VIDWAN - A Subject Expert Database and National Researcher's Network in India: An overview

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INTRODUCTION

Information and Library Network (INFLIBNET) Centre is an autonomous Inter University Centre of University Grants Commission (UGC), Govt. of India, involved in modernizing the university and college libraries in India and connecting them as well as information centres in the country through a nation-wide high speed data network using the state-of-art technologies for the optimum utilisation of information, since its inception in 1991. The Centre initiates several programmes for universities/colleges, library and information centres and the entire research community in the country that includes development of databases of books, serials and experts, networking of universities and resource sharing through enterprise of consortia, digital repository for theses and dissertations (ETDs), software for university libraries, e-content development programmes etc.

One of the mandates of the INFLIBNET Centre is to create subject experts database that would benefit to the research and scientific communities, government agencies and R & D Organisations in the country. Therefore, in 2012, with the financial support from MHRD, Govt of India, the Centre launched VIDWAN; a premier subject expert’s database and national research network in India that contains information about expert's background, contact address, skills and accomplishments of the individuals. The database provides support to researchers, scientists, respective organisations and Government agencies for finding similar experts in same subject areas.

History of Expert Database

The year 1999 has been earmarked for the development of expert database in India. The INFLIBNET Centre as one the foremost library network that time first took this initiative to design and maintain a subject expert database, at the headquarter located at Ahmedabad, now it is at Gandhinagar. The database captured profiles of the subject experts working in universities and other higher learning education departments in the country. In 2001, the Centre developed one more database called "Expert Database in Science and Technology (EDST)" with financial support from the National Information System for Science and Technology (NISSAT), Department of Scientific and Industrial Research.

ABSTRACT

VIDWAN, an excellent source of background information of subject experts working at leading academic institutions and R & D organisations involved in teaching and research, provides a platform for finding potential experts with similar expertise. This paper aims to explore the application of emerging technologies in VIDWAN subject expert database and discusses particularly about the expert’s selection methods, database feature and functionalities and its benefits. The article reviewed the current situation of the VIDWAN subject expert database and national researcher’s network in India and recommends that it is the time to populate the database not only in India but also worldwide and in all scientific areas. Universities, R & D organisations and other academia too have an important role in populating this database.

KeyTerms: INFLIBNET, Vidwan, Expert database, India, VIVO

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(DSIR), New Delhi, that contained profiles of experts working in the R & D organisations, particularly in science and technology. These two databases merged in the year 2012 and rechristened to Vidwan subject expert database. Fig. 1 depicts screenshot of Vidwan Subject Expert Database website.

**OBJECTIVES**

The key objectives of the database are:

- To provide an easy access to information about experts and peers, research scholars, scientists, noble laureates and policy makers in the country;
- To provide a platform for users to connect experts and peers within focus areas and geographic expertise, and establish a communication facility for further research planning;
- To provide a platform for subject experts showcasing their expertise, skills, and professional achievements;
- To create information exchanges and networking opportunities among scientists, scientists, research scholars, scientists, noble laureates and policy makers in the country;
- To Identify peer reviewers for journal articles and research proposals;
- To discover prospective collaborators for ongoing research projects, experts for different national and international committees; and
- To provide unique identification to experts in the country.

**Selection Methods and Procedures**

There are certain criteria for selecting subject expert. A subject expert should be a post-graduate or doctorate degree in respective subjects with 15 years of professional experience. Expert can be an Associate Professor or Professor or Senior Scientist or with equivalent position in teaching and research, National/International awardee or citation laureates.

*There are three methods for inviting subject experts:*

- **Invitation** - Selected subject experts from different areas are invited to join VIDWAN database;
- **Nomination** - Various funding agencies such as CSIR, DRDO, ICAR, ICMR and UGC, its affiliated Institutions/ departments and R & D Organisations are requested to nominate experts in relevant fields;
- **Voluntary Registration** - Experts who have 15 years of experience in respective subjects are welcome to register online in VIDWAN website.

A conventional website has designed for VIDWAN database to capture individual’s personal information such as qualifications and experiences, expertise, publications and other information related to the profession. Each characteristic in the profile divided into a set of information that provides a complete professional background of experts (Table 1). Login IDs and passwords are also given to experts whose profiles are available in the database with a persistent URL enabling them to update their profiles as shown in Fig. 2.

<table>
<thead>
<tr>
<th>Personal Information</th>
<th>Qualification and Experience</th>
<th>Expertise</th>
<th>Publication and other Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal contact information</td>
<td>Academic qualification and Professional experience</td>
<td>Area of expertise and Brief information about expertise</td>
<td>Publication</td>
</tr>
<tr>
<td>URL and Photo;</td>
<td>Professional experience</td>
<td>Awards</td>
<td>Scholarship/fellowships</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Professional engagement and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Any other information</td>
</tr>
</tbody>
</table>

![Fig 1: Home page of VIDWAN Subject Expert Database](image-url)
VIDWAN Features and Functionalities

- Browse by Web of Science subject category and organisation type;
- Exact and Free-Text Search allows end users to perform search across multiple archives;
- Advanced search facility facilitates to search experts by its name, designation, area of expertise, honour awards, organisation and organisation category;
- The web enabled interface facilitates experts to edit their profiles and hyperlink their own publications.
- Experts can add manually or import CSV files for information such as Honours and Awards, Doctoral Theses Guided, Membership in Professional Bodies, Membership in Committees, Research Projects and Publication in BIBTEXT format.
- Cloud based Search results displays similar experts in particular fields;
- Profiles enrichment via automatic updates, with linkage to other databases and external resources;
- Facility to hyperlink to ORCID ID, Researcher ID, Google Scholar ID, Scopus ID, Microsoft Academic Search ID, IndCat and Shodhganga;
- Auto generated VIDWAN ID

Current Status

As on 31st March 2015, VIDWAN database contains 16,426 profiles of the subject experts in various domains from 1,781 institutions as shown in Fig. 3.

Fig. 2: VIDWAN Website Hosted at INFLIBNET

Fig. 3: Number of Experts throughout the years

Fig. 3 indicates a year wise increase of subject experts in VIDWAN database. There has been a continuous increase in number of experts during 2012-15.

Subject Wise Analysis

Fig. 4: Number of Experts across a Variety of Disciplines
Fig. 4 shows there is a regular increase in number of experts across a variety of disciplines over the periods under the report. Maximum numbers of experts have joined in "Engineering and Technology" followed by "Medical & Health Sciences" and "Social Sciences". "Biological Sciences" have less number of experts as reported during the study.

Region Wise Analysis

India is vast country roughly divided into six regions named as Central India, East India, North India, North-East India, South India and West India.

Fig. 5 shows the region wise experts participation in VIDWAN that indicates more number of expert have participated from North and South regions and very less from North-East.

State Wise Analysis

India is one of the fastest developing countries in the world mostly in all sectors and top-ranking countries in the field of basic research. One of the key factors behind this progress is education. India has 29 States and seven Union Territories. Table 2 provides a state wise list of experts joined in VIDWAN database (as on 31st March 2015). The data calculates that Tamil Nadu (11.47%), one of the most economically developed states in the country, has occupied top position in the table having highest number experts contribution, followed by Maharashtra (10.98%), Uttar Pradesh (10.95%) and Delhi* (10.93%). Mizoram is one of the North-East states with small in size and population has occupied the bottom position.

Benefits for Stakeholders

For Experts/Research Scholars
- An opportunity to collaborate with peers working in other organizations involved in same kind of research.
- An Open platform for showcasing skills and expertise to the research community, funding agencies etc.
- Encourage to engage in more research activities and improve organisation growth.
- To obtain a unique VIDWAN Id.

For Institutes/Organizations
- Find experts in a given research area/geographic area.
- Improve faculty collaboration across organizations in India and abroad.
- Identify institutional strength in a given subject area.
- Visualizations of co-author network, map of science network.

For Policy Makers and Funding Agencies
- Identify experts for committees, expert panels and project proposals.
- Identify funding opportunities and associated experts.
- Identify areas of intensive research activities.
- Visualize research activities within an organization.

VIDWAN using VIVO Platform: A Discussion

Development of databases is an ongoing work of the INFLIBNET Centre and VIDWAN is one such part. The new website of VIDWAN is based on VIVO: an open source semantic web application that enables scholarly discovery, participation,

<table>
<thead>
<tr>
<th>State</th>
<th>No. of Experts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tamil Nadu</td>
<td>1885</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>1805</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>1800</td>
</tr>
<tr>
<td>Delhi*</td>
<td>1629</td>
</tr>
<tr>
<td>Karnataka</td>
<td>1515</td>
</tr>
<tr>
<td>West Bengal</td>
<td>1011</td>
</tr>
<tr>
<td>Gujarat</td>
<td>868</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>694</td>
</tr>
<tr>
<td>Uttarakhand</td>
<td>634</td>
</tr>
<tr>
<td>Punjab</td>
<td>573</td>
</tr>
<tr>
<td>Kerala</td>
<td>558</td>
</tr>
<tr>
<td>Assam</td>
<td>474</td>
</tr>
<tr>
<td>Telangana</td>
<td>451</td>
</tr>
<tr>
<td></td>
<td><strong>Total 16426</strong></td>
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</tbody>
</table>

*Union Territories

Table 2: State wise List of Experts in VIDWAN
sharing and collaboration among scientists across all disciplines. It supports browsing and search functions, faceted results and rapid retrieval of desired information. The platform provides semantic web-compliant data which allows modifications of researchers profiles, data ingest and builds semantic relationships among the experts and peer groups. The aim is not only to automate the harvesting of information from a variety of authoritative sources using VIVO, but also to make expert’s data or profiles available for display on various website.

**Recommendations**

- Need to populate the VIDWAN database not only in India but also worldwide.
- Efforts should be made for populating the VIDWAN database in all subject areas through promotions by using both media channels and other outreach programmes.
- Universities, R & D organisations and other academia too have an important role in populating this database.
- Work should be done in mapping of science network and visualizations of co-author network.
- Mobile Apps for experts search are of great demand nowadays.
- Currently, there is no relevancy in the search results, all potential scholars having similar expertise should come first while a search is being performed.

**CONCLUSION**

VIDWAN is an excellent source of background information of subject experts working at leading academic institutions and R & D organisations involved in teaching and research in India. Its profile system not only helps the researchers, scientists or Government agencies for finding similar experts in particular subjects, but also helps to discover experts at local or national levels for various committees, meetings, conferences and group discussions. Very often, researchers are left to find their own paths to discover current activities in their subject areas and beyond, VIDWAN builds those gaps and connects them with pears for continuing the research activities in their respective fields. Moreover, VIDWAN solves the problems of finding active researcher in particular subject areas and develop researchers own network with very ease. VIDWAN also encourages new scholars for actively participating in research planning at individual or group or national level collaboratively. The INFLIBNET Centre is playing a major role in enhancing the quality of academic and research setting in India by working together with Government bodies, scientific departments and other Ministries of Govt. of India for creating infrastructure facilities for research activities across a variety of scientific areas.

**REFERENCES**

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