Introduction

The scientific world has been witnessing explosive growth in the number and types of information resources since the publication of the first scientific journal, The Philosophical Transactions of the Royal Society in the year 1665. The exponential growth in the scientific journal publications was reported way back in 1975 by De Solla Price (Price & Price 1986), and a later study (Varian 2003) estimated that the amount of new information stored on paper, film, magnetic tape and optical media are getting doubled in three years. The growth in scientific literature coupled with the developments in computer storage and communication technologies resulted in the emergence of bibliographic and full-text databases. These databases help the scientists in searching and locating the relevant information very easily from a vast pool of scientific knowledge generated from across the world.

**Statement of the Problem**

Corresponding to the growth in the published literature in different branches of knowledge, thousands of literature databases have been developed across the world. Majority of them are international in nature covering the scholarly works reported in the scientific journals published across the world. Some of these databases are general covering all the fields of knowledge such as Web of Science and SCOPUS, and others are specialised such as MEDLINE on medicine, AGRICOLA on agricultural sciences, COMPENDEX on engineering sciences. Only a few databases are operating at the national level in India such as INDMED, covering the scientific literature reported in 100 medical journals published from the country, Traditional Knowledge Digital Library (TKDL) a database on traditional knowledge in the field of Ayurveda, Unani and Siddha in five international languages, English, French, German, Spanish and Japanese, and Open Index Initiative (OII)a database consists of Indian Social Science literature from selected Indian social science Journals and working papers/discussion papers/occasional papers, and thesis/dissertations are emanating from Indian social science institutes. The field of communication disorders deals with the disorders related to speech and hearing, and a considerable amount of research is taking place in countries across the world on various aspects of communication disorders. India also has been contributing dynamically to the global scholarly literature on communication disorders by conducting noteworthy studies on various aspects the disorders. However, there is only one database exclusively based on the scientific literature on communication disorders, namely COMDISDOME published by the Proquest Incorpn, USA. The Proquest also publishes a related database known as Lingustics and Language Behaviuor Abstracts (LLBA) which covers the literature on language disorders. Both the COMDISDOME and LLBA are international in coverage but with meagre representation of Indian studies. Hence, there is a need for a system that provides access to the research publications on communication disorders published from India and give them greater visibility to a world wide audience. It will address the need of a common platform where the researchers can access all the studies carried out in the country in the field of communication disorders. This project addressed the design and development of a web-based database on Indian scholarly literature on communication disorders using open source tools.

**Aim and Objectives**

The aim of the project was to design and develop an open source software-based platform for the Indian literature on communication disorders. The specific objectives were the following:

1. To serve as a single entry point to access the Indian literature on communication disorders
2. To provide organized access and facilitate easy retrieval of resources
3. To facilitate an online gateway of Indian literature on communication disorders
4. To create and develop metadata contents and facilitate searching and browsing of the multimedia contents
5. To facilitate information sharing among users through notification, file sharing, and co-operative document preparation
6. To facilitate quantitative analysis of Indian literature on communication disorders
7. To act as a resource discovery tool on communication disorders in India

**Scope**

The study included only the Indian literature pertaining to the speech, language and hearing disorders in the form of journal articles, books and book chapters, and the papers published in the conference proceedings. It excluded the Indian studies published outside the country. Also, only the abstracts of the studies were provided with a link to the full-text wherever applicable.

**Materials and Methods**

The following materials and methods were used for carrying out the project work.

**1. Determining the Subject Categories and the Content Type**

Using the Dewey Decimal Classification (Mitchell, 2011), the international code for organizing information resources in the Library and Information Centres across the world, the literature pertaining to the field of communication disorders were classified under three broad divisions: Speech, Language and Hearing. They were further divided into topics such as Articulation/Phonological Disorders; Augmentative and Alternative Communication; Clinical Audiology; Communication Sciences & Disorders; Diagnostic Audiology; Hearing Science; Language Development & Disorders; Motor Speech Disorders; Neuroscience for Communication Disorders; Pediatric Audiology; Phonetics and Linguistics; Rehabilitative Audiology; Speech/Language Intervention; Speech and Hearing Science; Speech Pathology Assessment/Diagnosis; Stuttering/Fluency; Swallowing/Feeding Disorders/ Dysphagia.

**2. Collection of Publication Details**

The details of the Indian publications on communication disorders were collected in the following ways:

1. By visiting the official websites of the Speech and Hearing Institutions in the country and by going through their annual reports.
2. By verifying all the issues of the peer-reviewed journals exclusively on communication disorders published from the country
3. By verifying all the issues of the peer-reviewed journals in the allied areas published from the country.
4. By verifying the available proceedings of the conferences and seminars on communication disorders conducted in India.
5. From the individual speech and hearing professionals working in different organizations across the country by developing an online questionnaire indigenously using PHP web development tool.

3.**Selection of Software Application**

A suitable open source software application was identified for building the database by conducting a comparative evaluation of the features of three most heavily used open source software applications in the field of information management as per the Registry of Open Access Repositories (ROAR 2016), namely E-Prints, Fedora and D-Space. The criteria based software evaluation checklist developed by Bankier and Gleason (2014) was used for evaluation and selection.

**4. Customization and Development of the Database Platform**

The selected software application was customized as per the requirements and the database was developed.