CRITICAL PERSPECTIVE ON IMPROVED MANAGEMENT INFORMATION NEEDS OF FUTURE UNIVERSITY SUDAN: PROPOSAL TO THE ADMINISTRATION

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ABSTRACT

Various businesses in this global world of computers have recognized the relevance of this technology to advance innovation. It becomes a driving force if someone would like to be the leader of the industry. For several decades now, businesses used information as a tool to expand operation and grow global base, market share, and reduce amount of costs for operation to increase profit.

The appropriateness of the used of this information will lead to success if such information are properly used keeping it secured and make them accessible to the customer who needs them. This new asset is information technology and popularly known in business as Management Information System.

The basic purpose of this Management Information System in the case of Future University-Sudan reflects the university's commitment to improve the system of operation. The development of this system will establish a trend for future recruitment processes ,monitoring registration status, tool for income projection and consequently, the administrators would expect that the MIS should become a source of information that facilitate decision-making and the formulation of plans of actions for improving the operations of the University.

Keywords: Management Information system, decision making, plan of action

INTRODUCTION

Management information system is an integrated set of component or entities that interact to achieve a particulars function, objective or goal. Therefore it is a computer based system that provides information for decisions making on planning, organizing and controlling the operation of the sub-system of the firm and provides a synergistic organization in the process.

The importance of developing an information systems is imperative because of the changing circumstances and environment, more so, in the higher learning institution where they offer services to its clientele. As an academic institution, it carries with it the obligation for molding student knowledge, attitudes, and skills. In the academic transformation process, an academic institution needs to adopt information systems that facilitate decision-making among the chief executives or the administrators for them to access data regarding student recruitment, registration, schedule of fees, subject offerings, subject-instructor matching, class schedule plotting, student accounts, and the rank and salary schedule of faculty and non-teaching staff. Through this information taken from a reliable system, educational administrators can formulate decisions regarding these organizational processes.

This information needs arise in the Future University-Sudan, an institution of higher learning in Khartoum, Sudan. With operations are becoming complex as newly accredited ICT university in the region, the institution steadily rises to meet the needs of its clientele. The Future University-Sudan aims to implement a complete and efficient management

information system that goes beyond generating only enrollment data and the student's grades. In order to actualize the system, it is necessary to determine the administrators' information need regarding the various areas of school operations hence, this study.

Respondents of the Study

Respondents of the Study will be the academic and non academic administrators of the University as shown in Table 1 and 2.

Table 1. Distribution of Faculty Respondents Members per Position

Faculty	Dean	Head of Department	Total
Engineering	1	2	3
Telecommunications Engineering	1	1	2
Architecture	1	1	2
Computer Science	1	1	2
Information Technology	1	3	4
Arts & Design	1	1	2
Geoinformatics	1	1	2
Basic Studies	1	1	2
TOTAL	8	11	19

Table 2. Distribution of Non-Academic Administrator per Position

Non-Academic Administrators	No. of Administrators	Total
VP for Admin & Finance	1	1
VP Academics	1	1
Registrar	1	1
AVP for Research and Development	1	1
Deanship Student Affairs	1	1
Library	1	1
Internal Audit	1	1
Admin & Registration	1	1
VP Academics	1	1
Examination Center	1	1
Center for Technical Services	1	1
ICDL Training Centers	1	1
CMLS	1	1
Human Resource	1	1
General Services	1	1
Office of the President	1	1
TOTAL	8	8

There are twenty seven (27) administrators representing the universe of the population consisting of nineteen (19) from the academic administrators and eight (8) from the non-academic administrators arising from the various department/sections of the university.

Table 3. Extent to Need for Information on Student Recruitment

Information Needs		demic = 19	Non-Academic N=8			em rage
	μ	Scale	μ	Scale	μ	Scale
Area of coverage of recruitment	4.22	VGE	4.37	VGE	4.30	VGE
The names of the schools where student recruitment is conducted	4.30	VGE	4.26	VGE	4.28	VGE
The name of administrators/heads of offices of schools where recruitment takes place	4.44	VGE	4.1	GE	4.27	VGE
The number of students in the schools where the recruitment takes place	4.28	VGE	4.30	VGE	4.29	VGE
The names and designations of contact persons in the schools where the recruitment take place	4.37	VGE	4.15	GE	4.26	VGE
The FU faculty/personnel involved in the recruitment	4.32	VGE	4.33	VGE	4.33	VGE
The schedule of recruitment matched with the names of those involved in the recruitment process	4.29	VGE	4.40	VGE	4.35	VGE
Factor Average	4.32	VGE	4.27	VGE	4.30	VGE

From these findings, it can be inferred that the academic and non-academic administrators of FU needed to a very high level, regarding future recruitment processes. They also needed information in order to be able to establish a trend for future recruitment activities that would guide them toward improving recruitment of students in the subsequent years.

Table 4. Extent to Need for Information on Registration of Students

Information Needs		lemic = 19	Non-Academic N=8			em rage
ngermanen reeds	μ	Scale	μ	Scale	μ	Scale
The places of origin of new students	4.28	VGE	4.26	VGE	4.27	VGE
The school last attended by transferees	4.40	VGE	4.30	VGE	4.35	VGE
The blocking of the subjects of semester 1 students	4.22	VGE	4.26	VGE	4.24	VGE
The academic status (passing or failure) of returning students	4.25	VGE	4.28	VGE	4.27	VGE
The gender category of students, their educational attainment, and subjects taken in previous and recent years entered as one set of information	4.52	VGE	4.42	VGE	4.47	VGE
The availability of transfer credentials of transferees	4.64	VGE	4.51	VGE	4.58	VGE
Students' schedule of classes	4.40	VGE	4.27	VGE	4.33	VGE
Five-year projection of student population	4.80	VGE	4.39	VGE	4.59	VGE
Factor Average	4.44	VGE	4.34	VGE	4.39	VGE

Implied by these findings was the fact that the academic and non-academic administrators preferred to be able to monitor the registration status of the students in their respective

departments. They sought information that could facilitate their work in helping the students, and to render a high level of service to the students in order to prevent conflict of schedules and faculty recording of the data pertaining to the students. They also needed to be able to note the trend of the student population on the five-year period.

Table 6. Extent to Need for Information on the Registration on the Students' Subjects/Units and Fees

Information Needs		A cademic $N = 19$		Non-Academic N=8		em rage
	μ	Scale	μ	Scale	μ	Scale
Students' subjects ,units, and corresponding fees	4.16	GE	3.88	GE	4.02	GE
Entry of students with discounts and their discount categories	4.18	GE	3.69	GE	3.93	GE
Projection of the students' graduation period	4.27	VGE	3.88	GE	4.08	GE
Projection of the students' subjects load and units per semester and their fees	4.25	VGE	3.76	GE	4.00	GE
Drop-out rate of students per term	4.25	VGE	3.76	GE	4.00	GE
Trend of student attrition recorded comparatively	4.29	VGE	3.99	GE	4.14	GE
The students' final grades	4.22	VGE	3.67	GE	3.95	GE
Factor Average	4.23	VGE	3.80	GE	4.02	GE

These findings revealed that generally, there was a disparity in the academic and non-academic view of the extent to which the types of information were needed by them. While they had the same view of the extent of the need for information on the student's subjects, units and corresponding fees and the entry of students with discounts and their discount categories, the two groups differed in the views of the extent of need for information on the rest of the items. The academic administrators had a higher extent of need for information on the students because of their student monitoring and their accountability for the students. The non-academic administrators needed the information on students but not as urgently as the academic administrators.

Table 7. Extent to Need for Information on the Registration on the Subject-Instructor Matching

Information Needs		Academic N = 19		Non-Academic N=8		em rage
	μ	Scale	μ	Scale	μ	Scale
The subject time schedule, class density and room assignment package	4.16	GE	3.88	GE	4.02	GE
The subject-time-schedule students' names issued as a single set of information	4.33	VGE	3.42	GE	3.88	GE
Grade sheets for two examination terms with complete entries	4.46	VGE	3.44	GE	3.95	GE
Record of students who have withdraw during the reglamentary period	4.27	VGE	3.86	GE	4.07	GE
Complete record of room assignments per instructor per time slot	4.29	VGE	3.75	GE	4.02	GE
Factor Average	4.33	VGE	3.59	GE	3.96	GE

It could be noted from the findings that there was a disparity between the views of the academic administrators and those of the non-academic administrators regarding the needs

for information regarding subject-instructor matching. Whereas the academic administrators viewed these items of information as needed to a very great extent, the non-academic administrators viewed this information as needed to a great extent. Thus, the academic administrators have a higher level of need for these items of information than the types of supervision exercised by the two groups of administrators. The academic administrators were more in need of information about subject-instructor matching than the non-academic administrators because of the former' needed to monitor the instructors. For supervisory purposes, it was necessary for the academic administrators to know where the instructors of their respective colleges held classes during a specific time slot.

Table 8. Extent to Need for Information on the Students' Account Balances

Information Made		Academic N = 19		Non-Academic N=8		em
Information Needs	$\frac{IV}{\mu}$	Scale	μ	=0 Scale	<u>Ave</u> u	rage Scale
Total fees required of students with their specific subject loads in specific terms	4.32	VGE	4.26	VGE	4.29	VGE
The status of the students' compliance with financial obligations per examination period	4.29	VGE	4.21	VGE	4.25	VGE
Accounts receivable per student every school term	4.28	VGE	4.50	VGE	4.39	VGE
Financial analysis of proceeds from the students' fees	4.21	VGE	4.62	VGE	4.41	VGE
Status of the students' compliance with financial obligations categorized according to college affiliation and educational attainment	4.40	VGE	4.49	VGE	4.44	VGE
Factor Average	4.30	VGE	4.42	VGE	4.36	VGE

From these findings, it could be inferred that within the range of 81% to 100%, information on the students' account balance was needed by the administrators. Considering that the administrators needed to be aware of the students' financial obligations and the need to monitor the availability of their examination permits during all examinations within a term, the administrators needed this type of information from entity within the school system.

Table 9. Extent to Need for Information on the Faculty and Staff's Compensation

		A cademic		Non-Academic		em
Information Needs	<i>N</i> =	= 19	N	=8	Ave	rage
	μ	Scale	μ	Scale	μ	Scale
General information regarding the salary rates assigned to corresponding ranks.	4.68	VGE	4.26	VGE	4.47	VGE
Ranking criteria entered in ranking summary form	4.72	VGE	4.37	VGE	4.54	VGE
Summary of ranking criteria with explanations and corresponding points of criterion	4.80	VGE	4.25	VGE	4.52	VGE
Faculty's ranks with the corresponding salary rates and requirements to qualify for the next rank	4.59	VGE	4.44	VGE	4.51	VGE
Non teaching staff's rank with the corresponding salary rates and requirements	4.88	VGE	4.67	VGE	4.77	VGE
Factor Average	4.73	VGE	4.40	VGE	4.56	VGE

From these findings, it could be inferred that both groups of administrators needed information on their constituents' rank and salary rates for purposes of monitoring and decision—making pertaining to the salary increases and possible promotions. The information on the faculty's and staff's ranks ad compensation rates would comprise an objective basis for any action that the administrators might take in connection with their faculty members and staff. Furthermore, information on rank and compensation could prevent unfairness and partiality in the administrators' actions regarding the people whom they supervised.

Table 10. Summarized Data on the Extent of Need for Information on Various Areas of School Operations

Information Needs		A cademic $N = 19$		cademic =8	Item Average	
nyormanon recas	μ	Scale	μ	Scale	μ	Scale
Student Recruitment	4.30	VGE	4.32	VGE	4.31	VGE
Registration of Students	4.44	VGE	4.34	VGE	4.39	VGE
Students' Subjects, Units and Fees	4.27	VGE	3.82	GE	4.04	GE
Subject-Instructor Matching	4.33	VGE	3.59	GE	3.96	GE
Students 'Account Balances	4.30	VGE	4.42	VGE	4.36	VGE
Faculty and Staff's Compensation and Rank	4.88	VGE	4.67	VGE	4.77	VGE
General Average	4.42	VGE	4.19	VGE	4.30	VGE

Table 11. Extent of Viability of an MIS in FU Based on the Availability of Resources

Information Needs		demic = 19		cademic =8		em rage
1.00.7.1000	μ	Scale	μ	Scale	μ	Scale
A separate room or station for MIS personnel	4.32	HV	4.40	HV	4.36	HV
High-powered computer units for MIS operations	4.24	HV	4.32	HV	4.28	HV
Air conditioning systems operating at least 12 hours daily	4.46	HV	4.24	HV	4.35	HV
High- Speed Printers	4.25	HV	4.23	HV	4.24	HV
Uninterrupted power supply in case of power failure from power source	4.29	HV	4.27	HV	4.28	HV
Communication facilities for MIS personnel	4.22	HV	4.31	HV	4.26	HV
Trouble shooting of facilities	4.30	HV	4.26	HV	4.28	HV
Factor Average	4.30	HV	4.29	HV	4.29	HV

From these findings, it could be inferred that with the availability of resources to equip MIS, and expanded system could be establish in FU to serve the information needs of

administrators, Consequently, the administrators would expect that the MIS should become a source of information that facilitate decision-making and the formulation of plans of actions for improving the operations of the University. Since the resources were expected to be available, it was anticipated that there would be minimal difficulties in the expansion of MIS in FU.

Table 12. Extent of Viability of an MIS in FU Based on the Availability of Manpower

Information Needs		Academic N = 19		cademic =8		em rage
Ingormanon recas	μ	Scale	μ	Scale	μ	Scale
A qualified MIS director	4.22	HV	4.26	HV	4.24	HV
At least two experts in computer operations	4.36	HV	4.30	HV	4.33	HV
A computer programmer	4.21	HV	4.42	HV	4.31	HV
A data analyst	4.29	HV	4.27	HV	4.28	HV
Factor Average	4.27	HV	4.31	HV	4.29	HV

From these findings, it could be inferred that the standpoint of the availability of material and human resources, the FU was prepared to have an expanded MIS which could provide the administrators of all levels with information that they needed for decision-making and action. It could also be inferred that to a high degree, the FU could employ people who could operate the MIS and use their expertise in order to provide the administrators with the information they need.

Table 13. Extent of Viability of an MIS in FU Based on the Administrative Support

Information Needs		Academic N = 19		Non-Academic N=8		em rage
Ingormation Freeds	μ	Scale	μ	Scale	μ	Scale
A availability of office supplies	3.98	V	4.02	V	4.00	V
Power systems run by the school	4.16	V	3.99	V	4.07	V
Support for data collection	4.00	V	4.04	V	4.02	V
Support for preventive maintenance of computers	3.99	V	4.00	V	3.99	V
Financial support for repairs of computers	3.43	V	3.88	V	3.65	V
Financial support for salaries of MIS staff	3.90	V	3.98	V	3.94	V
Factor Average	3.91	V	3.98	V	3.94	V

These findings revealed that the administration of FU was willing to support and expanded MIS for the benefit of the academic community, The University administrators would support the project in response to the needs not only of the administrators and those of the faculty, but also those of students.

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Variability Requirements	Academic N = 19		Non-Academic N=8		Item Average	
	μ	Scale	μ	Scale	μ	Scale
Availability of Resources	4.30	HV	4.29	HV	4.29	HV
Availability of Manpower	4.27	HV	4.31	HV	4.29	HV
Administrative Support	3.91	V	3.98	V	3.94	V
General Average	4.16	V	4.20	V	4.18	V

Table 14. Summarized Data on the Extent of Viability of an Expanded MIS in FU

An expanded MIS was viewed as viable from the standpoint of administrative support, as shown by the factor average of 3.94 based on the group averages of 3.91 from the academic administrators and 3.98 from the non-academic administrators.

Tests of the Hypotheses

Table 15. Results of the One-Way Analysis of Variance in the Views of the Academic and Non-Academic Administrators on the various operations of the school

Factors Compared	Df	Critical v	Computed v	Interpretation	Decision
Student recruitment system	13	2.8	0.007507	No Significant	Accept the
~ · · · · · · · · · · · · · · · · · · ·		_,_		Variance	Hypothesis
Registration	15	2.7	0.023348	No Significant	Accept the
Registration	13	2.7		Variance	Hypothesis
Students' subject/units and	10	12 2.0 0.055022	0.055022	No Significant	Accept the
fees	13	2.8	0.055033	Variance	Hypothesis
Caliant instruction Matalian	0	2 14 0 129415	No Significant	Accept the	
Subject-instructor Matching	9	3.14	0.138415	Variance	Hypothesis
Students' account balance 9 3.14 0.016433	0	2.14	0.017422	No Significant	Accept the
	0.016433	Variance	Hypothesis		
Faculty and Staff rank and	0	2.14	0.050255	No Significant	Accept the
compensation	9	3.14		Variance	Hypothesis

As shown in the table, there is no significant variance in the views of the academic administrators and those of the non-academic administrators regarding the extent to which the Future University of Sudan need the management information regarding the student recruitment system, as revealed by the variance estimate of 0.007507, which is less than 2.8, the region of rejection at 13 degrees of freedom.

Furthermore, there is no significant variance in the views of the academic administrators and those of the non-academic administrators regarding the extent to which the Future University of Sudan need the management information on student registration, as indicated by the variance estimate of 0.023348, which is less than 2.7, the region of rejection at 15 degrees of freedom.

Moreover, there is no significant variance in the views of the academic administrators and those of the non-academic administrators regarding the extent to which the Future University of Sudan need the management information on students' subject/unit and fees as shown by the variance estimate of <u>-</u>0.055033, which is less than 2.8, the region of rejection at 13 degrees of freedom.

There is no significant variance in the views of the academic administrators and those of the non-academic administrators regarding the extent to which the Future University of Sudan needs the management information on subject-instructor matching as shown by the variance estimate of 0.138415, which is less than 3.14, the region of rejection at nine degrees of freedom.

There is no significant variance in the views of academic administrators with those of the non-academic administrators regarding the extent to which the Future University Sudan needs the management information regarding students' account balance as showed by the variance estimate of 0.016433, which is less than 3.14, the region of rejection at nine degrees of freedom.

Furthermore, there is no significant variance in the views of the academic administrators and those of the non-academic administrators regarding the extent to which the Future University of Sudan need the management information on faculty and staff rank and compensation, as indicated by the variance estimate of 0.050255, which is less than 3.14 the region of rejection at nine degrees of freedom. The first hypothesis of this study is accepted, thus leading to the generalization that the Future University of Sudan needs the management information in various areas of operation.

Table 16. Results of the One-Way Analysis of Variance in the Views of the Academic and Non-academic administrators regarding the Extent to Which an extended MIS viable in Future University-Sudan

Factors Compared	Df	Critical v	Computed v	Interpretation	Decision
Availability of Resources	13	2.8	0.003972	No Significant Variance	Accept the Hypothesis
Availability of Manpower	7	3.1	0.004	No Significant Variance	Accept the Hypothesis
Availability of Administrative Support	11	2.9	0.103198	No Significant Variance	Accept the Hypothesis

As shown in the table 16, there is no significant variance in the views of the academic administrators and those of the non-academic administrators regarding the availability of resources in the implementation of management information system, as revealed by the variance estimate of 0.003972, which is less than 2.8, the region of rejection at 13 degrees of freedom.

Moreover, there is no significant variance in the views of the academic administrators and those of the non-academic administrators regarding availability of manpower in the implementation of management information system, as indicated by the variance estimate of 0.004, which is less than 3.1, the region of rejection at 7 degrees of freedom.

There is no significant variance in the views of the academic administrators and those of the non-academic administrators regarding the availability of administrative support in the implementation of Management Information System of the university, as denoted by the variance estimate of 0.103198, which is less than 2.9, the region of rejection at 11 degrees of freedom. Finally, there is no significant variance in the views of the academic administrators and those of the non-academic administrators regarding the viability of the expanded Management Information System.

From the results of the analysis of variance, the second null hypothesis of this study is accepted. These results show that the framework of Management Information Needs and that

of the viability of expanded Management Information System are needed in the Future University of Sudan.

It could be noted that the Future University of Sudan generally needs the information in various areas of operation, in the majority of cases regarding student recruitment systems, registration, plotting of students' subject units and the fees, subject-instructor matching in preparation of class schedules, determination of the students' account balance and the ranks and compensation schedules of faculty and the non-teaching staff.

This information needs reflect the university's commitment to improve the system of operation. Thus, the assertion of Cook and Hunsaker (2001) proved that, the organizations should maintain a structured system of information management based on developing clear, specific goals, and plans for all managers to use in analyzing problems and by studying the cause and effect relationship which is true for the operation of Future University Sudan.

It can be asserted that the Future University of Sudan has to take this information into consideration in order to establish a trend for future recruitment processes. Likewise, the need to monitor the registration status of the students in their respective departments is important since it could facilitate their work in helping the students, and to render a high level of service to the students to prevent conflict of schedules and faculty recording of the student's data.

Moreover, through there were differing views on academic and non-academic administrators on the extent of the need for information on the student's subjects, units and corresponding fees and the entry of students with discounts and their discount categories, it was due to the extent of monitoring and accountability with the students.

Regarding the needs for information on subject-instructor matching, both administrators have a higher level of need for these items of information. The academic administrators were more in need of information about subject-instructor matching than the non-academic administrators because of the former' needed to monitor the instructors.

The information on the students' account balance was needed by the administrators for them to be aware of the students' financial obligations and the need to monitor the availability of their permits during examinations. Finally, both groups of administrators needed information on their constituents' rank and compensation rates for purposes of monitoring, salary increases and promotions.

The availability of resources, manpower and administrative support are important to be established in Future University Sudan to serve the information needs of administrators, Consequently, the administrators would expect that the MIS should become a source of information that facilitate decision-making and the formulation of plans of actions for improving the operations.

The resources, manpower and administrative support were expected to be available, it was anticipated that there would be minimal difficulties in the expansion of MIS in FU.

CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, the researcher concludes that the following were the findings of the study:

1. That the academic and non-academic needed the information regarding future recruitment processes to be able to guide them in establishing trend for future recruitment activities.

- 2. That both respondents preferred information regarding registration of students to facilitate their work in helping the students, render a high level of service to prevent conflict of schedules and faculty recording of the student's data. The trend of the student population on the five-year period will guide them in allocating resources in the future.
- 3. That the academic and non-academic administrators needed the information regarding the student's subjects/unit and corresponding fees and the entry of students with discounts for monitoring and accountability purposes. Although, there was differing views by both respondents, the academic administrators did not felt the urgency of the need unlike the non-academic administrators.
- 4. That the academic and non-academic have disparity in views regarding the need for the information regarding the subject-instructor matching. Whereas the academic administrators viewed this item as urgently needed for instructors monitoring purposes in order to determine where they held classes during a specific time slot. While the non-academic administrators were not involved in the academic exercise.
- 5. That both respondents needed the information on student's account balances for them to be aware of the students' financial obligations. The administrators needed this type of information for financial record purposes.
- 6. That the academic and non-academic administrator needed the information on the faculty rank and salary rates for purposes of monitoring and decision –making on salary increases and promotions. Furthermore, information on rank and compensation could prevent unfairness and partiality in regarding the people whom they supervised.
- 7. That both respondents felt the importance of the availability of resources to equip MIS, and expanded system could be establish in FU to serve the information needs of administrators and consequently become a source of information that facilitate decision-making and the formulation of plans of actions for improving the operations of the University.
- 8. That the academic and non-academic administrators noted that the availability of manpower must be present as they need the expertise of people who could operate the MIS and can provide them with the information they need.
- 9. That both respondents needed the availability of administrative support to operate the system smoothly. Future University Sudan willingness to support this item would not only benefit the employees and students but, the academic community as well.

The following recommendations are advanced to the following sectors:

Future University Sudan

- 1. That the proposed measures should be undertaken by Future University Sudan in order to realize the result of this study.
- 2. That a thorough understanding and awareness in the part of the administrators on the relevance of the system to guide them in their decision making processes.

PROPOSAL TO THE ADMINISTRATION

Rationale

The Future University-Sudan aims for excellence not only in terms of academic endeavor but also in terms of the service to the students. This quest for excellence is motivated by the

demand for good service among the students in line with the requirements of the academic institution to respond to the needs of globalization. With the promulgation of various measures for improving the services of academic institutions, it is necessary that the Future University-Sudan improve the services by making the retrieval of data and information convenient, fast, efficient, and reliable. For this reason, it is necessary that the university would improve its present system necessary of delivering information to the various sectors of the academic community. An improved Management information System has to be made operational in the University.

Proposals

For this purpose, the researcher presents the following proposals for expanding the database which the MIS can transform information to answer the needs of the various units of the University;

- 1. It is necessary to hold a meeting among the academic and non-academic administrators to inform them of the plan to implement and expanded Management Information System in the University.
- 2. During the meeting, preparations for the formation and organization of working committees shall be made. For this purpose, there should be a brainstorming session among the participants to determine the committees to be formed. For the sake of discussion, suggested committees are the following;
 - a. Committee on System Analysis and data collection
 - b. Committee on Data Analysis and data collection
 - c. Committee on Physical Facilities Planning
 - d. Committee on Programming
 - e. Committee on Expanded MIS Launching and dissemination
- 3. A period for systems analysis will be set by the administration. Since the systems analysis procedure is similar to the audits made for certification purposes, the heads of various offices should be cooperate with the task. For this purpose, prior to the analysis, announcements would be made for the various offices to prepare their records and construct flow charts of the various procedures of rendering the services in their respective units.
- 4. When a specific office is scheduled for analysis, there should be no postponement or deferment of the schedule in order to preclude delays in the analysis.
- 5. Data collection on the various procedures, the documents, students' fees, salary rates, ranking procedures, evaluation of teachers and personnel, schedule of classes, schedule of examination, enrollment procedures, the other important data on school operations will be collected by the committee on the Data Analysis and Collection. For this purpose, all departments and units of the University should be enjoined to cooperate by furnishing the committee with accurate data.
- 6. In the analysis of data, the Committee of Data Analysis can work together with the programmer to study the accuracy of the flow charts of operation submitted by the different departments and units of the university.
- 7. All of the processes take time, for this reason, to avoid dissatisfaction on the part of the clientele regarding any delay in the services while the expanded MIS is still in the process, meetings and information drives will be conducted among the students groups to explain that the university is undergoing adjustments procedures for better service.
- 8. While the expanded MIS is still in the process of organization, the committees should give progress reports to the administration.

- 9. Budgeting for the project shall be made by a body created by the administration for the purpose. The members of this body shall be responsible for rendering regular reports to the administration regarding the various expense items incurred.
- 10. Before the actual operation of the MIS, tests of the functionality of the systems should be conducted in to determine the extent to which the system can improve the operation of the university.
- 11. After the tests of functionality of the MIS, the availability of the system can be disseminated.

REFERENCES

Books

- [1] Aldag, R. & Timothy, S.(2003). *Management*. Cincinnati: South-Western Publishing Company.
- [2] Barrow, C. (1990)." Implementing an Executive Information System: Seven Steps for Success." *Journal of Information Systems Management*, 7
- [3] Bartol, Kathryn M. and David C. martin (2002). Management. Boston, Massachsetts: Irwin/McGraw-Hill.
- [4] Certo, S.C. (2003). *Modern Management: Quality, Ethics, and the Global Environment*. Boston: Allyn and Bacon.
- [5] Cook, C. W. & Philipp, L. H. (2001). *Management and Organizational Behavior*. Boston: Irwin/McGraw-Hill.
- [6] Coppersmith, J. A. (1990)."Modern Times: Computers changing the way today's Modern Catalog Company Structured." Catalog Age.
- [7] Dessler, G. (2001). *Management: leading People Organizations in the 21st Century*. Upper Saddle River, New Jersey: prentice-Hall, Inc.
- [8] Johnson, R.A., R. Joseph Monsen, henry P. Knowles, and Borge A. Saxberg (1999). *Management, System and Society: An introduction*. Santa Monica, California: Good Year.
- [9] Kotler, P. & Keller, K. L. (2006). *Marketing Management* (12 ed.). Pearson Education. Mcclain, J.O and L.J Thomas (1995). Operations Management of production of Goodsand Services. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.
- [10] O'Brien, J. (1999). Management Information Systems Managing Information Technology in the Internetworked Enterprise. Boston: Irwin McGraw-Hill. Senn, James (1999).information Systems in Management .Belmont, California: Wadsworth Publishing Company.
- [11] Stoller, D. S. & Richard L. V. (1999). *Design of Management information System*. Santa Monica, California: Rand Corporation.
- [12] Wilson, D.A. (1993). Managing Information. Oxford. Butterworth Heineman, Ltd.

Journals, Magazines

[13] Malcolm, C. M. & Gordon, B. D. (1997). Determining Management Information Needs: A Comparison of Methods, 2(2), p.55-67, *MIS Quarterly Journal, Management*, Carlson School of Management, University of Minnesota.

Published Researches

- [14] Greene, F., Loughridge, F. B. & Wilson, T. D. (1996). The Management Information Needs of Academic Heads of Department in Universities: A Critical Success Factors Approach. A Report for the British Library Research and Development Department. Sheffield: Department of Information Studies, University of Sheffield. pp vii, 154. (in press)
- [15] Harrow, J., Palmer, P. & Vincent, J. (2002). *Management Information Needs and Perceptions in Smaller Charities*: An Exploratory Study Kathy Brittain White (1997), university of North Carolina, Greensboro.
- [16] Kern, H. (2002). *The four key elements in effective systems management*, Harris Kern Enterprise Computing Institute, USA.
- [17] Loughridge, B. (1996). A selective review of knowledge-based approaches to database design, *Information Research*, 1(1) Available at: http://informationr.net/ir/2-2/paper14.html
- [18] Loughridge, F. B. & Greene, F. (1995). *Investigating the Management Information Needs of Academic Heads of Department*: A Critical Success Factors Approach.
- [19] Mendoza, C. & Bescos, P. (2001). An Explanatory Model of Managers' Information Needs: Implications for Management Accounting. *The European Accounting Review*, 10(2), 2001.
- [20] National HMIS Coordinating Unit of MIH (1997). An Assessment of MIS for Eye Diseases of College of Ophthalmology and Allied Vision Sciences(COAVS), Provincial Program for Prevention of Blindness, government of Punjab.
- [21] Ng & Yee, H. (2002). *Information Requirements for Customer Relationship Management*: A Case Study in New Zealand Bank, BANK, School of Information Management, Victoria University of Wellington, New Zealand.
- [22] Nokes, K. M. & Nwakeze, P. C. (2005). Assessing self-management information needs of persons living with HIV/AIDS. Hunter College, CUNY, Hunter-Bellevue School of Nursing, New York, New York 10010, USA.
- [23] Pant, S. & Hsu, C. (1995). *Strategic Information Systems Planning: A Review*, Information Resources Management Association International Conference, May 21-24, Atlanta.
- [24] Shand S. Callen J (2003). *Management Information Needs of Clinician Managers in a Metropolitan Teaching Hospital*, Patient Services and Information Department, Concord Repatriation, General Hospital, Sydney, NSW.
- [25] Trevor John Bentley Tilling (2002). Construction Services *Ltd.* Collingham, England Rien Hamers ,et al (1997) Management Information Needs a Common Conceptual Framework, Rabobank Nederland, afd. Bedrijfsvoering (EW 304), Netherlands.

Unpublished Master Thesis

[26] Felicano, A. (2003). *The Information Needs of University of Visayas: Basis for Proposal to the Management*, Master Thesis, University of Visayas, and Cebu City.