

PRINT VERSUS DIGITAL MEDIA - TEACHERS PERSPECTIVE

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ABSTARCT

Now-a-days information is also available in digital form. Readers are rapidly moving towards digital media. It seems that the reading of digital media would supersede the print media. This situation has raised several questions regarding sustainability of print media or it will be overridden by the digital media. This study covers the different factors effecting the reading habits in regard to the format of document Print v/s Digital i.e., Length of reading material, purpose or nature of the reading, ICT skills of user, Availability of internet connection, structure of reading material, Information (current v/s archives), reader's nature or reading habits of different readers. This study also tried to understand the advantages of print version over digital version and vice versa. This study based on simple hypothesis i.e. "There is no significant effect of digital media over print media". A descriptive research methodology has been adopted and to suffice the method and research question, a Structured Questionnaire survey has been used to collect Primary Data. Total 840 Questionnaires were distributed among teachers of 42 engineering colleges of Indore and in response 702 have been received. The questionnaires have been prepared using likert scale so that, the intensity of acceptance for an option can be expressed. This study also presents its finding and some suggestions in regards to control the situation. Although the study concludes that the digital media is overriding print media but it can not replace print media completely.

Key Words: Print Media, Digital Media,

INTRODUCTION

In the present century information is also available in digital form viz. gray literature, e-books, e-journals, e-database, e-newspaper, e-dictionary, e-encyclopedia, e-dissertation, etc. Many readers find it easy to access digital material extent. Some times it seems that the reading of digital materials would super ride over the print materials. This has become a matter of concern for the scholars and they propagate that print media is better medium for communication but some of them opine that the electronic media dominates the communications genre.No one is opposing the existence of digital media and its reach; but this is also an important fact that print too is as much important. Like every era had its media, print had ruled from ages and will continue to rule. Digital and physical media complement each other perfectly. Physical media will matter more, not less, when our lives are dominated by the digital. The teachers are the creator of generation and contribute more to the society than any other any profession. So it was considered that the teachers can easily reply or express their verdict about the important of print media and digital media, because they are with these media in their day to day personal and professional world.

PROBLEM STATEMENT:

In an age of information explosion information is growing very rapidly. A Lot of material is being published in digital format like CDs, DVDs, Interne and in form of gray literature, E-e-journals, E-books, E-dissertation, E-conference

proceedings, E-Articles, etc. Parallel to same material in print format is also growing in great speed comparatively. This situation has raised a question would the printed material sustain its important same as earlier period? Would this situation also affect the reading habits of users? Would digital version super ride over print? Would importance of print remain or will it be more popular be more popular amongst readers than digital version? Would Importance of print remain same and will digital play a supporting role same as today which of these two will be preferred and sustained in the future? Or will they both end up as being equally important? Will the short term information seekers prefer digital information and the descriptive or deep seekers of knowledge prefer print version. Would both gain equal importance in future, for specific short length information readers prefer digital information and for descriptive information or for deep knowledge readers would prefer print version?

Keeping in view to find an appropriate answer to the above stated questions, a survey was conducted amongst the teachers of Engineering Colleges. This study is aimed to provide an understanding to the present/future reading habits of teachers in engineering colleges of Indore and to those scholars who wish to conduct future researches in this area.

RESEARCH QUESTIONS

A sample of the questionnaire provided to find out results about the preferences of the teachers towards print media or digital media are as follows:

- R.Q. 1 = There is no significant inclination towards on Print Media or Digital Media in reading.
- R.Q. 2 = There is no significant preference in terms of media for preparing notes and lectures
- R.Q. 3 = There is no significant preference in terms of media for guiding research scholars.
- R.Q. 4 = There is no significant preference in terms of media for their own research
- R.Q. 5 = There is no significant preference in terms of media for searching research topics
- R.Q. 6 = There is no significant preference in terms of media for literature search
- R.Q. 7 = There is no significant preference in terms of media for preparing assignments.
- R.Q. 8 = There is no significant preference in terms of media for setting up examination papers
- R.Q. 9 = There is no significant difference between PRM and DRM in seeking information
- R.Q. 10 = There is no significant relationship between PM and DM in terms of cost
- R.Q. 11 = There is no significant advantage of both version over each other
- R.Q. 12 = Digital Media version would not supersede Print Media.

OBJECTIVE OF THE STUDY

The purpose of this research is to seek through a scientific procedure in exploring the reading habits and its future in context of Print /Digital Media. The following objectives were created:-

1. To find out on an average how much time teachers spend in a week for reading.

2. To understand on an average out of the time of total reading how much time teachers spend on their subject of interest and on General reading?
3. To understand on an average out of the time of total subject reading how much time teachers spend for preparing their teaching notes and lectures, for research works and for guiding their research scholars?
4. To understand on what means they uses internet and digital reading materials and where they have availability to paid digital resources?
5. To know the level of their comfort regarding ICT skills.
6. To understand their reading habits in regard to Digital and printed version of printed materials.
7. To understand out of the total reading time, how much time they spend in reading printed and digital materials.
8. To analyze the proportion of printed materials and digital materials they use for preparing their notes & lectures, for guiding research scholars, for answering the queries or doubts of Students, for guiding research scholars, for preparing Assignments, for setting up examination papers.
9. To analyze their preference to printed and digital materials if, the material is available in both medium.
10. To analyze their preference to printed and digital materials with special reference to information and descriptive information.
11. To analyze their preference to printed and digital materials with special reference to current / latest information and archives / old information.
12. To understand their capacity to read the digital reading materials on screen / monitor.
13. To understand whether they read directly on screen or take a print outs to read digital materials.
14. To analyze their habit of purchasing printed materials if the material is also available in digital format with special reference to comparative costs.
15. To analyze their habit of purchasing printed materials if the material is also available in digital format with special reference to time consumption in print.
16. To analyze their acceptance to advantages of Digital version over Print and advantages of Print version over Digital.
17. To analyze the future of their reading habits in regard to Print v/s Digital.

LITERATURE REVIEW

The rationale of the study has been developed with the help of following literature:-

- “Lisa Rasey Dr. and David Koppenhaver¹” In this study authors have discussed about Research on personal reading habits of teachers, Impact on instructional practices, Impact on student motivation, Implications for the future, and given an Annotated bibliography of some articles which have provided me abstracts of those articles and helped me a lot in deciding the questions for my questionnaire.
- “Dr. Eric J. Simon ²” Electronic Textbooks: A Pilot Study of Student E-Reading Habits. This is a very good case study made by the author himself. This study was conducted at Fordham College at Lincoln Center, located in midtown Manhattan, in 2000. The student body in general, and the participants in this study in particular, contained roughly equal numbers of traditional, full-time and non-traditional, part-time students spanning a wide range of age and background. A total of 20 surveys were

completed. This article has promoted me to select this theme for my dissertation.

- Sathe, Grady and Giuse³ this study is based on the impact of e-journals on research processes such as information seeking, the authors conducted a pilot journal-use study to test the hypothesis that patrons use print and electronic journals differently. This study was an introductory step in examining how electronic journals affect research processes. Their data revealed that there were distinct preferences in format among categories. In addition to collection management implications for libraries, these data also have implications for publisher and educators, current electronic formats do not facilitate all types of uses and thus may be changing learning patterns as well.
- Rita Kizito⁴ has conducted a study on learning from print and learning using electronic media. The discussion is based on the way the author's experienced learning from both print and electronic media during a course which was offered by the British Open University in 2002. Using evaluative comments captured during the course, author has attempted to map out the effects both forms of media have on learning interactions. The pedagogic functions of each media type in the same course are highlighted. Implications for designing instruction in a distance learning environment using different media are then finally presented.
- Schuldos⁵ completed a study on future of Print Media and analyzed all possible aspects of Digital Evaluation and how these changes are influencing on Print Media, and he has suggested that the Print Media will not disappear completely but importance of print media will decrease further on.
- A survey⁶ conducted by the IPSOS in the year 2012 in Europe and concluded that Print and Digital Media triumph in areas where the other is lacking. Print media its boon in its tangibility, high level of engagement and superior brand. Print is also considered to have higher creditability as compared to digital media. However, digital media's forte lies in multimedia storytelling, low cost and its wide audience reach.
- Fodor⁷ et.al. conducted a study with the objectives to analyze how consumer habits in print media had changed in consequence of economic events of the past few years and also the influence of the continuous spread of digitalization. Authors have stated that based upon our primary and secondary research it can be concluded that despite the emergence and strengthening of digitalization certain consumers still insist on print media. The dual and parallel consumption of both media can be noticed as for the majority of readers concerned.

RESEARCH METHODOLOGY

- This research observes the reading habits: Print v/s Digital with special reference to teachers of engineering colleges of Indore. For this study a descriptive research methodology was adopted, the study followed survey methods, and in this method a structured questionnaire was formulated. Many research articles have also been reviewed for this study. This research design fall under the category of Descriptive Research Design b/c this study describes accurately characteristics of a group, community of people.

- To fulfilling the purpose of the study, a Structured Questionnaire survey has been used for collecting Primary Data. Total 840 Questionnaires have been distributed among teachers of 42 engineering colleges of Indore (20 Questionnaires in each college). In response to same we have received 702 filled Questionnaires. Thus Response rate is 83.57%. The purpose of the Questionnaire was to obtain data regarding reading habits. Many research articles are also reviewed for secondary data collection. The questionnaire covers different aspects related to the reading habits, i.e., Total Reading on weekly basis, Reading on subject v/s General Reading, Purposes of Reading, Preferences to versions of documents Print v/s Digital, Effect of comparative costs of two versions, Effect of time consumption for procurement of reading materials, Advantages of both version Print v/s Digital. Assumptions for future of reading habits have also been included in the questionnaire. The questionnaires have been prepared using likert scale so that, the intensity of acceptance for an option, could be expressed by variables of the study.
- The data collected through questionnaire has been tabulated to perform statistical analysis (mainly chi square) and been presented in graphs. All research questions have been tested with the help of Chi-Square, because this problem includes two basic variables i.e. Print Media and Digital Media; and some attributes related regarding examining preference between both the medias, because with the help of chi square the inference can be drawn between actual data and the expected data, moreover it can also be drawn regarding existence of a significant difference.
- A Hypothesis is a proposed explanation for an observable phenomenon. For this study a simple hypotheses have been formulated. The Hypotheses framed for this study is given as under:
“There is no significant effect of digital media over print media”
- The scope and limitations of this study can be explained as under:-
 - AICTE approved Engineering Colleges of Indore (MP) India.
 - Faculties of these Engineering Colleges of Indore.
 - Reading habits in terms of Digital Media and Print Media.

ANALYSIS OF DATA

In this survey total 840 questionnaires were distributed among the teachers of engineering colleges out of which 702 teachers returned the filled questionnaire. In this part an analysis of the data is presented in textual, graphical and tabulated forms and all research questions have been tested with χ^2 . The data has been analyzed with appropriate statistical tests.

Institutes and Responses

Table 1

S.No.	Name of Institute	Questionnaire		
		Distributed	Received	Response %
1	Acropolis Institute of Technology and Research, Indore	20	20	100
2	Acropolis Technical Campus, Indore	20	20	100
3	Astral Institute of Technology and Research	20	19	95
4	B.M. College of Technology, Indore	20	6	30
5	Central India Institute of Technology, Indore	20	10	50

6	Chameli Devi Institute of Technology and Management, Indore	20	20	100
7	Crescent college of technology, Indore	20	4	20
8	Indore Institute of Science and Technology – 1	20	17	85
9	Indore Institute of Science and Technology -2	20	20	100
10	Institute of Engineering and Technology, DAVV, Indore	20	11	55
11	Institute of Engineering Science IPS Academy, Indore	20	17	85
12	Jagat Guru Dattatray College of Technology	20	20	100
13	KC Bansal Technical Academy, Indore	20	19	95
14	LAKSHMI NARAYAN COLLEGE OF TECHNOLOGY, Indore	20	20	100
15	Lord Krishna College of Technology, Indore	20	20	100
16	Mahatma Gandhi Institute of Engineering and Management, Indore	20	12	60
17	Malwa Institute of Science and Technology, Indore	20	18	90
18	Malwa Institute of Technology, Indore	20	18	90
19	Mandsaur Institute of Technology, Indore	20	20	100
20	Mathuradevi Institute of Technology and Management, Indore	20	20	100
21	Medicaps Institute of Science and Technology, Indore	20	15	75
22	Medicaps Institute of Technology and Management, Indore	20	18	90
23	Oriental Institute of Science & Technology, Indore	20	20	100
24	Patel College of Science and Technology, Indore	20	20	100
25	Prestige Institute of Engineering & Science, Indore	20	20	100
26	Priyatam Institute of Technology and Management, Indore	20	20	100
27	Rishiraj Institute of Technology, Indore	20	20	100
28	RKDF School of Engineering, Indore	20	12	60
29	Royal College of Technology, Indore	20	5	25
30	Sanghvi Innovative Academy, Indore	20	19	95
31	Sanghvi Institute of Management and Science, Indore	20	20	100
32	SD Bansal College of Technology	20	20	100
33	Shiv Kumar Sing Institute of Technology and Science, Indore	20	20	100
34	Shree Arbindo Institute of Technology, Indore	20	15	75
35	Shree Vaishnav Institute of Technology and Science, Indore	20	20	100
36	Shri Govindram Sekseria Institute of Technology and Science, Indore	20	6	30

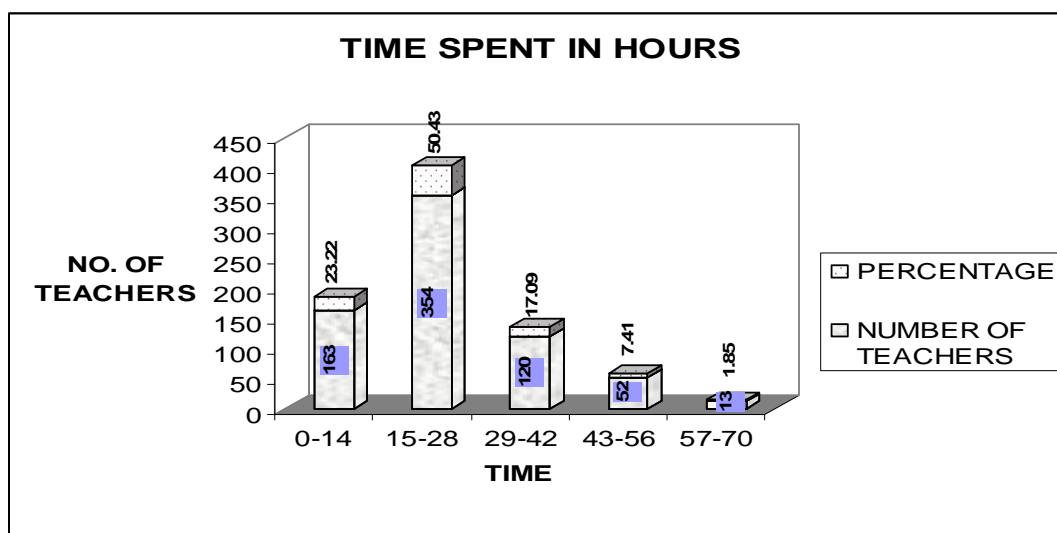
37	Star Academy of Technology and Management, Indore	20	20	100
38	Swami Vivekanand College of Engineering	20	16	80
39	Truba College of Engineering and Technology, Indore	20	20	100
40	Venkteshwar Institute of Technology and Science, Indore	20	20	100
41	Vikrant Institute of Technology and Management	20	10	50
42	Vindhya Institute of Technology and Science, Indore	20	15	75
Total		840	702	83.57

Out of 42 institutes 100% responses have been received from 21 Institutions, 50-99 % responses have been received from 17 Institutions, and less than 50% responses received from 4 institutions only. The average response received was 83.57% which is very good for any user's survey.

Time Spent in a Week

Table 2

Time Spent in Hours	No. of Teachers	Percentage	Statistics
0-14	163	23.22	
15-28	354	50.43	a = 35.5
29-42	120	17.09	
43-56	52	7.41	SD=17.095
57-70	13	1.85	
	702	100.00	



The above table shows about the time spent by the teachers for searching of information in a week, this tables shows that maximum number of respondents i.e. 354 spent between 15 to 28 hours and least respondents i.e. 13 spent between 57-70 hours in a week to search information. The average time spent by the teachers for searching information or for reading is 35.5 hours in a week for

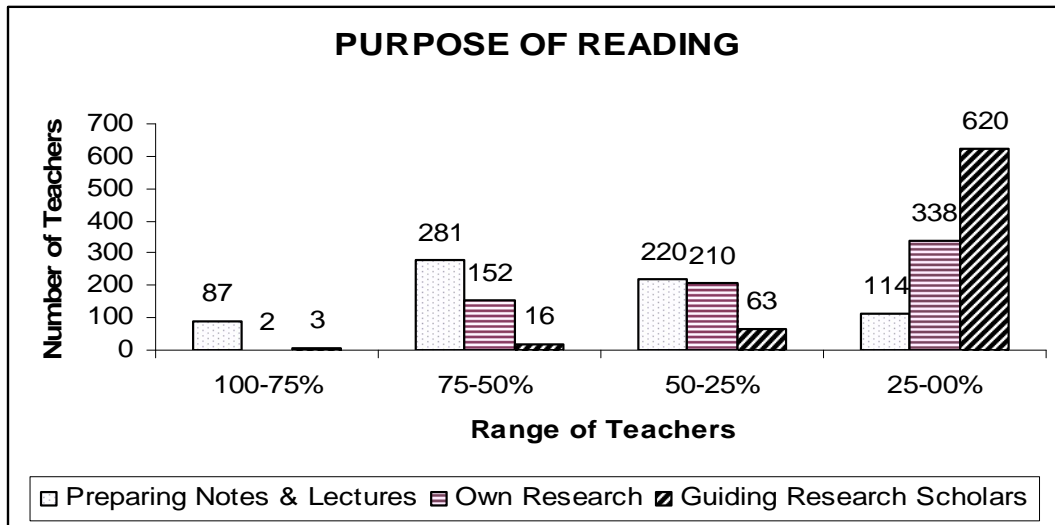
reading regardless of Print / Digital materials with an average reading of 23. 5 hours per week.

Purpose of Reading

Table 3

Purpose of Reading	100-75%	75-50%	50-25%	25-00%
Preparing Notes & Lectures	87	281	220	114
Own Research	2	152	210	338
Guiding Research Scholars	3	16	63	620
Total	92	449	493	1072

The data regarding purpose of reading has been collected in range of percentage, it was found that 100-75% time spent by the 87 teachers for preparing notes and lectures; 75-50% time spent by the 281 teachers for preparing notes and lectures; 50-25% time spent by the 220 teachers for preparing notes and lectures; and 25-00% time spent by the 620 teachers for guiding research scholar. The faculty of engineering college spend their times regardless any particular purpose.

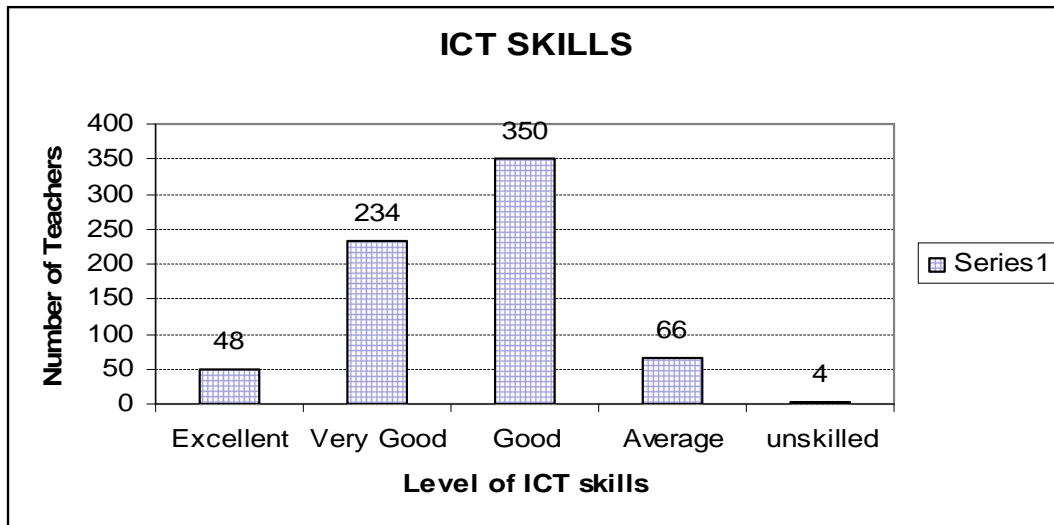


After calculating the collected data it has been observed that, most of the Teachers spend their maximum time for preparing their teaching notes & lectures, lesser time for their own research and least time for guiding their research scholars.

Comfortability with ICT skills

Table 4

Excellent	Very Good	Good	Average	Unskilled
48	234	350	66	4

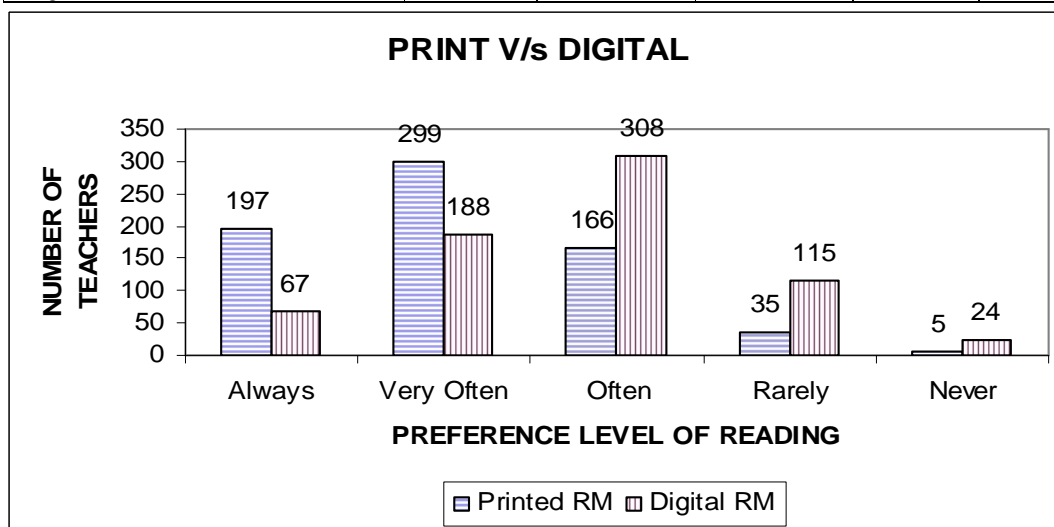


Out of 702 respondents, maximum 350 teachers have expressed that they are having GOOD ICT skills; moderate number of teachers i.e. 234 have expressed that they are having very good ICT skills; and the least teachers i.e. 4 have expressed that they are unskilled (no knowledge about ICT skills).

R.Q. =1 There is no significant inclination towards on Print Media or Digital Media in reading.

Table 5

Printed Vs Digital	Always	Very Often	Often	Rarely	Never
Printed RM	197	299	166	35	5
Digital RM	67	188	308	115	24



Calculated Value of $\chi^2 = 187.96$

Tabulated Value of $\chi^2 = 14.860$

Degree of Freedom = 4

Level of Significance = 0.05

The mode value of the preference towards Printed RM and Digital RM is 299 (i.e. very often) and 308 (often) respectively; and lowest value of both variables are 5

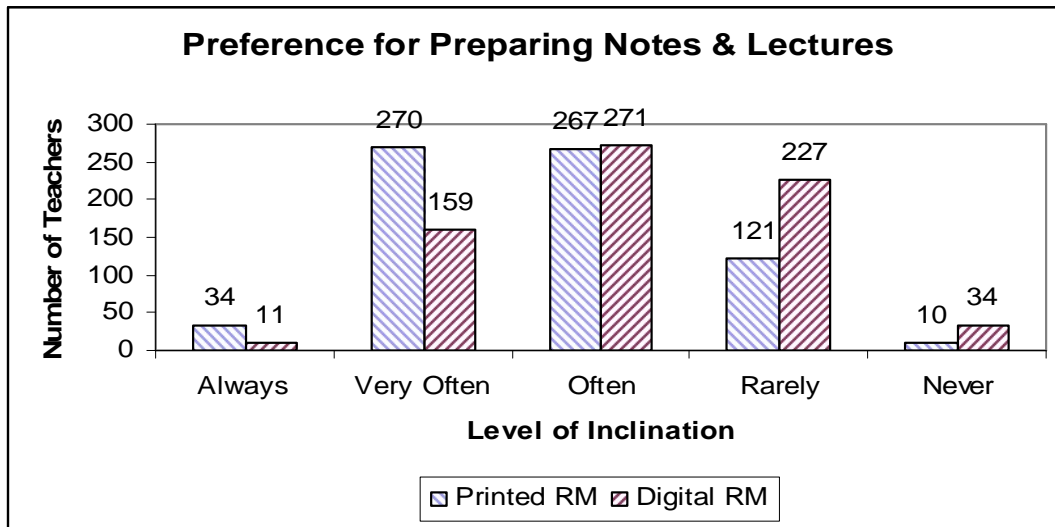
(i.e. never) and 24 (i.e. never) respectively. This also shows that still the printed reading material is being preferred by the faculty of engineering colleges of Indore.

The computed value of Chi Square is 187.96 which exceeds the value in the table for $p = .05$ and degree of freedom = 4 (Chi Square = 14.860). Therefore, the null hypothesis (with a 5% probability of error) found wrong and accept that there is significant preference towards Print Media or Digital Media in reading.

R.Q. 2 = There is no significant preference in terms of media for preparing notes and lectures

Table 6

Printed Vs Digital	Always	Very Often	Often	Rarely	Never
Printed RM	34	270	267	121	10
Digital RM	11	159	271	227	34



Calculated Value of $\chi^2 = 85.88$

Tabulated Value of $\chi^2 = 14.860$

Degree of Freedom = 4

Level of Significance = 0.05

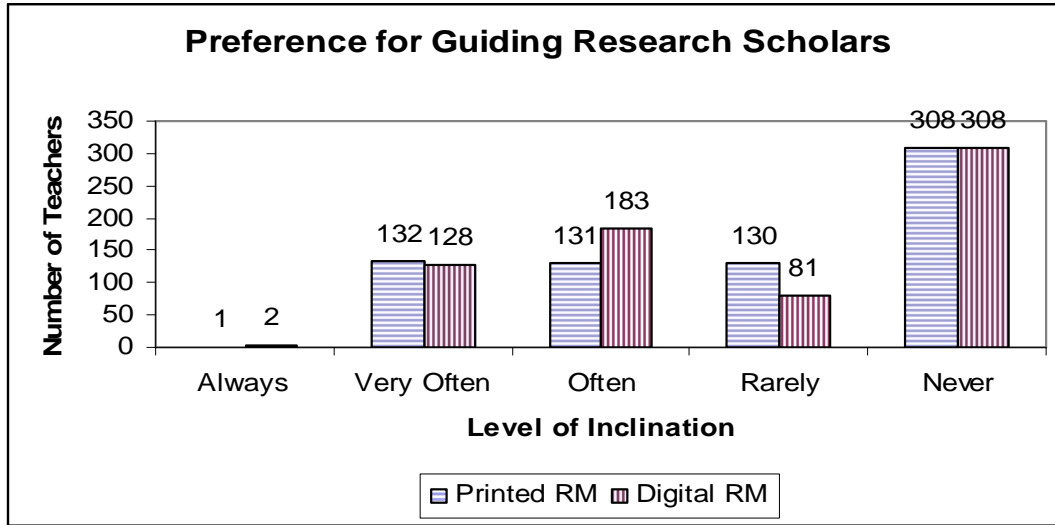
The mode value of the preference towards Printed RM and Digital RM in preparing notes and lectures is 270 (i.e. very often) and 271 (often) respectively; and lowest value of both variables are 10 (i.e. never) and 34 (i.e. never) respectively. This also shows that still the printed reading material is being preferred by the faculty of engineering colleges of Indore.

The computed value of Chi Square is 85.88 which exceeds the value in the table for $p = .05$ and degree of freedom = 4 (Chi Square = 14.860). Therefore, the null hypothesis (with a 5% probability of error) found wrong and, there is a significant difference between the groups we are studying. That is, the difference between actual data and the expected data is probably too great to be attributed to chance. So it can be concluded that our sample supports the hypothesis of a difference.

R.Q. 3 = There is no significant preference in terms of media for guiding research scholars.

Table 7

Printed Vs Digital	Always	Very Often	Often	Rarely	Never
Printed RM	11	132	131	130	298
Digital RM	12	128	183	81	298



Calculated Value of $\chi^2 = 85.88$

Tabulated Value of $\chi^2 = 14.860$

Degree of Freedom = 4

Level of Significance = 0.05

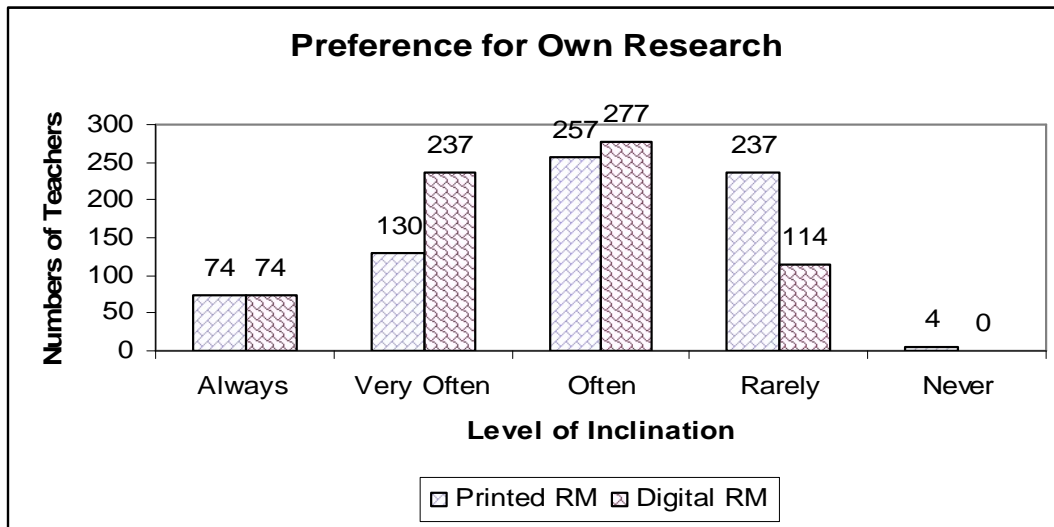
The mode value of the preference towards Printed RM and Digital RM for guiding their research scholars 298 (i.e. never) and 298 (never) respectively; and lowest value of both variables are 11 (i.e. always) and 12 (i.e. always) respectively. This also shows that faculties of engineering college of Indore are not using both the media properly to guide their research scholars.

The computed value of Chi Square is 20.1 which exceeds the value in the table for $p = .05$ and degree of freedom = 4 (Chi Square = 14.860). Therefore, the null hypothesis (with a 5% probability of error) found wrong and, there is a significant difference between the groups. That is, the difference between actual data and the expected data is slightly over the tabulated value which shows that sample supports the hypothesis of a difference up to some extent.

R.Q. 4 = There is no significant preference in terms of media for their own research

Table 8

Printed Vs Digital	Always	Very Often	Often	Rarely	Never
Printed RM	74	130	257	230	11
Digital RM	74	230	270	114	14



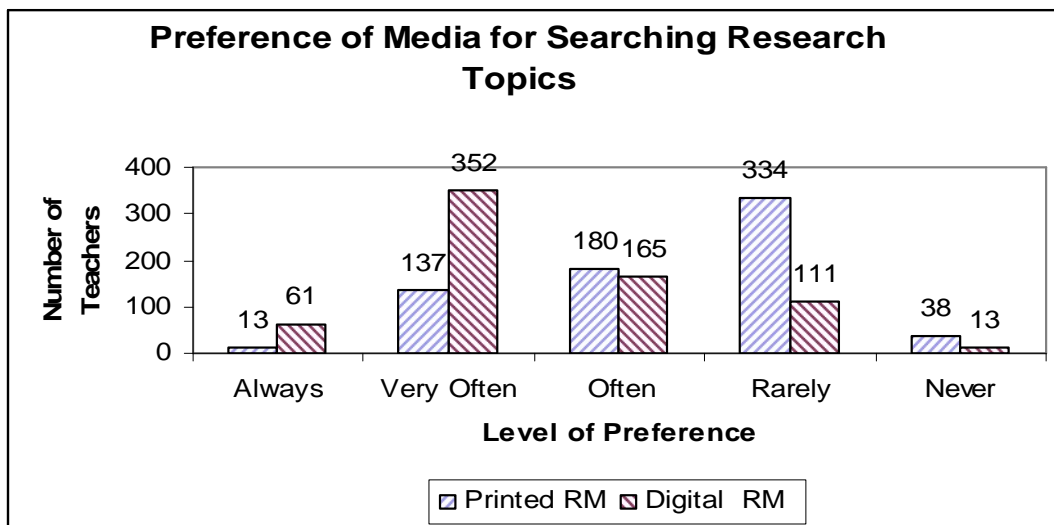
Calculated Value of $\chi^2 = 85.88$
 Tabulated Value of $\chi^2 = 14.860$
 Degree of Freedom = 4
 Level of Significance = 0.05

The computed value of Chi Square is 67.57 which exceeds the value in the table for $p = .05$ and degree of freedom = 4 (Chi Square = 14.860). Consequently, the null hypothesis (with a 5% probability of error) found wrong and, there is a significant difference between the groups. Means teachers are having preference in terms of media for their own research.

R.Q. 5 = There is no significant preference in terms of media for searching research topics

Table 9

Printed Vs Digital	Always	Very Often	Often	Rarely	Never
Printed RM	13	137	180	334	38
Digital RM	61	352	165	111	13



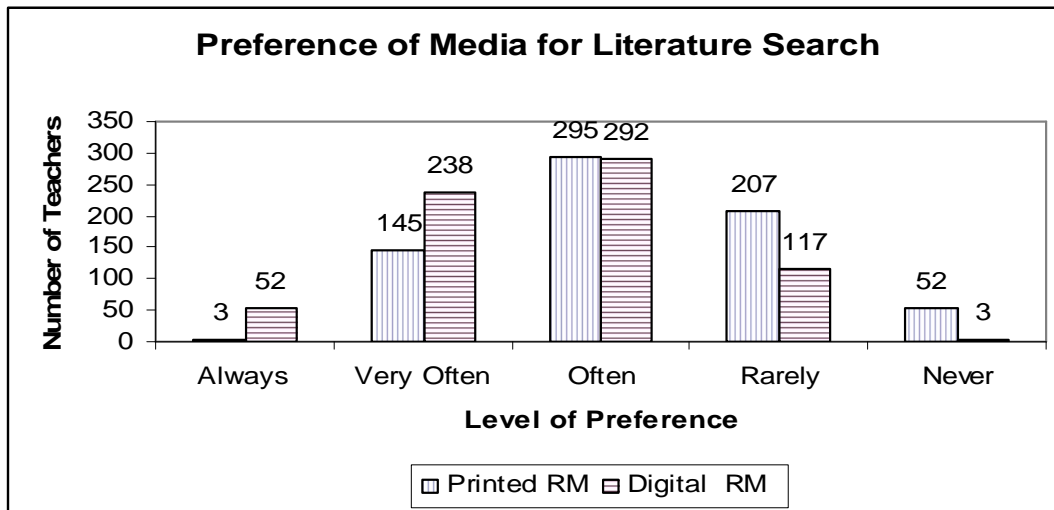
Calculated Value of $\chi^2 = 250.32$
 Tabulated Value of $\chi^2 = 14.860$
 Degree of Freedom = 4
 Level of Significance = 0.05

The computed value of Chi Square is 250.32 that exceeds the value in the table for $p = .05$ and degree of freedom = 4 (Chi Square = 14.860). Consequently, the null hypothesis (with a 5% probability of error) is rejected, because the result shows that there is a significant difference between the groups. Means teachers are having preference in terms of media for their own research.

R.Q. 6 = There is no significant preference in terms of media for literature search

Table 10

Printed Vs Digital	Always	Very Often	Often	Rarely	Never
Printed RM	3	145	295	207	52
Digital RM	52	238	292	117	3



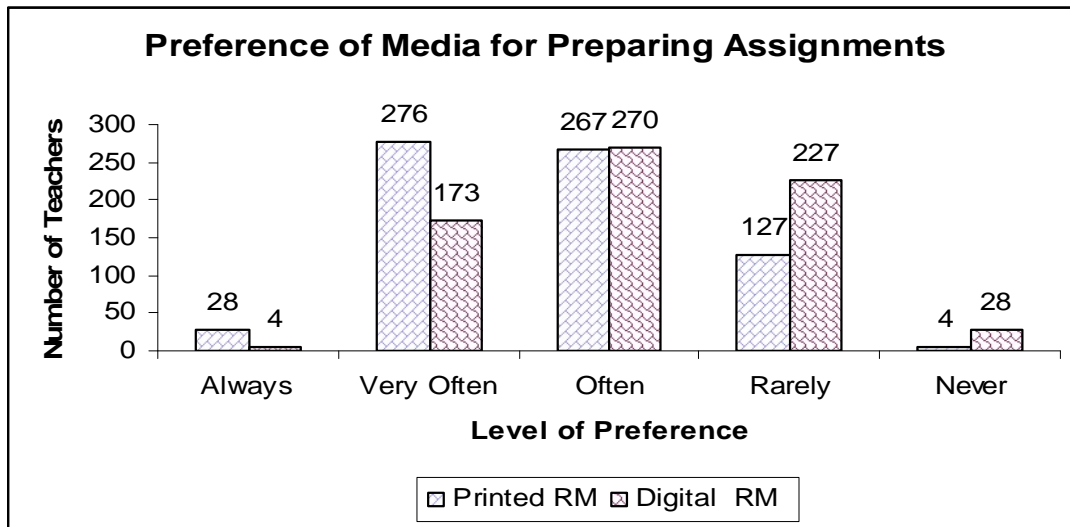
Calculated Value of $\chi^2 = 134.91$
 Tabulated Value of $\chi^2 = 14.860$
 Degree of Freedom = 4
 Level of Significance = 0.05

The computed value of Chi Square is 134.91 that exceeds the tabulated value of chi square (i.e. 14.860) for $p = .05$ and at degree of freedom = 4. Consequently, the null hypothesis is rejected, because the result shows that there is a significant difference between the groups. Means teachers are having preference in terms of media for their literature search.

R.Q. 7 = There is no significant preference in terms of media for preparing assignments.

Table 11

Printed Vs Digital	Always	Very Often	Often	Rarely	Never
Printed RM	28	276	267	127	4
Digital RM	4	173	270	227	28



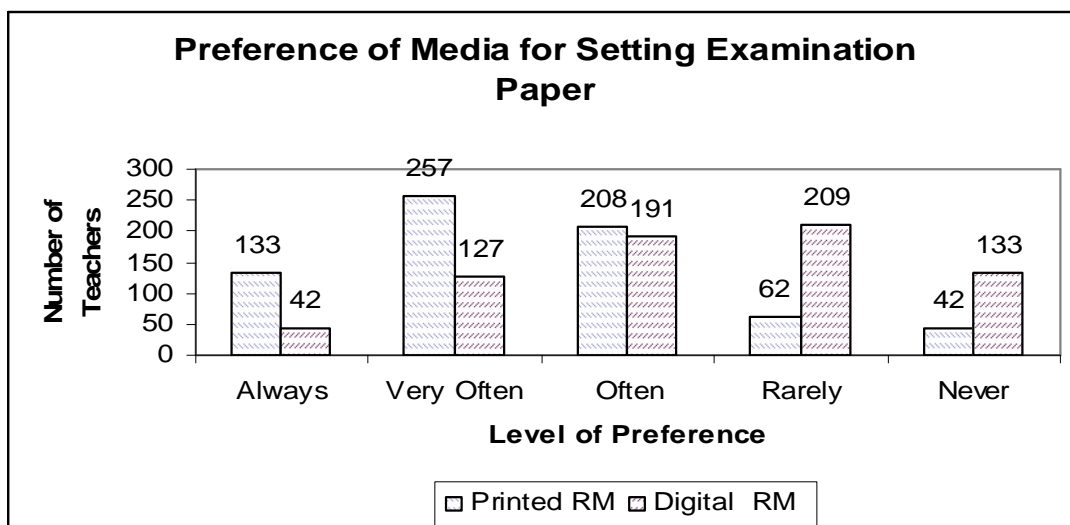
Calculated Value of $\chi^2 = 69.5$
 Tabulated Value of $\chi^2 = 14.860$
 Degree of Freedom = 4
 Level of Significance = 0.05

The computed value of Chi Square is 69.5 that exceeds the tabulated value of chi square (i.e. 14.860) for $p = .05$ and at degree of freedom = 4. Consequently, the null hypothesis is found wrong rejected, because the result shows that there is a significant difference between the variables.

R.Q. 8 = There is no significant preference in terms of media for setting up examination papers?

Table 12

Printed Vs Digital	Always	Very Often	Often	Rarely	Never
Printed RM	133	257	208	62	42
Digital RM	42	127	191	209	133



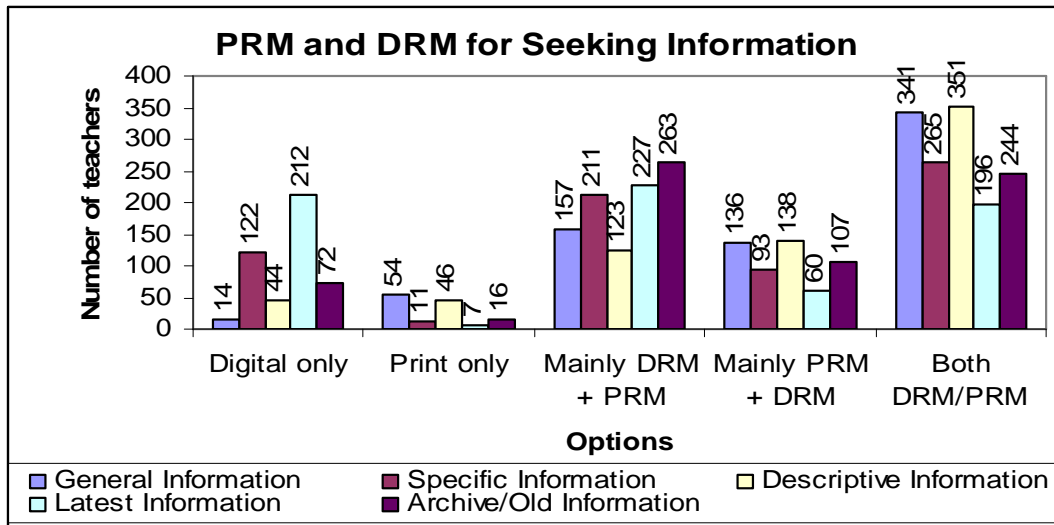
Calculated Value of $\chi^2 = 219.11$
 Tabulated Value of $\chi^2 = 14.860$
 Degree of Freedom = 4
 Level of Significance = 0.05

The computed value of Chi Square is 219.11 which exceeds the value in the table for $p = .05$ and degree of freedom = 4 (Chi Square = 14.860). Therefore, the null hypothesis (with a 5% probability of error) found wrong and, there is a significant difference between the groups. That is, the difference between actual data and the expected data is over the tabulated value which shows that sample supports the hypothesis of a difference up to great extent.

R.Q. 9 = There is no significant difference between PRM and DRM in seeking information

Table 13

Purposes	Digital only	Print only	Mainly DRM+PRM	Mainly PRM+DRM	Both DRM/PRM
General Information	14	54	157	136	341
Specific Information	122	11	211	93	265
Descriptive Information	44	46	123	138	351
Latest Information	212	7	227	60	196
Archive/Old Information	72	16	263	107	244
Total	464	134	981	534	1397



Calculated Value of $\chi^2 = 358.66$
 Tabulated Value of $\chi^2 = 34.267$
 Degree of Freedom = 16
 Level of Significance = 0.05

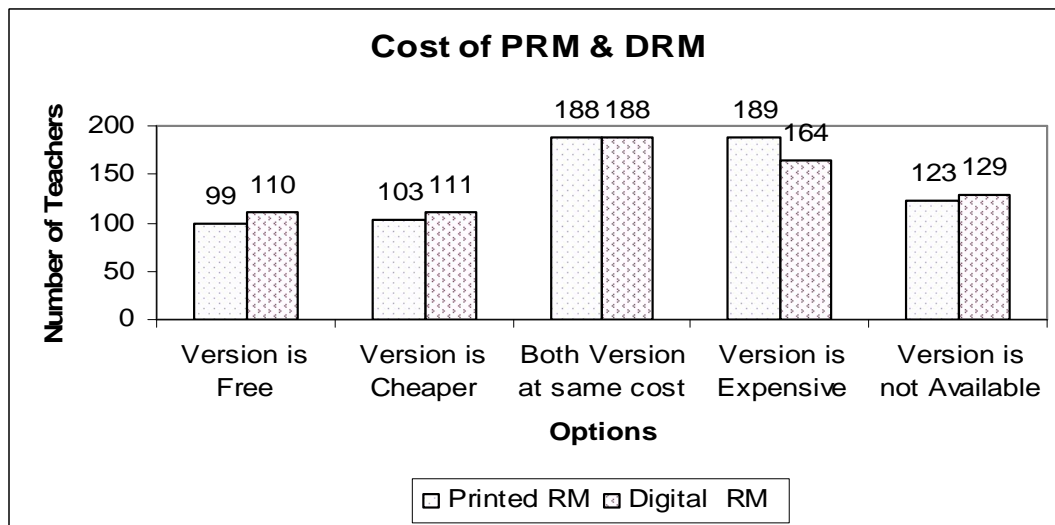
The computed value of Chi Square is 358.66 which exceeds the value in the table for $p = .05$ and degree of freedom = 4 (Chi Square = 14.860). Therefore, the null hypothesis (with a 5% probability of error) found wrong and, there is a significant

difference between the groups. The result of chi square reveals that there is a significant difference in both the media in reference to seeking information.

R.Q. 10 = There is no significant relationship between PM and DM in terms of cost.

Table 14

Version	Version is Free	Version is Cheaper	Both at same cost	Version is Expensive	Version is not Available
Printed RM	99	103	188	189	123
Digital RM	110	111	188	164	129



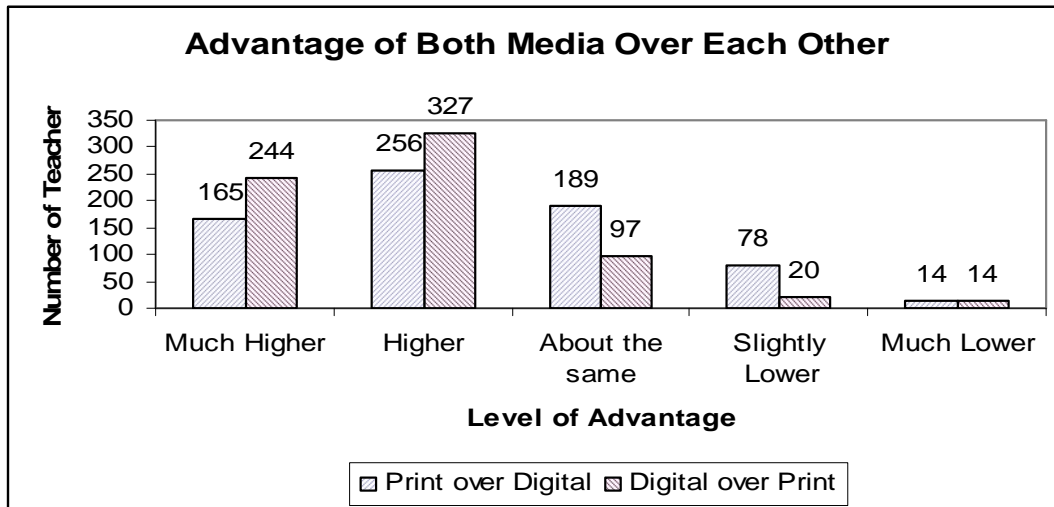
Calculated Value of $\chi^2 = 2.79$
 Tabulated Value of $\chi^2 = 14.86$
 Degree of Freedom = 4
 Level of Significance = 0.05

The computed value of Chi Square is 2.79 which is less than the tabulated value of chi square (i.e. 14.86) for $p = .05$ and at degree of freedom = 4. Therefore, the null hypothesis found correct, the result shows that there is no significant relationship between both the media in terms of cost.

R.Q. 11 = There is no significant advantage of both versions over each other

Table 15

Advantages	Much Higher	Higher	About the same	Slightly Lower	Much Lower
Print over Digital	165	256	189	78	14
Digital over Print	244	327	97	20	14



Calculated Value of $\chi^2 = 87.83$

Tabulated Value of $\chi^2 = 14.860$

Degree of Freedom = 4

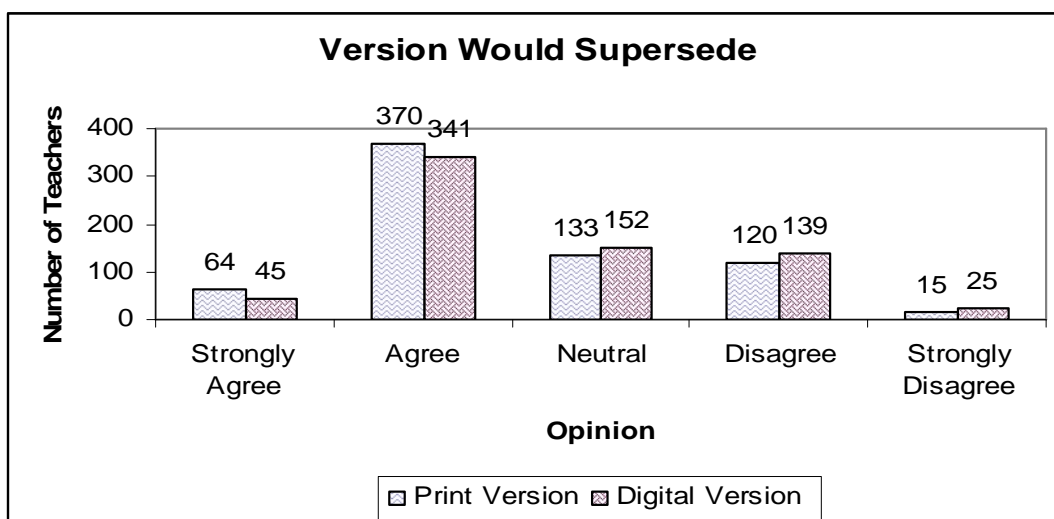
Level of Significance = 0.05

The Chi-square value (i.e. 87.83) is greater than the critical value (i.e. 14.86), which shows that there is a significant difference between the medias. That is, the difference between actual data and the expected data (that assumes the groups aren't different) is probably too great to be attributed to chance. So we conclude that sample supports the hypothesis of a difference.

R.Q. 12 = Digital Media version would not supersede Print Media.

Table 16

Version	would	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Print Version		64	370	133	120	15
Digital Version		45	341	152	139	25



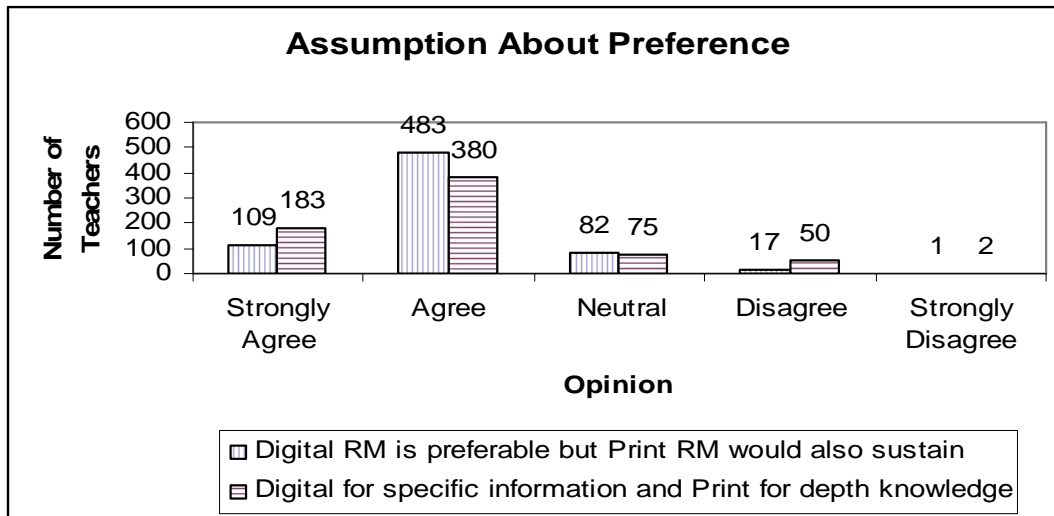
Calculated Value of $\chi^2 = 9.66$
 Tabulated Value of $\chi^2 = 14.860$
 Degree of Freedom = 4
 Level of Significance = 0.05

The computed value of Chi Square is 9.66 which is less than the tabulated value of chi square (i.e. 14.86) for $p = .05$ and at degree of freedom = 4. Therefore, the null hypothesis is found correct, the result shows that the digital media will take place of print media up to a great extent.

R.Q. 13 = There is no significant assumption involved in preference of Digital Media.

Table 17

Assumption about Preference	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Digital RM is preferable but Print RM would also sustain	109	483	82	17	1
Digital for specific information and Print for depth knowledge	183	380	75	50	2



Calculated Value of $\chi^2 = 250.32$
 Tabulated Value of $\chi^2 = 47.97$
 Degree of Freedom = 4
 Level of Significance = 0.05

The 592 teachers consider that Digital reading Material is preferable but Print reading Material would also sustain, and 563 teachers reflected that Digital reading Material is good for specific information and Print Reading Material is good for in depth knowledge of the subject. This opinion shows that teachers are having preference towards digital media over print media. The computed value of Chi Square is 250 which is less than the tabulated value of chi square (i.e. 47.97)

for $p = .05$ and at degree of freedom = 4. Therefore, the null hypothesis found correct.

FINDINGS

The findings of the above analysis are as under:-

- For this study total 42 Engineering colleges were taken into consideration and 20 questionnaires have been distributed in all selected colleges. 100% responses have been received from 21 Institutions, 50-99 % responses were from 17 Institutions, and less than 50% responses received from 4 institutions only. The average response received is 83.57% which is quiet good for any user's survey.
- On an average Teacher spend 15-28 hours in a week for reading regardless of Print / Digital materials with a reading habit of 35. 5 hours per week.
- The data shows that teachers use their maximum time for preparing notes and lectures and least time for guiding researches. It can be said that teachers prefer or actively use both medias for preparing notes and lectures.
- 632 teachers had excellent/very good and good command over ICT skills and 70 teachers had average or no ICT skills others had good ICT skills..
- The data reveals that 640 teachers prefer Digital Media for their reading and 573 teachers prefer Print Media for their reading. Therefore it shows that teachers prefer digital over print media for their reading purposes.
- The data shows that in preparing of notes the teachers prefer print media over digital media.
- The data regarding preference in terms of media for guiding research scholars reveals that only 274 and 323 teachers prefer print media and digital media respectively.
- The data regarding preference in terms of media for guiding research scholars reveals that their preference towards both the media is preferred by the teachers in smaller quantity.
- The data regarding preference for doing research expressed that 461 teachers prefer printed media and 574 teachers prefer digital media, moreover mode of the both the medias expressed that digital media preferred by the teachers.
- The data concerning preference for doing research reveals that digital media preferred by the teachers over print media. The data articulated that 330 teachers prefer print media and 578 teachers prefer digital media for searching information on their research area, moreover mode of the both the medias expressed that digital media preferred by the teachers to search information on their research.
- It can also be said through the data that digital media preferred by the teachers over print media to collect or search information on their research. The value of Print Media Digital Media in regards to the searching information on literature on their subject of interest is 443 and 582, and smaller number of amount teachers not prefers digital media
- The data regarding preference of media for preparing assignments and setting up examination papers by the teachers speaks that the Digital Media is more preferred by the teachers for these purposes.

- The result regarding preference between Print Media and Digital Media expressed that 2842 (i.e. sum of preference) teachers prefer Digital Media and 2065 (i.e. sum of preference) teachers prefer Print Media, which clearly states that Digital Media is preferred by the Teachers.
- The teachers observed that there is a significant relationship between Print Media and Digital Media in regards to the cost of the media and feel that they want more Digital Media if available free of cost or in cheaper price, this finding says that they would certainly prefer Digital Media if it is freely available or available at cheaper price.
- It was found through the responses of teachers that 421 teachers experienced that they have advantage of Print Media over Digital Media and 571 teachers experienced that they have advantage Digital Media over Print Media, which clearly shows that Digital Media is on higher side in this regard.
- The sum of *Strongly Agree* and *Agree* for Print Media and Digital Media in response to the version would not supersede is 434 and 386 expresses that Digital Media would supersede in future, but can not eliminate Print media completely.
- The Chi-square value (i.e. 250.32) is greater than the critical value (i.e. 14.86), which shows that there is a significant difference between the medias. That is, the difference between actual data and the expected data is probably too great to be attributed to chance. So we conclude that sample supports the hypothesis of a difference, and rejects the null hypothesis.

The study was carried out with simple hypothesis i.e. *“There is no significant effect of digital media over print media”*. After completing the study null hypothesis was found incorrect and thus it can be concluded that there is a significant effect of digital media on print media. The digital media is superseding print media and it is true that the use of print media is on lower side as compared to the digital media, but can eliminate print media completely because readers have their own preferences and in some areas still print media is being preferred.

CONCLUSION

In the present scenario digital age is changing and influencing readers' world. New tools are being invented to make reading more interesting, colorful, wider, and easy. Many digital tools have been invented to facilitate readers providing information to a click away for them. In earlier times readers used to go to the search reading materials i.e., information, literature, textbooks, articles, research journals etc. but today reading material is available to the readers at an alarming rate on their computers.

This study was aimed at analyzing the impact of digital reading materials over the traditional printed reading materials. This study reveals whether digital reading materials are making impact on reading habits of teachers. Data was collected from the teachers of Engineering colleges of Indore and the results reflect on their reading practices and their preference on the use of Digital over the Print Media in their personal and professional use.

The study found that teachers are very savvy about the use of Digital Materials. With the help of this study we can draw the conclusion that, this is the fusion period and the root of digital reading is too short in comparison to printed reading, but digital reading is spreading its roots rapidly, in very short period digital reading has become capable to give just neck to neck competition to

printed reading materials. Readers are now more inclined to the advantages of reading material available on digital media; Printed version has its own comfort as well.

The rise of this digital media has tremendously increased communication between the people all over the world. Power of printed world cannot be denied in today's information technology world. Electronically recorded data can be corrupted after a certain period of time while printed material can be used as a record for as long as one wants, although it is being felt that digital media is fast dominating the world of print media.

The outlook for print media looks ominous. Internet media have already taken over a large part of the readers. In the future—with the arrival of technology-friendly customers—this process will become faster. It may sound wistful, but it may be that print media will lose its position and become a niche product in future. In future both versions would gain their own importance, for specific information people would prefer digital reading material and for deep knowledge and descriptive information people would prefer print. Both versions would facilitate readers as a good combination. May bright future to both versions of reading material!

**Prophecies are very difficult, especially concerning the future.
Mao Tse-tung**

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