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Personal Information Management by Ph.D. Scholars of Library and Information Science in India

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Abstract

Scholars are intensive users of information and study of their work has long been important to information science. For the field of personal information management (PIM), the study of scholars' behavior has been less central, yet in the course of their work, scholars generate large collections of information and managing this material must at least in part determine their effectiveness. The presentresearch study focused how scholars manage their information which is collected during Ph.D. work in print and digital format using different tools as well as their own skills. Such as web 2.0 tools, Information and communication technology (ICT) skills, cataloging skills, classification skills. It also studied strategies used by scholars for storing, organizing, and retrieving information and how they overcome with the problems they encounterwhile acquiring, retrieving, storing the required information. It highlighted useful strategies for storing, organizing, and facilitating access to saved information.

Keywords: Personal information management, Personal knowledge management PhD scholars of LIS, India, Research scholars of LIS

Introduction

Personal Information is a new field with ancient roots. When the oral rather than the written word dominated, human memory was the primary means for information preservation. Various mnemonics were essentially information management as applied to human memory. As information was increasingly rendered in documents and these

increased in number, so too did the challenges of managing these documents. To support the management of Print information, tools were developed over time (Yates, 1989).

The term 'Personal Information Management' was itself apparently first used in the 1980s (Lansdale, 1988) in the midst of general excitement over the potential of the personal computer to greatly enhance the human ability to process and manage information. The 1980s also saw the advent of so-called PIM tool which provided limited support for the management of such things as appointments and scheduling, to-do lists, phone numbers, and addressee.

According to Jones (2009) 'Personal Information Management' (PIM) refers to both the practice and the study of the activities a person performs in order to acquire or create, store, organize, maintain, retrieve, use and distribute the information needed to meet life's many goals (everyday and long- term, work- related and not) and to fulfill life's many roles and responsibilities (as parent, spouse, friend, employee, member of community, etc.).

PIM places special emphasis on the organization and maintenance of personal information collections in which information items, such as print documents, electronic documents, email messages, web references, handwritten notes, etc., are stored for later use and repeated re-use.

PIM has been defined by Teevanet. al. (2004) as the "user's activities when they acquire, organize, retrieve, and process information in their own spaces".

Six ways of Information can be personal

There are six ways in which information can be personal.

1. Owned by 'me'
2. About 'me'
3. Directed toward 'me'
4. Sent/ Posted by 'me'
5. Experienced by 'me'
6. Relevant to 'me'

Some examples of Personal information

1. Personal text, numerical, and AV files.

2. Downloaded documents.

3. Personal notes, scraps, post-it notes, etc.

4. Address books.

5. Task list, important dates and reminders.

6. Email messages.

7. Bookmarks of important websites.

8. Archived information objects.

Benefits of employing PIM

1. Save time and energy.
2. Easy retrieve information
3. Proper organization of information
4. It help work effectively and efficiently
5. Help deal with information overload
6. Make information accessible
7. Streamline the way deal with information
8. Remove island of information

Review of literature

For Ph.D. oneneeds to manage their "Personal Information" which they acquired or collected during Ph.D. work, because their research is long term process. If information is stored with well management flow it becomes easy to retrieve information to the scholars without any trouble. Therefore they have to manage their collection or information very neatly and skillfully with using Information and Communication Technology as well as their own skills.

Al- Omer and Cox (2016), they felt that there is a need to manage research related materials because to find material again, for resource sharing with others, to cope with fear of loss especially if the collection are huge in quantity, in different formats therefore there isutmost need to manage it properly. Otopah and Dadzie (2013) observed that, because of the spate of information explosion in the present era, one encounters so much information at times that one actually does not need it, and one does not always find the right information in time when one needs it, therefore need to manage personal information for retrieving to it easily when needed. Authors further explored personal information practices of students. The findings suggested that, format, skills, size, of collection, memory, and habits accounted for diverse PIM practices among users. These core activities, coupled with the information age, often leave users exposed to so much information than they need According to the Chaudhry, Rehman& Al-Sughair (2015a) finding information is an exploratory activity that involves recognition, while re-finding information is a focused task which involves both recognition and recall.Kearns et. al. (2014) showed that the most favored method to keep information for future use was bookmarking followed by saving information in folders or drives.

Razmerita, Kirtchner, and Sudzina (2009), discussed new approaches for managing personal knowledge or information in the Web 2.0 tools era. Online social networking systems, such as LinkedIn, Myspace and Facebook, allow people to manage their interaction with other on a massive scale. Blogs, Microblogs (e.g. twitter) and instant massive tools (e.g. Skype) have provided new communication tools to interact more effectively to others in opened communities. New tools have emerged, such as Wikies (Wikipedia) and social bookmarking (Delicious), aimed at directly supporting PKM and fostering collective intelligence. PIM on Web 2.0 is achieves by a set of tools that allow people to create, codify, organize and share knowledge, but also socialize, extend personal networks, collaborate on organizing knowledge and create new knowledge.

Author Ina Fourie wrote series of articles, in the article (2011) she explored the potential of personal information management (PIM) and reference management. It focused on combining the use of PIM and reference management software with mind maps to stimulate the creative and innovative use of information collected. In the next article (2012) she discussed the use of PIM in combination with reference

management software such as EndNote (www.endnote.com), Reference Manager (www.refman.com), RefWorks (www.refworls.com), Zotero (www.zotero.org),

There were eight article published in personal knowledge management (PKM) in special issue ofOnline Information Review journal in 2009 giving the overview of concept (Pauleen, 2009), development and technology involved in PKM (Jones, 2009). Zhang (2009) studied the relationship between personal knowledge management (PKM) and organisational knowledge management (OKM). Cranefield&Yoong (2009) investigated how online communities of practice facilitate the embedding of personal professional knowledge in a complex online environment. Garcia (2009) conducted qualitative research project on the dynamics of social skills development strategies in knowledge-intensive, e-learning workplace environments.Volkel& Haller (2009) designed a model and tools that are capable of representing and handling personal knowledge in different degrees of structuredness and formalisation, and usable and extensible by end-users. Whereas Doong and Wang (2009) argued that individuals' use of personal knowledge management systems (PKMS) differs significantly as a result of their underlying innovativeness and involvement traits. Agnihotri& Trout (2009) addressed issues related to the effective utilisation of technology in PKM practices.

There were few research studies bout PIM done by different people such as faculty, engineers working in different types of organizations (Chaudhry, Rehman, &Al-Sughair, (2015b); Kearns, Frey &Tomer (2014);&Pikas (2007).

Research design

The present study aimed to understand the different strategies and methods opted by Ph.D. scholars of Library and Information Science while gathering, storing, managing, retrieving the information in different formats during their Ph.D. study. The main objectives were to study how Ph.D. Scholars manage different types of Ph.D. related personal information (print and digital) in different ways. It explored how do scholars take help of Information and Communication Technology (ICT) in managing Ph.D. related personal information. It also tied to identify problems faced by Ph.D. Scholars while managing personal information.

By keeping in mind the objectives of the study & the type of data required, it was decided to employ a descriptive survey research method and structured questionnaire used for data collection. The questionnaire was consisted of two sections; first section was consisted of 13 questions (4 multiple choice questions & 9 open ended questions) related to the qualification, affiliation and PhD details. The second section was consisted of 23 multiple choice questions. Online questionnaire was prepared with the help of Google form. Draft questionnaire was tested to check the feasibility of questions and options.

Many articles were useful to construct the questionnaire for the present study. Particularly study by Chaudhry, Rehman and Lulwah Al-Sughair (2015a). Following points were considered for developing the questionnaire based on this study.

1. Approaches used by re- finding information

2. Methods used to keep information

3. Categories methods use to organize information in folders

4. E- mail management practices

5. Building and managing personal contacts

6. Tools used for personal information management

7. Social media used

The present study was concerned with the scholars of Library and Information Science pursuing PhD as well as Ph.D. holders from all universities limited to the Maharashtra state. Following universities comes under Maharashtra state.

Sr. No.	Name of the Universities which comes under Maharashtra state
1.	Dr. BabasahebAmbedkarMarathwada University, Aurangabad- 431 004
2.	Nagpur University, Nagpur
3.	North Maharashtra University, Jalgaon- 425 001

4.	Pune University, Pune- 411 007
5.	SantGadge Baba Amravati University- 444 602
6.	Shivaji University, Kolhapur- 413 606
7.	Swami RamanandTeerthMarathwada University, Nanded- 431 606
8.	The RashrasantTukdojiMaharaj Nagpur University- 440 001
9.	University of Mumbai, Mumbai
10.	YashwantraoChavan Maharashtra Open University, Nashik- 422 222

Researcher identified total 70 PhD scholars email ids from university websites as well as by contacting PhD guides, teachers etc.

For conducting a pilot study a draft of questionnaire was first prepared and tested on four Ph.D. Scholars. One respondent suggested changes in options and sequence of the questions. Another respondent suggested to add information (small definition) about Personal Information Management (PIM) at the beginning of the survey.

The questionnaire link was sent to 26 Ph.D. scholars of S.N.D.T. Women's University (completed and ongoing); 32 Ph.D. scholars from other universities which found from their university websites. The link of questionnaire was also circulated through ILOSC mailing list forum since there is no exhaustive list of PhD scholars in LIS available anywhere.

Total 74 responses were received. Only 56 found to be relevant for the data analysis. About 18 responses were from out of Maharashtra state due to the link circulated through ILOScmailing forum. Data was analyzed by using percentage and presented in form of chart and tables.

DATA ANALYSIS AND FINDIGS

The questionnaire was consisted of two sections; first section was consisted of 13 questions (4 multiple choice questions & 9 open ended questions) related to the qualification, affiliation and PhD details. The second section was consisted of 23 multiple choice questions. Accordingly analysed datais presented in two parts.

Personal Information

There were 29 (51.79%) Females and 27 (48.21%) Males responded to the questionnaire.

It was noted that almost all 51 (91.07%) were working as a library professionals. From 'Others' (5) it was observed that 'Retired' (4) and part time Ph.D. scholar (1) also responded to the questionnaire.

Maximum number of respondents 31 (55.36%) had work experience between 11 to 20 followed by 10(17.86%). Hardly few had experience of 0 to 5 years 4(7.14).

It was observed that almost half of the respondents completed PhD 29 (51.79%) while remaining were doing Ph.D. 27 (48.21%).

Personal Information Management (PIM)

Awareness aboutPIM

It was observed that most of respondents know about the concept of personal information management. About four respondents were not aware about PIM and five were not sure about concept of PIM.

Sources of information for Ph.D. work

Most of respondents 44 (78.57%) collected information from universities where they registered or did their Ph.D. About 42 (75.00%) respondents used authentic free and open sources and 41 (73.21%) collected information from other Universities or colleges. Web 2.0 tools like Wikipedia/ blogs etc. were least used by respondents 24(42.85%). The data is presented in table no . In 'Others' 12 respondents mentioned various other ways of collecting information. Such as databases, conference proceedings, personal contacts, by asking authors of articles to send full text article published in journal, by talking to people where data collection is suppose to take place such as school teachers/children, college teachers/students.

Table no. 4.2.2 Different sources to collectinformation

Different sources to collect/ collected information	Numbers	Percentage

From your university where you are doing/ did Ph.D.	**44**	**78.57**
From other universities/college libraries	41	73.21
Use of authentic free and open access resources	42	75.00
By purchasing relevant books or subscribing to journals/pay per article mode	33	58.92
Mailing list forum (asking professional colleagues to give full text of articles/required information)	25	44.64
Web 2.0 tools like Wikipedia/ blogs etc.	24	42.85
Other	12	21
Total	221	100

Format of informationcollected for PhD

The respondents collected information during Ph.D. workmentioned that they collected information in both format print as well as digital 45(82%). Whereas about 7(13%) collected in print only and 3(5%) in digital format. It is obvious that retired respondents must had collected information purely in print format since use of computer and Internet were low when they did their PhD.

**Storage and retrieval of print information**

About 46 (82.14%) respondents stored their print information by photocopying and keeping in a physical files or folders with labels. It is easy and convenient method to store information. Remaining 29 (51.78%) made notes in diaries/notebooks. About 8(14.28%) respondents scanned and converted into OCR and stored in computer. In 'Others' five respondents (8.92%) mentioned about scanning in form of image and storing in hard drive, by marking on paper using labels, by writing review of article and arranging in proper sequence as per APA format, by scanning and then self emailing.

For retrieving print information almost half of the respondents 25(44.64%)made use of excel sheets. Another method opted by respondents were simply labeling print documents andfewlabeled print documents and made bibliography by making use of reference menu of Microsoft office suite 20(35.71%) respectively. A small number of respondents 10(17.85) retrieved documents by relying on their memory. Whereas 9

(16.07%) respondents retrieved their print information by making small print catalogue cards of documents.

Storage and retrieval of full text Digital/ Online Information

Figure no. 4.2.5 Methods of store digital information
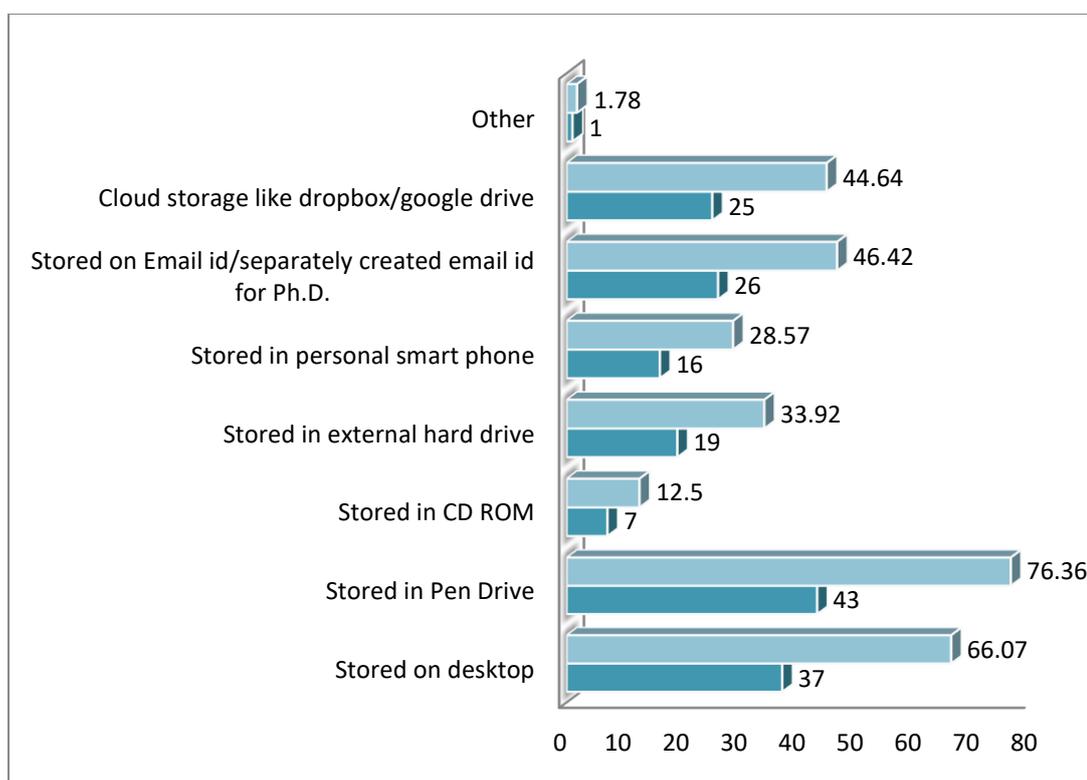
It was observed that 43 (76.36%) respondents stored full text digital/ online information in Pen drive whereas 37 (66.07%) preferred to store on desktop. Whereas least number of 7 (12.72%) respondents used CD ROM. Quite a good number of respondents 26(46.42%) stored on email id/email id separately created for PhD. Nearly half of respondents opted for cloud storage like dropbox/google drive too 25(44.64%). It means Pen drive is more convenient to carry anywhere and it is compact storage device. Obviously CD's are out of fashion which was used by only 7(12.5%) respondents.
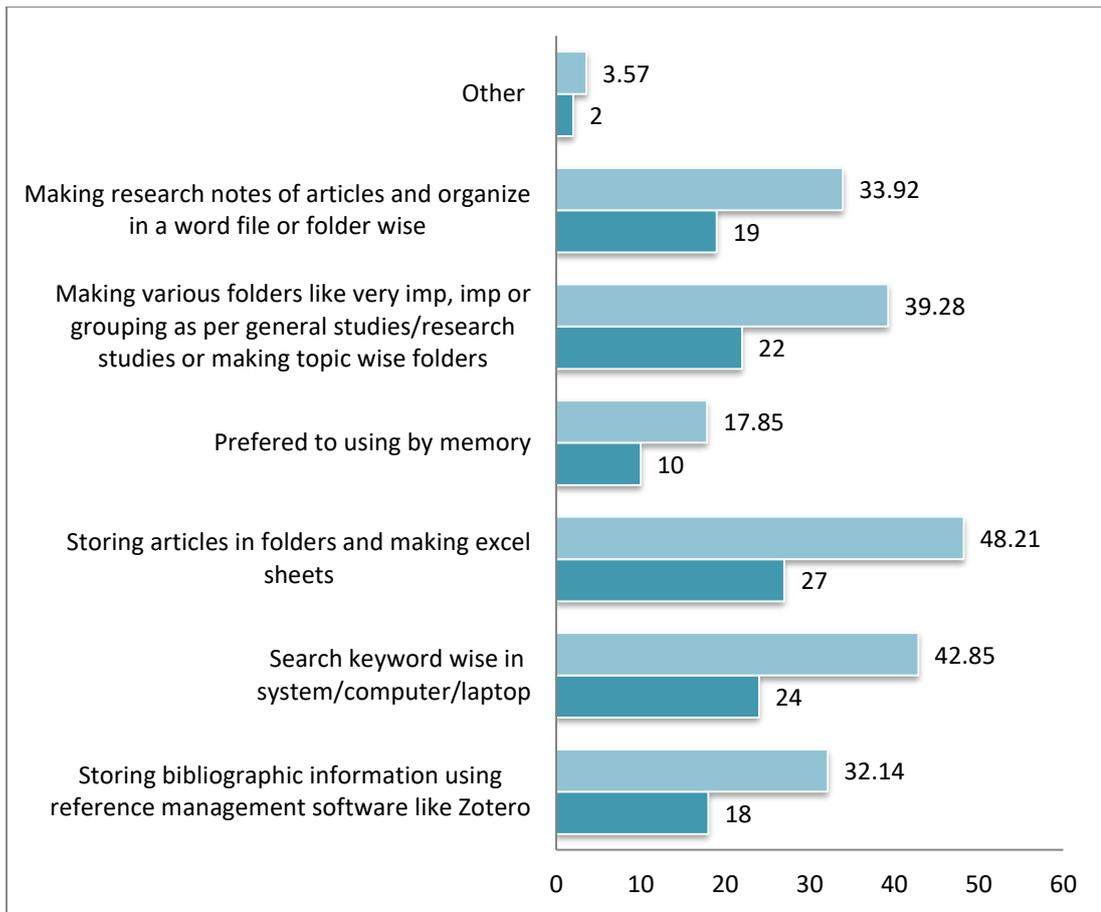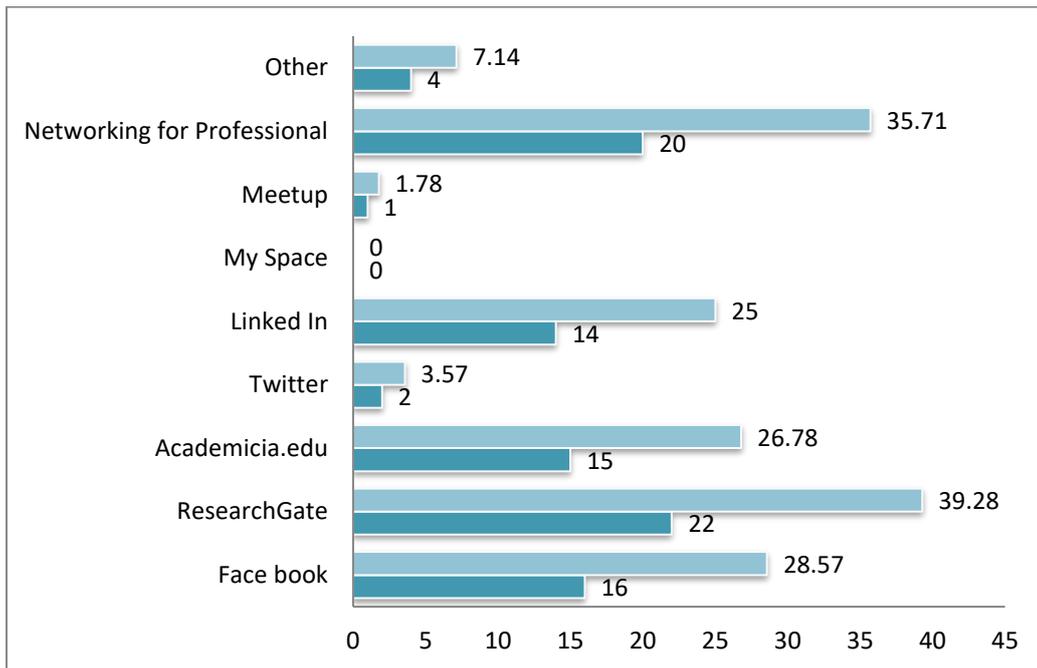
Similar method was chosen by respondents for retrieving digital/ online information was by storing articles in folders and making excel sheets 27 (48.21%). Followed by search keyword wise in computer/laptop 24 (42.85%). The data is presented in figure no. 4.2.6. The least way of retrieving was memory 10 (17.85%). As it is obvious that how one can retrieve data of PhD which runs in gigabytes.

Use of academic and general social networks to collect and share information

About half of the respondents collected their information from social networking sites. About 13(23%) respondentssometimes used social networks while same number of respondents didn't use social networks. One respondent mentioned in 'Others' that social media was not existed at that time when respondent did his/her PhD.

Those who used social network website mentioned that highly used social networking sites by them were ResearchGate 22 (39.28%) and lowest was Meetup 1 (1.78%) and MySpace was not used by any respondents. The data is presented in the figure no 4.2.8.

Figure no. 4.2.8 Use of different Social networking sites

| Social networking site	%	Count
Other	7.14	4
Networking for Professional	35.71	20
Meetup	1.78	1
My Space	0	0
Linked In	25	14
Twitter	3.57	2
Academicia.edu	26.78	15
ResearchGate	39.28	22
Face book	28.57	16

Use of reference management software

It was observed that 'Zotero' reference management software used more than Mendeley 14(25%) reference management software by 19 (33.92%) respondents. Endnote was used by ony8(14.28%) respondents.

Methods for saving important web sites

Figure no. 4.2.10 Methods to save important web sites
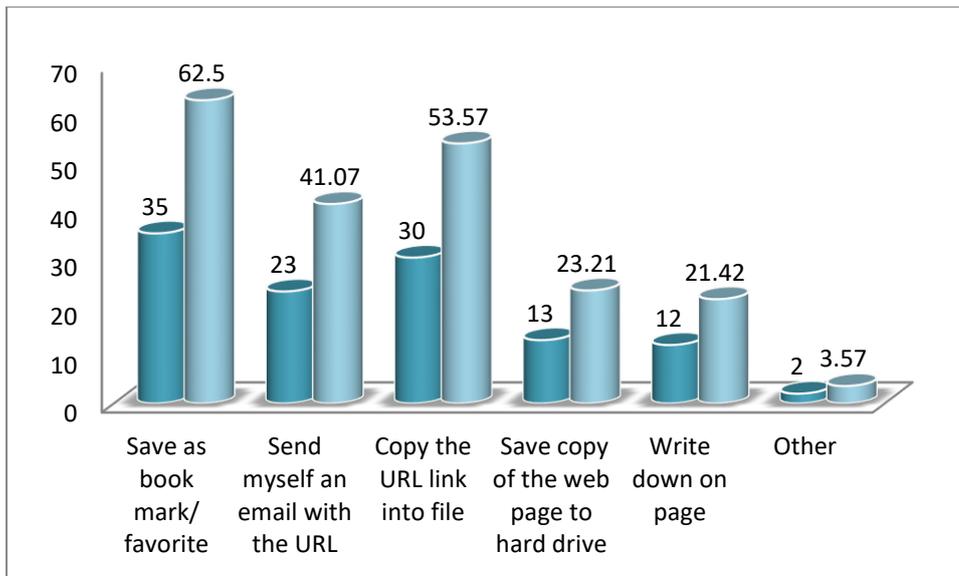
The typical method used by 35 (62.5%) respondents was to use book mark/ favorite option to save important website. Followed by copying URL and saving in file 30(53.57%). Writing on a page was least preferred by 12 (21.42%) respondents.
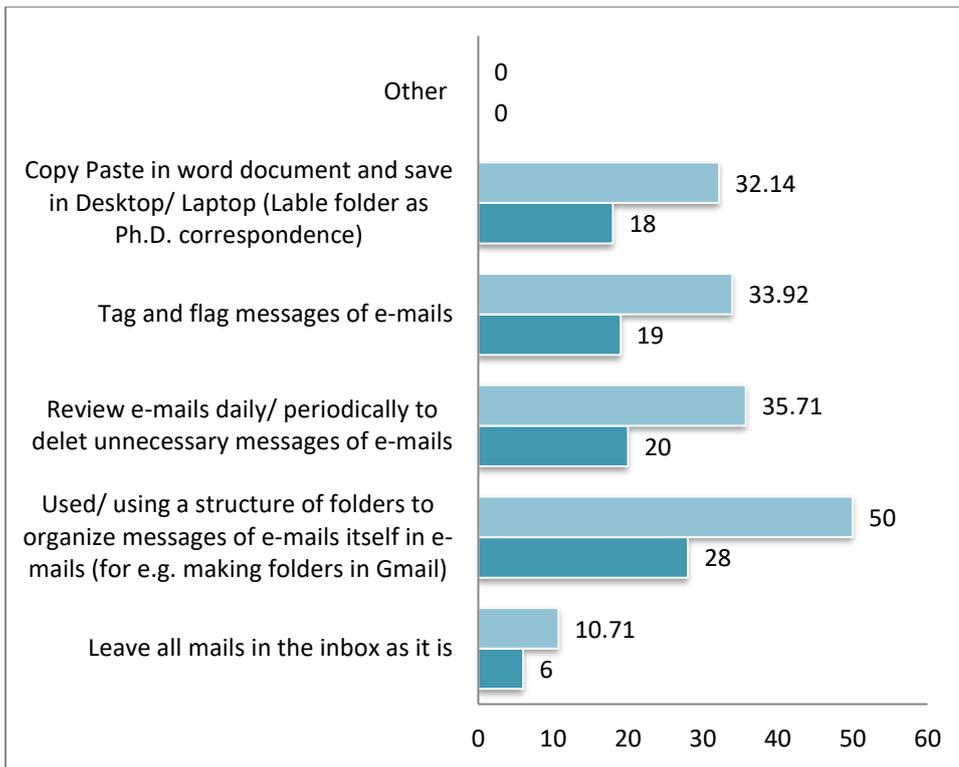
Use of mailing lists for information gathering and sharing of Ph.D. data

Respondents can identify their population by mailing list forum or ask to fill up their questionnaire through mailing lists. Or it can be used to get required articles for their PhD. It was observed that nearly half of the respondents 30 (53.57%) used ILOSc mailing list followed by LIS-Forum 23(41.07%) for information gathering and sharing. Least used were IFLA mailing lists. About 16(28.57%) respondents didn't use any of the mailing list mentioned. In 'Others' 4((7.14%) respondents mentioned other mailing lists which was not covered by the researcher. Such as Surveymonkey list, NMLIS, Medlib, SIGRII, ISSI, NDLTD, USA Listserv mailing list.

Managing e-mails relevant to Ph.D. work

It was observed that respondents 28 (50%) arranged their email by making of folders in email service. Leaving all mails in the inbox was least preferred method 6 (10.71%).
Figure no. 4.2.11 Strategies to manage e- mails

The chart shows two series (percentage and number values) for each category:

- Other: 0, 0
- Copy Paste in word document and save in Desktop/ Laptop (Lable folder as Ph.D. correspondence): 32.14, 18
- Tag and flag messages of e-mails: 33.92, 19
- Review e-mails daily/ periodically to delet unnecessary messages of e-mails: 35.71, 20
- Used/ using a structure of folders to organize messages of e-mails itself in e-mails (for e.g. making folders in Gmail): 50, 28
- Leave all mails in the inbox as it is: 10.71, 6

Necessity if PIM in various stages of Ph.D.

The quarter of respondents 41 (73.21%) felt that PIM was required while doing data collection and more than half of the respondents 37(66.07%) felt that it is required at the stage of report writing. Least number of respondents 21(37.5%) mentioned that at the time of PhD proposal writing PIM was required. Nearly half of the respondents mentioned that at the data analysis stage PIM was required.

Important skills required for PIM

Table no. 4.2.5 Required skills for PIM

Skills	Numbers	Percentage
Cataloguing skills	20	35.71
Classification skills	35	62.5

14

Communication skills	32	57.14
Blogging skills	09	16.07
ICT skills	**47**	**83.92**
Abstracting skills	28	50
Referencing skills	32	57.14
Other	02	3.57
Total	205	100.00

It was observed that 47 (83.92%) respondents agreed that ICT skills required more for personal information management since we are dealing with digital/online information. Except blogging skills all the other skills were important for PIM for a respondent which is too obvious.

Experience of managing information in print and digital format

Table no. 4.2.6 Experience while managing print information format

Experience of managing print format	Numbers	Percentage
Very easy	7	12.50

Easy	**23**	**41.07**
Sometimes easy	16	28.57
Not easy	10	17.86
Other	0	0.00
Total	56	100.00

It was noted that the experience of Ph.D. scholars regarding management of information in print information were Easy 23(41.07%) but 10 (17.86%) scholars experienced it was not easy to manage print information because it is tedious to store and retrieve information as compared to online information. The data is presented in the table no 4.2.6.

In case of managing digital information nearly half of the respondents felt that it was very easy to manage digital information 24(42.86%) as all were trained librarians. The data is presented in the table no 4.2.7.

Table no. 4.2.7 Experience while managing digital format

Experience of managing digital format	Number	Percentage
Very easy	**24**	**42.86**
Easy	21	37.50

Sometimes easy	9	16.07
Not easy	0	0.00
Other	0	0.00
Skipped	2	3.57
Total	56	100.00

Problems faced while storing or managing the personal information
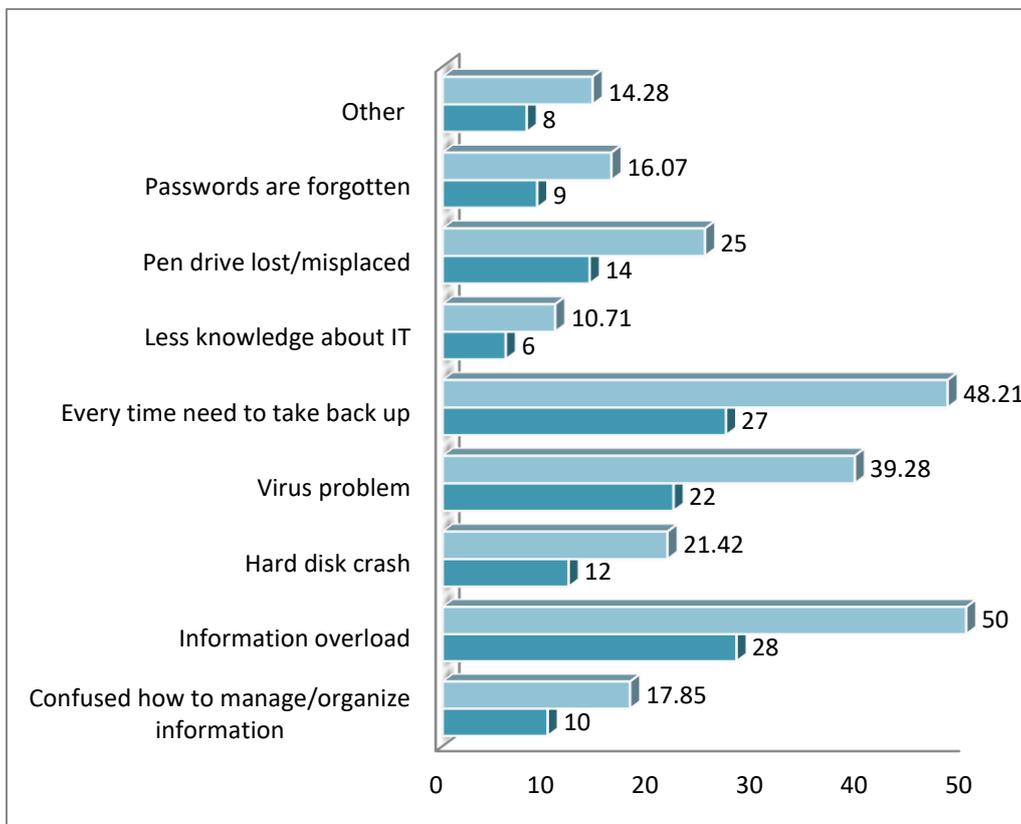
Half of the respondents encountered with Information overload 28 (50%) another problem was to take back up every time 27 (48.21%) which is quite frustrating for PhD scholars. The respondents were least bothered about knowledge of IT 5 (3.88%).

Awareness about PIM applications/apps available in android playstore e.g. 'EssentialPIM'

Nearly half of the respondents 26(46.43%) were not aware of PIM application, 'EssentialPIM' which is available in android play store free of cost (Sawant, 2017). About 19(33.93%) respondents were already knowing it and 10 (17.86%) respondents came to know about PIM application through the survey. Only one respondents agreed that he/she used app at the time of doing PhD.

Orientation/Information literacy by library regarding PIM and its elements

Almost all respondents 53(95%) felt that there should be session in information literacy programmes organized by library regarding PIM. So that they will be aware of many things that are useful in their journey of PhD. Further when respondents were asked about elements that can be added in Information Literacy programmes in connection with PIM regarding Ph.D. course work; nearly **e**qual number of respondents felt that they should get the orientation about how to use the reference management software like Zotero, Mendeley, EndNote, etc. 38(67.85%) and use of android applications 37(66.07%). Half of the respondents felt that there need to be session on use of web 2.0/3.0 tools.

Ph.D. related information after the completion of PhD

It was noticed that 28 (50%) respondents used Ph.D. related information for writing articles in journal or conference. About 18(32.14%) respondents took efforts to deposit PhD thesis in institutions repository or subject repository (ELIS) with prior permission from university authority. Few 9(16.07%) mentioned that they shared data with friends who were doing research whichever data was appropriate or necessary for them. One respondents mentioned in 'Others' that he/she converted thesis and published in form of book. The ultimate aim of research is to generate new information/application and to publish so that it can reach to mass level.

Conclusion and discussion

The present research study was useful to understand different methods or ways of storing, organizing, retrieving the information and so that it can help to PhD scholars to deal with information overload. According to the findings it can be concluded that there are different methods and strategies adopted by Ph.D. scholars to organize, maintain, share, and retrieve the print as well as digital form of information in their research journey.

Scholars gathered or collected information not only from the university from where they registered for their PhD but from their own library where they were working. They took help of others such as profession networks, email mailing list forum etc. They used different web 2.0 tools, social networking sites too while managing and sharing information related to their Ph.D. work.

It was observed that almost all respondents were working as a library professionals and more number of females participated in the survey. About half of the respondents completed their PhD and remaining were doing research at the point of data collection. Almost all respondents knew about the concept of personal information management since mostly all were practicing librarians earned professional MLISc degree.

Nearly all respondents collected/ used information in both format i.e. print and digital. It was observed that the respondents found difficult to manage print information over online/digital information. The respondents stored their print information as photocopying and keeping in a physical files or folder with labels after that they entered data in excel sheets.

In case of online/digital information most of them stored data on desktop/pen drive in form of folders and retrieved by making excel sheets.

Zotero and Mendeley were equally famous among the PhD scholars. The respondents saved the important websites as book mark/ favorite. ILOSc mailing list forum for information gathering and sharing was found to be famous among the PhD scholars.

It was also noted that respondents used the folder system or facility provided by email service to store the important emails related to PhD. PIM was required for PhD scholars

at the time of data collection and as well as was required at the stage of report writing. These are the two important phases of PhD. The respondents agreed that ICT skills required more for personal information management since we are dealing in digital/virtual world. Nearly half of the respondents were not aware of PIM application, 'EssentialPIM' which is available in android play store free of cost.

Otopah&Dadzie (2013) conducted a study to investigate the personal information practices of students and its implications for library services at the University of Ghana. The results showed that, format, skills, size of collection, memory, and habits accounted for diverse PIM practices among students. Among the major drawbacks were inadequate skills, information fragmentation, inappropriate habits, and imperfect memory. These aspects when improved would enhance the effectiveness of students' PIM practices tremendously. In the present study sample population was of library professionals the results were contrasting to the study of university of Ghana

Almost all respondents felt that there should be session in information literacy programmes organized by library regarding PIM. So that they will be aware of many things that are useful in their journey of PhD. They insisted that PhD scholars should get the orientation about how to use the reference management software like Zotero, Mendeley, EndNote, etc. and use of android applications. Respondents used Ph.D. data after completion for writing articles in journal as well as in the conferences. One respondents mentioned in 'Others' that he/she converted thesis and published in form of book. The ultimate aim of research is to generate new information/application and to publish so that knowledge can reach to the mass level.

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