Information Technology Innovations in Office Management - A Case Study

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Information Technology Innovations in Office Management - A Case study of SIMS

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ABSTRACT

Paperless automated management system is the current trend in the market. The office which deals with the administration of the college has several responsibilities like student admission, document collection and verification, fee collections in various streams like admission, examination, attendance report, internal assessment report, general notices etc. Till now our office management system was implementing all the above services using paper based and man power. Recently we have developed software called Information Management System for the office management which automates all the services of the office management system. This paper presents the implementation of IMS for the office management system which include automated monthly attendance report, automated internal assessment marks, information about the students and their parents, information about the various types of fee collected from the students, study materials submitted by the staff members. It also supports college functions by providing time to time information about the performance of the students to their parents using sms and e-mail facility, salary calculations, salary report generation of the staff members etc. This paper also highlights the development of the software using open-source with server side implementations.

Keywords: Computer software, Management Information System, IMS, salary report, Office management system, Student Information system.

I. INTRODUCTION

An organization can function successfully when the core objective of the organization for which it is existing is properly functioning and the effective administration to support the core objective of the same. An education system should have both good teaching staff with all the infrastructural facility and an effective administration department. The responsibilities of the administration department start from student admission to examination, result and alumni activities. The major responsibilities include student admission, marks card verification, assigning the register number to the students, fee collection, monthly attendance,

internal exam marks report, internal assessment, various examination related activities, teaching and non teaching staff management, leave management, salary management etc.

The office management system is functioning in many educational institutions manually with files, ledgers using a huge amount of human resource. This system being the old traditional system has a lot of drawbacks. The efficiency in the administration is very poor. The best practice in the office administration is the implementation of software based Office Automation System [1-8].

This paper contains the information about the best practices followed in the office of Srinivas Institute of Management Studies (SIMS), Pandeshwar, Mangalore using the software developed by the computer science department of the college with the help of an open source platform. Supporting functions like Pay Roll and Leave, Attendance, Teaching, Administration, Support service conditions, updating of Informing the Attendance and Internal Marks, Discipline, Scholarship, Certificate courses, arranging Industrial visits, Project work, Providing Transport facilities, Block Placement, Summer placement, project work to the students are practiced using indigenous developed office automation system.

II. ABOUT SIMS

Srinivas Institute of Management Studies is well known for imparting value based education in various disciplines. Situated at Pandeshwar, Mangalore, the college runs three post graduate (PG) courses namely MBA, MSW & MCA and three under graduate (UG) courses BCA, BBM & B.Com. To have track of the immense work related with these six courses, the college uses office automation and many innovative techniques in its office. The college wishes to adopt various teaching & learning methods in its day-to-day process.

III. INNOVATIONS AT SIMS OFFICE

The college office has introduced several innovations which have helped to create a positive impact on the services provided by the office for its stakeholders. One of the major implimentation is the software based service. The role of Software is to help the management and office staff to manage day to day operations very smoothly. This latest proposed system makes the entire office work computerized thus increasing the efficiency of work and reducing the need of manpower. At the same time it also helps the office staff and faculties to manage the daily operations easily and smoothly. Various modules are used for fulfilling the diverse needs of the office works faster. The workflow structure of SIMS office is shown in figure 1. Following Innovations have been introduced by SIMS office in the college during last 4 years :

(1) Sending student Information to the parents
Updating students attendance and Internal marks is done monthly and informed to their Parents via short message service (SMS) and E- Mail service. For this purpose, the mobile phone numbers and e-mail ids of the parents/guardians are collected at the time of admission and stored in the database.

(2) Communication through Email
General information like college reopening dates, Exam details, Fee details, Choice based program details etc. are sent to the students through E-mail.

(3) Easy Fee Transfer

E-Banking system, the easy method of transferring the fees from students account to the college account is followed in the college. Outstation students can transfer their fees from their place to the college account through E-Banking System.
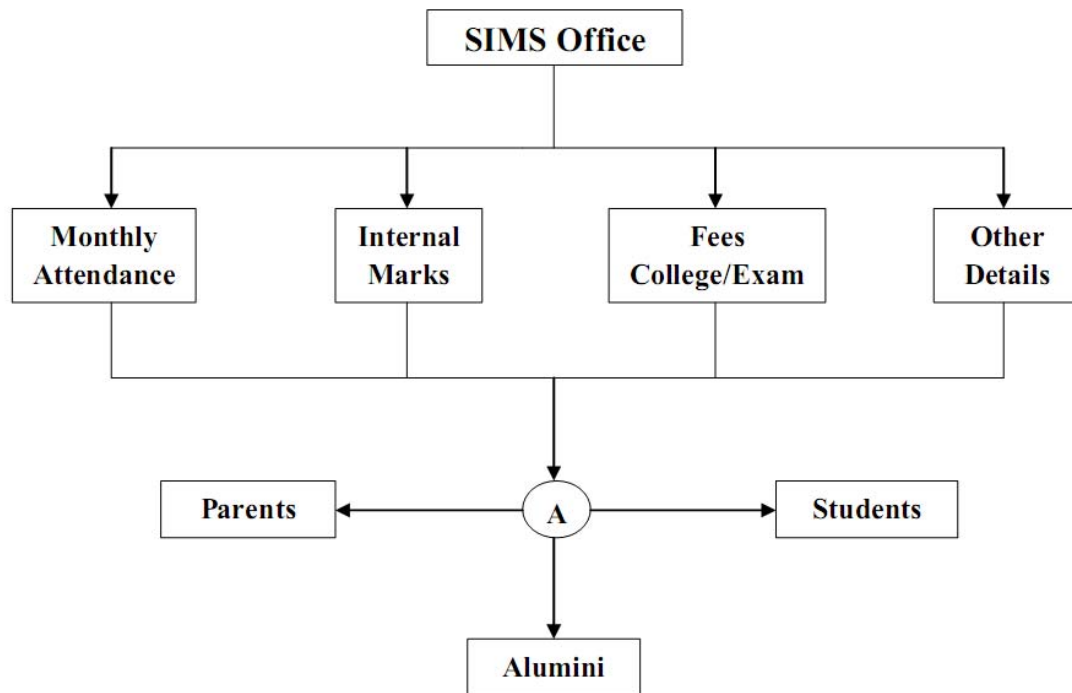

Fig. 1 : Workflow structure of SIMS office.

(4) Learning Environment

All the office staff members are working in teams with mutual co-operation. This will help us for the success of the institution related with admission and examination.

(5) Time Management

The college provides in-time service to its stakeholders. The work in the office is finished within the stipulated time. Whatever services required to the students and faculty members are provided with in the specified time.

(6) Pay Roll Package

Salary management software is used for calculating the salary of the staff members. It is called as Salary Pay pack of Staff Members which include details of salary, P.F., other deductions, leave etc., and generates individual pay-slip.

(7) Service to the Stake Holders

We are providing excellent services to the staff, students, parents, industries, NGO's etc.

Staff : Information and services related to salary, leave/attendance, teaching, administration, support services, valuation of examination papers etc. are provided.

Students :- Information and services related to admission, updating & informing the attendance and internal marks, discipline, scholarship, certificates & marks card etc. are provided etc of their ward.

Industries :- Services related to arranging industrial visits through office communication, project work, time management etc. are provided.

(8) Promotion of Technology
Staff bio-metric attendance, computer aided services, SMS services, Internet (Wi Fi) connections, networked printing etc. are available and used in the college office.

(9) Development of Technologies: SIMS, since at the time of its inception had MBA as the major PG course and the workload was very less. As the days went by and due to the addition of PG and UG courses the workload of SIMS increased enormously. The college introduced 2 PG courses namely MSW and MCA and 3 UG courses, BCA, BBM & B.Com. under its banner. Accordingly an online system was introduced to cater and lessen the huge workload of office staff related with these courses. Now-a-days most of the work has been done through online technical, communications, and human relations skills etc. The figure 2 depicts the year-wise increase of student strength at SIMS.
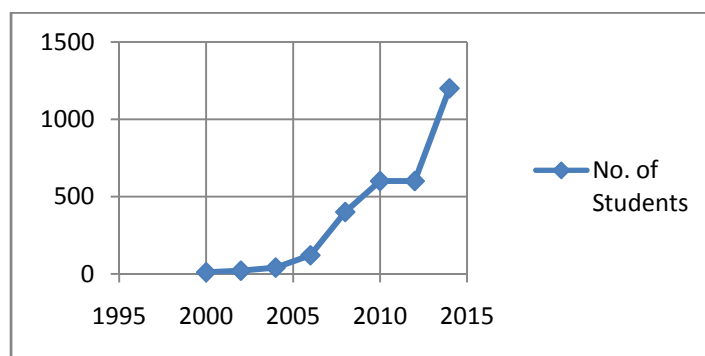

Fig. 2 : Year-wise increase of student strength at SIMS.

(10) Online Support to Stake Holders through college Website
Updating and monitoring information in the college website to the parents, students, industries, alumni, & publics when required.

(11) Image and Visibility of the College
Printing college magazine, news-letter, articles in e-magazine, college journals & reports, and by providing better services to the students, and maintaining good relation with Alumni.

(12) Innovative of office Activities
SIMS office is maintains a work system both through Online and off line. For the easy access of the required data related with heavy workload it was desired to have an online office system along with the offline system prevailing in the college. Learning the two different ways to change the office status from online to offline allows us to determine the best method of our needs. The quick setup uses custom method which lets us to determine storage of offline data. Sending of online informations regarding admission details, examination, internal marks, practicals, salary details of staff members etc. to the higher officials of other institutions is done through online. Along with this offline is also prevailing and used for manual work like inward and outward communications, appointments etc. this has made the work distribution easy and accessible to each staff. This has lessened the paper work and maintaining separate files for each task. Working offline lets us to simplify our needs.
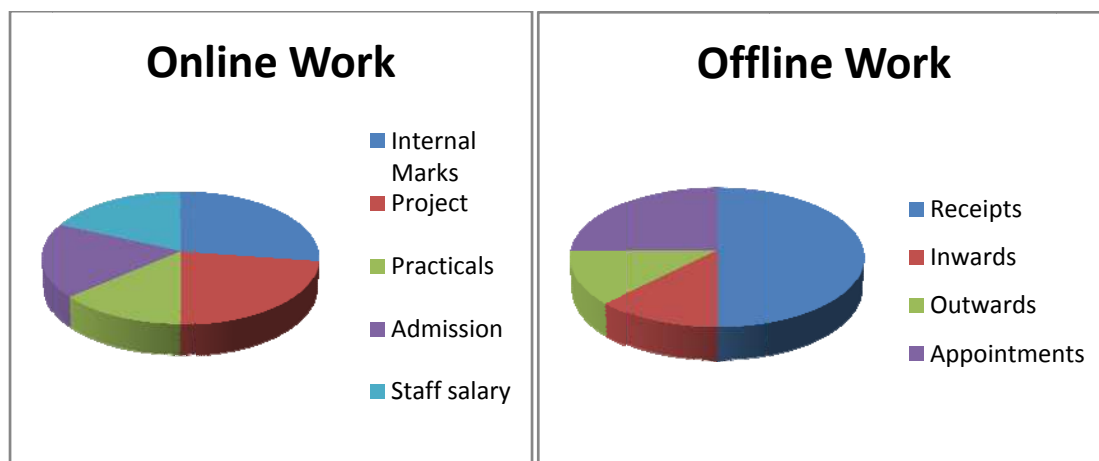
Fig. 3 : The activities of the office including online and offline works.

(13) Accountability
Obligation to fulfill the work expected from time to time, authenticity in data communicated to various stakeholders e.g ; Target, Planning etc.

(14) Electricity savings through LED monitors
All the computers used in college office have LED monitors and are networked. This saves electricity as well as health hazard as in case of CRT based monitors.

IV. INDIGENOUSLY DEVELOPED OFFICE AUTOMATION SOFTWARE

With the direction and requirement planning by office administrators, the college (students & faculty) has developed an indigenous office management system software which has facilities like scanning marks cards of the students for admission purpose, keeping track on exam applications, subject-wise internal marks and online submission to the university etc. This is reduces the manual work and all documents are maintained as soft copy in the database of the system. The office automation system has the following modules with the input and output details :

(a) LOGIN MODULE
Users can use some of the features of the application only after logging in to the system. For this the user has to fill in the user name and password. On logging in, the page is redirected to the main page.

- Login
    - User Type (for staff/
    - Faculty / principal)   :
    - User Name   :
    - Password   :

(b) COMMON USER MODULE
This module can be used by anyone without logging into the system. It include various information about the institution including courses, facilities, admission requirements, contact details, student attendance& mark details study materials, notifications etc..

- Faculty sign up
  - First Name   :
  - Last Name   :
  - Gender   :
  - Department   :
  - Qualification   :
  - Additional Qualification   :
  - Permanent Address   :
  - Current Address   :
  - Date of Birth   :
  - E-mail ID   :
  - User Name   :
  - Password   :
  - Confirm Password   :
  - Mobile. No   :
  - Mobile. No (alternate)   :

- Office Staff sign up
  - First Name   :
  - Last Name   :
  - Gender   :
  - Department   :
  - Qualification   :
  - Additional Qualification   :
  - Permanent Address   :
  - Current Address   :
  - Date of Birth   :
  - E-mail ID   :
  - User Name   :
  - Password   :
  - Confirm Password   :
  - Mobile. No   :
  - Mobile. No (alternate)   :
- Home
- Overview
  - About College
  - Our Founder
  - Our Principal
  - Our Mission
  - Our Vision
- Admission
  - Admission Requirements
  - Fee structure & Fee Rules
- Departments
  - BCA Department
  - BBM Department
  - B.COM Department
  - MCA Department
  - MBA Department
  - MSW Department
- Administration
  - Principal's Desk
  - Rules & Regulations

- Facilities
  - Hostels
  - Library
  - Labs
  - Seminar Hall & Canteen
  - Transportation
  - Class Rooms and Tutorial Rooms
- Placement Cell
  - Activities
  - Placement Details
  - New Recruitment
- Achievement
  - Rank Holders
- Gallery
- Contact Us
  - Contact Info
  - Location Map
- Students Corner
  - University Exams
  - College Holidays
  - Special Events
  - Exam Results
  - Attendance Details

    This is used get the attendance details of student.

Register No	:
Department	:
Semester	:
Month	:

  - Internal Exam Marks

    This is used get the mark details of student.

Enter Register No	:
Department	:
Semester	:
Select Exam Name	:

  - CE Mark

    This is used get the CE mark details of student.

Enter Register No	:
Department	:
Semester	:

  - Downloads
  - Study Materials
- Notification

(c) ADMIN MODULE
This module consists of various activities like
- Home
  - User Authorization
  - Department Creation

Department Name	:

  - Semester Creation

Department Name	:
Semester Name	:

- o Month Creation

  - Month :
  - o Batch Creation
    - Department Name :
    - Batch :
  - o Qualification Creation
    - Qualification :
- Manage
  - o Placement Details
    - Student Name :
    - Department :
    - Company :
    - Year :
  - o Placement Programs
    - Recruiter :
    - Departments :
    - Date :
    - Eligibility :
    - Interview Location :
- Manage Contents
  - o Upload Photos
    - Title :
    - File Name :
  - o Notifications
- Manage Users (Delete)
  - o Staffs
  - o Faculty
- Add/Edit subjects & Marks
  - o Subjects
    - Department :
    - Semester :
    - Subject Name :
    - Max Mark :
    - Subject Code :
- Settings
  - o Reset Admin Details
    - User Name :
    - E-Mail Id :
    - Old Password :
    - New Password :
    - Confirm Password :
- College Holidays
  - Reason :
  - Department :
  - Date From :
  - Date To :
- University Exams
  - Exam Name :
  - Department :
  - Date From :
  - Date To :
- Special Events

        Event   :
        Department   :
        Date   :
        Organizer   :

- Upload Forms
  - Title   :
  - File Name   :
- Fees Structure
  - Department   :
  - First Year   :
  - Second Year   :
  - Third Year   :

(d) STAFF MODULE

This module consists of various activities like

- Academics
  - Enter Attendance
    - Name Of The Student :
    - Date Of Birth   :
    - Gender   :
    - Cast   :
    - Blood Group   :
    - Father's Name   :
    - Mother's Name   :
    - Guardian's Name :
    - Place of Birth   :
    - Permanent postal address:
    - Current postal address :
    - Pin Code   :
    - Telephone Number :
    - Parent's Mobile No :
    - Parent's Email ID   :
    - Student Mobile No :
    - Student's Email ID :
    - Examination   :
    - Name of the institute :
    - Location   :
    - Pass year   :
    - Stream   :
    - Board/university   :
    - Percentage   :
    - Date of Admission :
    - Register No   :
    - Department   :
    - Semester   :
    - Batch   :
  - View Marks
    - Course   :
    - Semester   :
    - Batch   :
    - Exam Name   :
  - View Attendance
    - Course   :
    - Semester   :

- Batch   :
- Month   :
  - o View CE Mark

    Course   :
    Semester   :
    Batch   :

- **Send Message**
  - o Attendance
    - Course   :
    - Semester   :
    - Batch   :
    - Month   :
    - Subject   :
  - o Mark
    - Course   :
    - Semester   :
    - Batch   :
    - Exam   :
    - Subject   :
  - o Complaints
    - Parents E-mail :
    - Subject   :
    - Message   :

- **TOOLS**
  - o Complaints
    - Department   :
    - From   :
    - Subject   :
    - Complaint   :
  - o Apply Leave

    - Department   :
    - From   :
    - Date From   :
    - Date To   :
  - o Messages

- **FEES**
  - o Exam Fee
    - Register No   :
    - Name Of the student :
    - Course   :
    - Semester   :
    - Amount   :
    - Date   :
  - o Mess Fee(Enter/update/display)
    - Course   :
    - Semester   :
    - Batch   :
    - Month   :
    - Register No   :

           Name of the student   :
           Actual amount   :
           Amount paid   :
           Date   :

- o Id Card Fee
  - Register No   :
  - Name Of the student   :
  - Course   :
  - Semester   :
  - Amount   :
  - Date   :
- o Library Fee
  - Register No   :
  - Name Of the student   :
  - Course   :
  - Semester   :
  - Amount   :
  - Date   :
- o Fine Fee
  - Register No   :
  - Name Of the student   :
  - Course   :
  - Semester   :
  - Reason   :
  - Amount   :
  - Date   :

- **INFO**
  - o Student Detail
  - o Class Detail
  - o Faculty Detail
- **ACCOUNT**
  - o Reset Password
    - Old Password   :
    - New Password   :
    - Confirm Password   :
  - o Edit Profile
    - First Name   :
    - Last Name   :
    - Department   :
    - Qualification   :
    - Additional Qualification:
    - Permanent Address :
    - Current Address   :
    - Date of Birth   :
    - E-mail ID   :
    - User Name   :
    - Password   :
    - Confirm Password :
    - Mobile. No   :
    - Mobile. No (alternate):
  - o Logout

(e) FACULTY MODULE

- ACCADAMICS
  - o Enter Attendance
    - Department   :
    - Semester   :
    - Batch   :
    - Month   :
    - Total class   :
    - Attended Class   :
  - o Enter Marks
    - Department   :
    - Semester   :
    - Batch   :
    - Month   :
    - Total Mark   :
    - Obtained Mark   :
  - o Enter CE Marks
    - Department   :
    - Semester   :
    - Batch   :
    - Month   :
    - Total Mark   :
    - Obtained Mark   :
  - o Upload study material
    - Department   :
    - Semester   :
    - Subject   :
    - Title   :
    - File   :
- TOOLS
  - o Complaints
    - Department   :
    - From   :
    - Subject   :
    - Complaint   :
  - o Apply Leave
    - Department   :
    - From   :
    - Date From   :
    - Date To   :
  - o Messages
- ACCOUNT
  - o Reset Password
    - Old Password   :
    - New Password   :
    - Confirm Password   :

- o Edit Profile
    - First Name   :
    - Last Name   :
    - Department   :
    - Qualification   :
    - Additional Qualification:
    - Permanent Address   :
    - Current Address   :
    - Date Of Birth   :
    - E-mail ID   :
    - User Name   :
    - Password   :
    - Confirm Password   :
    - Mobile. No   :
    - Mobile. No (alternate):
  - o Logout

(f) PRINCIPAL MODULE
- HOME
  - o Text Message
    - Message   :
  - o Leave Request
  - o Complaints
- VIEW DETAILS
  - o Staff
  - o Faculties
- SETTINGS
  - o Reset Principal Details
    - Old Password   :
    - New Password   :
    - Confirm Password   :
  - o Logout

The block diagram of Office Management System is shown in figure 4. The college has its own website : www.srinivasgroup.com, The office notices displayed in the college notice boards & circulars sent to the classes are displayed in the college intranet and college website. The college also display information related to examination, assignment, results of university examination in the college website.

V. CONCLUSION

The use of the above innovative methods have reduced the manual interference in all the administrative activities. The automated systems provide immediate solutions to the user requirements. The usage and wastage of papers are reduced. The various stake holders can get the up to date information using the automated system. The security system is more effective with the implementation of CCTV camera and Use of LED monitors in the computer lab have reduced the excess consumption of electricity. Further the Office

Management System is getting upgraded in using the cloud computing and cloud storage system.
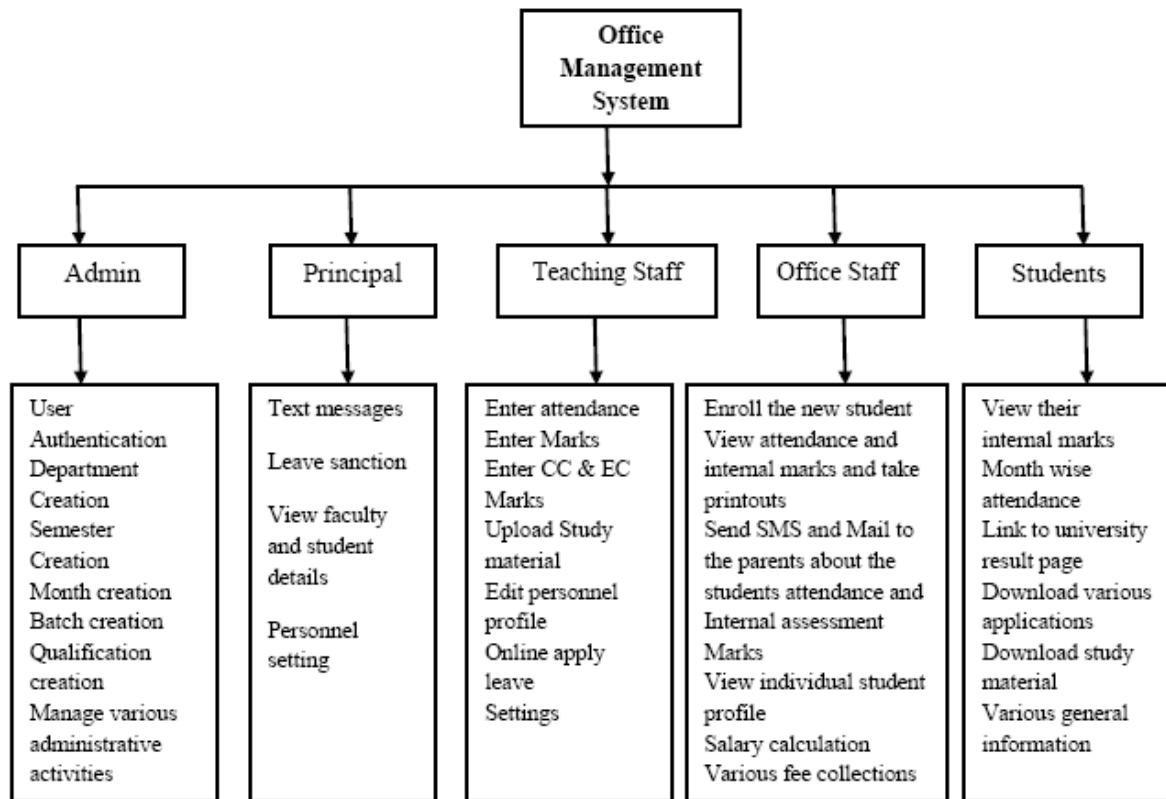

Figure 4: The diagrammatic representation of Office Management System.

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Dr. P.S. Aithal is belonging to Udupi, India, born on 04/04/1966. He has M.Sc. in Physics from Mangalore University, India, M.Sc. in E-Business from Manipal University, India, M.Tech. in Information Technology from Karnataka University, India, Ph.D. in Physics from Mangalore University, India, and Ph.D. in Management from Manipal University, India. His major fields of study are characterization of nonlinear optical materials, optical solutions, e-commerce and mobile business. He has two years post doctoral research experience at Physical Research Laboratory, Ahmedabad, India and one year post doctoral research experience at CREOL, University of Central Florida, USA, in the field of Characterization of nonlinear optical materials. He has about 22 years teaching experience both at UG and PG level in Electronics, Computer Science and Business management. Currently he is working as PRINCIPAL at Srinivas Institute of Management Studies, Mangalore, India. He has published about 35 research papers in peer reviewed journals and two text books on physics and Electronics for Engineering students. He has research interest in Nonlinear optical absorption, Optical Phase Conjugation, Photorefractive materials, e-business, m-business, ideal business, and nanotechnology business Opportunities. Dr. Aithal is member of World Productivity Council, U.K., member of Strategic Management Forum, India, member of Photonics Society of India, CUSAT, Cochin, senior member of IEDRC.org, Singapore.

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