**Archiving Research**

**Sharing Research**

**Data Formats**

**Thesis**

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**Data Intensive Research at Raman Research Institute: A case study of challenges and perspectives empring question simulation and ETI responses**

Moea R M* and Vani Hiremath

Raman Research Institute, C V Raman Avenue, Stanford/University Bangalore 560080, India

*moear@rri.res.in

1. Introduction

Raman Research Institute (RRI), a pioneering institute of research in physics was started by前身 notable Sarat C V Raman in 1955 to carry forward the research work after his retirement from Indian Institute of Science. This self-funded institute became an autonomous research centre in 1958. RRI is a knowledge research center in the fields of Science and Technology. Government of India, in 1972, after the death of its founder.

Today, the thrust areas of research at the Institute are Astronomy & Astrophysics, Light & Matter Interaction, Condensed Matter and Theoretical Physics. The research activities include work in several fields of laser science, Liquid Crystals, Physics in Biology, and Signal Processing. Imaging & Video are done in the Institute.

RRI is keen on advancement of high-performance Computing in its research projects. RRI has a mid-sized research Data repository for handling the digital data.

RRI as an institute specializing in physics has witnessed data intensive research in the post-1990s. This paper is a case study aiming to understand the challenges faced by graduate students and their peripherals in digital research. RRI’s “Big Data” being around the corner, our objective is to find whether RRI is heading towards the base phenomenon.

2. Objective of the study:

Data intensive research is critical for gaining better insights into natural phenomenon and understanding of the underlying mechanisms. These data are collected from various sources like experiments, observations, simulations etc.

(a) Structured data 
(b) Unstructured data 
(c) Knowledge data

2.1 Overview of data collection

The objective of the study was to categorize the data collected by the authors of their work and identify the types of data collected.

In the study, we assume that the data collection is critical for understanding the current data trends and the challenges faced by graduate students and their peripherals in digital research.

2.2 Research Methodology

The research methodology involved categorizing the data collected by graduate students at RRI, using different methods to understand the data collection process.

2.3 Data Collection

The study considers two methods of data collection.

3.4 Employing Electronic Theses and Dissertations from digital repository of RRI:

(a) Structured text 
(i) HTML  
(ii) JSON  
(iii) TEX  
(iv) XML  
(b) Spreadsheets 
(i) XLS  
(ii) ODS  
(iii) CSV  
(iv) ...  
(c) Java  
(d) Configuration data 
(i) INI  
(ii) CONF  
(iii) Software applications

Any other, Please specify………………………

3.5 While sharing / using external data, legal issues are of major concern. We wanted to know whether the participants had any issues regarding the sharing of research data.

3.6 Sharing research data is a critical factor in the research process. We wanted to know whether the participants considered it to be a priority in their research work.

3.7 We wanted to know whether the participants were aware of the legal implications of sharing research data.

3.8 Data citation is a practice of acknowledging the use of any external data. This is important as it helps to attribute the source of information used.

4.1 Our respondents were asked about their awareness of the legal implications of sharing research data.

4.2 We also asked our respondents about their understanding of the sharing of research data.

4.3 We wanted to know whether the participants had any legal issues regarding the sharing of research data.

4.4 We wanted to know whether the participants considered the sharing of research data to be a priority in their research work.

4.5 We also asked our respondents about their awareness of the legal implications of sharing research data.

4.6 Finally, we wanted to know if the current graduate students wish to share any additional information about the sharing of research data.

5. Conclusion

We found that there is a need for systematic education and training in data management and sharing. This can be achieved through regular training sessions and workshops targeted at graduate students.

Our respondents were asked about the challenges they faced in managing and sharing research data, and whether they faced any legal issues.

In conclusion, we believe that data management and sharing should be an integral part of graduate student training programmes. This will help in managing and sharing research data more effectively.

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