

ICT intervention for Management of Distance Education: Exploring a software solution for empanelment of Academic Counsellors of IGNOU

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Abstract - This paper is an attempt to study the existing procedure of empanelling Academic Counsellors of IGNOU. The objective of the study is to identify various issues pertaining to the existing system and propose ICT interventions for automating the procedure and creating an integrated database of academic counsellors. For this purpose, we have used Focus Group Discussion as a research tool and examined the existing procedure. In the process, we have deliberated upon the systemic problems and explored possible solutions for overcoming those problems by deploying technological interventions. In the paper, it has been observed that the existing system of manual processing of applications of academic counselors is slow as it is encumbered by a bureaucratic tape. Further, the manual process lacks an application tracking mechanism and a real time database of academic counsellors. The paper proposes that an integrated software solution could solve therefore mentioned problems plaguing the existing system. In the paper, all the existing procedures are studied and it has been proposed to computerize them by interlinking the stakeholder departments to a web based centralised solution comprising of the application and a centralized database. The software solution, if implemented correctly, can potentially enhance the speed of processing applications aided by a tracking system, create a real time database with a disaster recovery system, and provide an easy to access system for generating reports which could enable effective decision making by various stakeholders of the university.

Keywords — *ICT in Distance Education, Management of Education, Software Solution, Educational Technology*

I. INTRODUCTION

Although computers have been in use in Indian Educational institutions as early as 1960s, especially in the discipline of Computer Science, it was not until the 1990s that micro computers gained wide spread adoption by the masses [1]. Three aspects of the ICT industry that accelerated the adoption were: (1) the ease of use of GUI (Graphical User Interface) based software which became popular during 1990s. (2) The invention of World Wide Web and the release of web browsers to the world in 1990s. (3) Decline in price of computer hardware which made it affordable for ordinary consumers. Among others, these three important factors gave rise to wide range of applications comprising of standalone software and web based services leading to widespread adoption of the internet by organisations and individuals at large, including educational institutions and students who were no longer required to be computer science geeks for using computers.

IGNOU too has implemented computer based systems for many of the academic and administrative functions. However,

there are many functions that are yet to be computerised. One such important function that is in need of computerisation is empanelment of academic counsellors. In this paper we have studied the existing process with the objective of arriving at possible solutions by adopting technological interventions.

II. BACKGROUND AND SOME KEY CONCEPTS

Computerisation of office procedures has been on the rise since the advent of personal computers. Private commercial entities have been at the forefront of using computers for office work. Indeed, most large private corporations have office automation software like Enterprise Resource Planning (ERP) systems that link all processes of various divisions of their entity. Of late government entities, including some universities, have been adopting ERP like systems to link their departments and processes. Typically, such processes involve significant investments in hardware and software to enable more effective management of the organisation. The umbrella term used to refer to such technologies is Information & Communication Technologies (ICT). In the next section we

discuss what the term ICT means in the context of distance education.

A. ICT in Distance Education

ICT and distance education are very closely wedded to each other. According to the Commonwealth of Learning, "Distance Education is a mode of teaching and learning characterized by separation of teacher and learner in time and/or place for most part of the educational transaction, **mediated by technology** for delivery of learning content with possibility of face-to-face interaction for learner-teacher and learner-learner interaction, provision of two-way didactic communication, and acceptance of industrial process for division of labour, and economies of scale" [2]. Further, the same institution defined ICT as Information and Communication Technologies comprising of "a **range of technologies and tools used to create, collate and communicate information and knowledge**. ICTs are used in daily life to prepare documents, talk to others through phone, listen to radio and watch television programmes. Some ICTs are one-way, while others facilitate two-way communication. Some can include only one medium (telephone), while other can handle more than one medium (computer and television)" (ibid). If we review the two definitions, the interrelationship between the two concepts becomes clear.

Distance Education, by its very definition, emphasizes on "mediation of technology" for enabling a key aspect of distance learning, ie, delivery of learning content, which is nothing but information and knowledge, specific to the learning needs of the learner. ICT, on the other hand, by its very definition, claims to be the enabler of this transmission of information and knowledge by deployment of various technologies that are encapsulated in the term 'Information & Communication Technologies'.

The role of ICT in education in general and Distance Education in particular has been widely studied. A significant contribution to the corpus of literature on use of ICT in Distance Education has been made by the faculty of Staff Training & Research Institute in Distance Education (STRIDE) of IGNOU. A series of Handbooks pertaining to Distance Education have been released by STRIDE. One such handbook on the use of "Media and Technology in Distance Education" was written by Panda [3]. The handbook covers a variety of media and technologies used in Distance Education, viz. audio and radio, audiovision, video and television, and teleconferencing, and also includes discussion on media selection. However, it does not include the latest technologies spawned by the advent of computer and the web based internet technologies. In a similar study, the use of satellite based distance education via the EDUSAT has been discussed while specifying the challenges of implementing a satellite based education infrastructure [4]. In another handbook of STRIDE

edited by Mishra [5], various E-learning technologies are delineated. While enumerating the benefits of E-learning technologies it was cautioned that educationists should realise that E-learning is primarily about learning and less about technology even though the presence of the latter may be a necessary pre-requisite for success of E-learning.

Though some researchers in the past have tended to down play the potential of E-learning due to low penetration of internet, the situation has changed rapidly over the last decade with the increased penetration of smart phones that have become the primary means for accessing the internet. This was confirmed by the study of Awadhiya et al [6]. The study pointed out that a vast majority of learners in India have access to the internet and use social networking platforms and email systems. It was further suggested that time was ripe for developing online learning content and delivering it in conjunction with social networking tools and appropriate mobile applications.

While the time may well be ripe for a massive injection of ICT in Distance Education, there remain many issues and challenges that need to be tackled for successful implementation of ICT initiatives for ensuring quality in education [7]. Such challenges include, lack of coordination or integration of ICT initiatives amongst various divisions of an institution, necessitating the need for implementation of Virtual University [8]. Further, there are the challenges pertaining to computing and network hardware infrastructure, portability of software across different platforms, vulnerability of software to malicious hacks, and 24x7 accessibility of the system to all stakeholders [9]

ICT has also been viewed as a tool for empowerment and for fulfilling the objectives of 'right to education'. It has been promoted as an effective tool for disseminating education through the distance mode thereby empowering the women of Zimbabwe [10]. In another study, [11], the importance of ICT for reaching out to learners of rural sections of India is emphasized. According to John Daniel, as mentioned in the preface to an UNESCO commissioned monograph, "right to education means that educational opportunity must be both equal and universal" [12]. The study describes how technological interventions can make improvements in delivery of content, learning outcomes, management systems and teaching techniques.

As is evident from the brief literature review above, majority of the studies have been with respect to delivery of learning content and effective utilisation of ICT in Distance Education. This paper is an attempt to enhance the repository of research on Distance Education by focusing on the relatively less studied area of utilisation of ICT for improvement in management systems of Distance Education institutions.

III. METHODOLOGY

The method adopted for research and analysis for the study was Focus Group Discussion. Focus Group is a form of qualitative research tool that is used in various disciplines including Business studies, Social Sciences, Library & Information Sciences and in Engineering for evaluating usability of products and solutions [[13]; [14]]. Typically, Focus Group Discussion involves congregation of people from similar backgrounds to discuss a specific area of interest.

For the purpose of this study, Focus Group Discussion of functionaries of IGNOU was conducted on the matter of empanelment of Academic Counsellors to discuss various issues concerning it and to explore possibilities of computerising the process for empanelment of academic counsellors. Points of discussion about the problems in the existing process of empanelling academic counsellors and the proposal for computerisation of the process were noted down. Initially, the group discussed and arrived at a general consensus about the predominant practices of University with respect to empanelment of academic counsellors which is outlined in section 0. Thereafter, the problems of the existing system and how the proposed software solution can overcome them are outlined in section 0. In section 0, various components of the solution along with the facilities that the solution would provide for various stakeholders are outlined. In the next section, we discuss the existing system of empanelling academic counsellors and point out its various shortcomings.

IV. THE CURRENT SYSTEM OF EMPANELMENT OF ACADEMIC COUNSELLORS AND ITS PROBLEMS

IGNOU hierarchy: The IGNOU system with reference to empanelment of academic counsellors comprises of a three tier hierarchy. At the top of the hierarchy is IGNOU Headquarters. Below it are the Regional Centres (RC) and further down the hierarchy are the Study Centres referred as Learner Support Centres (LSC).

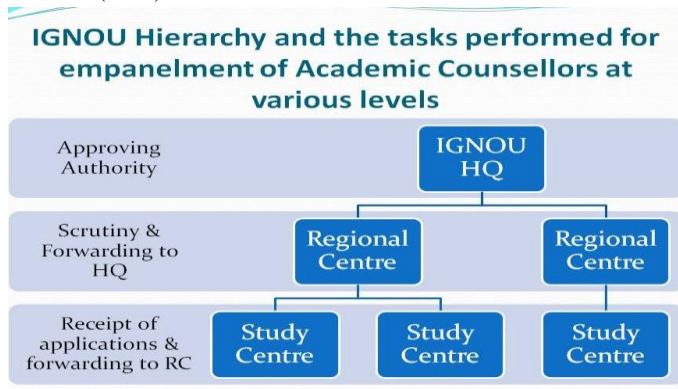


Figure 1: IGNOU Hierarchy

The existing system: Generally, empanelment of Academic Counsellors is done through 3 primary channels. Deviations, if

any, were rare. Proposals for empanelment comprising of filled-in bio-data (in prescribed format) is forwarded to the Head Quarter in primarily 3 different ways¹:

1) **For empanelment in existing Learner Support Centres (LSC) for counselling in courses of academic programmes already activated at the LSC:** In this case, individual expert willing to be empanelled as an Academic Counsellor submits his/her application to the Study Centre of his/her choice in the prescribed format or to the Regional Centre if Programmes are hosted by it directly. Regional Centres directly forward Academic Counsellors bio-data to concerned Schools depending on the courses for which the Academic Counsellor has applied for empanelment. After scrutiny of the biodata, respective Program Coordinators/Course Coordinators provide their course wise approval/recommendation of Academic Counsellors for empanelment. This is forwarded to the Regional Services Division (RSD) through the Directors of respective schools. The concerned officials of RSD then communicate to the RCs with the instruction to generate empanelment letters in the name of the Academic Counsellors for the approved courses only.

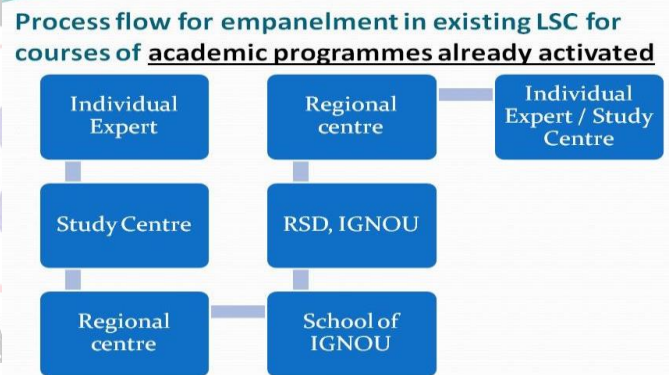


Figure 2 Process of empanelling Academic Counsellors -type-1

2.) **For empanelment in existing Learner Support Centres (LSC) for counselling in courses of academic programmes proposed to be activated at the LSC:** In this case, individual expert willing to be empanelled as an Academic Counsellor submits his/her applications to the Study Centre or the Regional Centre if the proposed program is to be activated at the RC. Along with the proforma for activation of new program, the bunch of biodata of prospective academic counsellors is forwarded to the RSD. The RSD then forwards the biodata to the respective Schools for their course wise approval/recommendation. The approved/unapproved biodata are then sent back to the RSD by the School. The activation of new Programme is then notified by the RSD after it has been passed by the Student Support Services Committee. Upon such notification, the concerned officials of RSD communicate to the RCs with the instruction to generate empanelment

letters in the name of the Academic Counsellors for the approved courses only.

Process flow for empanelment in existing LSC for courses of academic programmes proposed to be activated

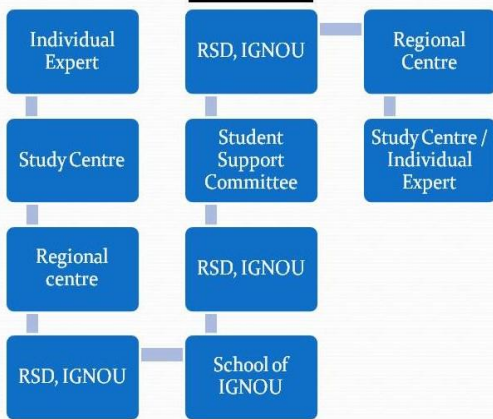


Figure 3 Process of empanelment - type 2

3.) **For empanelment in proposed Learner Support Centres (LSC) for counselling in courses of academic programmes proposed to be activated at the proposed LSC:** In this case too, the procedure/work flow is the same as in (2) above. However, in this case, a new LSC is notified with a new code along with the programmes to be activated at the LSC.

Process flow for empanelment in proposed LSC for courses of academic programmes proposed to be activated

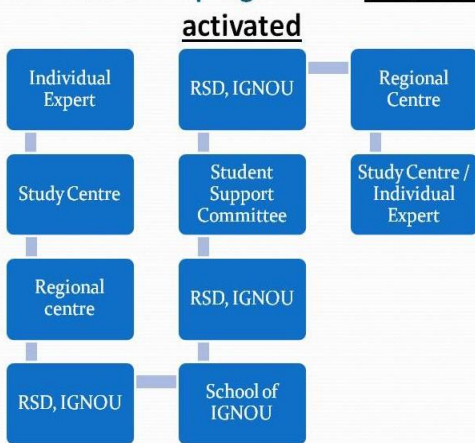


Figure 4 Process of empanelment - type 3

Further, process flow of processing the bio data at the three nodal points of interface i.e. LSCs, RCs and Hq (RSD and Schools of Studies) is as below:

- The individual expert willing to be empanelled as an Academic Counsellor submits his/her applications to the Study Centre or the Regional Centre of his/her choice in the prescribed format.

- The RC assesses the applications as per the laid down criteria and forwards the suitable applications along with his/her recommendations to the concerned school/programme coordinator directly or through RSD (in case of new LSC and programme activation).
- The Director of the concerned school forwards the applications to the concerned Programme/Course coordinator for their recommendations.
- The Programme/Course coordinators concerned examine the applications and submit their approval/disapproval to the Director.
- Director of the school forwards the approved/unapproved applications along with his/her recommendations (if any) to the Director, RSD.
- Director, RSD/Concerned officials of RSD further forward the names of the approved Academic Counsellors to the concerned Regional Centres with the instruction to generate the Empanelment letters.
- Finally, the Regional Director generates the empanelment letter and dispatches it to the concerned Study Centre and individual Academic Counsellor. Alternatively, letters of regret are issued for applications that are disapproved by the concerned School of IGNOU.

After laying out the existing procedure, the group was asked to juxtapose the current system with the computerised alternative and come out with their views. The discussion yielded perspectives that were largely in favour of computerisation. The following section captures the manual versus computerised system debate.

V. PROBLEMS WITH THE MANUAL PROCESS VIS-À-VIS A COMPUTERISED SYSTEM

With reference to empanelment of academic counsellors, the manual versus computerised process debate has been explained in the following points:

Speed and accuracy: The manual process of empanelling Academic Counsellors of IGNOU takes a long time. Indeed in some rare cases, the course wise approvals from some schools took about a year's time. Further, in the absence of a standardized compilation of a document prescribing the qualification criteria for academic counsellors, there are possibilities of recommendation of such academic counsellors who may not have the desired academic qualification as specified by the University. In the absence of such a public document there is a significant time lost in the back and forth

movement of proposals between the Regional Centre and Study Centre due to inadequacies in the proposal for empanelment. It was envisaged that all the aforementioned problems with the current system could be largely mitigated by computerization of the process of empanelment of academic counsellors.

Preparation of reports: In the existing manual process, preparing reports is an arduous task. Possibilities of errors and omissions in the reports are also very high. However, with the introduction of computerised system, reports can be generated automatically at the click of a mouse and errors could be largely eliminated. Further, the automated system would create an integrated database which would be an accurate reflection of available records with reference to academic counsellor's empanelment, ie, it would provide accurate data trail of the number of proposals received, the stage of processing they are in, and the number of academic counsellors who were finally issued empanelment letters or letters of regret.

Backup: IGNOU, being one of the largest universities in the world with operations across India and several other countries, huge number of proposals for empanelment of academic counsellors are processed every year. Huge number of documents are duplicated and transmitted physically between different offices of IGNOU during the entire cycle of the process of empanelment of academic counsellors. This requires a lot of time and money in addition to storage space. Often, many of these documents are lost in transit or in different offices through which the proposals are physically shifted. In an online system, there is no need to move the documents physically as the electronic forms of the necessary data pertaining to empanelment of academic counsellors can be uploaded in the system right at the beginning. Therefore, time and money lost in transit will be eliminated. Similarly, the need for storage space could also be minimised. Most importantly, the backups of data can be easily maintained and unlike physical records, it would remain free from fire hazards which pose a greater risk to the physical records in the current system.

Transparency: In the current system there is a lack of transparency with regard to the processing of proposals as the applicants are largely unaware about the status of their proposals since there is no mechanism to keep them informed. An online system would provide an interface for all the prospective academic counsellors who could use the online platform to know about the status of their application for empanelment. It would be possible to keep track of progress of all the proposals that enter the system until their final disposal ending in issuance of empanelment or rejection letters. From the discussions, it emerged that existing process of empanelment of the Academic Counsellors is slow and cumbersome hence it is in urgent need of automation. A lot of

time and effort is consumed in this entire process of empanelment of Academic Counsellors. Further, empanelment of academic counsellors is a continuous activity and an autonomous system for updating of centralised database of academic counsellors is yet to be achieved. In other words, a real time database of academic counsellors is yet to be created. A viable solution would be automation of the entire process of empanelment. Therefore it was envisioned that an online system for empanelment of academic counsellors needs to be created.

The National Centre for Innovation in Distance Education (NCIDE) of IGNOU had already developed an Online System for empanelment of experts for different proposes such as course Writers, Editors, Evaluation, Translators and Question Paper Setters. The proposed system is inspired by the already existing system called "e-Resource of Experts". The features of the proposed software solution are similar to the platform being used by NCIDE for maintaining a database of subject experts, albeit, more comprehensive in scope with some additional components.

In the next section, we delineate the components of the proposed software solution and list down the services that the system is expected to render to various stakeholders of the university.

VI. PROPOSED ICT INTERVENTION AND ITS IMPLEMENTATION

1. An exclusive provision for Online Empanelment of Academic Counsellors may be made either in an existing platform of IGNOU or independently.
2. Various stakeholders, ie, concerned departments and users should be provided authorized access to the proposed system. The system will have a universally accessible system for tracking of proposals by all concerned parties. The probable users as envisioned for the proposed system would be as follows:
 - i) Individual Experts willing to be empanelled as Academic Counsellor (AC).
 - ii) Study Centres- the Coordinator / Programme In Charge of Learner Support Centre and staff authorised by the Coordinator/PIC.
 - iii) Regional Centres - authorized staff as well as Regional Director
 - iv) Schools Concerned - Director as well as Programme/Course Coordinator
 - v) RSD- Authorized Staff and the Director
 - vi) Administrator – the person who will administer the online platform for empanelment of academic counsellors.
3. The system should be secure, transparent and user friendly.

4. The system should have provision for:
- sending auto-reminders and alerts to the users through emails or SMS.
 - sending online empanelment and renewal letters to the individuals.
5. The software should have different interface pages for different users giving facilities or access permissions as per their need, as given below:

A. Facilities for Individual Experts

- To login and register on the system
- To submit his applications online and upload scanned documents
- To update/edit his/her profile
- To print copy of application form
- Track the status of their application
- To print empanelment letter
- To print renewal letter

B. Facilities for Study Centres

- Upload Biodata/Application Form of Experts
- Edit for additional courses
- Recommend for Orientation Programme
- Recommend for Renewal
- Print Empanelment Letters of Academic Counsellors
- Print Course wise/Programme wise list of Academic Counsellors
- Query the database and generate reports of academic counsellors based on Academic Counsellor Code, Academic Counsellor name, Name of LSC, Name of Program/Course code

C. Facilities to Regional Centres

- Upload Application Forms/Biodata of individuals for existing LSCs and new LSCs
- Update/Edit Profile of Academic Counsellors for -changing/adding LSCs -changing/adding courses
- Change Regional Centre for approved Academic Counsellors
- Issue Empanelment Letters after approval of the School is received.
- Issue Renewal Letters as per the norms of the university.
- Print course wise/programme wise/SC wise list of ACs
- Verification of documents of ACs by the RC Staff
- Recommendation by the RD
- Issue Notification For Orientation
- Generate details of Orientations Programmes attended by the ACs
- Online Certification for attending the Orientation programmes
- Query the database and generate reports of academic counsellors based on Academic Counsellor Code,

Academic Counsellor name, Name of LSC, Name of Program/Course code

D. Facilities for Schools

- Generate and Print Course wise/ programme wise list of ACs
- Approve applications recommended by the Regional Directors
- Query the database and generate reports of academic counsellors based on Academic Counsellor Code, Academic Counsellor name, Name of LSC, Name of Program/Course code

E. Facilities to Regional Services Division

- Automatic Notification of the approved ACs
- Add new Study Centres Code
- Add new RC Code
- Query the database and generate reports of academic counsellors based on Academic Counsellor Code, Academic Counsellor name, Name of LSC, Name of Program/Course code and Print Reports of ACs-course wise/programme wise/SC wise/ RC wise etc.

6. The proposed system which may be referred as “Academic Counsellors Management System” may be developed or implemented with the help of internal resources or outsourced to an external agency as deemed fit by the authorities at IGNOU. After the software system is ready, it may be pilot tested in few regions for ironing out problems, if any. Thereafter, stakeholders could be oriented about the online platform before launching it across all operational regions of the university.

VII. CONCLUSION

In this paper we have explored the impact of computer hardware and software on organisations and individuals with particular interest on the Distance Education sector. It was observed that as the penetration of personal computer and mobile devices increased, there was an influx of standalone and web based software to meet organisational needs. Commercial institutions led the way by adopting various Information & Communication Technologies like ERP systems to automate all their office procedures. Government institutions and educational institutions also started adopting appropriate technologies to automate their functions.

IGNOU too has invested significantly for acquiring ICT based solutions in its bid to automate many of its procedures. However, many opportunities for automation are yet to be exploited. In this paper, we have explored the possibility of automating one such process, ie, empanelment of academic counsellors. We have studied the existing manual process and weighed it against the potential benefits of computerisation of

the procedure. We have concluded that IGNOU needs to adopt an integrated computerised system for automating the process of empanelment of academic counsellors. In the last section of the paper, a framework for computerising the procedure has been suggested.

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