

# Navdharana

## *An Innovation Management System*

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### **Background**

New and useful ideas, and innovative products and services are critical components that increase the level of performance of any organization, and the education system (both ODL and conventional) is no exception to it. However, at present, the awareness about innovations in education is minimal among the stakeholders of the education system (i.e., teachers, educational administrators, policy makers, learners, and other people linked with the education system). Such awareness is required for not only enhancing the efficiency of the present education system, but also developing solutions for the future.

The IGNOU is a pioneer in distance education, and many new ideas have come up and many innovations have taken place in the University. Recognizing the need for innovations, it established the National Centre for Innovation in Distance Education (NCIDE), whose mandate is to facilitate and nurture innovations in distance education.

### **Need of the Innovation**

Innovations in education exist in isolation and are scattered in many Universities, educational institutions, companies and individuals. Also, situations exist when the stakeholders, who understand the system, often come up with new ideas to increase the performance of the system, but their ideas do not get translated into innovations. In this scenario, there is a need to bring these ideas and innovations on to a common platform and manage them so that the ideas could serve as benchmarks and also could be developed into useful products and services. Till date there is no mechanism to manage new ideas and innovations in education system in India.

The NCIDE is aware of the need to develop a system for managing and fostering new ideas and innovations in education. Taking cognizance of this need, it has developed an Innovation Management System (IMS). It has been given the name *Navdharana*. The IMS is essentially a virtual environment for fostering innovations. Through IMS, new ideas are being collected and evaluated, not only from IGNOU, but also from other stakeholders, which is expected to lead to the development of innovative products and services for the use of the stakeholders to enhance their performance.

### **Description of the Innovation**

The idea of developing an Innovation Management System came to Dr. Moumita Das when she was managing the documentation and dissemination Unit at NCIDE in 2008. She discussed this with Dr. Jyotsana Dikshit and together they developed the concept and the technology further. At that time there was no such platform which enabled to develop a database of innovations and also interactivity among the innovators and ideators.

The framework of IMS is discussed below.

### ***Design Philosophy of IMS***

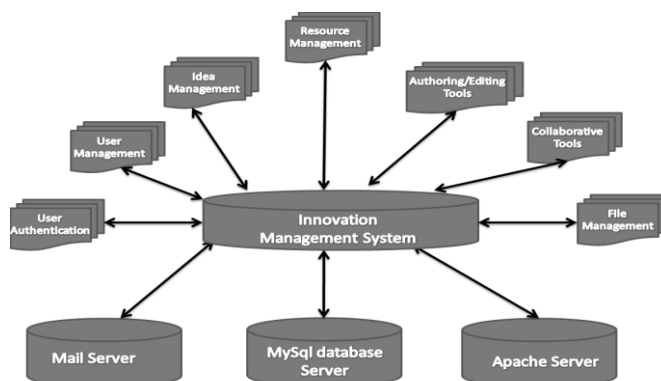
The design and development of IMS is guided by a particular philosophy of fostering innovation, a way of collaborating and interacting with fellow innovators. The people in the virtual environment participate actively and construct new ideas through interaction with their peer groups or innovators. The ideas created in this environment are tested for

successful use in a wider environment. For example, anyone might read about an innovative product or scheme or software developed by a participant of the IMS today and still forget it by tomorrow, but if the other users are given an opportunity to collaborate with the person who developed the prototype, and give new ideas for its further development, it makes working in a virtual environment successful.

The IMS provides a basic organizational structure, and offers a variety of simple tools for collaboration and dissemination of innovations. It comprises a front-end system to capture, develop, assess and implement ideas, and a back-end system to store and retrieve ideas and resources.

### **Architecture**

The IMS is platform independent software implemented through an open source with apache server for providing web services and the IMS runs on Unix, Linux, Windows, Mac OS X, Netware and any other system that supports PHP. Data of the IMS is stored in a single database : MySQL which can be used with Oracle, Access, Interbase, ODBC and others. The end users of IMS need only a browser (e.g. IE, Firefox, Safari) to participate in the Virtual Environment for managing ideas and innovation. It can be accessed by two ways: through the IGNOU website or directly through the IMS server. As you can see in Figure 1, the IMS runs on a three tier system consisting of apache server, database server and a mail server. The IMS is implemented through the lower tier the three servers. The middle tier of the IMS is supported by various applications on the upper level as shown in Figure 1.



**Figure 1 : Architecture of IMS**

### **User Authentication**

The IMS can be accessed by authenticated users by logging on to the system, however for certain cases it has the facility of guest login where anonymous users can also login and view the resources of the IMS.

### **User Management**

The IMS has the following types of users :

- **Guests** : Can only explore limited reports, prototypes of innovative products, etc.
- **Budding Innovators/Participants** : Can interact in a virtual environment on their or other ideas and prototypes, give suggestions, upload the presentations and product prototypes developed by them.
- **Master Innovators** : Screen the ideas, provide feedback on the presentations, ideas and prototypes uploaded by budding innovators or participants.

- Innovators without editing permissions can only provide feedback to the budding innovators/participants.
- **Administrator** : Manage users, content, deployment, maintenance of the IMS.

### ***Idea Management***

This module manages the ideas collected in the IMS. The managerial aspects are discussed in detail in a section below.

### ***Resource Management***

This module manages the various resources like reports, blogs, wikis, activities.

### ***Authoring and Editing Tools***

The IMS has a built in HTML editor which can be used by the participants of the IMS when responding to forum posts, making journal entries, creating a dialogue response and when they use a Wiki. It is a useful tool for enriching the content of an idea or innovation. The HTML editor is not as feature rich as a commercial application like Dreamweaver or FrontPage, but you can do almost anything these tools can. A button on the tool bar allows you to expand the editor to full screen and you can also work directly with code. Images stored in the course "Files" area can be easily inserted and you can create links to resources stored on another server. Hyperlinks and anchor points can also be easily inserted into a document. It has built in media filters, that allow users to embed Flash, QuickTime, MP3 and Windows Media files into the HTML editor so they play directly within the page you create.

The key features of the IMS are the following :

- It contains a repository of ideas and innovations/best practices for reference.
- It provides resources related to innovations.
- It allows sharing of experiences through ICT enabled collaborative environment such as Discussion Forum, Chat, etc.
- It provides virtual space for uploading files, presentations, documents, product prototypes etc. for the users.

### ***Innovative Features***

The IMS is a common interactive platform for budding innovators who can share their ideas and can collaborate on the World Wide Web with other innovators. The overall aim of the IMS is to create solutions for high organizational performance using idea/innovation management. It has been developed to provide an easily accessible and cost-effective online platform for interaction. Through this platform, the innovators can interact with each other, with NCIDE and other stakeholders, and share their ideas and work towards developing innovative solutions for the ODL system.

### ***Achievements***

NCIDE has designed and developed an Innovation Management System called as Navdharna, which is a platform independent application implemented through open source softwares. A prototype has been implemented and tested. Besides facility of adding and uploading the idea on IMS, it has provision of creating and managing the ideas and innovation banks online.

## Applications and Uses of the Innovation

### a. *Repository of Ideas and Innovations*

The ideas are kept in a repository in the IMS database. The ideas have been categorized into the various areas pertaining to the ODL system, such as admission, learner support, etc. The details pertaining to the idea or innovation are fed into the database through consultations with the innovator. The database can be made available online on request.

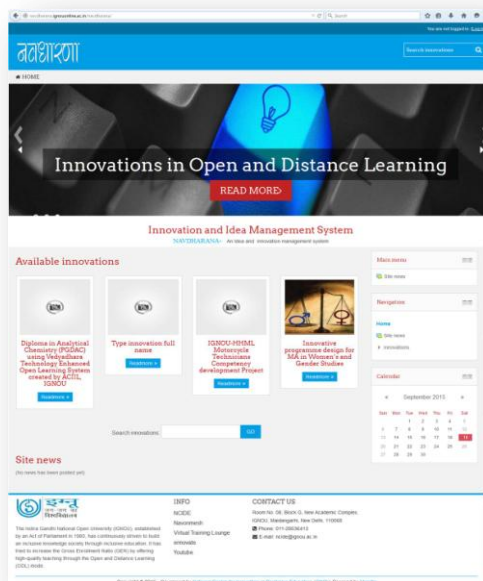
### b. *Resources Related to Innovations*

The IMS also has a provision for resources related to the various aspects of innovation such as R&D methods, latest technologies, etc. Resources such as articles, reports, papers, etc. can be made available if required.

### c. *ICT Applications*

The ICT applications used in IMS are the following :

- i. **Discussion Forum** : This is the most important tool and central to all the components of the IMS. An idea is selected by IMS administrator and the topic is put up in the forum for discussion. The users can log in and participate in the discussion, thus enriching the idea. It is very flexible and master innovators can link lots of different contents into their forum messages. The Forum works like any bulletin board in that it allows users to post messages and to respond to each other's contributions. Some Forums are used to provide information from the master innovators to which participants cannot respond to in the Forum. Other forums are created as communication platforms between budding innovators and the other participants in specific group.
- ii. **Chat** : The chat facility is provided through which the users can interact with each other and chat on the various aspects of an idea. An online conference can also be called by the administrator where many users can chat simultaneously on a particular idea. This is a useful way to get a different understanding of each other and the idea being discussed. The mode of using a chat room is quite different from the asynchronous Forums. The chat module contains a number of features for managing and reviewing chat discussions. Setup properties include the ability to establish a chat session date/time (displayed on site calendar), schedule of repeating chat sessions, a period for saving past chat sessions for the participants to review and whether or not these past sessions can be viewed.
- iii. **Dialogues (Non-standard)** : This module provides a simple communication method between pairs of users. An innovator can open a dialogue with a participant, a participant can also open a dialogue with an innovator, and (optionally) a participant can open a dialogue with another participant.
- iv. **Surveys and Studies** : The administrator or any interested user can carry out a study or survey in an idea in the IMS and submit the results for common use.
- v. **Submission of Resource Materials** : The user may submit relevant and interesting resources on innovations to the IMS.
- vi. **Idea Bank** : The users can submit their ideas and innovations in the idea bank. A proforma for submission purpose is provided in the IMS.



**Figure 2 : Home Page of IMS**

## Way Forward

In the emerging knowledge society, it is becoming important to manage ideas and innovations in the ODL system. The IMS is tailored to meet the needs of innovation management in not only the ODL system but of the educational system as a whole. The IMS, through a virtual environment, supports the basic tenets of innovation, such as collaboration and diffusion of innovation. It facilitates the inclusion of the stakeholders in a collaborative environment to discuss and develop their ideas. It also is a repository of new ideas which can be taken up for further development. The IMS can help the stakeholders in education to tap their innovative capacity and enlarge the scope of their creativity to devise effective solutions for the ODL system.

The feedback of the participants of the training programmes using the **VTL** indicates that the **VTL** needs to be made more accessible and navigable. For enabling navigation, the design of the **VTL** needs to be worked upon. For the accessibility part, a more robust IT support is needed from the University so that this training tool can be used by all Schools/Divisions/Centres/Units of the University intending to offer training and capacity development programmes.

## References

Moumita Das and Jyotsna Dikshit, 2010. *Innovation Management System : An online platform for managing innovations in the Open and Distance Learning System*. Paper presented at the International Conference on Digital Libraries held at India Habitat Centre, New Delhi, February 23-26, 2010.

## Innovators

**Dr. Moumita Das**

**Dr. Jyotsna Dikshit**

**Period : 2008 onwards**