MIS AND COMPUTERIZATION OF THE UNIVERSITY SYSTEM

"When you fail to plan, you are planning to fail"

Dr. Robert Schuller

Introduction

In the previous chapter, the researcher has tried to give the cursory picture of the existing system of data in flow works structure and operational aspects of University administration. The existing system emphasis more on follow up of procedure, abiding various rules and regulations and meeting the objectives by maintaining the complete routine system. The administrative structures of Universities are having a large number of levels of echelones. Hence the work procedure become lengthy and complicated. By maintaining the same structure and without disturbing the legal frame work, the work has to be expedited. In the manual system, expectations of work often results in violation of provisions or sometimes there is overlapping or some lapses remains in the follow up of work procedure. Some of the pitfalls or mentions in the earlier chapter also throw light on missing the objectives of the organisation just because the attempt is made to mere making follow up of the system. It will be inappropriate to except a modern organisation in the
electronic era following a very lengthy, complicated system which misses its objectives and spends more time. As the concept of paperless office is coming close to reality electronically maintained information system and computer aid reporting system are the only alternatives to improve system efficiency.

In this Chapter, the researcher has tried to find out as to what extend the concept of modern management information system and computerization of University structure can be formulated.

The computer software supporting a university management information system (MIS), when fully implemented, shall be consisting of a set of integrated data files containing information about students, staff, finance, research activities and teaching curricula, with the data being processed by rules and instructions contained within computer programs.

The process employed to develop the software will be complex, involving a combination of people with business and technical skills, working with managers and operational staff throughout the university, often over a period of several years. The development process can take place in the following approximate chronological sequence:

* the analysis and definition of the requirements of the end users of the proposed system
* the design of data file structures and definition of process rules
* development of the computer programs, using those rules and data structures
* redesign of clerical procedures
* loading of the organisation's data into the computer files
* training of staff in the use of the new system
* extensive testing of the components of the system and the system as a whole
* implementation of the system to an operational state.

After implementation, resources must be provided to carry out the never ending task of supporting, enhancing and maintaining the overall system.

**Implications of in-house development**

Development cycles like those outlined above can, for large scale systems of the type required by universities, take many person years of work to develop over a period of several calendar years.

If the university chooses to develop the software to support the MIS, the management must be prepared to commit to the following:

**(1) High expenditure**

Allocation of large sums of money will be required each year, over a period of several years, to engage the analysts, programmers, team leaders and other staff necessary to carry out the development.
**Long lead time**

Management must be prepared to accept a long lead time (a minimum several years) between commencement of the project and final implementation. Implicit in this acceptance is recognition that during these years nothing remains stationary, i.e. the ‘goal posts’ move. The requirements of internal and external users change (e.g. government agencies (UGC) & funding organisations), staff will move on, each one taking some valuable and relevant knowledge with him or her, and as new technology, concepts and ideas emerge there will be pressure to ‘modify the specification’, thus causing more delays and extra expense.

**Staff involvement**

Staff at all operational levels must be made available to the project team for varying periods of time to assist with the project. These staff must, of course, continue to perform their normal tasks so that the day-to-day work of the university continues.

**Isolation**

In-house development means ‘going it alone.’ The development of the system will take place in isolation and deny the benefits of sharing ideas and innovations with other universities through user groups both during the development period and once the system is operational.

**On-going expense**

Finally, there must be acceptance that, if and when the MIS is finally implemented, the trouble and expense is
by no means over. Ongoing support of the system must be supplied by an in-house team of analysts and programmers. Every enhancement and change must be performed by this group and, again, isolation will prevent the university from taking advantage of innovations taking place in other universities.

Each of the above factors contributes to the risk of failure; in combination, not only is the risk high, but it is also extremely difficult to manage.

**The alternative—the package approach**

The alternative involves the selection, purchase and implementation of a commercial software package which will substantially satisfy the requirements of the university.

Software packages are usually developed using a 'composite' or 'model' specification of requirements of users within a particular industry. Packages are available for almost any industry one cares to name. Universities are no exception; there are a significant number of packages which have been specifically designed and developed to cater for their needs.

Data processing and information requirements do vary between universities (although not anywhere near the extent some advocates of the development approach would have us believe.) but these variations may be resolved either by changing internal procedures to suit the way the package operates and/or modifying the software to suit the internal procedures.
It would appear, therefore, that universities will be able to find a package which will substantially satisfy their needs. But, will the risk of failure be lower and will that risk be more manageable than was the case with in-house development? It is believed that with careful selection of the package and proper management of its implementation the chances of success are higher for the following reasons:

1. Expenditure will be less because the original development cost is 'shared' between all purchasers of the package. Initial outlay is therefore only a fraction of the expenditure required to develop the software.

2. The lead time will be shorter because the most time consuming components of the development process (design and programming) have already been performed when the supplier developed the package. Lead time therefore becomes only a fraction of that experienced when developing software.

3. Management and operational staff involvement, while still substantial and crucial to success, will be reduced and required over a shorter period.

4. New ideas, techniques and innovations can be shared between all user universities because of the opportunities for interaction between users through such forums as user groups.
(5) The cost of modifications and enhancements (e.g. because of change of government or funding agency requirements) can be shared between all users (at least within one country).

**Software to support the MIS - procurement of packaged software**

The selection of administrative software is one of the most important tasks to be undertaken by a university when introducing an MIS. It is also one of the most dangerous, for if the wrong product and/or supplier is chosen, the financial, operational and management implications can be serious.

It is necessary to keep in mind certain procedural aspects before introducing any software package. The major considerations can be enlisted as follows.

**(a) Establishing a project team and management structure**

Commitment of staff with relevant experience at the appropriate time is essential. Both the project team and the managing group (often referred to as the Steering Committee) should consist of a combination of technical computing staff and end users of the MIS at the operational and management levels.

Ideally, the project team will consist of a project manager, who has previous experience in the procurement of computing software, at least one user representative with wide knowledge and experience of the university’s processes,
and at least one technical computing representative. This core team should be available on a full time basis for the duration of the project.

Other user and technical staff should be available to the project as and when required. In particular, user staff from specific departments (e.g. Academic enrollment, Human Resources, Finance) should attend demonstration and site visits to see the proposed software actually working.

The Steering Committee should also reflect a range of university interests, with senior decision makers among its membership.

(b) Designing requirements

The Requirements Specification has as its primary function the interchange of information between the university and potential suppliers. The Specification is often the first significant opportunity for both parties to communicate with each other in a formal and structured way.

The Specification allows the university to provide potential suppliers with information about the university (mission, objectives, size, courses, present computing environment and a wide range of statistical information) and to state the functional requirements of the software systems and the associated support and other services it wishes to procure.
It also allows the university to obtain from potential suppliers information about their organisation and to what degree, and how, they will satisfy the specified requirements.

With the above in mind, it is important that the university, through its Project Team and in consultation with a wide range of users within the university, prepare a Specification which is not only complete, accurate, and comprehensive in terms of the information it provides, but also is structured to elicit all relevant information from respondents.

This latter point is of particular importance; suppliers will, quite naturally, provide information about their strengths, but unless specifically asked will remain silent concerning their weaknesses. One of the most important goals in preparing the Specification (and indeed during the procurement process which follows) is to ask the questions which will draw out and highlight the weaknesses in the potential suppliers products and approach. The procurement process is as much about which product not to select as which to select.

(c) Preparing an evaluation strategy

The project team, in consultation with users, should develop a strategy to guide the evaluation of supplier response. It should contain a list of the evaluation tasks to be performed, their order of performance and participants in each task.

It should also provide the basis for 'scoring' functional aspects of the software and other features and provide a system
of relative values or 'weightings' between various features such as software functionality, support capability, training programme and documentation.

The strategy for introduction of a suitable package naturally will start with deciding the process of procurement and further its installation.

The procurement process of suitable software can be conducted in the following manner.

1) The system analysis design department will first decide as to what kind of softwares are required for each separate sub-system and how they will be integrated.

2) A scheme will be designed to acquire individual packages as well as to integrate the individual packages with the master system.

3) Preferably a master software will be prepared consisting of sub-system useful for every section or every individual sub-system. No sooner the specification of such systems and packages are designed a final structure of package with its specifications, costs, size, parameters as well as other parameters will be decided.

The required master software will then be procured from suitable suppliers or system designers for which an open tender system can be followed. Once the tenders are invited
from the expert System Analyst or System Designers, then they will be asked to demonstrate so as to know whether the suggested packages meets every requirements of the University or not. Similarly, whether such a package is designed for installation, implementation and follow up in the given University set up. The cost, time, training staff requirements and administrative expectations will be the criteria on which every such package will be evaluated.

Once these packages are evaluated, they will be arranged with their merits and short illustrated according to consideration of cost as well as other important parameters. A suitable and easily arrangable package will be selected which will be first installed on the test basis before finalisation of negotiations.

**Installation**

Once the package is selected, the team of the University will negotiate with the System Designers regarding cost, training, availability, maintenance, retraining and for further adjustments. If any such packages already installed in other Universities, then such Universities will be first visited by the University officials and a review will be taken to know whether the system works effectively or not.

Universities may go for installation of system for one particular activity initially followed by phased computerization
or may think of a complete installation of the system in either of the cases, there will be some gestation period for satisfactory functioning of the system.

A suitable time period for steady execution and installation will be given to the System Designer. During which the entire responsibility of operation of the system as well as its satisfactory performance will lie with the supplier.

**Implementation - the installation and commissioning stage**

It is during this stage that difficulties and delays are most frequently experienced and it is still the case that fewer than half MIS projects achieve their objectives. At this stage the steps required for implementation and installation of MIS are explained.

1. **Scope and assumptions**

Implementation includes all those activities which lead to the installation and commissioning of an MIS. These activities can vary widely depending on the MIS strategy which is being followed, for example the extent to which the application software is written to a local specification, either internally or by contractors; whether, as is often the case, the systems are to be installed in a new and unfamiliar hardware and software environment; whether the operation of the new systems is to be distributed to faculty or retained by central administration. These and many other factors influence both the nature and scale of the implementation task.
In recent years, packaged MIS applications for Higher Education administration have become more widely available. These applications have been designed using relational database methods for operation in a modern environment. They generally support a holistic model of the Higher Education institution which includes Student Administration, Research and Consultancy, Human Resources, Finance, and Estate Management.

For many institutions, introducing a modern MIS is enforcing a simultaneous change of hardware, networking and operating environments. Good practice suggests that this change should be made and stabilised before commencing the MIS implementation. Hence changing the operating environment is not discussed specifically here, although it is recognised that a clear division between these tasks is almost impossible to achieve in real life, even if time permits. However, many of the approaches described are equally applicable to a hardware implementation. It is also assumed that the initial implementation is taking place within a centralised administration. This seems representative of the position of a majority of institutions. Finally, it is assumed that implementation will take place in the shortest timescale consistent with a successful outcome. A variety of pressures exist on implementation timescale, including cost, both direct and indirect, the need to take early advantage of new capabilities and, not least, that the new
MIS, though not yet in service, is already becoming obsolete in the face of changes to organisation, technology, expectations, and the operating environment of the institution.

2. Project appraisal

The implementation stage will change this balance dramatically, but before embarking on this critical stage, it is wise to stand back and ensure that there is a sound baseline on which to proceed. This should be done by conducting a Project Appraisal with the following objectives:

- confirming that the original goals of the project remain relevant to the needs of the institution.
- checking that the original project assumptions and outline planning remain valid.
- ensuring that the operational and technology strategies remain valid in the light of recent developments.
- identifying potential threats to the project, e.g., organisational change, new external commitments, etc., and, if possible, hedging against them.
- confirming the availability of funding and priority access to other critical resources, especially staff.

The Project Appraisal should be conducted in formal style by an independent expert, and be based on submissions by project and other university officers.
3. Management and project organisation.

The structures set out there for the procurement of application software can be adapted and extended for the management of the implementation stage. The implementation stage requires the full and open involvement of the user community in a way which enables their perception of the project to contribute to overall decision-making.

It should be possible to handle implementation stage with three levels of accountability:

**Executive**

Involving the Vice-Chancellor, probably via the Pro-Vice-Chancellor responsible for information systems strategy, with representation at the institutional level Information Systems Committee.

**Steering Committee**

Chaired by the Chief Administrator, e.g. Registrar, Secretary, and including representatives from each major application area, including Student Administration, Finance, Human Resources, Estates, etc., together with the project manager and supplier representatives to attend as required.

During the implementation stage there is a need for short, regular meetings of Application Groups, with an emphasis on close informal communication between members to promote progress. E-mail conferencing can be effective. The Steering Committee should meet less frequently, and it should be
prepared to convene a quorum at short notice throughout the course of the implementation stage. Expenditure authorisation should be delegated to the project manager, within clear budget limits, so that spending decisions can be taken expeditiously.

4. Implementation planning

The overall project plan probably contains an outline of implementation. Now is the time to revisit that plan, to bring it up to date and add some detail. Sound plans are vital to the implementation stage, particularly as the number of people involved in the project is about to raise rapidly. Implementation will acquire its own momentum. Little time for the resolution of problems will be available if the plan goes off track. Good planning will both reduce the incidence of problems and offer alternatives and options should they occur.

Milestones

An information system is not implemented until it does something: that is, until it prints cheques, enrolls students, timetables the curriculum, and so on. It is bringing new functions such as these into service that defines the milestones of the implementation plan. Many of these events can occur only at specific times in the academic calendar, some of them occur only once a year. If these functions are not implemented in one year then they must wait until the next. To start the plan, consider the following:
What are the main system areas, e.g., Finance, Student Administration, etc., to be covered by the plan? For each, list the key functions to be installed. There are several models of this functional breakdown available to help. With the five main areas of Students, Personnel, Research & Consultancy, Estates, and Finance there are about 80 main functions to consider. The majority of these ought to be supported by the MIS software package, minimising the demands for bespoke software development.

Identify those functions which must be installed to meet any external commitments, including project goals. Meeting these dates will contribute largely to success.

The nature of a business area is that its functions are strongly interdependent. Agreeing the dates for the key milestones will broadly determine the earlier implementation date for any functions on which it depends, and create the groundwork for implementing those functions which it supports.

Interdependence also exists between business areas, for example in assigning lecturing staff to the teaching timetable, or ensuring that student fees are paid prior to examination. Such cross-area functions are often key result areas for the MIS project and should be given some priority when scheduling the programme.
In terms of commissioning a new system in an office or department there are certain times in the year when the workload is relatively low and staff time can be set aside more easily to take on new methods. These 'windows' do not always coincide with the times at which new systems must be installed, but, whenever they do, advantage should be taken of them. At other time available for implementation work.

For each function here is a general pattern of preparatory work. Software must be customised, installed, and tested; perhaps networks and terminals installed, and above all, new working procedures agreed, documented, and the staff trained to use them. These systematic activities can be back scheduled into the plan to support the planned introduction of each function.

This initial planning is aimed at two things. Firstly, bringing the most valuable aspects of the new MIS into operation when the institution really needs them. Secondly, to take advantage of the natural sequence of events across the academic year so that the take up of the new systems by administrative staff becomes as straightforward and economical as possible. A plan developed in accordance with the above guidelines is likely to extend to 24-36 months, with some reduction if one of the main activity areas is omitted. Before proceeding further, the software supplier should be asked
to validate the plan. If a substantial supplier support package is being negotiated, this is essential. Such arrangements can be made commercially dependent on completing the plan.

**Presentation**

To make the final plan readily understandable to everyone involved, the presentation should be as simple and graphic as possible. In summary form, it should appear on a single sheet of paper. For many involved, the plan will be an introduction to the full extent of institutional administration, illustrate their role, and highlight the need for interdepartmental working which is so essential for a successful MIS implementation.

**Resourcing the plan**

Thus far, little has been said of resources. This is deliberate so as to direct initial thinking to meet institutional needs. However, the pragmatic planning approach recommended inherently produces some smoothing of resource demands. Staff resources, both technical and administrative, are likely to prove the most critical factor in the implementation programme. The technical team is the more critical resource, as they will have a vital role in installing every function. As a planning guideline it is undesirable to have more than two, perhaps three, functions being installed concurrently, so as to keep the loading on both the IT technical and administrative teams at an acceptable level. Wherever possible, key staff would have their normal responsibilities delegated. A manpower review
may indicate the need to recruit new personnel on permanent or short contract. Skilled assistance should be obtained externally. Suppliers should be able to provide technical and consultancy support- and at reduced rates for extended periods. Valuable and relatively inexpensive assistance can be obtained through the secondment of personnel from other institutions who have already undertaken an MIS implementation, preferably using the same MIS application software. Not least, there is an increasing body of experience in Higher Education administration available in the consulting sector.

Finally, detailed planning may make it obvious that the implementation cannot be accommodated within the overall project framework confirmed at Project Appraisal. Something has to give, be it the cost, the timescale, the scope of the project, or perhaps a combination of these. The project team, who are often best placed to propose compromises, should take these issues back to the Steering Group and then to university management to obtain a project redefinition.

5. Implementation workshops

No plan is perfect: no matter how well informed the project team, they will not appreciate all the detail of running the university administration. The objective of an implementation workshop is to:

- explore, review, and develop the project team plan with the users who will be involved in installing and using the system.
* obtain the commitment of users to the viability and execution of the finalised plan

* establish a user driven project management group to control the implementation in each major operational area.

About half a dozen such workshops may be required to examine the whole plan, each covering a different area. Each workshop should be planned to occupy a full working day, take place away from the office, and have catering and other facilities laid on. Each group should not exceed 15-20 people, work as peers, and be nominated for their knowledge and involvement in performing the functions concerned, rather than for their status or departmental allegiance. Attendance should be obligatory for those nominated.

Each workshop should be led by an experienced facilitator whose job it is to ensure fair play, maintain focus on the issues, and encourage the involvement of participants. A senior administrator, preferably a Steering Group member, and with some responsibility in the area concerned, should be present.

The project team should present the proposed implementation for the area concerned in the context of the overall plan. Details should be given of how each system feature is to be introduced and current procedures phased out, and these discussed by the workshop at large. Any concerns, ideas,
suggestions, and problems which are brought out should be noted, dealt with and, where appropriate, included in the final plan.

The results of all the amendments arising from workshops should be included in the final implementation plan, which should be presented to the Steering Group for endorsement and approval.

The final task for each is to nominate a small user led Application Working Group to manage the day-to-day implementation of the new MIS. The working group should be chaired by the senior administrator, who should also represent this group at Steering Group level. Representation from the IS team on Application Group should be restricted to a single senior analyst, while each group of administrative office staff should have representation.

6. **Training the technical and user teams**

Training staff is the key to creating confidence in the new system and obtaining an effective implementation. The software installation is relatively straightforward compared to installing the system in the hearts and minds of the user community. A training plan should be developed and costed as an adjunct to the implementation plan.

**Supplier’s contribution**

The training capability of the software package supplier should already have been assessed. The supplier should have
a thorough understanding of how to make best use of the software; and should also have a good experience of the installation problems that can arise and be able to provide training plans and useful advice on the do's and don'ts. Supplier staff should have a professional training capability and all associated materials and aids. A good supplier will wish to ensure that the implementation proceeds smoothly and successfully and be keen to advise.

**Training staff**

Training must be provided for the technical team and for all the administrative and clerical staff who will use the system. This includes the officers, who will run a serious risk of losing control of their operations unless they understand the influence the new procedures to be used by their staff. Throughout the training, a careful watch should be kept for people experiencing difficulty adapting to the new system. They should be given special assistance, but if this is unsuccessful alternative conventional work should be organised.

**Training facilities**

A special training facility should be set up for the project duration. This should provide space for discussion, meetings, and training sessions, and be at the sole disposal of the project teams and user groups, so avoiding irritating delays in booking general space which is often unsuitable. The facility should be equipped as well as can be afforded,
including a library of all technical and training documentation and conventional teaching aids such as white boards overhead projection. An on line multi terminal demonstration version of the MIS software should be set up for testing and teaching. With the permission of the software supplier and the media department, it might be useful to video formal training sessions for future reference.

7. **Legacy systems and conversion**

The legacy systems provide today's IT services. Their support and operation probably tie down some of the most knowledgeable user and technical staff in the institution. These people must be released to do project work, consistent, of course, with the continuing discharge of routine business in a complete and timely fashion. Legacy systems are usually a mix of technologies, most of them obsolete, probably designed over ten years ago to meet departmental rather than institutional needs. A project objective, albeit indirect, will be to close these systems down. There may be strong financial incentives to do this, possibly related to the finding of the project, thereby closing expensive hardware and software rental and maintenance agreements. The closure of legacy systems should be included as milestones in the implementation plan.

*Migration review*

A first step is to conduct a 'migration review.' This addresses the questions:
* what do the legacy systems produce and for whom?
* which functions of the new MIS will fulfil each role, how, and when?
* for any outstanding items, is this function still necessary and would the end user agree to termination?

A migration review may be simply produced as a file of standard forms. A review of these documents should be initiated in the implementation workshops to validate the review and to make users more aware of the proposed nature of impending changes.

In an established Information Technology operation it can be surprising how much work has been commissioned over the years of which no one now recognises the importance or even existence. The complaints about missing reports, however trivial, which emerge just after your shipped out the old system can be both embarrassing and damaging to the project, so the audit must be thorough. Many of these legacy items will be non strategic and will not figure in the new MIS design. To replace them in the new operating environment would take scarce development effort from the project. These requirements should be given close scrutiny and a view taken on their value. Some will have no place running alongside the main institutional MIS and may be simply rebuilt by users using an office PC and standard groupware.
Data conversion

The legacy systems are a prime source of data for loading the new MIS databases. Changes of codifications, format, and operating environment can make data conversion technically complex, so it may be wise, and save valuable time, to seek specialist external assistance to perform file conversions, perhaps from the software supplier.

Interfacing work

Of course, legacy systems will continue to demand some support until replaced by the new MIS. This support will probably have to be provided by the local IS development team. In addition, temporary 'bridging' work will also be needed to provide interfaces to and from the new MIS systems as they progressively supersede elements of the old. Identify and include this work in the implementation plan. It is often best to detach a small group from the IS team to handle this legacy system work and give them the clear objective of rolling out the old system. Then this goal is never overlooked. When it is completed, a special effort should be made to bring the legacy group back into the operation of the new MIS.

Parallel running

The concurrent, or parallel, running of both old and new systems arises from the need to demonstrate that data and processing in the new regime is consistent with that
in the old, and to provide a reversion option on business
critical functions should the new system fail unexpectedly.
It is most commonly needed in financial applications, but can
arise in any application where controls and balances are carried
through an implementation.

In general, parallel running should be minimised or
avoided. At least two system cycles are generally required
before the new system can be validated, and where cycles
occur at weekly or monthly intervals the workload of processing
two sets of information, and the validation of one against the
other, can prove extremely onerous for busy offices.
Implementation dates can be selected which can minimise the
need for parallel running and account should be taken of
these in preparing the implementation plan.

**Development control**

It is appropriate to mention here the control of requests
for development work. From the initiation of the project, and
certainly from the start of the implementation stage, there
should be a block on all but truly essential changes to the
legacy systems. Such changes distract key user and technical
staff from project priorities. Proposals emerging from committees,
user offices, external agencies etc., which could give rise to
system change need to be carefully monitored, as do even
routine changes on the Information Technology aspects.
Similar procedures should be followed for change requests to those parts of the new MIS which are already installed. Such requests can be numerous, arising from misunderstandings, oversights, and genuine failures in the implementation. If not controlled, they can consume the effort required to handle new work and introduce progressive and eventually crippling delays.

In the first instance, all these change requests should be processed by the appropriate Application Working Group. When system changes are considered essential, they should be put to the Steering Committee, and, if necessary, to a higher level, for approval.

**Conclusion**

There are hardly any doubt as to the need of a suitable computerized information system for organizations like Universities. The complexity of operations, lengthy procedure of decision making, large number of levels of communication and interaction between heterogeneous conclusions as well as users' demands a more systematic and mechanized approach of work. Systematized thinking and operations can be made possible by introducing a computer based management system. For this purpose, total computerization of University Administration with an effective net work of data collection, processing and reporting can help to minimize a many of the administrative difficulties. Further it will be a great help
to reduce time involved in different operations to minimize arrears and even to save money. The computerized system can definitely be more user friendly can help the students and academicians in upgrading the standard of higher learning and at the same time it can work effectively to meet the requirements of various users segments like students, colleges, institutions, society, Government and other agencies like A.I.U., U.G.C.

Initially a computerized system may involve a higher level of investment which is of course a capital investment in nature. Thus requires more investment of funds. However, the rate of return in long run can justify such investment.

There will be certain administrative, operational as well as technical difficulties. No sooner the concept of installation of computers is expected as a policy decision, recitation to change from the staff, the deployment of existing excessive manpower, proper allocation of jobs and matching of manual skills which mechanical devices can create certain initial treating problems.

However, a proper method of training, retraining and suitable changes in the attitudes can be brought to improve acceptability of computer based management information system.

If one thinks of the coming century and changes that will be brought due to makings the idea of electronically aided learning computer based learning will no longer be an imagination.
It will be inappropriate to think of higher education system without accepting computer and hence it is a right step to accept phased, partial but steady computerization of higher learning system. Universities can no longer keep this away from this ever growing field of information technology. Hence the time has now come to go for computer based management information system.