INFORMATION REQUIREMENTS OF ADMINISTRATORS IN A DISTANCE EDUCATION INSTITUTION: THE UNIVERSITAS TERBUKA CASE

by

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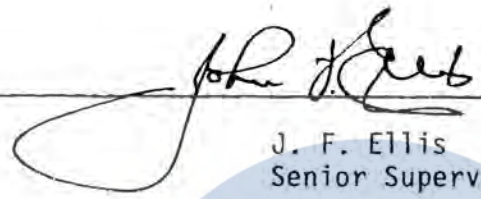

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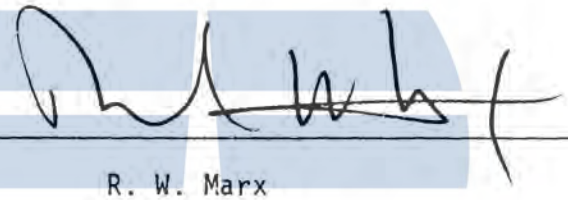

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ABSTRACT

The purpose of the study was to identify what information administrators at the Universitas Terbuka (UT) required for various management, planning and other purposes, and to suggest the frequency, format, and other conditions, under which the information might be provided. The study was important, firstly, because, although any institution requires the best possible information upon which to base its activities, a distance education institution may have information needs different than a conventional one. Secondly, UT, as a new institution is in particular need of a sound information base.

The available literature on information uses and requirements has mostly dealt with conventional colleges and universities. Little research has been undertaken in the area of distance education. Moreover, the research has been conducted mainly in developed countries that have problems, goal emphases, management styles, and decision making processes different than institutions in underdeveloped countries.

To obtain the required data, two instruments were used, a questionnaire and a semi structured interview. The questionnaire was designed to identify information needs of the UT administrators on such matters as student and staff demographies, student performances, courses and so forth. The interview was intended to clarify and expand on certain aspects of the data provided by the questionnaire.

The results of the study indicated a demand for a number of information categories by administrators. The information would be used for a variety of purposes: operation, control, planning, policy making, and so forth. Administrators' information needs varied in terms of frequency and format. The numerical nature of the information required the presentation of graphs, matrices, and tables.

In providing the information, care should be given to the complexity of administrators' preferences, needs, and the significance of the information. Cost and resources available should also be considered. A fact book format was recommended for easy access by administrators, external agencies, and the public.

Dedicated to: The late my beloved father,
my beloved mother,
my brothers and sisters,
my grandfather and grandmother.

The only hope of mankind is love
in its various forms and manifestations.

Isaac Bashevis Singer

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CHAPTER I

BACKGROUND

An educational institution such as a university requires effective management and administration in order to operate well. Managing and administering an organization involves a variety of activities, ranging from policy making, planning, execution of the plan and evaluation of programs. These are sequential activities and always involve a decision-making process. They also require reliable and valid information upon which decisions are made.

Information, however, does not only serve decision-making purposes; rather it serves almost all aspects of organizational administration. Information for the various purposes of a distance education institution is the issue which will be addressed and discussed in this study. The institution in question is Universitas Terbuka (UT), Indonesia's Open University.

Like their colleagues in conventional institutions, administrators at UT have to carry out various administrative tasks and make decisions. Areas of decision-making include broad activities such as

academic planning, resource allocation, and program evaluation. The distinctive feature of a distance education institution from a conventional type may result in differences in information requirements by its administrators. It is thus important to determine the kinds of information needed by the institutional managers for carrying out their tasks.

Problem

The purpose of the study is to identify what information UT administrators required for various administrative purposes, and to suggest some ways to provide that information. The study is important for the following reasons. First, by determining information requirements precisely, relevant information can be produced and provided; information presented to administrators does not always meet their needs. Second, it is necessary to identify the information reports and formats which are most helpful.

As with conventional institutions of higher education, the goals of a distance learning institution are to conduct teaching, research activities, and to

provide public services. The difference between the two kinds of institutions lies in the way of presenting the instructional material, which is reflected in differences in its administration, management system, and operations.

Management and administrative activities in a higher education institution, to some extent, are dependent upon the provision, analysis, and organization of data and information. It is no secret that a good information system contributes to the effectiveness and efficiency of university management, due to its ability to provide quantitative input, historical and comparative data, and other information about internal as well as external changes (Ewart, 1985). Further, information assists the process of setting up policies, planning and evaluation of programs. All of these uses for information are of obvious relevance for a new, already large and rapidly growing institution like UT.

As regards the purpose of the study, the problem is to identify information requirements of administrators for administrative purposes. In order to solve the problem, the following questions are

posed:

1. What information do administrators at UT need for various administrative purposes?
2. In what way should the information be presented to the administrators?

Limitations of the Study

This study attempts to identify information needs of administrators and to find out ways of presenting the information. It does not deal with how to retrieve information from data banks; this involves some technological aspects of computing, or Management Information Systems (MIS). However, the result of this study might be of interest to computing experts in developing an MIS. It is up to MIS specialists to develop a system to provide that information for administrators.

Also, the greatest limitation is, perhaps, the difficulty in distinguishing between what people say they need and what they actually need. This study reveal the former rather than the later. Thus caution should be exercised in developing courses of action

from the data that have been collected.

A final limition is that the research is undertaken at UT; thus, the results apply to the UT context. The fact is that distance education institutions have differences in terms of number of students, kinds of programs, characteristics of of the student body, and certainly management style. It would thus be wise to replicate the research in other settings.

Definition of Terms

A word or a term might mean different things to different people. It is, thus, necessary for the purpose of this study to define particular words and terms to avoid confusion. The following are the definitions of terms which have been used extensively in this writing, and which need clarification.

1. Information.

Information can mean something told; news or knowledge given (Hornby, 1980). Schmidtlein (1977) states that information implies understanding or attaching meaning to data.

Data, as a term, refers to the characteristics of particular objects or conditions (Schmidtlein, 1977). Information for the purpose of this study is defined as numerical or quantitative data available from sources internal to the institution as well as from state agencies, other public institution or other sources.

2. Decision-making.

From organizational psychology points of view, decision-making is defined by MacCrimmon and Taylor (1976) as involving processes of thought and action manifested in selective behaviour (Pinfield, 1986). In this study, decision-making is defined from organizational administration point of view as the formulation of goals, objectives, procedures and devices for program accomplishment, performance evaluation, administration and operations of existing policies that have implications beyond the immediate event (Katz & Kahn, 1966, p. 260 in Mehallis, 1981, p. 99).

3. Management.

Management refers to the functions, procedures and means to orient activities of an organization (McCleary, 1984). It involves an integrating process by which individuals create, maintain and operate an organization in the selection and accomplishments of its aims (Encyclopedia of Professional Management, 1978).

4. Administration.

Administration is a process of arriving at decisions in an organization. The function of administration is to implement policy decisions or to coordinate activity in order to accomplish purposes and goals (Encyclopedia of the Social Sciences, 1968).

In fact, the distinction between administration and management is often far from clear; both of which involve activities leading towards the achievement of goals or objectives. The term administration is widely used in non-profit organizations; whereas management is often applied to business corporations. Due to this overlapping, for the purpose of this study,

the two terms are employed interchangably.

5. Administrator.

Administrator is a person who is assigned a leadership role and particular responsibility for carrying out tasks and functions within an organization. For the purpose of this study, "administrator", when applied to UT, refers to the rector, vice rectors, deans, vice deans, program heads, and directors within the institution.

6. Distance Education.

The term distance education in this study covers a broad scope of educational activities characterized by teacher-learner separation, the use of self-contained instructional material, and the employment of instructional technology to substitute for the direct teacher function. Distance education includes other related terms such as correspondence education, nontraditional studies, external studies, and university extension.

Organization of the Study

The research is arranged in five chapters. Chapter one deals with the introduction, alerting readers to current problems in specification of information needs of administrators in distance higher education. Chapter two deals with literature review, discussing current theory and literature on distance education management, with some additional information about decision-making in higher education. Chapter three describes the methodology of the research, how the instruments were constructed, and how the research was undertaken. Chapter four provides results and conclusions. Chapter five discusses the research results, their relevance for UT and their implications for further research.

CHAPTER II

REVIEW OF THE LITERATURE

Most of the available literature on information requirements for management decisions in post-secondary education institutions has dealt with conventional colleges and universities. Little research has been undertaken in the area of distance education management. Moreover, most research on the use of information for decision-making in higher education institutions has been conducted in developed countries. These have problems, goal emphases, governance systems, management styles, and decision-making processes different than institutions in developing countries.

This chapter will review current literature available in the areas of higher education management and distance education management. It begins with the discussion of development and administration of distance education. Then, several sections are devoted to information system uses, needs and specifications in higher education institutions. A description of the role of institutional research is also given, followed by the discussion of the use of the fact book approach

for information communication and dissemination. Then, a discussion of a typical distance education institution, that is UT, is presented. Finally, concluding remarks are presented to summarize the literature review and to focus on the subject-matter being studied at UT.

Development of Distance Education

The philosophy of distance education has mostly been based upon individuality or independence of students in understanding learning material. Highly individual activities by students are required in order to succeed in completing distance program courses. They are expected to learn on their own with minimal or no face-to-face assistance from tutors. This is based upon the assumption that any person can learn something, using appropriately presented media, if given the chance or opportunity.

Distance education institutions exist to provide more access and opportunity to higher education for adult learners. Distance teaching systems can provide services that conventional universities cannot give.

They enable individuals to study without, or with a minimum of, face-to-face interaction with tutors. Also, the system allows students to work individually by learning from preproduced materials. This permits flexibility, convenience, and self-pacing for students in a non-contiguous system of learning.

Kaye (1981) has identified several models of distance education systems. In one model, which may be the oldest, a university grants degrees for external students, without itself conducting the necessary teaching learning activities; instruction is carried out in another university. An example of this is the early practice of the University of London. Another model is a conventional university that offers distance learning programs to external students. A third model, such as the one implemented in France, covers a massive, centralized state provision for correspondence education at all levels, from elementary to university level.

A fourth and more recent model involves an autonomous institution established solely for external students, using a variety of distance teaching methods and techniques to provide specifically preprepared

multi-media courses, and with formal responsibility for evaluation, accreditation, certification or degree granting. The first model of this kind was the British Open University (BOU) in the United Kingdom in the early 1970s.

Since then, a number of institutions in several countries, developed as well as developing, have been founded, following the BOU model. Some of them offer highly academic degree courses at the university level (Pakistan's Allama Iqbal Open University, Indonesia's Universitas Terbuka), and others, in addition, offer non-degree courses for professional development and adult basic education (British Columbia's Open Learning Institute). Most institutions are established to provide improved access to higher education for adult learners. That may be why more working than non-working adults take university courses at a distance. At present, seventy-five per cent of UT students are working adults, who study on a part-time basis. Half of them are in-service teachers; the rest are recent high school graduates studying on a full-time basis.

The term "distance learning system" is often used

to describe educational activities that attempt to implement the distance teaching methods within a particular context, independent of traditional educational patterns and practices (Kaye, 1981). Perry, the former Vice Chancellor of the British Open University (BOU), as quoted by Kaye (1981) has suggested that the "autonomous institutional" model, which is different from traditional correspondence teaching systems, can best represent an ideal distance education system. In this case, an institution is established specefically for students learning at a distance.

Since its earlier development, there has been a great advancement in distance education systems in developed as well as underdeveloped nations. As we know, the history of traditional distance education can be traced back to at least as early as the late nineteenth century, with the establishment of the University of London to provide degree certification for external students. Then, in the early 1900s, Harvard University in the United States offered degrees to external students taking courses on a part-time basis through a traditional correspondence system.

Current distance education systems have involved the wide application of instructional media in the conduct of teaching, and have released students from the constraints of time, space, age, and status. Current institutions provide students with a relatively high degree of flexibility in regards to the regularity, timing, and location of the study activities.

In terms of accessibility to students, a distance education system, as practised at the BOU, allows for more educational opportunity for the target population, irrespective of geographical isolation, lack of formal academic requirements, or employment conditions. Learning materials are preprocessed and are provided to the student using appropriate delivery systems.

A typical distance learning course requires a systematic design of learning materials for independent study, covering clearly defined objectives, self-assessment questions, advance organizers, directed independent activities, and feedback, convenient for students to study on their own. The materials are often supported with instructional media to enrich student learning.

The consequence of this is that a distance learning institution possesses logistical and economic characteristics that are different from that of a conventional university (Kaye, 1981). First, there is a highly centralised mass production of learning materials produced in an industrial manner, just like a business enterprise. Second, the distance education institution typically requires special facilities and infrastructure, such as postal services, a printing plant, and broadcasting studios. Third, distance education is more flexible in terms of the implementation of teaching-learning methods and activities, compared to a conventional system. That is why distance education requires a different managerial style and organizational structure.

Kaye (1981) identified two major sets of operating activities in a distance system institution: the course and the student subsystems. The course subsystem deals with the design, development, production, distribution and reception of the course materials. The student subsystem involves admissions, allocation to courses, local centres, tutors, tuition fees, assessment, record keeping, and certification.

Within the course subsystem there are activities that are successively done: creation, production, and distribution. Production can only be done after the prototype, which includes such things as the basic course outline, instructional objectives, and evaluation design, has been finalised for the course. Dealing with individual students taking particular courses, distribution is also related to the student subsystem, because information about students is necessary.

The course subsystem might illustrate the complexity of the administration of a distance education institution. The design, production, reproduction, and distribution of course materials is not only a matter of the number of courses available and media used, but also accessibility to students. The question about what media should be used has some bearing upon the cost of production. For example, a decision to supplement courses with television or radio broadcasts has an impact on the funding for equipping studios and hiring professionals to produce the program. Thus information about student interest in particular media or programs and its accessibility

should be gathered to answer the question of cost-effectiveness of that program.

In the United States most nontraditional studies, external degree programs, or university extension are usually located in a unit within a campus-based university which offers courses to students studying on a part-time basis. This kind of distance teaching has had a long history in American higher education, and has a purpose of providing access to higher education for working adults and promoting the reputation of those institutions carrying out the programs.

As with a university of a conventional type, an open system university also shares three fundamental goals of tertiary level education: teaching, research, and public services. These goals, however, are approached in a different manner. The instructional system that an open university applies affects every other aspect of the operation, from governance system, management, leadership, faculty assignment, to the design of the physical plant (Daniel & Smith, 1979).

From the previous discussion of the history and development of distance education, it is clear that the distinctions between conventional and distance

education include not only the method of instruction but also in the organizational structure. Consequently, a distance education institution should have different approaches to administration, management, and operation, despite similarities in goals to provide, teaching, research, and community services.

Administration of Distance Education Institutions

The terms management and administration are often used interchangeably. A distinction, for instance, is made by Richman & Farmer (1974), pinpointing that management is associated with decision-making and leadership, while administration is more concerned with implementation of the decisions that have been made. This distinction, however, is far from precise, because what happens is that administrators in a higher education institution also manage the institution. Planning strategies, setting up goals and priorities are also part of administrators' activities. It is clear, however, that effective management requires the support of competent administrators and efficient

administration.

As was pointed out in the previous chapter, distance education institutions require a different style of organization, management, and operation than conventional ones. In a distance education system, students normally do not come to campus for lectures, seminars, or other activities that involve a close interaction with their instructors. In addition, instructional materials are presented to students living off-campus, because the materials do not involve classroom-based activities. The institution is designed for adult learners unable to attend a campus-based university (Rumble, 1981).

Distance learners are usually adults who have full-time employment, and they study on a part-time basis. The average age is usually older than conventional university students (Holmberg, 1981). A study conducted by Flinck indicated that students were motivated to learn at a distance in order to attain competence for better jobs, or to be learning oriented, rather than for such reasons as social status or recognition (Holmberg, 1981). Later similar studies conducted in developing countries have also replicated

similar findings, as reported in Ghana, Thailand, and also Indonesia (Holmberg, 1981; Enoch, 1986).

In a distance learning institution, a major problem, insofar as students are concerned, is that there usually is a high rate of drop out. The question of drop out, however, will become less important considering the fact that students can interrupt, cease studying for a time and then resume their study any time they wish. Also, students might withdraw because they have achieved their own objectives required for job performance and competence, regardless of the completion of their courses or achievement of degrees.

In comparison with conventional institutions, distance education institutions look more like industrial corporations, in which activities such as production and distribution of instructional materials, record keeping, and certification are crucial and integrated aspects of their operation. These activities are made more complex mainly due to the teacher-learner separation.

Information and instructional technology contribute much to the existence of a distance learning system. A wide variety of instructional technology may

be used for instructional presentation to replace the teacher function. The technology used might range from simple textual material or audiotaped instruction, to sophisticated videodisc and computer managed instruction.

Another new technology that is inevitable in a modern distance education system is the widespread use of computing. Computers, of course, can be used for academic and administrative purposes. On the academic side, computers have been developed to present automated instruction, such as in the emergence of computer assisted instruction (CAI) or computer managed learning (CML).

On the other hand, computers for administrative purposes are used to collect, store, retrieve, and distribute data and information for institutional management and control. Registration, admissions, and accounting are examples of those activities that are efficiently and accurately performed by the computer. Testing and evaluation is another area of computer application in higher education management. The use of objective testing has required more and more use of computers for marking assignments, conducting item

analysis and storing test items.

There has been a tremendous development of computers for various activities in the educational as well as in the business setting since the first generation of computers was introduced in the 1950s. The earlier generation of computers was primarily designed to replace manual functions. The more recent development of computer technology and capacity has enabled current computers to perform as a major tool in management information systems (MIS) and decision support systems (DSS), which have been widely employed in business enterprises as well as in higher education institutions.

Information Needs for Administrative Decisions

What is information used for? Information serves decision-makers in many complex ways, depending on who the administrators are and at what levels they are placed in the educational organization. McCorkle (1977) has identified three functions of information that are performed for institutional decision-making. First, information is important in establishing a broad

policy and evaluating its impact, in developing planning guidelines and parameters, and in allocating resources for policy evaluation. Second, accurate and reliable information is necessary to develop and monitor guidelines and policy governing resources and activities. Third, information is a good medium to establish institutional credibility and accountability to external agencies, funders, and the public.

No matter how quantitative the factual information is, there may be judgemental elements in viewing the information. No matter how systematically and objectively people process information, individual understanding of the information is often unique, depending on the position of the individual in the institution. It is because of these idiosyncrasies that decision-makers must define information needs and specify information requirements.

Effective and rational management or administration in higher education needs reliable information. Further, decisions in a higher education institution often comprise several aspects, involving not only rational considerations, but also many other factors, social, cultural as well as political. It is,

thus, necessary to determine areas of decision-making which are of major importance to an institution. Unfortunately, however, it is often difficult to define particular areas of decisions. This problem is further complicated by the uniqueness of a higher education institution, where decision-making processes are complex, and are often diffuse and political in nature.

Management is a process aimed at the effective utilization of human and material resources to achieve an institution's objectives (Snowden & Daniel, 1983). Management functions are usually associated with planning, organizing, coordinating and controlling activities. One cannot manage without making decisions.

Efforts have been made by some researchers to determine what kinds of decisions are made in conventional higher education institutions, and what information is required to make them. Adams, Kellog & Schroeder (1976) have identified five major decision processes in American colleges and universities: academic program review, faculty position allocation, institutional goal setting, faculty performance evaluation, and budgeting. This framework, however,

might not apply in a distance education institution due to the differences in organizational components as well as administration or management purposes.

Miyataki & Gray (1975) have identified information useful for academic department planning and management in terms of its functions. The functions of an academic department in regular universities are associated with responses to students' needs, external funders, institutional commitments, and department operating procedures. These functions are referred to as the units of focus (Miyataki & Gray, 1975).

When the units of focus are determined, categories of information may be clarified further. Miyataki & Gray (1975) have identified five information requirements useful for department administrators. These include information about demands, resources, instructional activities, finances, and institutional outcomes. These categories enable administrators to undertake rational planning and management in particular areas in the departmental level.

The tasks of an administrator are complex, and decision-making is a fundamental aspect of administrative work. Effective decision-making will be

very much dependent upon the availability of reliable information (Bailey, 1982). An effective information system thus becomes an indispensable tool for administrators who seek to make sound decisions.

In conventional institutions of higher education, as regards to the organizational structure and governance system, decision-making activities are traditionally categorized into three hierarchical areas: operations, management, and planning (Craven, 1975). Operational decision-making deals with routine transactions on a day-to-day basis, such as purchasing, payroll, accounting, and inventory. Management activities focus on the exercise of control over routine operations. Planning activities involve the establishment of short-range and long-range program and policy guidelines for institutional development.

These distinctions are, however, an abstraction of an activity that rarely occurs in practice. In a distance education institution, activities that are carried out influence the overall institutional setting, because decision-making is often centralised rather than focused at the departmental level.

An information system involves a process that

includes the data or information, the equipment and methods for collecting, compiling, retrieving, and evaluating the information, and the people who use the equipment and the information (Bailey, 1982)

Sheehan (1980) further categorizes information systems into three fundamental levels: (1) operational data systems, (2) management information systems, and (3) planning and management systems. The operational data systems present operating reports of transactions such as admissions, course registrations, grades, payroll personnel, scheduling, inventories, and student statistics.

An MIS, according to Sheehan (1980), is generated when the data are used beyond the operational and control considerations, and is produced in the forms of analytical reports. In a conventional university, activities represented at this level include program costs, space allocation, faculty and student load. Simulation models are often applied in manipulating the data into information.

The highest level in the hierarchy, planning and management systems, arises from a capacity further to integrate transactional data and external information,

policies, and standards. For instance, goals and priorities, program enrolment projections, resource requirements, faculty profiles, and course demand forecasts are set up on the basis of the available information created by the system.

MIS, as a concept, was originally developed to assist decision-making in profit-making corporations, and there have been attempts to apply it to the management purposes of non-profit-making higher education institutions. Attempts to apply MIS in higher education institutions, however, has been confronted with failure due to the complexities of decision-making process in those institutions, where it involves not only the economic rationale but also the social, cultural and political considerations. There are also prejudices that MIS values are its potential utilization in political position building rather than conventional management problem solving (Adams, 1977). These are some of the constraints in applying MIS technology to university management.

Information for Planning in a Distance Education Institution

The purpose of a distance system institution, as noted earlier, is to provide distant students with instructional materials and processes they need. It is thus important to get information about the clients or the potential clients who might have an interest in taking courses at a distance. Information about students is essential for administrators to direct institutional policy and planning. Without relevant information about students it will be difficult to provide the appropriate arrangements for student learning.

Kaye (1981) recommended that a student data profile should be provided to determine guidelines for planning student services. Student data related to a particular program should describe further content and objectives of the proposed courses and the students' requirements for the course (e.g., occupation, educational background, study habits, relevant work data, training needs). Instructional data can provide guidelines relevant to the selection of teaching

methods and media, coupled with student life style data, such as housing conditions, and available study time. Demographic data , such as sex, age, geographical distribution, is required for effective planning for student services or regional center assignment.

Other information can be listed; however, not all may be effective for collection, storage, and retrieval. Collecting student information is a costly and time-consuming undertaking. Therefore, it is necessary to identify what types of information are most urgently needed by whom and for what purposes. It is also important to distinguish what information is frequently needed and what is required only for occasional purposes. Information specification is important, otherwise the institution collects a mountain of data that are irrelevant to the decision-makers' needs. This undertaking, however, is not a simple task to accomplish.

Administrators at different levels require information for different purposes and diffrent administrators may need similar information but at differing intensities and frequencies. Top

administrators, for example, need information in a less detailed format than lower level administrators. For instance, they might need information about trends in student age, sex, or occupation; or external information about economic growth, labour market, and other political indicators. An operational manager in a higher education institution, in contrast, might need information in a more detailed form, such as student mailing addresses, grade point average requirement for course enrolment, tuition fees, or how many students have an examination in a particular course.

Ideally, a body of student information can be used for multiple purposes by a number of units within the institution. Staff involved in course development require student information for the design, planning, and development of the courses, and implementation of delivery methods for effective student learning. Other units within the organization, e.g., financial and academic planners, regional centres, and admission and registration offices, might also utilize information for accomplishing their tasks and functions.

A student information system can be generated from the registrar's office, which processes student

data for admissions, registration, and other purposes. The problem is that storing and maintaining information is expensive; and, thus, an effective student information system should be created with regard to importance and efficiency of storing and retrieving that information.

Problems in Information Specifications of Decision-Makers

As Adams (1977) mentioned, one of the problems in addressing the information needs of higher education administrators is that very little is systematically recorded about the decision process in which they are involved. Decision-making is, in fact, a complex activity. Theoretically, sound decisions can only be made when there is information to support these rational decisions. In reality, however, good decisions are often made on the basis of intelligent judgements of the academic manager. Moreover, decisions based mainly upon objective research and information are not always necessarily the best decisions. Thus, information is not the only factor

that contributes to reliable decision results.

Sandin (1977) pointed out that even though elaborate information systems have been established, educational managers continue to use their experience-based intuitions, and they tend to use the information system product as an after-the-fact justification to support their judgements. The point is that problems faced by decision-makers are due to the weaknesses of the information system that are identified by the failure of timeliness, the limitation of the input-output model, the cost-effectiveness of the information system, and the organizational structure of the information system. Information system designs are usually abstractions of the real world, and this problem is further complicated by the complexity of the educational enterprise in which planning and decision-making cannot simply be governed and represented by simulation models (Sandin, 1977).

There remains the fundamental question about what management functions must be served by an information system; there is no simple answer to that question. Sandin (1977), for instance, has argued that an information system should represent control of input,

which is required for reporting input based on the organizational structure of the institution. The other role is for planning of program effectiveness or quality control, which involves reporting of output and patterns of resource consumption based on the program classification structure. Thus, it seems to suggest that the emphasis of information role is mainly reporting of input-based output of information.

Schmidtlein (1977) points out that information is an important resource to an organization, and it should provide evidence of relationships which suggest assumptions about causal relationships. This serves as a guide for implementing policy decisions. However, due to the complexity of designing a comprehensive information system, it will be virtually impossible to design and install an inclusive information system that can be expected to meet the information requirements of a variety of educational decision-makers.

There has also been little descriptive data on research areas available in university administration, especially research on information for decision-making and managerial planning. As a result, many recent research findings have been supported primarily by

logical argument (Adams, Kellog & Schroeder, 1976).

Institutional Research and Planning

The establishment of institutional research offices is an interesting development in the management of institutions of higher learning. The main task of such offices is to deal with information required by top executives in policy making. In many institutions it has been variously named as institutional study, institutional analysis, or analytical studies.

Institutional research plays a useful intermediary function that links the educational, managerial, and information functions of higher education institutions and systems. The purpose of the office is primarily to meet the growing need for data and research to improve institutions of higher learning (Peterson, 1985). Although the ideas and principles of institutional research are universal, the kinds and emphases of the research activities in an individual institution usually relate to what is most appropriate for that institution.

The governance and management processes in

colleges and universities depend to some extent on data and information, their analysis and interpretation, and periodic policy studies that typically are provided by institutional research offices. In other words, the office usually conducts research activities which tend to be quantitative and management oriented.

The work of an institutional research office is normally published in the form of an institutional fact book containing information and data on various aspects of a higher education institution. A typical institutional fact book usually comprises numerical data about students, courses, faculty, non-faculty instructional staff, support staff, grades, financial conditions, and facilities. There is also historical and predictive information, such as projections of institutional data, and a summary on institutional profile. The fact book cannot, of course, contain all the data which might be required by individual decision-makers within the institution; rather it is a kind of summary that meets academic managers' need for information for their managerial activities.

The assumption that supports the production of such data and information is that a good understanding

of an institution is fundamental to the management and planning of that institution. An institutional fact book is an important basic information system as well as a practical means of communicating information among administrators at all levels within the institution (Smith, 1983). The fact book approach sidesteps existing weaknesses in the application of computer-based information files for institutional planning.

Apart from providing the fact book containing institutional data and information, there are many other tasks of institutional research offices. This office also undertakes research ranging from broad issues of policy questions and institutional directions, to specific cases such as faculty assignment, student enrolment and space management.

As a unit in a college and university that deals mainly with data and information, the functions of an institutional research office can be effective as an aid to management, program planning, evaluation, and decision-making by producing a fact book of information. Additionally, the fact book can serve institutional managers at different levels within the

institution. It should be pointed out, however, that the fact book might contain needlessly voluminous and frustrating data unless information requirements of administrators are well specified.

The Fact Book as a Vehicle for Information Communication and Dissemination

The fact book approach has gained more and more popularity as a means for communicating numerical information among academic managers. This is perhaps because of its low cost and the practical consideration of information users. A fact book is "a bound document presenting a broad spectrum of descriptive information about an institution"; it serves to provide a concise overview of the institutional operations and profile (Smith, 1980).

There need to be some considerations in the development of a fact book, as described by Leischuck (1970). First, attention should be given to the degree to which the publication is to be distributed as well as the nature of data to be included. A fact book might contain voluminous of irrelevant information

unless it is well designed.

Second, as regards to cost, considerations should also be given to the type of binding, the copy process to be used, as well as the frequency of publication and distribution. The fact book should, of course, provide some benefit to the institution in an effective manner. In addition, attention should also be given to the sources of data, upon which the fact book is produced.

Third, what should be included in the fact book is an important question. Leischuck (1970), for instance, listed items to be included in the fact book of a conventional university:

A. Enrolment data

(1) Current as compared to some previous year
(2) By various schools or academic program and levels
(3) For the graduate school
(4) Projections for future years
(5) Sources of students: country, state, county
(6) For short courses

B. Characteristics of student body

(1) Married students
(2) Fraternity-sorority membership
(3) Place of residency
(4) Whether they register automobiles
(5) Grades earned
(6) Test score information
(7) Costs
(8) Scholarship and other financial aid

information
(9) Degrees awarded by level, etc

C. Faculty information

(1) Distribution by rank
(2) Sex
(3) Age
(4) Salary
(5) Length of service
(6) Education levels

D. Research program

(1) Volume
(2) Programs
(3) Sources of funds
(4) Growth over the years

E. Budgetary information

(1) Sources of funds
(2) Expenditures
(3) Cost of programs

F. Physical plant

(1) Size of plant
(2) Cost of building program
(3) Capacity
(4) Increase in facilities

G. A general information section

(1) Historical data on the institution
(2) Accreditation of programs
(3) Outstanding historical events
(4) Former presidents
(5) Date of establishment of specific programs
(6) Honorary degrees awarded
(7) Major facilities
(8) Administrative officers
(9) Organizational chart (Leischuck, 1970).

It should be pointed out, however, that each institution normally has its own information categories based on its own needs and availability of data sources. Also, a distance education institution almost certainly has different requirements, despite the fact that no documentation of the differences has been undertaken so far.

Universitas Terbuka and its Information Needs

The establishment of UT in 1984, as expressed in the mission statement, was intended to provide adult learners with more access to tertiary level education through a distance system, to train students to become experts in various disciplines required for national development, to improve the quality of in-service teachers as well as other professionals, and to help develop the nation's resources (Universitas Terbuka, 1986).

The institution covers the widespread geographical distribution of the Indonesian population. The nature of an open learning system inevitably requires an efficient production, distribution, control, and

overall management system in order to reach the clients, who are often remotely located as is certainly the case with UT. Communication, thus, plays a very crucial role in the operation of the institution.

Located in Jakarta, UT, as a distance education institution, serves students spread out over all the country. The management of UT is highly centralized. However, a number of regional centres, usually one in each of the twenty seven provinces help manage the instructional as well as administrative services to students.

The uniqueness of UT is that it serves a large and spread out population, which is contrary to conventional universities, or other external degree programs offered through conventional higher education institutions anywhere in the world. This fact increases the complexity of institutional management, which may be caused by differences in needs of students, accessibility of instructional facilities, and other services for students, administrative as well as academic.

The instructional material provided by UT generally includes a self-contained module, coupled

with a workbook, a list of reference materials, and, where necessary, a practicum manual. These are supplemented by other media such as audio-cassette materials, or occasional instructional television or radio, and sometimes audio-video-taped materials. In some parts of Indonesia, where geographical distribution constrains communication, the supplementary instruction is presented through a satellite system or single-side band (SSB) radio to support the textual material.

Course writing is done by external experts, who are generally faculty members in conventional universities. Courses are written by teams that include instructional technologists and content specialists rather than by individual writers. The course writer nevertheless makes the greatest contribution and has the most responsibility for the end product. Instructional technologists, graphic artists and content experts, who help to develop the courses, are full time staff at UT.

The instructional system mainly involves independent learning in the sense that students have to learn the material themselves without any constant or

continuous assistance from tutors. Students, however, are encouraged to participate in study groups arranged locally by the students themselves, with the help of the regional center. Tutorials are occasionally held and they are intended to help students overcome their learning difficulties. To assess students' progress and achievement, evaluation is conducted three times each academic year. The evaluation components include a final test at the end of semester and two other mid-term examinations.

As with any other institution, UT is also challenged to undertake effective administration. Efforts to provide information for institutional decision-making, setting up policy guidelines and other administrative purposes have been undertaken at UT. The kinds of research currently undertaken by the Center for Research and Community Service at UT are similar to those conducted by an institutional research office. This is simply due to the fact that UT is a newly growing institution. The purpose of the research is mostly to evaluate institutional development and to provide some suggestions on policy issues and institutional directions. Areas of research that have

been undertaken include, for instance, the tutorial system, study habits of students, and satellites and radio for instruction. Such information is required by UT administrators to set policies and to answer institutional management problems.

Apart from general information, factual or numerical information may be obtained from the Office of Registration and Statistics. This office has a computerized student record, from which information on student characteristics can be generated. The weakness of the system is that very few people have access to the data bank due to inadequate number of computer terminals and limited capacity. Information on grades can be obtained from the Center for Examination. Also, the Financial Office can provide information concerning spending, revenues and budget of the university. Basically each organizational unit within the institution has information available according to its own interests and needs for the unit itself.

Even though a wide variety of information and data can be obtained from different offices, there is a lack of an integrated information system accessible to anyone who might need that information. In an

organization such as a university, a unit is not loosely separated from the whole system of the institution. There must be channels for communicating information among subordinates and superiors. The lack of an easily accessible information system will constrain the dissemination and communication of information among administrators.

Concluding Remarks

As previously discussed in this chapter computerized information systems have caused frustration among their users due to impracticality in generating the information and the voluminous gathering of data. This system is also uneconomical because it requires expensive software, hardware and system experts.

The fact book approach, on the other hand, reduces the high cost of software, hardware and human expertise needed in developing a computerized information system. In addition, it sidesteps user's illiteracy of computer usages. The information contained in the fact book is easily accesible in a practical format. Thus, the fact

book can be an effective means of communicating and disseminating information among administrators.

Since the fact book approach has been selected as a vehicle to provide information for administrators, attempts should thus be made to develop a fact book to be used in a distance education institution. In this case UT, as a growing institution, is in need of an effective information base. Therefore, this study will focus on information requirements of administrators at UT.

There are then problems in specifying what information should be included in the fact book for a distance education institution. There have been assumptions about differences between information needs of a conventional and a distance teaching institution; however, there is still the difficulty of determining distance education administrators' information requirements. This is because little research has been conducted in that area.

Despite the distinctions between the two institutions, there are also similarities, in a sense that they both share similar components such as students, staff and curriculum for instruction. Thus,

the approach to the fact book development for a conventional university is also useful for a distance education institution.

Based on the above reasons, the fact book to be developed should contain information concerning students, academic as well as non-academic staff, grades, courses and registration data. These are modified categories in order to fit the UT context. Course and registration data, for instance, are included because they are important for a distance education operation. In this case, the number of student registrations successfully processed will ultimately determine the number of courses taken which further has effects on the number of modules to be distributed to students.

CHAPTER III

CONDUCT OF THE STUDY

As described earlier, the study attempts to identify information needs of administrators at UT and to determine the form and frequency with which the information should be provided. Several steps were followed in order to reach that goal, and they are explained in this chapter. First, a discussion of subjects is given, followed by a description of instruments. Then, data collection procedures are explained, as well as the plan for analysis.

Subjects

The purpose of this study was to determine the information needs of administrators at UT. But, which administrators should be selected to provide answers to the data gathering instruments? This is not the simple question it appears to be.

In most distance education institutions, the organizational structure, governance system, and decision-making processes are different from those in a

conventional system. Most distance institutions are not hierarchically structured into faculty and departmental levels, where many decisions do not affect the overall institution. Rather, in a distance education institution a highly integrated management system is required, where policy making typically influences the total system within the institution. Thus, the management of distance instructional activities requires a complex and interrelated system with constant administrative attention and teamwork (Daniel & Smith, 1979).

The case is somewhat different at UT than at some distance education institutions in other countries. As a public-funded Indonesian university, UT must follow the organizational structure as set out by the Ministry of Education for conventional state universities. Thus, administrators within UT's organization structure typically include a rector, three vice rectors, several deans, vice deans, program heads and directors. In addition to that, there are also organizational units which appropriately fit UT's requirements, such as distribution and production departments.

In a conventional university structure,

administrators are generally distinguished into three different groups: general, academic, and support service (Corbally & Holmberg-Wright, 1980). General administrators are assigned overall leadership responsibilities, such as president and vice presidents of the university; academic administrators are usually responsible for academic units, such as deans, department heads, or director of graduate programs. Support service administrators deal with various service activities: food, recreation facilities, or computing services.

The above distinction, however, cannot easily be seen in a distance education system, in which administrators are concerned with all activities, ranging from instructional development to printing. Furthermore, such an institution has no home-based campus for direct teacher-pupil interaction as well as other activities. Thus, there is not any clear-cut boundary between academic, non-academic, or service activities as called for by conventional institutions. A distance system institution can be compared to a non-profit publishing corporation that produces academic materials for its clientele.

As regards to information needs, there may be distinctions into top, middle and operational level administrators or managers. Top level administrators may require information for setting strategic policy decisions, middle level for implementing tactical tasks, while lower level for controlling routine operations. These classifications are also hard to define clearly. Therefore, in this study it would be unwise to identify administrators in such a rigid manner. However, considering further analysis of the data, efforts were made to see information needs of administrators from different levels.

For the purpose of this study, senior administrators were referred to as the rector and the three vice rectors, who were assigned responsibilities for making strategic planning and decisions. Middle administrators were those deans and vice deans whose tasks were associated mostly with academic matters and were responsible for setting up medium-range planning. Junior administrators were program heads and directors who were involved in routine day-to-day operations.

Theoretically speaking, the organizational structure of a state university in Indonesia includes a

rector and three assistant rectors (academic, administration and finance, and student affairs) at the institutional level; a dean and three vice deans (academic, administration and finance, and student affairs) at the faculty level; depertment chairman, director, or program head at the departmental level.

In determining the subjects for this study there was a problem when applied to UT, because the institution was newly established and was still growing at the time of the research (Mid 1987). Some positions were not yet filled. In several faculties some position of vice deans were not available. In the Faculty of Economics, there was only one vice dean academic; the Faculty of Mathematics and Natural Sciences had two deans for academic and student affairs; the Faculty of Education had one vice dean finance and administration. Consequently, at UT a single vice dean, working together with the dean, was likely to be involved with a variety of tasks associated with academic, finance and administration as well as students affairs altogether. Only the Faculty of Social and Political Sciences had three vice deans. Thus, of the expected twelve respondents of the middle

level administrators, there were only seven actually available.

In this study, again, administrators were defined as those who were assigned particular leadership roles and responsibilities to cope with certain administrative or managerial functions or tasks within the organization. Several people were identified as administrators as follows:

Top	1	Rector (President)
	3	Vice Rectors or Vice Presidents (Academic, Finance and Administration, Student Affairs)
Middle	4	Deans (Education, Economics, Social and Political Sciences, Mathematics and Sciences)
	7	Vice Deans of the four faculties
Junior	15	Directors in the following areas:

- general administration office
- staff development
- system development
- examination center
- research and public services center
- data processing department
- inter university center

- library and media production
- registration and statistics
- distribution
- communication
- regional center development
- student services
- student aid and development
- reference material development

There are, of course, more than the foregoing thirty people at UT who carry administrative responsibilities. But obviously, the breadth of decision-making involvement diminishes as one moves down a hierarchy. In this study, attempts are made to examine information requirements for academic administration purposes. Thus it was decided to include as subjects only those identified as top, middle and some lower level administrators. This was an arbitrary decision, of course, but was reasonable and defensible given the context and purpose of the study.

It should be noted that this is not an inferential, statistical study; it is not intended to generalize to a population. Thus, references to

sampling, population, and tests of significance, in their statistical senses, are not called for.

Instrumentation

In most educational and behavioural research, instruments are crucial for data gathering. A reliable and valid instrument will, all things being equal, eventually lead to valid and dependable results and conclusions. When the subjects were identified, the next step was to prepare the necessary data collection instruments. Two types of instruments were employed for data collection: a questionnaire and an interview protocol.

Subjects were required to fill out questionnaires designed to determine their specific information needs and were interviewed regarding their opinions about reasons for requiring that information as well as the format and frequency with which that information should be provided.

Questionnaire

The study, in essence, is a needs assessment of the information requirements of administrators at UT. A questionnaire, which was appropriate to the task, was employed to translate qualitative information needs of administrators into a quantitative data format for the ease of analysis. Questionnaires were distributed to the subjects with the intent of identifying their information needs.

As mentioned earlier, the student and course subsystems represented the most dominant sets of responses. Closely related to this was student grading and assessment. Other components of the questionnaire were information needs concerning human resources: support staff as well as instructional staff or faculty members. Finally, the questionnaire contained items concerning registration data.

A total 79 items were constructed, and were distributed in six different categories. 17 items dealt with student data, 8 items with courses, 20 with examination and grades, 15 with academic staff, 14 with non-academic staff and 5 items with registrations data.

Subjects were required to respond to a structured and close-ended type of questionnaire with a three point rating scale. A number of statements were presented, and respondents were asked to express their opinions by selecting Important, Not Important and Uncertain responses. Sample items is as follows:

How important is the following to you?

a = Important

b = Not Important

c = Uncertain

a b c 1) Historical number of student registration received by year.

a b c 2) Total number of staff in regional offices.

This type of questionnaire was preferred for the following reasons. First, the alternatives provided a clear-cut choice of responses, and thus would eliminate the possible "moderate or social" responses of the Likert five-point-rating-scale type. Second, the responses would easily be scored. Finally, it would be easy to identify which responses qualified for further interview pursuit.

In this study, the question of anonymity was

excluded from consideration, because there would be a need to classify administrators' information needs at different levels and functions. Also, once the questionnaire was undertaken, subjects would be further interviewed on the basis of their questionnaire responses.

Interview

Following the completion of the questionnaire, interviews were undertaken to obtain qualitative information from administrators that might not have been covered in the questionnaire. Further, the interview was conducted to provide clarity and expansion of the descriptions revealed by the questionnaire.

In this study, questionnaire and interview administration were sequential activities. Interviews were conducted on the basis of questionnaire findings; it was directed only to those items which a respondent scored "Important". The questions asked during the interview obviously had a different purpose than the questionnaire previously administered. It was to

pursue further responses from administrators rather than to identify their initial information requirements. Questions asked were, thus, open ended so that they were free to express their perceptions and needs.

In response to the open ended questions, subjects might provide lengthy answers. Thus, the interviews were audio recorded; in case the result was not well documented in written notes, it could be easily checked in the recorded tape. The tape was destroyed after the analysis to respect any confidences exchanged.

Data Collection Procedure

Several stages were followed in collecting data. First, questionnaires were distributed to the respondents with covering letters. Two weeks was allowed for completion. Questionnaires were received from the researcher either by administrators directly or by their secretaries. To remind respondents of the completion of the questionnaire, phone calls were made a week after the submission of the questionnaire. This was done to produce higher response rates from

respondents.

Second, once the questionnaire was completed, it had to be collected. To get it back, it was either picked up directly or the secretaries sent it back. In this way time was saved.

Third, when the questionnaire administration was completed, responses were tabulated to see which administrators gave which response to which item.

Fourth, to undertake the interview, consideration was given only to those items scored "Important" by an administrator. Each item was pursued to determine the administrator's reasons for requiring that information. In this case, interviewees were provided with an open-ended question, even though some cues to answers were prepared. Then questions were asked about the format in which they would like to receive particular information and the frequency for providing that information.

Data Analysis

Once the data collection procedure was set up, plans for data analysis were determined. Different

approaches were employed for analysis of questionnaire and interview data, and this is explained in this section.

It should be noted that in analysing the data care should be taken regarding the division of subjects on the basis of top, middle, and junior levels .

Questionnaire

The analysis of the questionnaire was done in the following manner. A frequency distribution of responses was made item by item for all respondents. This was done to see their overall percentage of responses.

A further computer analysis was done by using Kruskal-Wallis one-way analysis of variance. In this case, the mean, standard deviation, maximum and minimum scores of respondents for each section of the questionnaire could be found. Also, the mean ranks for each section of the questionnaire of administrators' responses could be calculated. Then, the Chi-Square analysis was found to see the difference of administrators' information requirements by level.

Interview

A semi structured interview was undertaken to individual administrators, in which they were asked to give more information about reasons for scoring "Important" to the items. Questions about format and frequency were also given, and the analysis was done by classifying subjects' responses. Expected responses were prepared prior to interviews. Thus, subjects were led to answer with the help of the given cues. Subjects might be free to express other than provided responses, and these were also identified and noted.

CHAPTER IV

RESULTS AND ANALYSES

This study was conducted to address the issue of administrators' information requirements for a variety of administrative activities and purposes. As well, the study attempted to find out the answer to the question of format and frequency to provide the requested information. This chapter will present the results and analyses of the research undertaken.

Questionnaire

Response Rates

It took three weeks (July 13-31) for the questionnaire administration. When the deadline was reached, 23 out of 30 respondents had returned the questionnaire. This means that the response rate was high, that is 77 percent. The other seven respondents were somehow unable to return the questionnaire. This was partly because some of them were on vacation, and some, perhaps, had very busy schedules.

The frequency distribution of administrators involved in this study based on level can be seen in Table 1, whereas Table 2 indicates the distribution of questionnaire items by section.

Table 1

Percentage Distribution of Administrators by Level

n = 23	Percentage
Junior	48%
Middle	39%
Senior	13%

Table 2

Distribution of Questionnaire Items by Section

Section	Item Number
A. Student Data	1 up to 17
B. Courses Data	18 up to 25
C. Grades and Examination	26 up to 45
D. Academic Staff Data	46 up to 60
E. Support Staff Data	61 up to 74
F. Registration Data	75 up to 79

Frequency Distribution Analyses of Questionnaire Items

Frequency distribution analyses were conducted item by item to see the percentage of subjects' responses by level. It should be noted that, for the purpose of this study, it was decided to determine the degree of requirements by administrators on the basis of the percentage of subjects' responses to each item.

An arbitrary rule was applied as follows. In cases where an item obtained a percentage of seventy five or more of "Important" responses, it indicated that the information was "highly required" by administrators. If an item was rated "Important" by fifty to seventy four percent of administrators, the information was "required"; whereas when an item was scored "Important" by less than fifty percent of the subjects, which otherwise meant that the item was considered "Not Important" by fifty percent or more respondents, the information was categorized "less required" by administrators. Again, this categorization was rationalized arbitrarily.

Tables 3 up to 8 showed analyses of percentage

distribution of item responses in each section of the questionnaire.

Table 3

Percentage Distribution of Responses to Questionnaire Items on Section A

	Important	Not Important	Uncertain
1. Present total enrolment			
n = 23	91%	9%	0%
2. Present total enrolment by regional center.			
n = 23	61%	35%	4%
3. Present total enrolment by faculty.			
n = 23	83%	17%	0%
4. Present total enrolment by degree and non-degree programs			
n = 23	74%	26%	0%
5. Present total enrolment by program.			
n = 23	96%	4%	0%

Table 3 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section A

6. Present total enrolment by sex.

	Important	Not Important	Uncertain
n = 23	52%	48%	0%

7. Current total enrolment by work status.

	Important	Not Important	Uncertain
n = 23	65%	31%	4%

8. Current total enrolment by age group distribution

n = 23	61%	30%	9%

Note: Item numbers 9-17 refer to historical pattern of student enrolment for the last three years.

9. Historical enrolment patterns by year for the last three year.

	Important	Not Important	Uncertain
n = 23	77%	23%	0%

10. Historical enrolment patterns by faculty.

	Important	Not Important	Uncertain
n = 22	73%	27%	0%

Table 3 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section A

11. Historical enrolment patterns by degree and non degree programs.

	Important	Not Important	Uncertain
n = 22	68%	32%	0%

12. Historical enrolment patterns by programs.

	Important	Not Important	Uncertain
n = 23	87%	13%	0%

13. Historical enrolment patterns by work status.

	Important	Not Important	Uncertain
n = 22	54%	41%	5%

14. Historical enrolment patterns by sex.

	Important	Not Important	Uncertain
n = 22	41%	59%	0%

15. Historical enrolment patterns by regional center.

	Important	Not Important	Uncertain
n = 22	50%	45%	5%

Table 3 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section A

16. Historical enrolment patterns by age group distribution.

	Important	Not Important	Uncertain
n = 22	55%	36%	9%

17. Historical average age.

	Important	Not Important	Uncertain
n = 22	50%	36%	14%

The results of subjects' responses to Section A items indicated that almost all items were considered Important by more than fifty percent of the administrators. An exception was item number 14, where fifty-nine percent of the respondents considered the item Not Important.

In this section concerning students, administrators highly required student information related to current total enrolment, enrolment by faculty, by program, historical enrolment patterns by year for the last three years, and historical enrolment patterns by program. This indicated a great demand of

that information at the institutional as well as departmental level, as revealed by the demand of student enrolment information at various levels. Also, there was a high demand for information about student trends from time to time, especially at the institutional and departmental level.

Other kinds of student information related to current total enrolment by regional center, by degree and non degree programs, by sex, by work status, and by age group distribution were also needed at a moderate degree. Still these things were of importance to the administrators despite the fact that administrators being involved were those of the central office; some faculties did not offer both degree and non degree programs. Sex, age, and work status of the students were still of concern to administrators.

Administrators were also in need of student historical enrolment patterns for the last three years by faculty, by degree and non degree programs, by work status, by regional center, by age group distribution, and student historical average age at a fairly required degree. There was thus a fair tendency to use these historical student enrolment patterns on a number of

basis.

There was one case where student historical enrolment pattern by sex was less required by administrators. In this case, to most administrators that information was not a big concern.

Table 4

Percentage Distribution of Responses to Questionnaire Items on Section B

	Important	Not Important	Uncertain
18. Total number of courses fully developed ready for delivery.			
n = 23	74%	26%	0%
19. Total number of courses fully developed ready for delivery by faculty and programs.			
n = 23	91%	9%	0%
20. Total number of courses offered for the last three years.			
n = 23	83%	17%	0%

Table 4 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section B

21. Total number of courses being developed by faculty and programs.

	Important	Not Important	Uncertain
n = 23	83%	17%	0%

Note: Items number 22-25 refer to historical number of courses for the past three semesters.

22. Total number of courses offered by semester for the past three semester.

	Important	Not Important	Uncertain
n = 22	50%	50%	0%

23. Total number of courses offered by faculty for the past three semesters.

	Important	Not Important	Uncertain
n = 23	56%	44%	0%

24. Total number of courses offered by program for the past three semesters.

	Important	Not Important	Uncertain
n = 23	70%	30%	0%

25. Total number of courses offered by degree and non degree programs for the past three semesters.

	Important	Not Important	Uncertain
n = 23	52%	48%	0%

As in Section A, most items in Section B were also rated Important by more than fifty percent of the administrators. A different result was found in item 22 where fifty percent respondents said Important, while the other fifty percent responded Not Important.

There seemed to be a great demand for course information about total number of courses fully developed ready for delivery by faculty and by program. This was also applied to information about total number of courses offered for the last three years and total number of courses being developed by faculty and programs.

Administrators also required, to a lesser degree, information concerning total number of courses fully developed ready for delivery, total number of courses offered by semester for the past three semesters, total number of courses offered by faculty, by degree and non degree programs, and by program. This indicated a demand for that information at different levels within the institution.

Table 5

Percentage Distribution of Responses to Questionnaire Items on Section C

Note: Questions number 26-44 refer to the last examination period.

	Important	Not Important	Uncertain
26. Number of examination administered.			
n = 23	70%	26%	4%
27. Number of examination administered by faculty.			
n = 23	52%	35%	13%
28. Students' grades distribution.			
n = 23	78%	22%	0%
29. Students' grades distribution by year.			
n = 23	61%	39%	0%
30. Students' grades distribution by semester.			
n = 22	68%	32%	0%

Table 5 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section C

31. Students' grades distribution by faculty.

	Important	Not Important	Uncertain
n = 23	48%	52%	0%

32. Students' grades distribution by program.

	Important	Not Important	Uncertain
n = 23	87%	13%	0%

33. Students' grades distribution by degree and non degree programs.

	Important	Not Important	Uncertain
n = 23	44%	56%	0%

34. Students' grades distribution by sex.

	Important	Not Important	Uncertain
n = 23	39%	53%	4%

35. Students' grades distribution by region.

	Important	Not Important	Uncertain
n = 23	43%	48%	9%

Table 5 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section C

36. Students' grades distribution by work status.

	Important	Not Important	Uncertain
n = 23	52%	44%	4%

37. Students' grade point average.

	Important	Not Important	Uncertain
n = 23	78%	18%	4%

38. Students' grade point average by faculty.

	Important	Not Important	Uncertain
n = 23	57%	43%	0%

39. Students' grade point average by program.

	Important	Not Important	Uncertain
n = 23	83%	17%	0%

40. Students' grade point average by degree and non degree program.

	Important	Not Important	Uncertain
n = 22	55%	45%	0%

Table 5 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section C

41. Students' grades point average by sex.

	Important	Not Important	Uncertain
n = 23	40%	52%	8%

42. Students' grades point average by work status.

	Important	Not Important	Uncertain
n = 23	52%	46%	4%

43. Students' grade point average by region.

	Important	Not Important	Uncertain
n = 23	43%	48%	9%

44. Students' grades point average by age group distribution.

	Important	Not Important	Uncertain
n = 23	48%	43%	9%

45. Students' grade point average by academic year.

	Important	Not Important	Uncertain
n = 20	60%	35%	5%

Similar findings of Sections A and B were also replicated here, that is, most items were believed to

be Important by more than fifty percent of the administrators. There were, however, more cases where some items were said to be Not Important (numbers 31, 33, 34, 35, 41, 43, and 44) by more than fifty percent of administrators.

The findings in this section indicated that administrators had a high demand for information related to students' grade distribution, students' grade distribution by program, and students' grade point average by program. This showed that administrators' concern about student academic achievement were high at the institutional as well the departmental level.

Administrators also required information on number of examination administered by faculty, students' grade distribution by year, by semester, and by work status. These were requested by fifty to seventy-four percent of administrators. Also respondents required information concerning students' grades point average, students' grade point average by faculty, by degree and non degree programs, by work status, and by academic year.

Information concerning students' grade

distribution by faculty, by degree and non degree programs seemed to be of little importance to administrators. This was perhaps they were more concerned about information at the departmental level. Information about grade distribution by sex and region was also less requested. This might suggest that both were not of great concern to respondents. These findings were also replicated in students' grades point average by sex, by region, and by age group distribution. Thus, the issues of students' sex, region, and age group as related to grade point average information were of little concern to most administrators.

Table 6

Percentage Distribution of Responses to Questionnaire Items on Section D

46. Total number of instructional staff at the central office.			
	Important	Not Important	Uncertain
n = 23	83%	17%	0%

Table 6 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section D

47. Distribution of instructional staff by faculty and program at the central office.

	Important	Not Important	Uncertain
n = 23	78%	22%	0%

48. Distribution of instructional staff by rank.

	Important	Not Important	Uncertain
n = 23	65%	31%	4%

49. Distribution of instructional staff by sex.

	Important	Not Important	Uncertain
n = 23	43%	48%	9%

50. Distribution of instructional staff by educational level.

	Important	Not Important	Uncertain
n = 23	78%	22%	0%

51. Distribution of instructional staff by age group.

	Important	Not Important	Uncertain
n = 23	48%	44%	8%

Table 6 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section D

52. Average age of instructional staff.

	Important	Not Important	Uncertain
n = 23	39%	57%	4%

53. Total number of tutors in regional centers.

	Important	Not Important	Uncertain
n = 23	83%	17%	0%

54. Distribution of tutors by regional center.

	Important	Not Important	Uncertain
n = 22	73%	27%	0%

55. Distribution of tutors by sex.

	Important	Not Important	Uncertain
n = 23	31%	65%	4%

56. Distribution of tutors by rank.

	Important	Not Important	Uncertain
n = 23	31%	65%	4%

Table 6 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section D

57. Distribution of tutors by faculty and program.

	Important	Not Important	Uncertain
n = 23	87%	13%	0%

58. Distribution of tutor by educational level.

	Important	Not Important	Uncertain
n = 23	87%	9%	4%

59. Distribution of tutors by age group.

	Important	Not Important	Uncertain
n = 23	35%	65%	0%

60. Average age of tutors.

	Important	Not Important	Uncertain
n = 22	32%	68%	0%

In this section the results were somewhat different than those previously analysed. Almost a half of the items in Section D were rated Not Important by more than fifty percent of the administrators (item numbers 49, 51, 52, 55, 56, 59, 60). The other eight items were considered Important by more than fifty percent of administrators.

It could be said described that administrators required academic staff information relating to total number of staff at the central office, distribution by faculty and program, and by educational level. As regards the number of tutors at regional offices, they require total numbers of tutors, distribution of tutors by faculty and program, and by educational level. Again, concerns for this information exist at institutional as well as at departmental level. Information about distribution of instructional staff by rank and distribution of tutors by regional center was also required by administrators but at a moderate level.

Respondents have less need for information about distribution of instructional staff by sex and by age group. Staff age and sex, thus, did not seem to be of urgent concern to most administrators.

Also, as regards regional centers, administrators considered less necessary information about distribution of tutors by sex, rank, age group, and average age of tutors. These implied that information about sex, rank, and age of tutors was not very important questions for administrators.

Table 7

Percentage Distribution of Responses to Questionnaire Items on Section E

	Important	Not Important	Uncertain
61. Total number of support staff at the central office.			
n = 22	68%	32%	0%
62. Distribution of support staff by department and unit.			
n = 22	73%	27%	0%
63. Distribution of support staff by rank.			
n = 21	67%	29%	4%
64. Distribution of support staff by educational level.			
n = 21	76%	24%	0%
65. Distribution of support staff by sex.			
n = 22	27%	59%	14%

Table 7 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section E

66. Distribution of support staff by age group.

	Important	Not Important	Uncertain
n = 22	36%	55%	9%

67. Average age of support staff.

	Important	Not Important	Uncertain
n = 22	32%	55%	13%

68. Total number of staff in regional offices.

	Important	Not Important	Uncertain
n = 21	57%	38%	5%

69. Distribution of administrative staff by regional center.

	Important	Not Important	Uncertain
n = 22	64%	32%	4%

70. Distribution of regional office staff by sex.

	Important	Not Important	Uncertain
n = 22	36%	55%	9%

Table 7 (Continued)

Percentage Distribution of Responses to Questionnaire Items on Section E

71. Distribution of regional office staff by rank.

	Important	Not Important	Uncertain
n = 22	77%	23%	0%

72. Distribution of regional office staff by rank.

	Important	Not Important	Uncertain
n = 22	59%	41%	0%

73. Distribution of regional office staff by age group.

	Important	Not Important	Uncertain
n = 22	32%	68%	0%

74. Average of regional office staff.

	Important	Not Important	Uncertain
n = 21	33%	64%	0%

The results of the item response analysis in this section revealed similar findings to Section D. Eight out of fourteen items (numbers 61, 62, 63, 64, 68, 69, 71, 72) were rated Important by more than fifty percent of the respondents, while the rest were regarded Not Important (65, 66, 67, 70, 73, 74) by fifty percent or

more of the administrators.

Administrators had a high request rate for information about distribution of support staff by education level. This was perhaps because there was more variety among support staff educational backgrounds than academic staff. Also, information about distribution of regional center staff by educational level was highly required by administrators. This might be due again to the variety of support staff educational background.

Administrators required at a more moderate level information about total number of support staff at the central office, distribution of support staff by department and unit, and by rank.

Most administrators had a lesser demand for support staff information related to distribution by sex, by age group, and average age of support staff. Also they considered less important information concerning distribution of regional office staff by sex, by age group, and average age of regional office staff. Administrators showed little need for information about information related to sex and age at the central office as well as regional centers.

Table 8

Percentage Distribution of Responses to Questionnaire Items on Section F

	Important	Not Important	Uncertain
75. Historical number of student registration received by year.			
n = 23	91%	9%	0%
76. Historical number of student registration successfully processed for the past three semesters.			
n = 23	91%	9%	0%
77. Total number of student registration successfully processed for the past three semesters.			
n = 23	87%	9%	4%
78. Total number of student registration successfully processed by faculty for the past three semesters.			
n = 23	83%	13%	4%
79. Total number of student registration successfully processed by program for the past three semesters.			
n = 23	78%	18%	4%

All the five items in this section were rated Important by more than seventy percent of the respondents.

Information about registration was highly required by most administrators. The information requested covered things related to historical number of student registration received by year, historical number of student registration received for the last three semesters, total number of student registration successfully processed for the past three semesters, total number of registration by faculty and by program. These things were of high importance to administrators for their managerial tasks and responsibilities.

Additional Information Requirements

Administrators have also proposed a variety of additional information categories that was of interest to them. Not all administrators, however, expressed their additional needs of information they perceived Important. Some of the information categories was considered Important by two or more administrators.

Most of them, however, was needed by one administrator.

Thus, apart from information requested as revealed by the questionnaire items, there were still other information needed by administrators which they added following each section of the questionnaire. Following is a list of additional information suggested as being useful by respondents (numbers in parentheses indicate the number of administrators considering the information category Important):

Section A: Student Data

(1) Total enrolment by high school certificates (3).
(2) Historical enrolment pattern by active and passive registration status (1).
(3) Present total enrolment by subject (3).
(4) Historical enrolment pattern by subject (1).
(5) Distribution of students by working occupation (2).
(6) Total enrolment by lifting year (2).
(7) Total enrolment by year of high school graduation (3).
(8) Distribution of students by working students'

income (1).

(9) Present total enrolment by marital status (1).

(10) Distribution of students by religion commitment (1).

(11) Number of students passing the examination by subject (1).

A variety of additional information was required by some administrators. Some information categories were considered Important by two or more administrators, some others only by one administrator. This indicated the variety of additional information needs among different administrators. These are interesting findings that need to be taken into account as regards the provision of administrators' information requirements.

Information about students' high school background was needed by administrators, especially related to students' high school certificates and year of graduation. Administrators also required information about student enrolment by subject and by year of students' entrance year. Then, some administrators required information about distribution of students'

working occupation. Other information categories related to student was considered important by one administrator.

Section B: Course Data

(1) Distribution of course writers by institutional origin (1).
(2) List of subjects being developed (1).
(3) List of subjects to be offered for the next three semesters (1).
(4) List of subjects being offered to students (1).

Several additional information was required related to courses. Information of course writers by institutional origin was needed because almost all of them were professors in conventional universities throughout Indonesia; thus such data was required. Administrators also required a list or inventory of subjects being developed, subjects being offered for the next three semesters, and subjects currently offered. These was needed to avoid overlapping in course development activities.

Section C: Examination and Grades

(1) Students' grade point average ranking by program (1).
(2) Students' grade point average ranking by faculty (1).
(3) Students' grade point average ranking by regional center (1).
(4) Number of test items available in the item bank by program (1).
(5) Number of examination administered by program (1).
(6) Number of students' taking examination by subject (1).
(7) Number of items calibrated by subject (1).
(8) Grade point average by marital status (1).

Some interesting findings were revealed concerning examination and grade information. Some information was related to students' grade point average ranking by program, by faculty, and by regional center. Then, some other was related to number of items available in the item bank, and number of items calibrated by

subject, which especially dealt with the examination center. Some administrator also required information about number of examination administered by program, and number students taking examination by subject. This was especially required for operations and control activities. Some administrator also would like to know students' grade point average by marital status in order to identify which could achieve well academically.

Section D: Academic Staff

(1) Number of tutors by subject (5).
(2) Distribution of academic staff by academic specialization (2).
(3) Distribution of tutors by academic specialization (2).

Related to academic staff data, some additional information was needed. Some administrators required information about number of tutors by subject. This was for resource allocation purposes. Also they needed information about academic background and

specialization of tutors as well as academic staff at the central office. This was important for staff development purposes.

Section E: Support Staff

(1) Distribution of support staff by professional skill (1).

One additional information category was needed, that is distribution of support staff by professional skill. This was needed for staff development and promotion.

Section F: Registration Data

(1) Total number of active and passive registration status by year (2).
(2) Total number of active and passive registration status by semester (2).
(3) Total number of active and passive registration status by examination period (1).
(4) Number of incorrect registration cases (1).

(5) Number of incomplete registration cases (1).

(6) Number of cases successfully handled by week (1).

(7) Number of complaints received by week (1).

(8) Number of complaints successfully dealt with by week (1).

(9) Number of registration processed by week (1).

Some interesting additional information was required related to registration data. Two administrators were concerned about information related to the break-down of total number of active and passive registration by year and by semester. Also there was a need of total number of active and passive registration by examination period. A number of information categories about registration cases and processes was required in order to know to what extent the registration system worked well.

The above additional information categories required by administrators indicated the variety and complexity of administrators' information needs. This might also reveal the typical need of individual administrators. Therefore, these additional information categories might not all be presented to

every individual administrator. Some deserve receiving it in more detail, whereas some others may not depending the nature of the administrative tasks and responsibilities they had as well as the nature of information required.

Further Analysis of the Questionnaire

A further analysis of the questionnaire was done by using the Kruskal-Wallis one-way analysis of variance. This was done to see the variance of scores of each section of the questionnaires as well as to see the difference of requirements among administrators' levels by top, middle, and junior. A computer analysis was undertaken using the Statistical Package for the Social Sciences (SPSS). The results of the analysis is shown in the following.

Table 9

Mean, Standard Deviation, Minimum, and Maximum Scores of Each Section of the Questionnaire

	Questionnaire Section						
n = 23	A	B	C	D	E	F	Total
Mean	42.78	19.48	49.34	35.04	34.74	13.78	195.17
SD	12.90	5.23	25.41	9.85	22.57	1.95	47.87
Minimum	17	8	22	15	14	7	89
Maximum	89	24	156	57	126	15	315

Interesting findings were revealed, especially in responses for sections A, C, D, and E where standard deviations were considerably great. This indicated the large variety of administrators' responses towards items related to student data, grades and examination, academic staff, and support staff data. It was also found that there were large differences of minimum and maximum scores in the afore-mentioned sections. Sections B and F, which were related to information about courses and registration, did not, however, indicated a strong variability of responses among administrators.

In the mean time, the overall result indicated a great variability of administrators' responses as seen

in the large difference of minimum and maximum scores as well as the high standard deviation. This can be concluded that there is a large variety and difference in administrators' information needs.

Table 10

Mean Ranks of Response Scores in Each Questionnaire Section by Administrators' Level

Level	Questionnaire Section						
	A	B	C	D	E	F	TOTAL
Junior (n = 11)	11.55	10.27	8.86	11.80	12.32	9.14	10.27
Middle (n = 9)	11.56	14.38	15.56	11.17	9.94	15.44	13.11
Senior (n = 3)	15.00	9.83	12.83	18.17	17.00	12.17	15.00

As seen in Table 10, senior administrators indicated higher concerns about student information than lower level administrators, as revealed by the higher mean ranks in section A. Middle administrators, in the mean time, showed more interest in course information than junior and senior administrators. A similar case takes place in grade and examination information, where middle administrators indicate more interest in that information than senior and junior

administrators. Junior administrators indicated the least concern about grade and examination information. These two cases happened probably due to the fact that administrators at the faculty level were more responsible for course development and program achievement and evaluation.

Information about staff, both academic and administrative, were of higher interest to senior administrators than to lower level administrators. This was perhaps because a lot of policies on staff were under senior administrators' responsibilities.

The overall result revealed an interesting finding. The overall mean ranks by administrators' level indicated that senior administrators seemed to place a greater emphasis on information than lower level administrators. When it is seen section by section, however, the mean rank might indicate differences in emphasis on information requirements of different administrators for a variety of information categories. Some administrators have a greater concern about a particular information category, while some others put more emphasis on another information category.

Table 11

Chi-Square Results by Questionnaire Section

Section	Chi-Square	Level of Significance
A	.68	.71
B	2.85	.24
C	4.90	.09
D	2.89	.24
E	2.50	.29
F	5.60	.06
Total	1.54	.46

Some interesting findings were revealed in the Chi-Square analysis of each section of the questionnaire. It was found that there was no significant difference of administrators' information needs concerning student data, course data, academic, and administrative staff data. However, there was significant difference in administrators' information needs concerning grade and examination and registration data at the level of significance of .09 and .06 respectively. The overall result indicated no significant difference in administrators' information requirements at a variety of level.

Despite the fact that there was generally no

significant difference, interesting findings have been revealed and explained in the previous analysis, considering the mean ranks and standard distribution of administrators' responses.

It can thus be concluded that administrators, no matter what level they are in, generally required information. They perceive the importance of particular information category differently. They also put different emphasis on particular information category they require.

Interview

Junior Administrators' Responses

Eight out of eleven junior administrators responding to the questionnaire were prepared to be further interviewed. The rest, however, were unwilling or unable to be interviewed.

A variety of answers was suggested by junior administrators in response to questions about the reasons for using the information considered important. They also gave varied responses to the questions of

frequency and format for providing that information. Responses varied considerably administrator to administrator and reflected the position they hold and its unique information requirements.

Student Information

As regards to student information, junior administrators stated that such certain information was crucial for a number of reasons. Most required the Information for operations monitoring purposes of their unit. This was particularly true for by departmental units that were directly involved in dealing with students, such as student development, examination centers, registration, student services. Information about current numbers of students were needed by the examination center director, for instance, to plan how many test sets and independent exercise sheets to be published and distributed to which program, and to which regional centers.

Student information was also required because administrators wanted to provide the best services for the students and to use the best possible resource

allocation. This was applied to the student development unit, in which some of its activities involved scholarship allocation for students. Student development and student services directors could thus think of planning study groups, extra curricular activities and other services, aimed at helping students to better handle the academic course.

Information concerning student characteristics was preferred generally for research purposes. This was requested because on the basis of such information, research center director would be able to provide suggestions for planners and policy makers in setting policies. Student characteristics may not have direct impact on most junior administrators; however, some higher level administrators might require such information. Another interesting finding was that they required that information for external agencies, the client, and the public; in this way it would be used to promote public relations and the institution's reputation.

Junior administrators required information about student trends to predict what was going to happen in the following year or semester. This information was

required for short-range planning of the unit activities and operations. Some administrators, for instance, were concerned about how many test sets should be provided for each course in each department, and how much money was spent on scholarships.

As regards to frequency, with which information should be available, opinions varied depending on the kind of information. Information about student characteristics was required yearly, because such information did not have direct uses for the operation of the departmental units. This was also true of information about student trends. Information about present number of students, and its break-down by faculty and department was requested in a more frequent manner, that is by semester. This was simply because such information was directly related to unit operations.

One important thing to notice here is that the presentation of information should meet the schedule of administrative activities. For instance, the examination center director required the information to be provided when examination was about to be administered. Student development director needed the

information as soon as the registration period was closed.

Course Data

Information about courses was required by junior administrators for short-term planning. The reasons for requesting the information was for resource allocation planning, such as how many test sets to be provided for how many courses. Also it was important to know which students attended which courses because they would learn which programs were popular and which were not. This could later be used for program evaluation and program offering. As regards to frequency, administrators required this information each semester.

Examination and Grades

Information about examinations was requested for operational purposes. The unit which was most concerned was the examination center because it had the responsibility to provide test items and sets for the

students in different faculties.

Information about grades was requested for a number of reasons. Junior administrators, particularly directors of the research center, the examination center, the student services, and the student development, were concerned about quality control of students and program evaluation. The grades would indicate which programs were successfully carried out and attracted students, and which ones were not.

Also, it was needed to promote the institution's reputation to the public and external agencies. Junior administrators insisted on the importance of grades information for external promotion.

For the research center director, grade information related to student characteristics would be useful to monitor and understand students' achievements as distinguished by a variety of characteristics. This was useful to formulate suggestions to inquiring policy makers. The historical information about grades was useful for junior administrators to know the trends from time to time and, therefore, they could take necessary action.

As regards the frequency of provision, examination

and grade information was required by semester. Information about grades that involved student characteristics and trends, however, was required in a lesser frequency, that is once a year. This was because such information was used indirectly by most junior administrators, and it was useful for institutional research and planning purposes.

Academic Staff Data

A variety of responses was given towards the reasons for requesting academic staff information. For the research center director, information about academic staff with its break-down of characteristics was necessary for institutional research and planning purposes in order to help higher level administrators in setting policies. Some administrators said that they requested the information for staff development and allocation within the employing units.

Junior administrators were mostly concerned about staff needs for their own units. This was because the work load of the unit were different from time to time. For instance, in times where examinations were going to

be administered, the work load of the examination center unit was intensive. During registration periods the registration staff had a heavy work load. These concerns were clearly expressed by the system development director, who was responsible for the university operations system.

As regards to data about the number of tutors, it was basically required for informative purposes. The system development director, however, argued that such information was necessary for resource allocation and budgeting.

Junior administrators required academic staff data by year because such information was relatively constant and government staff recruitment was held on a yearly basis.

Support Staff Data

The reasons for requesting support staff data was similar to academic staff information requirements. Junior administrators needed to know such information because of the large number support staff employed by the university. Even though generally they requested

such data for informative purposes for requesting agencies or individuals, some of them also said that such data were needed for human resource allocation within the unit.

As regards to the frequency, they said that such information was needed each year because government employee's recruitment, similar to academic staff recruitment, was administered once a year.

Registration

Registration information played a crucial role among junior administrators. The information was needed especially by those units that were directly involved in providing a variety of services for students such as the examination center. The system development director needed that information for monitoring the registration system applied by the university. The registration is in fact the backbone of the university operations, upon which a variety of policies and decisions are made. Other administrators generally said that such information was necessary for providing information for the public and external

agencies.

Unlike other information categories, registration data were required more frequently. This was because the university employed a flexible registration system in which students could register any time they wished during the registration period. Therefore, frequent information about registration data should be provided in order that administrators would know the expected number of students that have to be served. The system development director required information weekly, monthly, and by registration period, which is by semester. Also the office of registration required that information frequently in order to monitor its activity.

Most junior administrators requested the information to be presented in bound paper format. Illustrations such as graphs, diagrams, and tables were said to be useful to help them better understand numerical data.

Middle Administrators' Responses

Of the nine middle administrators previously identified, only four were available for interview. The results of these interviews are in the following paragraphs.

Middle administrators indicated the importance of a variety of information categories for a number of faculty-wide uses. It is interesting that middle administrators required the information in order to match faculty activities with other units and university-wide activities.

Most middle administrators were concerned about statistical data for a number of decision making and other purposes related to faculty level interests. Their responses mostly indicated the use of such numerical information for setting out a variety of academic services policies.

Student Data

As revealed by the interviews, information about student enrolment and its further breakdown by faculty, program, and by regional centers might be used for planning and policy setting purposes, The administrators felt they could better deal with the number of students to be served with course materials, and the number of examination sets to be multiplied. Enrolment by program would determine a policy whether to apply essay-type or objective-type tests. Also, enrolment by program would indicate the level of student interest in programs so that administrators could take actions to promote programs which did not attract student interest. Thus, public needs could be identified.

Student enrolment information by characteristics such as work status, could help administrators in setting policy about tutorial administration, whether to hold tutorials during weekdays or on the weekend. Also, this was useful for program offering decisions, whether a program was given priority for work status or non work status students. Information about students'

characteristics by sex was necessary in order to set policy on the kind of services for students of both sexes.

Information about student historical enrolment was interesting for middle administrators in order to see and evaluate trends. Three of them mentioned that this was required for policy setting about academic services for students. Interestingly enough, one administrator said that the historical enrolment pattern was too short and difficult to predict future events on a three-year trend basis, especially for a newly growing institution like UT where fluctuation was unpredictable.

Unpredictable trends could then cause frustration to some administrators. Generally, historical enrolment data was thought to be of institutional research use for policy making.

A frequency of one semester to one year was needed by middle administrators for such information. Two middle administrators, however, required it annually.

Course Data

Information about courses was useful for course development and production purposes. This would further indicate the costs for course offerings.

Middle administrators also expressed their information needs for student enrolment data by course so that students' interests could be seen. In addition, they requested an inventory of courses in order to see the development of a study program. Such a list could ensure that a course offered in one program did not overlap with one in another program.

Again, as in student data, administrators required this information each semester. Two, however, said they wished it annually.

Examination and Grades

Information about examinations administered was necessary for allocating the resource such as how many test sets to be published for students of which faculty. Middle administrators could thus think of the services to be given to students.

Information about grade was thought by middle administrators to indicate students' achievement of success. This was thus useful for evaluating programs offered by the university. This information would be useful for evaluating courses and by test items as well. Deans and vice deans could recommend feedback to course and test item writers about their writings.

Information about grade distribution by regional center and work status would determine policies on what services should be provided for students in a particular region or student cohort with a particular status. The reasons for requiring information about grade point average were generally similar to grade distribution data.

Middle administrators requested such information by semester so that they could evaluate programs on a semester basis.

Academic Staff

Middle administrators were concerned about the number of academic staff at the central office and its distribution by unit and faculty for staff development

purposes. This reason was also applied to their information needs about staff educational background and level.

As with tutor data, they needed it for resource allocation purposes. They would like to know how many tutors were available for how many programs and courses. Thus, tutor distribution by regional center, faculty, and program was required for tutorial administration purposes and tutor recruitment. Tutor educational level was needed to indicate the quality and background of the tutors in general.

A frequency of one year was needed because staff recruitment was done on a yearly basis.

Support Staff

Some middle administrators required information about the number of administrative staff at the central office in order to know the number of human resources available for possible allocation for the unit they headed. They were also concerned about staff recruitment to meet faculty needs.

Information about administrative staff

distribution by rank and educational level gave ideas about promotion and development of the staff. This reason was also applied to information requirements for number of support staff at regional offices and its distribution by educational level.

This information, as middle administrators said, should be provided every year.

Registration Data

Registration data was described by one of the middle administrators in this study as indicating "the dynamic flow" of student enrolment. Due to its dynamic nature, it was always changing from time to time until the registration period ended.

Middle administrators needed to know the registration trend trends, but they thought that the information about the end result of registration was useful for planning operations activity at least for the following semester. They needed the information for such purposes as course development and production as well as test item writing.

Such information was required every week and

followed by a summary at the end of the registration period.

As regards the format for presenting the information middle administrators suggested that the information should be documented in bound sheets with tables, graphs and histograms. In this way, it was accessible and easy for use by administrators. Some wanted it in paper files, especially the information related to weekly registration data and inventory of courses.

Senior Administrators' Responses

In this study, three people, who were identified as senior administrators, were involved in the interview. They were the rector, assistant rector academic, and assistant rector administration and finance. A variety of responses about the significance of using a number of information categories were expressed in the following analyses.

Student Information

Information about the number of students enrolled was required for such a purpose as budgeting, as expressed by the rector and assistant rector administration and finance. The assistant rector academic, on the other hand, claimed that the information was used more to see the trend of public interest in the institution. Senior administrators required information about student enrolment distribution for budget and tutor allocation purposes. In addition, they were also concerned about enhancing the public interest towards the institution from a variety of regions where few students were enrolled.

Assistant rectors academic and finance and administration were concerned about student enrolment information by faculty, degree and non degree programs in order to see the overall profile of the students in the institution, and to know which programs attracted students' interests. Using this kind of information they could further set policies on promoting, cancelling, or enhancing study programs. To the assistant rector finance and administration it was

required for revenue calculation and financial resource allocation.

Information about the number of students by characteristics, such as sex, age, and work status was required by senior administrators for long-range institutional planning purposes. Also, such information was also requested by external government agencies for state-level policy purposes.

Senior administrators needed the information for thinking of policy setting which was matched with broader national issues of higher education. Assistant rector academic referred to the information requirements to the twenty-year long-range plans for national level higher education development.

The historical student enrolment information was required by administrators for long-range policy setting and program evaluation whether to continue, modify, or omit a program, considering the enrolment from time and to time and the resources available.

As regards to frequency, senior administrators requested a variety of choices. Information about student enrolment should be provided by semester in order to monitor operational activities, as regards to

revenue and costs. Historical student information, however, was required in a less frequent manner, that is one to three or five years. The frequency of presentation in three to five years was proposed by assistant rector finance and administration because the institution had a five-year planning basis.

Courses

A number of reasons were expressed by senior administrators as regards the importance of using information about courses. Information about the number of courses that have been developed and offered was perceived from different aspects by each of the senior administrators. Assistant rector academic needed that information to see the institution's capability in developing and offering courses; assistance rector finance and administration, on the other hand, wanted the information in order to monitor the institution capability for financing the programs. The rector requested information for monitoring as well as resource allocation purposes. Assistant rector academic required the historical number of course

offerings in order to understand the trend for program development from time to time.

In terms of frequency, senior administrators needed the information by semester because of their frequent need to monitor course offerings and program developments.

Examination and Grades

Information about the number of examination administered was required for monitoring examination administration. This could be related to cost allocation for the examination administration. Concerns were thus expressed by senior administrators for resource allocation and budgeting.

Grade information was generally required to see the students' achievements within the overall institution. This was useful to set policies and evaluate programs being offered, that is, which programs were successful, and which ones should be strengthened. In other words, such information was required for academic program evaluation.

Grade information as related to student

characteristics was required for making decisions about services to be provided for students. Senior administrators must decide whether to provide more face-to-face tutorials, study groups, or compulsory tutorials over a period of time. This information was thus needed to determine whether the existing policies matched with the reality.

The above reasons were also applied to students' grade point averages, that is to know if students of certain programs were strong, and which students needed to be assisted with a variety of services.

As regards frequency of presentation, senior administrators required the information once or twice a year. Information about examination administration was required on the basis of examination period, which was once every semester. Grades distribution and grade point average information were required in a less frequent manner, that is, once a year.

Academic Staff

Senior administrators were very concerned about academic staff. In an academic organization such as a

university, the role of academic staff is crucial. Information about academic staff was required for a variety of purposes under the general heading of staffing: recruitment, development, placement, promotion. Information about staff characteristics was required for the administrators were concerned about human resource allocation. Such information was thus needed for personnel policy setting.

Information about the number of tutors, which constituted academic staff at the regional centers, was required for budgeting purposes. Information about the number of tutors by their characteristics was requested for similar reasons to academic staff information requirements at the central office. Information about tutor academic background, for instance, would provide evaluative information about tutorial quality control, as stated by assistant rector academic. He was also concerned about that information for promotion and development of academic staff.

Generally, information about academic staff was required once a year. Such frequency was adequate for the respondents to set personnel policies. Assistant Rector academic, however, required information about

number of tutors by faculty and program every semester due to his direct responsibility for tutorial administration. Information about tutor characteristics was required on a yearly basis in order that senior administrators could set policies, priorities, and make decisions on tutor development, training, and recruitment.

Administrative Staff

In addition to academic staff, a number of administrative staff are employed to support the university operations. Similar to academic staff information requirements, the number of support staff information was required for personnel policies and decisions, which included recruitment, development, promotion in the administrative areas. Assistant rector administration and finance required support staff information for financial allocation. Information about support staff by their characteristics was required by senior administrators in order to set the best possible human resource allocation. Similar reasons were also put forward for

information requirements about regional center administrative staff.

As to the frequency of presentation, once a year was said to be adequate by senior administrators. During that time they could evaluate their personnel priorities.

Registration Data

Registration information was required for budgeting and monitoring purposes. Registration information was crucial for a variety of purposes, when received at the proper time. The rector expressed a strong need for this information, not only the number of student registrations but also the number of registration cases which somehow failed to be further processed. Early reception of such registration case information would prevent problems in the whole university operations. The new registration system, which allowed students to register in regional centers any time during the registration period, required senior administrators to know the number of student registrations by regional center.

This information was required in much more frequent manner than any other information categories previously discussed. Weekly information should be provided in order that they could have early warning of the number student registration problems within the registration system. A monthly summary should then be provided to show the registration trend. Because student registration was the backbone of institutional operations, senior administrators put high stress about that information. This information is needed resource allocation, planning for staff incentives, and other operations costs, such as examination administration and course materials development.

There were a variety of formats chosen by senior administrators by which the information should be provided. One of the senor administrators said that the ideal presentation would be in a computerized form; this, however would indicate a complicated management information network system. Another senior administrator said that a planning board would be ideal to present ever-changing information. For numerical statistics, however, they preferred bound paper with graphs and tables.

Conclusions

The results of the study revealed by the questionnaire and interview administration indicated existing needs of administrators for a variety of information categories concerning students, courses, academic achievement, staff, and registration. This was revealed by the high percentage of administrators indicating the importance of these information categories. Thus, basically, almost all administrators had a strong intereast in obtaining information about a variety of institutional components.

A variety of reasons for requiring the information were expressed by administrators. Administrators claimed that the information was used not only for the unit within which an individual administrator was involved, but also for the overall institution.

At the same time, the results of the study also indicated the complexities of information requirements among different administrators for different purposes. This seemed to be reasonable due to different tasks and responsibilities each administrator had concerning

departmental units, faculties, or the whole university.

Considering the frequency at which the information should be presented, most administrators indicated a variety of responses. This added another complexity to providing the information. On the average they preferred the information to be provided by semester, because the cyclical activities, such as examination and registration period, of the university was on a semester basis.

There were cases where most administrators required information more frequently for control purposes. Senior administrators claimed to need information on a weekly basis for registration cases and registration processing speed. This was highly required to quickly diagnosis as to whether or not the registration system was functioning well.

It could also be concluded that administrators required routine and non-routine information. Information for long-term purposes such as planning and policy making was routinely required. On the other hand, there were information which was irregularly required for instant uses.

As regards question of format, most administrators

agreed that they required information in the form of booklet. A senior administrator stated that ideally a computerized system could be used for easy and quick access to a variety of inforation. In addition, this system would be effective for operational control purposes.

CHAPTER V

SUMMARY, DISCUSSION, AND IMPLICATION

Summary

The purpose of the study was to identify what information administrators at the Universitas Terbuka (UT) required for various management, planning and other purposes, and to suggest the frequency, format, and other conditions, under which the information might be provided. The study was important, firstly, because, although any institution requires the best possible information upon which to base its activities, a distance education institution may have information needs different than a conventional one. Secondly, UT, as a new institution is in particular need of a sound information base.

The available literature on information uses and requirements has mostly dealt with conventional colleges and universities. Little research has been undertaken in the area of distance education. Moreover, the research has been conducted mainly in developed countries that have problems, goal emphases,

management styles, and decision making processes different than institutions in underdeveloped countries.

To obtain the required data, two instruments were used, a questionnaire and a semi structured interview. The questionnaire was designed to identify information needs of the UT administrators on such matters as student and staff demographies, student performances, courses and so forth. The interview was intended to clarify and expand on certain aspects of the data provided by the questionnaire.

The results of the study indicated a demand for a number of information categories by administrators. The information would be used for a variety of purposes: operation, control, planning, policy making, and so forth. Administrators' information needs varied in terms of frequency and format. The numerical nature of the information required the presentation of graphs, matrices, and tables.

In providing the information, care should be given to the complexity of administrators' preferences, needs, and the significance of the information. Cost and resources available should also be considered. A

fact book format was recommended for easy access by administrators, external agencies, and the public.

Discussion and Recommendations

The results of the research have indicated considerable need for information by administrators at a variety of levels and functions. Also, there were differences in purpose or use of information and data by individual administrators at different levels. It could thus be concluded that the trichotomy of administrators by level into top, middle, and junior was reflected by the information needs of the three levels. Also, it seemed that administrators use information for their distinctive tasks and responsibilities.

Top administrators required information for more complex purposes than those at lower levels. The information they required was concerned not only with long-term policy setting purposes but also with operational control purposes. Such control was necessary when the activity involved the whole institution. An example of this was top

administrators' need for registration reports concerning how many students registered, how many student registrations were processed, how many registration cases, and so forth.

Senior administrators were also very concerned about whether or not the overall university system worked well. Their managerial tasks required them to see the whole organization. That is why they needed information for control. When they had a control over the institutional operation they could well design guidelines for planning.

Senior administrators tend to require information for broader purposes. They need information for long-range purposes such as planning, policy making; medium-range uses such as five-year planning, program evaluation, and short-range purposes such as allocating budgets for operational activities and controlling.

Information requirements of middle administrators focused on faculty level decisions and planning. Their concerns were providing the best possible academic services using available resources. They placed a great emphasis on faculty interests. However, they were also concerned with the lower level management for

controlling operation as well as with upper level management for consultative activities.

The role of information for middle administrators seemed to be crucial since they had controlling tasks and responsibilities towards the lower management. On the other hand, they had to provide reports to the upper management. Also their decisions and policies should fit the institution's policy as set by senior administrators.

Junior administrators generally require information for operational purposes. They are also concerned with resource allocation especially within their respective units. This was because their activities were highly operational in nature. For instance, junior administrators dealt with such matters as producing examination sheets, independent exercise and allocating scholarships.

Most junior administrators were more concerned with information for their own unit interests. The information required was used more for operational control purposes rather than long-range purposes such as planning and policy setting.

They were also in need of information in order to

provide reports to upper level administrators. This was simply because they worked with higher level administrators and their activities involved upper level management. They were very concerned about the resources to be allocated within the unit and the services they could best provide for students, such as scholarships and study group development.

Considering the frequency of information provision, there was a variety of needs for numerical information to be provided by different administrators. In many cases, semester by semester would be adequate, because most of the institution's operations and, consequently, monitoring activities are done on a semester basis. Even though students can register any time they wish, examinations are conducted every semester.

There was however, some information for controlling operation that most administrators required more frequently. Registration process, for instance, should be reported more frequently than other aggregate information, such as those concerning students, staff, grades and examination. Senior administrators, in particular, insisted that information be provided on a

monthly or even weekly basis. This also applied to information about registration cases. This was strongly required for operation and control purposes and was required to monitor the existing system.

Administrators varied in terms of their opinion about the format by which the information should be provided. Some preferred a computerized system. Some others preferred a paper booklet, with graphs and tables. There was a tendency that routine information about institutional profile such as number of students and their characteristics, grades, staff was prepared in a paper format. Information for controlling operational purposes were required in a computerized system.

Most statistical data concerning a variety of institutional components were of aggregate forms. It did not deal with a single unit of information, such as a single student's characteristics, or a single employee's characteristics, or a single course offered by the university. Even though a computerized system would be an ideal means of providing, storing, and retrieving information for operation and control level, information presentation in the paper form would be

applicable due to the nature of data that were required. It is thus recommended that a fact book be published in order to meet administrators' needs for information. This was especially suitable for routine information, which had long-term uses.

The variety of information requirements by different administrators might indicate differences in scope of decision making areas as well as administrative tasks and responsibilities. Also, this is perhaps due to the managerial style of individual administrators.

Information alone is only an aid to decision making and other administrative tasks. There were certainly other conditions required apart from statistical information. Some administrators make decision on the basis of judgement and intuition. Still, with numerical information available in their desks, administrators might feel reluctant to check the data. The great advantage of information is that it can enhance the quality of decisions. It can also assist administrators in working effectively, in coordinating, organizing, and resource allocating activities.

For their managerial activities, administrators typically need qualitative information in addition to quantitative. But quantitative information can improve qualitative judgements.

Implications for UT

Information is a useful resource for managing an organization, including a distance higher education institution. A good information system will have significant uses for institutional operations. Consideration, however, should also be given to the needs, preferences, and requirements of administrators for the information as well as the available resources to back up the development of an information system.

Some administrators in this study preferred a computerized system. This would be an ideal form if it is supported by an adequate resource for developing such a system. Documented information in booklet form would be an alternative for economic as well as practical reasons. Still, this system might require some computer services for data analyses and processing; however, once the data were processed, it

could be multiplied in paper forms ready for delivery and use by administrators and other interested individuals.

Furthermore, the development of software and hardware technology has enabled users to manipulate data in a variety of ways. Numerical data could be further generated in graphic forms which would make it easier to see comparative and trend data.

Another thing to consider is the presentation of data as regards to frequency. As revealed by this study, there seemed to be a distinction between routine and non-routine information. Routine information usually has long-range uses, while non-routine is incidentally requested for instant uses.

Information for long-range uses should be presented in a booklet in a less frequent basis. Frequently requested information should perhaps be presented in periodical bulletins occasionally published for individual administrators interested in that information.

Routine information, on the other hand, should be presented to administrators in general as well as to other individuals inside or outside the institution who

required the information. External agencies as well as the public might be interested in knowing about the profile of the university regarding students, staff, and students' overall achievements. This could be useful for the institution to promote public relations. Also, government agencies, such as the National Development Planning Board or the Department of Education might also inquire such information for setting educational policies for the national context.

Information for external agencies should indicate the UT profile. This could enhance credibility and achievement of the institution and maintain public relations, because the public occasionally requires such information. This, in effect, would be useful in keeping the public well informed in order to promote the institution's reputation.

It is clear, as revealed by the results of he study, that information is required for a variety of administrative activities. Administrators should thus be kept informed about institutional data concerning a variety of institutional components. The information would have a variety of uses for institutional management.

Considering the variety of needs for information categories, care should thus be taken in presenting the information in terms of format and frequency. Attention should also be given as regards to routine and non-routine nature of information. Perhaps they should be handled differently.

A fact book should contain information dealing with routine information uses. Considerations should, therefore, be given for those instant and non-routine information. One way of providing this kind of information would be in separate sheets. A computerized system would be ideal, if given the required resources, expertise, and familiarity of users.

The fact book may contain voluminous information unless the information categories are carefully selected. This might cause frustration among administrators due to the complexity of the information content. The fact book should thus be kept simple and complete with a legible layout. Numbers alone might be boring, graphs and diagrams should thus be provided.

This study represents a beginning in defining and addressing the need for information perceived by

administrators at UT. Responses to the questionnaires and the interview leave no doubt that administrators desire more information than is currently readily available. The information required by different respondents varies somewhat as does the frequency and format with which it would be provided. Despite these differences there is a fair agreement on many matters. Although it may be impossible to provide every individual administrator with all he requires and in the format and frequency he desires it, there appears to be a sound basis for encouraging a start in developing a systematic approach to the provision of information.

In order to provide information for administrators effectively, several points need to be considered. First, information should be well managed and accessible to administrators. There can, however, be considerable information without meeting administrators' information needs. What is then needed is to manage the information in order to serve interested administrators effectively. The establishment of an institutional research office responsible for managing and providing information for

a variety of administrators should be considered. This office will assist academic decision makers in setting policies, in accomplishing other administrative activities as well as help operational managers in conducting day-to-day operations of the institution .

Second, a fact book approach can be considered as a systematic and economic way of providing information for academic managers. This is an alternative to MIS that have caused frustration among users because the system generally has failed to meet user's needs. Being easy to publish, a fact book can be an effective means of communicating and disseminating information among administrators as well as to other interested individual and external agencies. The fact book should contain a variety of information categories as revealed by the results of the study, which include those related to students, courses, examination and grade, academic staff, support staff, and registration data.

Third, there should also be a publication of a list of a number of information categories, such as courses being developed and offered as well as a list of course writers, despite the publication of quantitative data contained in the fact book. This can

be a useful piece of information for administrators in order to monitor their activities and avoid mismanagement of resources.

Fourth, some typical information required by particularly individual administrators may be provided in separate sheets in order not to complicate the information contained in the fact book. This is especially for instant information incidentally required by particular administrators. An example of this was information concerning number of registration cases, and weekly monitoring of registration activities and processes.

Finally, again it is important to mention that quantitative information is an aid to decision making and it assists managers in accomplishing their activities. It is a useful resource for an organization. Information alone, however, may mean nothing unless there is some meaning attached to by administrators who are using the information for a variety of purposes for the effectiveness of organizational administration. Thus, information is a means of enhancing the quality of administrative activities and decision making within an organization.

APPENDICES

APPENDIX I

Questionnaire: The Indonesian Version

Kuesioner Kebutuhan Informasi Administrator

(The actual questionnaire distributed to respondents)

Kuesioner Kebutuhan Informasi Administrator

Responden yang terhormat,

Kami membutuhkan bantuan Anda untuk mengisi kuesioner terlampir. Angket ini bertujuan untuk menentukan kebutuhan informasi Anda sebagai administrator pada Universitas Terbuka. Selanjutnya kami juga ingin mengetahui format dan frekuensi penyajian informasi tersebut. Oleh karena itu sebagai kelanjutan pengisian angket ini mewawancara akan dilakukan untuk memperoleh penjelasan lebih lanjut.

Penelitian yang kami lakukan ini merupakan sebagaian dari syarat untuk menyelesaikan program S2 pada Universitas Simon Fraser di Kanada. Namun kami berharap hasilnya dapat bermanfaat bagi perkembangan dan kegiatan operasional UT.

Kami berharap kuesioner ini dapat kami terima kembali pada tanggal 24 Juli 1987, dan kemudian wawancara akan dilakukan antara tanggal 27-31 Juli 1987. Bilamana ada pertanyaan berkaitan dengan pengisian kuesioner ini, Anda dapat menghubungi kami pada FKIP-UT (pesawat 1226).

Jakarta, 1Ø Juli 1987

Hormat kami,

Amin Zuhairi

Kuesioner ini terbagi dalam enam kelompok; masing-masing berkaitan dengan data mahasiswa, data mata kuliah, nilai, staf akademik, staf administratif dan data registrasi. Anda dimintai pendapat tentang pentingnya hal-hal di bawah ini dalam tugas dan tanggung jawab Anda sebagai administrator.

BAGIAN A: DATA MAHASISWA

Sejauh manakah pentingnya hal-hal dibawah ini bagi Anda?

Berikanlah jawaban Anda dengan membubuhkan lingkaran pada salah satu dari kode yang tersedia di depan masing-masing butir angket.

a = Penting
b = Tidak Penting
c = Tidak Tahu

Butir-butir soal nomor 1-8 menunjukkan jumlah mahasiswa dalam satu tahun akademik.

a b c 1) Jumlah mahasiswa yang terdaftar.

a b c 2) Jumlah mahasiswa yang terdaftar berdasar asal propinsi.

a b c 3) Jumlah mahasiswa yang terdaftar berdasar fakultas.

a b c 4) Jumlah mahasiswa yang terdaftar berdasar program gelar dan non gelar.

a b c 5) Jumlah mahasiswa yang terdaftar berdasar program studi yang diambil.

a b c 6) Jumlah mahasiswa yang terdaftar berdasar jenis kelamin.

a b c 7) Jumlah mahasiswa yang terdaftar berdasar status kerja dan tak kerja.

a b c 8) Jumlah mahasiswa yang terdaftar berdasar distribusi umur.

Butir-butir nomor 9 - 17 menunjukkan pola jumlah mahasiswa secara historis (dari waktu ke waktu) selama tiga tahun terakhir.

a b c 9) Pola jumlah mahasiswa selama tiga tahun terakhir.

a b c 1Ø) Pola jumlah mahasiswa berdasar fakultas.

a b c 11) Pola jumlah mahasiswa berdasar program gelar dan nongelar.

a b c 12) Pola jumlah mahasiswa berdasar program studi.

a b c 13) Pola jumlah mahasiswa berdasar status kerja dan tak kerja.

a b c 14) Pola jumlah mahasiswa berdasar jenis kelamin.

a b c 15) Pola jumlah mahasiswa berdasar asal propinsi.

a b c 16) Pola jumlah mahasiswa berdasar kelompok umur.

a b c 17) Rata-rata umur mahasiswa.

Apabila masih terdapat hal-hal lain yang menurut Anda diperlukan silahkan ditulis pada kolom di bawah ini.

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BAGIAN B: DATA MATA KULIAH

Sejauh manakah Anda menganggap penting hal-hal di bawah ini?

a = Penting
b = Tidak Penting
c = Tidak Tahu

a b c 18) Jumlah mata kuliah yang sudah dikembangkan dan ditawarkan.

a b c 19) Jumlah mata kuliah yang sudah dikembangkan dan ditawarkan berdasar fakultas dan program studi.

a b c 20) Jumlah mata kuliah yang sudah dikembangkan dan ditawarkan selama tiga tahun terakhir.

a b c 21) Jumlah mata kuliah yang sedang dikembangkan berdasar fakultas dan program studi.

Butir-butir nomor 22-25 menunjukkan jumlah mata kuliah secara periodik dari semester ke semester selama tiga semester terakhir.

a b c 22) Jumlah mata kuliah yang ditawarkan berdasar semester selama tiga semester terakhir.

a b c 23) Jumlah mata kuliah yang ditawarkan berdasar fakultas selama tiga semester terakhir.

a b c 24) Jumlah mata kuliah yang ditawarkan berdasar program studi selama tiga semester terakhir.

a b c 25) Jumlah mata kuliah yang ditawarkan berdasar program gelar dan non-gelar selama tiga semester terakhir.

Apabila masih terdapat hal-hal lain yang menurut Anda diperlukan silahkan ditulis pada kolom di bawah ini.

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BAGIAN C: NILAI DAN UJIAN

Sejauh manakah Anda menganggap penting hal-hal di bawah ini?

a = Penting
b = Tidak Penting
c = Tidak Tahu

Butir-butir nomor 26-44 menunjuk pada periode ujian terakhir.

a b c 26) Jumlah ujian yang dilaksanakan.

a b c 27) Jumlah ujian yang dilaksanakan berdasar fakultas.

a b c 28) Distribusi nilai mahasiswa.

a b c 29) Distribusi nilai mahasiswa berdasar tahun akademik.

a b c 3Ø) Distribusi nilai mahasiswa berdasar semester.

a b c 31) Distribusi nilai mahasiswa berdasar fakultas.

a b c 32) Distribusi nilai mahasiswa berdasar program studi.

a b c 33) Distribusi nilai mahasiswa berdasar program gelar dan non-gelar.

a b c 34) Distribusi nilai mahasiswa berdasar jenis kelamin.

a b c 35) Distribusi nilai mahasiswa berdasar asal propinsi.

a b c 36) Distribusi nilai mahasiswa berdasar status kerja dan tak-kerja.

a b c 37) Nilai rata-rata mahasiswa.

a b c 38) Nilai rata-rata mahasiswa berdasar fakultas.

a b c 39) Nilai rata-rata mahasiswa berdasar program studi.

a b c 4Ø) Nilai rata-rata mahasiswa berdasar program gelar dan non-gelar.

a b c 41) Nilai rata-rata mahasiswa berdasar jenis kelamin.

a b c 42) Nilai rata-rata mahasiswa berdasar status kerja dan tak kerja.

a b c 43) Nilai rata-rata mahasiswa berdasar asal propinsi.

a b c 44) Nilai rata-rata mahasiswa berdasar kelompok umur.

a b c 45) Nilai rata-rata mahasiswa dalam tahun akademik.

Apabila masih terdapat hal-hal lain yang menurut Anda diperlukan silahkan ditulis pada kolom di bawah ini.

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BAGIAN D: DATA STAF AKADEMIK

Sejauh manakah hal-hal di bawah ini penting bagi Anda?

a = Penting
b = Tidak Penting
c = Tidak Tahu

a b c 46) Jumlah staf akademik pada kantor pusat.

a b c 47) Distribusi staf akademik berdasar fakultas dan unit kerja.

a b c 48) Distribusi staf akademik berdasar golongan/pangkat.

a b c 49) Distribusi staf akademik berdasar jenis kelamin.

a b c 5Ø) Distribusi staf akademik berdasar tingkat pendidikan.

a b c 51) Distribusi staf akademik berdasar kelompok umur.

a b c 52) Umur rata-rata staf akademik.

a b c 53) Jumlah tutor di seluruh UPBJJ.

a b c 54) Distribusi tutor berdasar asal UPBJJ.

a b c 55) Distribusi tutor berdasar jenis kelamin.

a b c 56) Distribusi tutor berdasar golongan.

a b c 57) Distribusi tutor berdasar fakultas dan program studi.

a b c 58) Distribusi tutor berdasar tingkat pendidikan.

a b c 59) Distribusi tutor berdasar kelompok umur.

a b c 60) Umur rata-rata tutor.

Apabila masih terdapat hal-hal lain yang menurut Anda diperlukan silahkan ditulis pada kolom di bawah ini.

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BAGIAN E: DATA STAFF ADMINISTRATIF

Sejauh manakah hal-hal berikut ini penting bagi Anda?

a = Penting
b = Tidak Penting
c = Tidak Tahu

a b c 61) Jumlah tenaga administratif di kantor pusat.

a b c 62) Distribusi tenaga administratif berdasar unit kerja.

a b c 63) Distribusi tenaga administratif berdasar golongan dan jabatan.

a b c 64) Distribusi tenaga administratif berdasar tingkat pedidikan.

a b c 65) Distribusi tenaga administratif berdasar jenis kelamin.

a b c 66) Distribusi tenaga administratif berdasar kelompok umur.

a b c 67) Umur rata-rata tenaga administratif.

a b c 68) Jumlah seluruh staff administratif pada UPBJJ.

a b c 69) Distribusi tenaga administratif berdasar UPBJJ.

a b c 7Ø) Distribusi tenaga administratif UPBJJ berdasar jenis kelamin.

a b c 71) Distribusi tenaga administratif UPBJJ berdasar tingkat pendidikan.

a b c 72) Distribusi tenaga administratif UPBJJ berdasar pangkat dan golongan.

a b c 73) Distribusi tenaga administratif UPBJJ berdasar kelompok umur.

a b c 74) Umur rata-rata tenaga administratif UPBJJ.

Apabila masih terdapat hal-hal lain yang menurut Anda diperlukan silahkan ditulis pada kolom di bawah ini.

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BAGIAN F: DATA REGISTRASI

Sejauh manakah hal-hal berikut ini penting bagi Anda?

a = Penting
b = Tidak Penting
c = Tidak Tahu

a b c 75) Jumlah registrasi mahasiswa yang diterima dalam tahun terakhir.

a b c 76) Jumlah registrasi mahasiswa yang diterima secara periodik selama tiga semester terakhir.

a b c 77) Jumlah registrasi mahasiswa yang diproses lebih lanjut selama tiga semester terakhir.

a b c 78) Jumlah registrasi mahasiswa yang diproses lebih lanjut berdasar fakultas selama tiga semester terakhir.

a b c 79) Jumlah registrasi mahasiswa yang diproses lebih lanjut berdasar program studi selama tiga semester terakhir.

Apabila masih terdapat hal-hal lain yang menurut Anda diperlukan silahkan ditulis pada kolom di bawah ini.

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APPENDIX II
Questionnaire: The English Version

Administrators' Information Requirement Questionnaire
(The English version of the actual questionnaire)

April 7, 1987

Dear Respondent,

We need your help to fill out this questionnaire. The purpose of this questionnaire is, first, to identify what information you need as an administrator at Universitas Terbuka (UT). Second, we also would like to know how the format and frequency of the information should be presented. Therefore, following the administration of the questionnaire you will be given a notice of an interview to pursue further information from you.

This research is undertaken as part of the requirements for the Master's Degree at Simon Fraser University, Burnaby, B.C., Canada. As well, the results of this study should be useful and important for the development and operation of UT.

We will pick up the form on April --th, 1987. If you have questions about the completion of the questionnaire, you can contact us at the Faculty of Education Universitas Terbuka.

Thank you for this very important contribution. You may be assured that after the data are analysed, this questionnaire will be destroyed and your anonymity will be guaranteed.

Sincerely,

Amin Zuhairi

This questionnaire is divided into six sections; each of which deals with student data, course data, grades, instructional staff, support staff data, and registration data. You are required to express your opinion about the degree of importance of those varieties of information categories for your administrative tasks and responsibilities.

Please indicate your response by circling the code in front of each statement.

a = Important
b = Not Important
c = Uncertain

SECTION A: STUDENT DATA

How important is each of the following to you?

Indicate your answer by giving a circle to one of the coded responses in fron of each statement.

a = Important
b = Not Important
c = Uncertain

Items number 1-8 refer to the number of students in one academic year.

a b c 1) Present total enrolment.

a b c 2) Present total enrolment by regional center.

a b c 3) Present total enrollment by faculty.

a b c 4) Present total enrollment by degree and non-degree programs.

a b c 5) Present total enrolment by program.

a b c 6) Present total enrolment by sex.

a b c 7) Present total enrolment by work status.

a b c 8) Present total enrolment by age group distribution.

Items number 9-17 refer to historical pattern of studen enrollment for the last three years.

a b c 9) Historical enrolment patterns by year for the last three year.

a b c 10) Historical enrolment patterns by faculty.

a b c 11) Historical enrolment patterns by degree and non-degree programs.

a b c 12) Historical enrolment patterns by program.

a b c 13) Historical enrolment patterns by work status.

a b c 14) Historical enrolment patterns by sex.

a b c 15) Historical enrolment patterns by regional center.

a b c 16) Historical enrolment patterns by age group distribution.

a b c 17) Historical average age.

Please add other things you require, if not covered in the above items.

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SECTION B: COURSE DATA

How important is each of the following to you?

a = Important
b = Not Important
c = Uncertain

a b c 18) Total number of courses fully developed ready for delivery.

a b c 19) Total number of courses fully developed ready for delivery by faculty and programs.

a b c 20) Total number of courses offered for the last three years.

a b c 21) Total number of courses being developed by faculty and programs.

Items number 22-25 refer to historical number of courses for the past three semesters.

a b c 22) Total number of courses offered by semester for the past three semesters.

a b c 23) Total number of courses offered by faculty for the past three semesters.

a b c 24) Total number of courses offered by program for the past three semesters.

a b c 25) Total number of courses offered by degree and non-degree programs for the past three semesters.

Please add other things you require when not covered in the above items.

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SECTION C: GRADES

How important do you think of each of the following is to you?

a = Important
b = Not Important
c = Uncertain

Questions number 26-44 refer to the last examination period.

a b c 26) Number of exams administered.

a b c 27) Number of exams administered by faculty.

a b c 28) Students' grades distribution.

a b c 29) Students' grades distribution by year.

a b c 30) Students' grades distribution by semester.

a b c 31) Students' grades distribution by faculty.

a b c 32) Students' grades distribution by program.

a b c 33) Students' grades distribution by degree and non-degree programs.

a b c 34) Students' grades distribution by sex.

a b c 35) Students' grades distribution by region.

a b c 36) Students' grades distribution by work status.

a b c 37) Students' grade point average.

a b c 38) Students' grade point average by faculty.

a b c 39) Students' grade point average by program.

a b c 40) Students' grade point average by degree and non degree programs.

a b c 41) Students' grade point average by sex.

a b c 42) Students' grade point average by work status.

a b c 43) Students' grade point average by region.

a b c 44) Students' grade point average by age group distribution.

a b c 45) Students' grade point average by academic year.

Please add other things you require which are not covered in the above items.

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SECTION D: INSTRUCTIONAL STAFF DATA

How important is each of the following to you?

a = Important
b = Not Important
c = Uncertain

a b c 46) Total number of instructional staff at the central office.

a b c 47) Distribution of instructional staff by faculty and program at the central office.

a b c 48) Distribution of instructional staff by rank.

a b c 49) Distribution of instructional staff by sex.

a b c 50) Distribution of instructional staff by educational levels.

a b c 51) Distribution of instructional staff by age group.

a b c 52) Average age of instructional staff.

a b c 53) Total number of tutors in regional centers.

a b c 54) Distribution of tutors by regional center.

a b c 55) Distribution of tutors by sex.

a b c 56) Distribution of tutors by rank.

a b c 57) Distribution of tutors by faculty and program.

a b c 58) Distribution of tutors by educational levels.

a b c 59) Distribution of tutors by age group.

a b c 60) Average age of tutors.

Please add things you require which are not covered in the above items.

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SECTION E: SUPPORT STAFF DATA

How important is each of the following to you?

a = Important
b = Not Important
c = Uncertain

a b c 61) Total number of support staff at the central office.

a b c 62) Distribution of support staff by department and unit.

a b c 63) Distribution of support staff by rank.

a b c 64) Distribution of support staff by educational level.

a b c 65) Distribution of support staff by sex.

a b c 66) Distribution of support staff by age group.

a b c 67) Average age of support staff.

a b c 68) Total number of staff in regional offices.

a b c 69) Distribution of administratif staff by regional center.

a b c 70) Distribution of regional office staff by sex.

a b c 71) Distribution of regional office staff by educational level.

a b c 72) Distribution of regional office staff by rank.

a b c 73) Distribution of regional office staff by age group.

a b c 74) Average age of regional office staff.

Please add things you require which are not covered in the above items.

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SECTION F: REGISTRATION DATA

How important are the following things to you?

a = Important
b = Not Important
c = Uncertain

a b c 75) Historical number of student registrations received by year.

a b c 76) Historical number of student registrations received for the last three semesters.

a b c 77) Total number of student registrations successfully processed for the past three semesters.

a b c 78) Total number of student registrations successfully processed by faculty for the past three semesters.

a b c 79) Total number of student registrations successfully processed by programs for the past three semesters.

Please add things you require which are not covered in the above items.

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APPENDIX III
Interview Schedule: The Indonesian Version

Rancangan Interview
(The actual interview schedule used in this study)

RANCANGAN INTERVIEW

Beberapa waktu yang lalu kami telah mengirimkan Kuesioner Kebutuhan Informasi Administrator dan Anda telah mengisinya dengan baik. Sebagai tindak lanjut hal tersaebut kami akan mengajukan beberapa pertanyaan berkaitan dengan alasan maupun tujuan Anda menghendaki informasi tersebut. Kami juga akan menanyakan bagaimana format dan frekuensi informasi tersebut sebaiknya disajikan.

1. Dapatkah Anda memberikan keterangan mengapa atau untuk tujuan apa informasi tersebut Anda lakukan?

2. Seberapa seringkah Anda akan membutuhkan informasi tersebut?

   a. Tahunan
   b. Tiap semester
   c. Bulanan
   d. Mingguan
   e. Harian

3. Dalam bentuk apakah informasi yang Anda inginkan tersebut disajikan?

   a. Dalam lembaran yang terpisah-pisah
   b. Dalam bentuk booklet dijilid

APPENDIX IV
Interview Schedule: The English Version

Interview Schedule
(The English version of the actual interview schedule)

INTERVIEW SCHEDULE

As you may recall, you responded to Administrators' Information Requirements Questionnaire that I sent to you. I would now like to ask you about the reasons for your information requirements as well as the format and frequency with which that information should be provided. Accordingly I soon will request an interview with you. I hope you will be available.

1. Could you tell me the reason(s) for what purposes you require that information?

2. How frequent would you want to have that information?
   a. Yearly
   b. Every semester
   c. Monthly
   d. Weekly
   e. Daily

3. How would you like to have that information?
   a. In separate sheets
   b. In a booklet
   c. In a computerized system.

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