publications and 2 female faculties contributed 70 (7.35%) publications. This is followed by School of Educational Sciences contributed total 223 (23.40%) outputs, whereas 6 male faculties contributed 156(16.37%) publications and 2 female faculties contributed 67 (7.03%) publications and Languages, Literature & Cultural Studies contributed 177 (18.57%) outputs, whereas 8 male faculties contributed 140(14.69%) publications and 3 female faculties contributed 37 (3.88%) publications. School of Social Sciences contributed 147 (15.42%) outputs; whereas 7 male faculties contributed 109 (11.44%)
publications and 2 female faculties having 38 (3.99%) publications on their credit followed by School of Media studies contributed 108 (11.33%) outputs by male faculties. While, only one faculty of School of Fine & Performing Arts contributed zero outputs on credit. (Table No. 5.21 and Figure No. 5.21)

22. It was observed that majority of the contributions was made by Assistant Professors with 536 (56.24%) followed by Associate Professors with 196 (20.57%) contributions and Professors with 175 (18.36%) contributions. In contrast to this only 32 (3.36%) contributions was made by Assistant Professors on CHB and 14 (1.47%) by others. It seems to be that younger faculties are more likely to contribute in research activities to granting of promotion under Career Advancement Scheme of 6th pay. (Table No. 5.22 and Figure No. 5.22)

23. It depicts that the highest number of research publications were in the year 2012 with 233 (24.45%), followed by 2013 with 219 (22.98%) and 2014 with 190 (19.94%) followed by 2011 with 157 (16.47%). While 102 (10.70%) research outputs seen in the year 2010 and the minimum number of articles were published in the year 2009 with 52 (5.46%). It shows a tendency of steady increase in the number of publications per year and research output has almost doubled in the year 2012 and 2013 as compared to earlier years. (Table No. 5.23 and Figure No. 5.23)

24. It was revealed that maximum number with 343 (35.99%) publications are in the Conference/Seminar proceedings, followed by 315 (33.06%) publications are in the Journal articles and Workshops with 191 (20.04%) followed by Books/Book chapters with 104 (10.91%). The study shows that majority faculty members were likely to publish their work in the Conference/Seminar proceedings followed by Journal articles; it may be reviewed or peer-reviewed. It also depicts that publication in published book or Book chapter is less by faculty members, it may be because of the publishing a book is lengthy and time consuming task. (Table No. 5.24 and Figure No. 5.24)
25. It can be seen that out of 315 journals articles, International Journal World's Genius is the most preferred journal by the School of Educational Sciences faculties with 16 (5.08) articles on the 1st position, followed by International journal of Academic and education with 15 (4.76%) articles on IIrd position, and Patron with 13 (4.13%) articles on the IIIrd position. International Journal of Management & Economics with 11 (3.49) articles is on IVth position. Further, Asian Journal of Management Science and Variorum multi-disciplinary e-research journal with 10 (3.17%) articles is on the Vth position and so on. It may be revealed that the authors are more likely to publish their work in different journals with their area of Specialization. (Table No. 5.25 and Figure No. 5.25)

26. The total numbers of 315 Journal articles were separated into 3 equal zones with 105, while numbers of authors writing similar number of papers in each zone were in the ratio of 10: 47: 142. This indicates that the data verbally not fits into the Bradford’s law of scattering while, the data set of overall Journal articles with number of authors graphically fit into the Bradford’s law of scattering. (Table No. 5.26 and Figure No. 5.26)

27. In the 06 years of period, the single authored publications are higher with 589 (77.30%) publications followed by two authors i.e. 128 (16.80%) and 32 (4.20%) contributions was made by three authors respectively and only 13 (1.70%) contributions was made by more than three authors. As compared to multi-authorship with only 173 (22.70%) single authorship with 589 (77.30%) was seen to be predominant. The analysis reveals that more number of authors desires to write separately, as solo research trend is increasing than collaborative research among the faculties. (Table No. 5.27 and Figure No. 5.27)

28. It was seen that out of 762 research publications during 2009 to 2014, there were 589 (77.30%) articles written by single authors, 128 (16.80%) belonged to two-authored, 32 (4.20%) articles by three authors and very less i.e. only 13(1.70%) articles were written by more than three authors. While, only 173
(22.70%) articles written by co-authors or multiple authors. It reveals that collaborative research was least preferred by the faculties. **(Table No. 5.28 and Figure No. 5.28)**

29. It reveals that collaborative research was least preferred by the faculties. The mean value of group co-efficient ($g^p$) was only 0.203 while, DC= Degree of Collaboration is seen 0.228. **(Table No. 5.29 and Figure No. 5.29)**

30. The degree of author collaboration is calculated and it varies from 0.31 to 0.16 during 2009-2014 and the total is found 1.37%. The mean value i.e. $C =$ Degree of author collaboration is found to be 0.228. Therefore, the extent collaborations were not much popular among the faculties under study as the degree of collaboration among the co-authors was very lowest and the authors prefer to work separately as solo research. **(Table No. 5.30 and Figure No. 5.30)**

31. The Relative Growth Rate [$R(P)$] and Doubling Time [$Dt (P)$] of publications. It has been observed that Relative Growth Rate of publication [$R (P)$] decreased from the rate 1.04 in 2010 to 0.22 in 2014. The mean Relative Growth for the six years (i.e. 2009 to 2014) showed a growth rate of 0.475. The data reveals that Doubling Time [$Dt (P)$] gradually increased from 0.66 in 2009 to 3.15 in 2014. The mean Doubling Time was increased to 1.351 during the last six years (i.e. 2009 to 2014). Thus, as the rate of growth of publication was decreased, the corresponding Doubling Time was increased. **(Table No. 5.31 and Figure No. 5.31)**

32. Dr. Sinku Kumar S. from School of educational Sciences hold Ist position and was the most productive author among the faculties with largest publications i.e. 65 (6.82%) during 2009 to 2014. The second highest position was occupied by Dr. S. D. Pathak, School of Media studies having 43 (4.51%) publications on IIInd position followed by Dr. (Mrs.) V.N. Laturkar School of Commerce & Management having 40 (4.20%) research contributions on IIIrd position and they both preferred Research journals to publish their research work than other media of publications. Further, Dr. (Mrs.) V.N. Patil and Dr.
D. M. Shinde having 39 (4.09%) and 37 (3.88%) contributions on IVth and Vth position respectively. This is followed by Dr. J. V. Joshi and Dr. R. D. Biradar having 33 (3.46%) and 31 (3.25%) contributions each and so on. Thus senior faculties having Doctoral degrees were large no. of research publications on their credits. (Table No. 5.32 and Figure No. 5.32)

6.2.3 FINDINGS RELATING TO HYPOTHESES

In the present study five hypotheses were framed and Descriptive statistics, Chi-square test, ANOVA, T-test was used to testing the hypothesis, all tests were two-tailed with a statistical significance level of 0.05.

33. The chi-square test is administered to test the Hypothesis No. 1 and it depicts that the P-value = 0.044 is less than the assumed value i.e. alpha (α) level = 0.05. Hence, the H₀ is not significant at 0.05 levels of significance and H₁ is significantly valid at 0.05 levels. (Therefore, Null hypothesis (H₀) is rejected & Alternative hypothesis (H₁) is accepted) It is confirmed that Use of Information Technology tools does vary on channels of communication preferred by faculties (H₁). [Table No. 5.33 and Table No. 5.33 (a)]

34. The chi-square test is administered to test the Hypothesis No. 2 and it can be examined that Level of significance (α) = 0.05, P-Value = 0.422 is greater than the alpha (α) level (=5%). Hence, the H₁ is not significant at 0.05 levels of significance and H₀ is significantly valid at 0.05 levels. (Therefore, Null hypothesis (H₀) is accepted & Alternative hypothesis (H₁) is rejected) It means faculty members are not likely to publish their research work in different forms of publications (H₀). [Table 5.34 and Table 5.34(a)]

35. The One-sample test is administered to test the Hypothesis No. 3 and it can be observed that the level of significance (α) = 0.05, P-value = (.000) is less than the alpha value i.e. 0.05%. Hence, the H₀ is not significant at 0.05 levels of significance and H₁ is significantly valid at 0.05 levels. (Therefore, Null hypothesis (H₀) is rejected & Alternative hypothesis (H₁) is accepted) It is
confirmed that Female faculty members produce good number of research outputs than male faculties \( (H_1) \). [Table 5.35 and Table No. 5.35 (a)]

36. The One-sample test is administered to test the Hypothesis No. 4 and it can be seen that the level of significance \( (\alpha) = 0.05 \), P-value = (.000) is less than the alpha value i.e. 0.05\%. Hence, the \( H_0 \) is not significant at 0.05 levels of significance and \( H_1 \) is significantly valid at 0.05 levels. \( \text{Therefore, Null hypothesis (}H_0\text{) is rejected & Alternative hypothesis (}H_1\text{) is accepted} \). It is confirmed that Single authorship is predominant on multi-authorship \( (H_1) \). [Table 5.36; Table 5.36(a) and Table 5.36(b)]

37. The chi-square test is administered to test the Hypothesis No. 5 and it can be revealed that Level of significance \( (\alpha) = 0.05 \), P-Value = 0.207 is greater than the alpha \( (\alpha) \) level (=5\%). Hence, the \( H_1 \) is not significant at 0.05 levels of significance and \( H_0 \) is significantly valid at 0.05 levels. \( \text{Therefore, Null hypothesis (}H_0\text{) is accepted & Alternative hypothesis (}H_1\text{) is rejected} \). It means that a motivational factor does not vary on type of family member \( (H_0) \). [Table No. 5.37 and Table No. 5.37 (a)]

6.2.4 FINDINGS RELATING TO CROSS-TABULATION

The Descriptive and ANOVA- Cross tabulation values were calculated and presented in this section.

38. The probability value \( (.367; .982; .207) \) is higher than the 0.05 critical levels of significance. That does not have any statistical significance. So it is concluded that there is no statistically significant difference in the mean value of age, designation and professional experience with gender of the respondent. [Table No. 5.38 and Table No. 5.38 (a)]

39. The probability value \( (.830; .149; .005; .505) \) is higher than the 0.05 critical levels of significance. That does not have any statistical significance. So it is concluded that there is no statistically significant difference in the mean value of Factors governed for information search, Purpose of use of e-resources, type of e-resources use most and preference to publish research work with
Communication channels used by the respondent. [Table No. 5.39 and Table No. 5.39 (a)]

40. The probability value (.937; .217) is higher than the 0.05 critical levels of significance. That does not have any statistical significance. It means that there is no statistically significant difference in the mean value of place of residence and type of family with motivational factors of the respondents. So it is concluded that there is no correlation among the place of residence, type of family with motivational factors and these are not affects to motivate the respondents to write research papers. [Table No. 5.40 and Table No. 5.40 (a)]

6.3 MAJOR IMPLICATIONS

- There are needs to provide more infrastructural facilities in the universities of Marathwada region by considering the efficiency of Faculty Members on par to the universities of International standards.
- Databases regarding research productivity should be created, maintained and made available to the faculty members as well as to the research scholars.
- The created databases should be digitalized and made available in the in Knowledge resource centers (University libraries) for the sake of easy accessibility by the scholars.
- A constructive environment is to be maintained in the library so that users can avail the library services in optimum way.
- Vibrant functioning of research journal with high Impact factor should be ensured by the university in order to accommodate the publications of scholars and faculty members.
- There are significant difference in productivity between areas of sciences and that there is direct relationship between institutional funding and research productivity. Hence, the government should allocate more funds to improve the research activities.
- Every faculty member should upload their research outputs on the E-databases such as, Web of Science, Scopus etc. in order to calculate the H-index, g-index, i-index of the individual faculty members.
6.4 AREAS FOR FURTHER STUDIES

- Similar studies can be carried out for the affiliated colleges of SRTM University and other universities in Maharashtra state as well as other State and Central Universities across the country.
- A study of similar title can be carried out by making a comparison of two or more Universities at state, national & international level.

6.5 CONCLUSIONS

The present bibliometric study was taken to evaluate the research performance of the faculties from six different Schools of SRTM University, Nanded during 2009 to 2014. Overall we can see the progressive side of the research output, and hope this trend is similar to other academic faculties across the country. Though this study have some limitations in analyzing the bibliometric study to its execution, still this study definitely have been left with better and broader understanding about the trend in research productivity in universities of Marathwada region. The present study put down here scope for other research scholars to bring this topic for further research by taking similar analysis with the better and in-depth outputs. This study has proven to be valuable tool in the measurement of research performance of faculty members and will be helpful for Scientists, Academic faculty members, Research Scholars and Library professionals. It also inspires academics towards hard work, fills the gaps of previous researches, and creates an opportunity for future research.

This chapter will be followed by Bibliography & Appendices.