



## The Decision-Making Process of Distance Education Students at Universitas Terbuka in Indonesia

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### ABSTRACT :

Increasing competition among higher education providers is now driving the need for an improved more-thorough understanding of the students' decision-making behaviours. Studies on student decision-making processes have been carried out, but only a few have addressed these in the specific context of distance education. The purpose of this study was to examine various factors involved in the decision-making process of distance learners, along with their relative importance. Here we report the findings from an exploratory study involving first-year undergraduate students at the Universitas Terbuka (UT) School of Management and who were resident at the time in Jakarta, Indonesia. Self-administered questionnaires were used, asking questions concerning problem recognition, information search, and evaluation of alternatives. The study identified factors which could be used as proxies in each stage of the students' decision-making process. The reliability test conducted showed that these factors were proven to be reliable scales. Results showed that an experiential factor was the most important motivation for pursuing higher education. Findings also suggested that the younger age group had significantly different motivation for pursuing their degree : they were influenced more by status improvement than the older age group. The flexibility of the distance education system was found to be the most prominent criterion when selecting at which university to enrol. This flexibility criterion was also the most important type of information that students sought. For their information sources, distance students relied more on impersonal sources of information such as university brochures and websites, rather than on personal sources.

### 1. INTRODUCTION :

#### 1.1 The Socio-Cultural Contexts of Indonesia's Universitas Terbuka :

Indonesia has to work hard to achieve higher education for all. Statistics indicate that the country has a population of 209.5 million people, with a college-age population (19-24 years old) of 25.6 million people (Basaruddin, 2000) Higher education in Indonesia is provided by 76 public institutions (including an open university) enrolling over 1.2 million students, and 1,558 private institutions enrolling more than 1.8 million students. Overall, the Indonesian higher education

system enrolls more than 3 million students, with a participation rate at 12.8 %. By 2010, it is expected that about a quarter of the college-age population may be participating in higher education ((Basaruddin, 2000 ; Sukamto, 2001a, 2001b). Table 1 indicates the demographic trends of higher education students and the projected participation rates in the Indonesian higher education system.

Universitas Terbuka (UT) is an open university, established in 1984 as the 45<sup>th</sup> state university to provide opportunity and access to university education, for in-service teachers, working adults and for recent high-school graduates, as a part of

Table 1 : Demographic Trends of Higher-Education Students and Projected Participation Rates in Indonesian Higher Education

Students in Indonesian Higher Education	1995	2000	2005	2020
Raw participation rate in higher education	10%	12.8%	15%	25%
Population aged 19-24	22.78	25.65	26.98	24.79
Total number of higher education students	2.20	3.10	4.05	6.20
Number of state higher education students	0.50	0.55	0.69	1.20
Number of private higher education students	1.37	2.20	3.00	4.64
Number of religious and state department higher education students	0.35	0.35	0.36	0.40

number of students given in millions

data source – Direktorat Jendral Perguruan Tinggi, 2002

the government’s national strategies to improve the participation rate in higher education. In 2006, UT enrolls more than 320,000 students, residing in different parts of the country, with over 95% of whom are working adults. UT has major roles to play in developing high-calibre human resources needed for the nation’s sustainable development. Since its foundation, UT has enrolled over 1.2 million students and has produced over 600,000 alumni, working in various fields of the profession.

From its inception, the UT has been designed and operated as a “management university”, meaning that it manages existing academic and support resources through networking with the state universities and other institutions. It has Headquarters located in Jakarta, and it involves an internal network of 37 regional offices providing academic and administrative services for students in their respective regions, with 1,753 tutorial locations, 671 examination locations. It also engages external networking with the state universities throughout the country for curriculum, course material and test item development as well as for the provision of qualified tutors; with the Post Office and freight forward companies for the distribution of course materials; with a major national Bank for the payment of fees; with the television, radio and media network for communication and interaction

with a large number of students throughout the country; with regional and state university libraries for access to additional learning resources; with telecommunication companies for facilitating new technology access by students; and with local educational offices and schools for the administration of practicum and examination. This diverse network requires effective coordination and good communication between the central office, regional centres, and the participating institutions. Effective management is needed through accurate planning, effective networking and partnership, efficient development and delivery of quality programs, and consistent implementation of quality assurance system.

UT students learn from the course materials delivered by the institution and from other learning resources accessible from other institutions. UT has developed multi-media learning packages for its students, with the printed materials as the major media supplemented with audio cassettes, video programs, computer-assisted instruction, web-based materials and online tutorials. Learner support is provided to facilitate student learning, such as tutorials, counselling, study groups as well as administrative services. Students’ needs for tutorials are provided and facilitated by regional offices. A number of tutorial methods have been implemented ;

namely face-to-face, correspondence, broadcast, and online tutorials. Currently UT has 4 Faculties, i.e. (1) Teacher Training and Educational Science, (2) Mathematics and Natural Sciences, (3) Economics, and (4) Social and Political Sciences, with 32 Programs of Studies. Additionally, it has a Graduate School currently offering 3 Masters programs in Public Administration, Management, and Fishery Management. UT media resources for student learning include 150 courses with correspondence tutorials, 117 courses with radio tutorials, 377 courses with online tutorials, and 1002 televised tutorial programs.

The challenge for UT is to provide quality university education accessible by students with different levels of economic capacity, access to new technology facilities and limited technology literacy. Since 2002 UT has launched a pilot project called *UT Online*, aiming at introducing web-based academic and administrative services for students. The web-based academic services consist of online course and online tutorial while the web-based administrative services includes online counselling and online information. An online examination system has also been set up for some courses to facilitate students' flexibility in taking semester examinations. Working with telecommunication companies, UT has attempted to promote and facilitate its online learning services. The availability of communication infrastructure is one of the critical aspects in providing online learning services along with the technical skill of the students in using online services. UT has conducted socialisation and training in online learning services to improve ICT literacy of students.

Innovation in the use of internet in distance education in the developing country can be a daunting task because most of the students do not have access to the internet. Although a number of internet cafes have been developed in various regions in Indonesia, access to the internet is expensive and difficult for many students living in remote and rural parts and islands of the country. The experiences of UT in the use of the internet in distance education

might well illustrate the case. UT experience indicates that initiatives in the use of the internet in distance education has an insignificant effect on the students. Very few students have accessed UT's online learning services, even though there is no fees charged to the students except for the cost of the internet connection. In 2005, ICT uses for teaching and learning at UT include the provision of online tutorials for 377 courses, accessed by 5,225 students; online dissemination of examination results; online counselling; and online examination (UT, 2006).

### 1.2 Marketing and the Market for Distance Higher Education in Indonesia:

Distance higher education has so far been served mainly by UT, even though since 2001, the Directorate General of Higher Education of the Ministry of National Education has indicated that universities which can comply with the Indonesian Minister of National Education's requirements of conducting distance education can get approval to open distance education programs (Direktoral Jendral Perguruan Tinggi, 2005). Up until now there is no other higher education institution starting any venture in distance education. Running distance education programs requires a significant amount of initial investment and a complex management system. However, as the government regulations permit institutions to set up distance education programs in collaboration with foreign institution partners, conventional universities may have to build up their capability to deliver such programs. Then, the competition in distance higher education provision in Indonesia will increase in the near future, because of the promising market size for such programs within the country.

With the ratification of the General Agreement on Trade in Services (GATS) in 1996, foreign universities will be allowed to operate in Indonesia by forming partnerships with local universities (Media Indonesia Online, 2005). This kind of partnership could accelerate local universities' ability in building expertise in distance education, as foreign universities

may have offered those educational services in their country of origin. While these education services may be not as affordable as UT courses, it may reduce UT's competitive advantage as the most experienced university in delivering distance education in Indonesia. Therefore, competition in Indonesian distance higher education market will be more complex and intense in the future.

Distance education methods and the use of new technology have enabled higher education institutions to expand their non-traditional programs across national borders, serving international customers residing at a significant distance from the main campus. Worldwide today, there are more than 55 million students in higher education, and it is estimated that 150 million students will be participating in higher education by 2020 (Altbach, 1999). E-learning, which involves "the use of the Internet to deliver a broad array of solutions than enhance knowledge and performance" (Rosenberg, 2001), has become not only fashionable but also a rational choice for education and training deliveries. The World Bank has estimated that by the year 2020, around 90 million students will be taking courses via distance learning, and the distance education could soon be worth more than US\$ 100 billion worldwide (Sallis & Jones, 2002).

As the number of higher education institutions increase, the competition among these institutions has intensified, which leads them increasingly to behave as corporations (Jarvis, 2000). Professional management then becomes one of the critical success factors to survive in that competitive environment. The concept of marketing has also become more important in education delivery, as its success is determined by good matches between student values and college characteristics (Cain & McClintock cited in Moogan, Baron & Harris, 1999). Both consumers and suppliers in this situation are highly interested in selecting and working with the correct partners (Veloutsou, Lewis & Paton, 2004). Marketing concepts relating to understanding consumers' needs come into prominence. Higher education institutions

need to be aware of the influential factors that affect students when they enter the decision making process and to gain an understanding of these variables in order to attract students suited to their university offerings, as well as to satisfy students' needs effectively. Knowing how students make their decisions is important for competing and surviving in the market (Moogan, Baron & Harris (1999).

In the past few years, many higher education institutions have conducted market research to understand how students make decisions about where to attend university, by examining either the whole process of student decision-making or each step within that process. However, most of such studies have been conducted in conventional university settings. Research in a distance education context that has looked at student choice has mostly focused on the programs, or the characteristics of the students who seem to learn successfully when they choose a distance learning format (Roblyer, 1999). Further research to examine various factors involved in distance learners' decision-making process along with their relative importance is needed.

### 1.3 The Consumer Decision-Making Process in Distance Higher Education :

Research on higher education decision making process shows that it is categorised as extended decision making process (Moogan & Baron, 2003; Moogan et al., 1999; Rosen, Carrant, & Greenlee, 1998; Veloutsou et al., 2004). It is found that student followed the steps described in consumer decision making process. Once they had decided to continue with their studies, they commenced the basics of information search from various source, being followed by evaluation of alternative and finally chose the higher education suitable to their conditions and needs (Moogan & Baron, 2003; Moogan et al., 1999). Making decision about purchasing products or services goes through serial process of choosing from alternatives available. The process in which customers make decisions to purchase goods or services can be described as the customers'

decision-making process, which consists of the following identifiable steps of problem recognition, information search, evaluation of alternatives, purchase and post-purchase evaluation (Neal, 2003), as described in Figure 1. These steps are discussed briefly in the following subsections.

criterion (Neal, 2003). There are nine factors which prospective students need information about, relating to local infrastructure, local social life, career prospects, university's infrastructure, university social life, business contacts, university's reputation, course studied, and

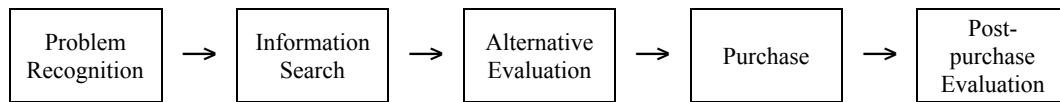


Figure 1 : Model of the consumer decision-making process

### 1.3a Problem Recognition :

Problem recognition is the first stage in the consumer decision-making process and it must occur before decision-making can begin. Consumers do not make a purchase unless a problem is perceived, acknowledged, and delineated (Bruner & Pomazal, 1988). The problem-recognition stage in the higher education purchase decision relates to how the potential students are made aware of the possibility of higher education, when they decide to apply for university places, and what they have in mind as their initial impressions of the universities (Moogan et al., 1999). Several factors are found to be relevant when introducing the idea of higher education to prospective customers. Parents are found to have a great influence on the student's aspiration and decision of higher education. It has been suggested that parental education is often causing students to think about their education earlier than those students whose parents have no experience of campus life (Moogan et al., 1999 ; Scott, 2004).

### 1.3b Information Search :

Information search stage begins when a consumer perceives a need that might be satisfied by purchasing and consumption of a product or service. Once customers decide to purchase a product or service, they will engage in information search to understand the appropriate evaluative criteria for the solution of the problem, existence of various alternative solutions, and the performance level or characteristics of each alternative solution on each evaluative

campus (Veloutsou, Lewis & Paton, 2004). There are several types of information that students focus upon, during higher education selection. For instance, Moogan, Baron & Harris (1999) have found that initial searching activity includes evaluations on course content, location and reputations of universities, and specific grade requirements. Meanwhile, Rosen, Carrant, & Greenlee (1998) state that the most frequently mentioned items which prospective students look for if they read the information they receive are majors, location, cost, courses offered, social life, and reputation.

In term of the sources of information, research on higher education suggests various views of the importance of impersonal sources and personal sources of information. For instance, Donaldson & McNicholas (2004) have listed the sources of information considered to be important which are word-of-mouth from tutors, family and friends, alumni, and open evenings ; while impersonal sources which may be less important but are still extensively used are prospectus, website, course information leaflets, directories of postgraduate courses and the faculty information booklets. Rosen, Carrant & Greenlee (1998) have also stated that independent college guides, parents, guidance counsellors, along with brochures from schools are all cited as initial sources of information. Meanwhile, when students make a decision they use parental guidance, other guidance, counsellors, friends, the college, and previous teachers as sources of information.

### 1.3c Evaluation of Alternatives :

Evaluation of alternatives is a process where costumers make a selection from a number of possible choices. When consumers intend to make a purchase, they will consider a number of evaluative criteria to assess the product. Evaluative criteria refer to the various features a consumer looks for in response to a particular type problem (Neal, 2003). Research on student decision-making has found that there are several factors considered by students when they decide to enter higher education, and that academic consideration is the most important criteria followed by practical consideration such as cost, financial aid, and career preparation (Johnson Country Community College cited in Parker, Pettijohn & Pettijohn, 1989). In addition, Savier (cited in Hayes, 1989) stated that academic reputation was the greatest factor influencing student choice.

### 1.3d Purchase :

The purchase-decision stage involves selecting a course of action based on the preceding evaluation process, or referred to as store selection. In terms of service provider selection, such as the decision to enter higher education, this stage is interwoven with the evaluative criteria stage.

### 1.3e Post-Purchase Evaluation :

Once customers make a decision to purchase product or service, there can be several types of additional behaviour associated with that decision. They are decisions on the product's installation and use, decisions on the product or services related to the item purchased, and evaluation of the purchase decision (Loudon & Bitta, 1993). Consumers engage in post-purchase evaluation because they are uncertain of the wisdom of their decision. The functions of post-purchase evaluation serves to broaden the consumer's set of experiences stored in memory, to provide a check in selecting products and stores, and to provide feedback to make adjustments in future purchase strategies (Loudon & Bitta, 1993). Post-purchase evaluation is more prominent for important

and relatively permanent decisions.

The present research aims to build on previous academic findings and extend the limited knowledge of the student decision-making process in distance higher education in Indonesia. An exploratory study was undertaken which provides further understanding of the problem recognition, information search, and evaluation of alternatives stages in the process. It also identifies the relationship between the decision-making factors and the characteristics of the respondent. Results from this study will provide improved understanding about students' needs, information sources used by students, and factors influencing their decisions.

### 1.4 Students' Choice of Distance Education Mode :

Research on student choice of higher education has mostly been conducted within and for the conventional-mode university context, and only few studies have been related to distance education. A recent study revealed that institution reputation, program curriculum, tuition fees, mode of delivery, and supporting facilities available were the most important criteria considered by students in their selection (Chiu, 1999). It seems that those criteria are similar to the criteria used to select conventional higher education. However, consideration should be taken with the different nature of distance education. In a distance learning situation, the student and teacher are separated in space. There is no requirement of fixed place for the student and teacher to meet, which increases the flexibility in scheduling the educational activities. Hence, location consideration may be excluded from the evaluative criteria for distance education choice.

Teaching and learning at a distance has several distinct tasks including the provision of learning materials and the support of students' learning (Smith, 2004). The teaching characteristics may influence on how academic quality is defined in distance education. In turn, this will influence on how students evaluate distance education offerings. In a study of students' perception of academic quality in distance

education, Richardson (2005) has indicated that students' perceptions of academic quality in distance education are determined somewhat more by their perceptions of receiving good materials and clear goals and standards rather than by their perception of receiving good tutoring, generic skills, appropriate assessment and choice in their studies, or an appropriate workload. Hence, determining criteria employed by students when assessing quality in distance education differs from conventional mode and those seven factors may be able to be used as a predictor of academic quality in distance education.

Information technology has pivotal roles in distance education as a learning medium in which the learning content and interaction develop. Therefore, when evaluating distance education programs, this attribute will be an important consideration for students. In addition, since that facility is not merely general supporting facilities as in a conventional-mode university setting, it is closely attached to the academic content. Information technology supporting facilities will be one of the determining factors in distance learning academic quality.

The characteristics of distance learners may also influence the evaluative criteria employed in distance education selection. Rovai (2003) has stated that students who take classes at a distance have additional needs which are depicted as internal factors. These needs are namely consistence and clarity of online programs, policies, and procedures need, self-esteem needs, the sense of community needs, social integration needs, and support access needs (Rovai, 2003).

Besides evaluative criteria employed in conventional education, distance learners also have additional evaluative criteria which emerge due to the nature of distance education mode of delivery and the characteristics of the distance learners. Those additional evaluative criteria include quality of information technology necessary to support learning activities; availability of detailed information about programs, policies, and procedures of distance course; availability and quality of the study skills

training and off-campus support services; availability of activities or evidence to build an adequate sense of community; availability of media to communicate with peers, staff, and faculty; accessibility and quality of various support systems; and quality of help support service. In addition, some attributes referring to certain evaluative criteria may have different essences from those used in conventional-mode education. For instance, concerning the quality of education, criteria will be based on factors such as good tutoring, appropriate workload, generic skills, students' choice, clear goals and standards, good materials and appropriate assessment.

## 2. METHODS :

As the research aims were to build on previous academic findings and extend the limited knowledge of the student decision-making process in distance higher education in Indonesia, an exploratory study was undertaken to provide further understanding of the problem recognition, information search, and evaluation of alternatives stages in the process.

This research was only limited to these three steps of the decision-making process for the following considerations. Firstly, research on consumer decision-making which involved the whole process was too complex and would be unmanageable considering the time limit. Secondly, the evaluative criteria stage and the purchase stage for services like higher education are interwoven, and therefore it is difficult to demarcate the purchase stage. Thirdly, there is widespread interest to understand in more detail the formulation of strategies to attract potential students. Therefore, this study only explored these three stages of the consumer decision-making. The first three steps of consumer decision-making process happen before students actually decided to enter into the higher education, and therefore the strategy formed based on this information would deal with potential students. Whereas post-purchase evaluation occurred after students have experienced the service, and hence related to the existing

students. So research into forming these strategies would be used to satisfy the existing students, and can be considered here to be outside of the scope of this study into prospective students.

The research used consumer decision-making process model as a study framework. This focused on the first three stages of the decision-making process model : problem recognition, information search, and evaluation of alternatives. To understand the problem recognition stage, students' motivation was used as a proxy, whereas type of information and information sources were used to investigate the information stage. Lastly, criteria considered in university selection were utilized to understand the stage of evaluation of alternatives.

To develop measurements of each stage of the student decision-making process, an extensive literature review was completed. In addition, an investigation of the UT promotional and advertising materials along with interviews with UT's public relations staff were conducted. Based on that work, a set of questions in five different areas was developed into a questionnaire. The first section of the questionnaire was intended to measure student motivation to pursue education in UT. The instrument used to measure this construct was based on the study by Donaldson & McNicholas (2004). All constructs on this research were measured using a Likert seven-point scale, where 1 = strongly disagree and 7 = strongly agree. Before it was finalised, the questionnaire was pilot tested by students, and consultation with UT staff was also undertaken. After that, the questionnaire was mailed to the students.

This study was conducted over a period of three months in Jakarta, Indonesia. Respondents were first-year undergraduate students at the UT School of Management, with the consideration that first-year students would still remember the process they underwent in deciding to continue to UT. It also limited its coverage to the Jakarta district, Indonesia, which has the most reliable postal system in Indonesia. The population consisted of 761 students who were drawn from UT student databases

utilising a population survey in which all members of the population were included in the study. In total 83 questionnaires were returned, but only 81 of these could be used for further analysis.

### 3. RESULTS :

Findings of the study show that the Cronbach's alpha coefficients for the motivation -to- pursue- higher- education scale, type-of-information-sought scale, source-of-information scale, and criteria-scale were 0.76, 0.92, 0.89, and 0.95 respectively. Pallant (2005) suggested that alpha values above 0.70 can be considered reliable. Therefore, all items intended to measure the student decision-making process in this study can be considered to be reliable.

Factor analysis and descriptive statistics were conducted to discover what factors are involved and the importance of various decision-making variables, in each stage of the decision-making process. Prior to performing a factor analysis, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. It is noted that all sections had the Kaiser-Meyer-Okline (KMO) value of more than 0.6. This meant that these met the minimal KMO value. The Barlett's test of sphericity also showed statistical significance. Therefore, factor analysis is appropriate. The following Table 2 presents a summary of statistical values necessary to conduct a factor analysis for each section.

#### 3.1 Motivation to Study :

Factor analysis done for motivation revealed the presence of three components with Eigenvalues exceeding 1. These three components explained 59.95 per cent of the variance. These components are status improvement, experiential, and career development. The interpretation of these three components is similar to that of previous research on student motivation orientations (Bennet, 2004). The status and career improvement factors were grouped



Table 2 : Summary of the Statistical Values for the Appropriateness of Factor Analysis

Statistics measurement	Motivation	Type of Info.	Source of Info.	Criteria
Kaiser-Meyer-Olkin	0.66	0.67	0.78	0.77
Bartlett's test of sphericity	0.00	0.00	0.00	0.00
Component with Eigenvalues > 1	3	5	2	8

under goal orientation in Bennet's study, while experiential factors were under learning orientation. The results of this analysis support the use of goal orientation and learning orientation as separate scales, as suggested by Bennet's study. Nonetheless, it breaks down goal orientation into more specific factors, namely status and career improvement.

Descriptive statistics was conducted and it revealed that the experiential factor was deemed to be the most important motivation (M=6.20) to pursue distance higher education followed by career development (M=5.41) and status improvement (M=4.73). These findings contradict previous studies which found that career development was the major reason for pursuing higher education, both in conventional and distance higher education (Chiu, 1999 ; Donaldson & McNicholas, 2004 ; Luker, Bowers & Powers, 1989 ; Miller & Rose, 1994 ; Moogan & Baron, 2003). However, previous studies of student motivation in distance education were conducted at the postgraduate level; this may have led to the different importance of motivation factors compared to those found in this study. To identify which factors within motivation had significant differences in mean across age groups, further investigation using one-way ANOVA analysis was conducted. It showed that the older age group was less interested in pursuing status improvement when they decided to enter UT compared with the younger age groups.

### 3.2 Information Search :

Since information search stage is investigated using data from type of information and source of information, findings in this section will be explained and discussed in these two distinct areas.

### 3.2a Type of Information :

Factor analysis conducted for type of information sought showed that there were five components (Table 3). Each factor had an Eigenvalue greater than one, and together they explained 60.8 per cent of the overall variance. All of the constructs developed had alpha values higher than the threshold level of 0.70. Hence these factors are reliable to measure the intended constructs. Components such as university facility, course and reputation are similar to Veloutsou, Lewis & Paton's (2004) study. The other two factors were developed based on an investigation of UT promotional material and interviews with UT public relations staff.

Table 3 : Results from Factor Analysis

Factor	Component
Motivation	Status improvement Experiential Career development
Type of information sought	University facilities Education system Course Reputation Flexibility
Information source	Personal contacts University
Selection criteria	University facilities Education system Course Reputation Flexibility

Flexibility and education system were the most important type of information sought with mean 5.96 and 5.50 respectively. These two factors were not found to be required information for conventional university students. The rest of the factors

were similar to those found for a conventional-mode university. This also revealed that university facilities were the information category for which both conventional-mode and distance-mode university students collect the least information.

The factors described in each section have varying importance (Table 4).

Table 4 : Importance of Components

Factor	Component
Motivation	Experiential Career development Status improvement
Type of information sought	Flexibility Education system Course Reputation Facilities
Information source	University brochures University's website Current/past students Friends Colleagues Relatives University publication/promotion Parents University's staff University fair HRM staff in your office
Selection criteria	Flexibility Education system Course Reputation Facility

### 3.2b Source of Information :

The factor analysis for source of information revealed only two components;- personal contacts, and university. These two dimensions explain 62.05 per cent of the overall variance. The personal contacts factor had an alpha value of 0.87 which met the requirement for a reliable alpha value greater than 0.70. However, the university source factor had an alpha value of only 0.67. Nunnally (cited in Veloutsou et al., 2004) suggested that for exploratory research work an alpha value of 0.50 can be considered reliable. As this study is exploratory in nature, this measurement can be considered reliable.

For sources of information, previous studies have shown mixed results for the importance of different sources of information. Some have suggested that impersonal information is more important (Moogan & Baron, 2003 ; Veloutsou et al., 2004), while others have argued that personal sources of information are deemed to be more important (Donaldson & McNicholas, 2004 ; Hayes, 1989). In this study, impersonal information - which comprises university brochures and university websites - was found to be the most important source of information, with mean values of 5.17 and 5.05 respectively. Human Resource Management staff in students' offices who often become the key contact people through whom UT concentrates its promotion efforts are perceived to be the least important source of information (M=3.85).

### 3.3 Evaluative Criteria :

Factor analysis conducted for evaluative criteria showed that there were five components as can be seen in Table 3 above. They all had Eigenvalues greater than one and together they explained 64.63 per cent of the overall variance. All dimensions in this section had Cronbach alpha values exceeding 0.50. Hence, these factors were reliable to measure the intended constructs.

Investigating the importance of each of the evaluative criterion revealed that flexibility is the most important criteria (M=6.21). Items loaded on this factor included tuition fee and place flexibility. This criterion was followed by education system (M=5.60), and course (M=5.39). These findings are different from those evaluative criteria reported in a conventional-mode university setting, in which location, cost, and reputation have been considered the most important evaluative criteria (Richardson & Stacey, 1993 ; Rosen et al., 1998 ; Shank & Beasley, 1998). This may be because these criteria are not relevant in distance education. Distance learners may also perceive that flexibility is the main reason to choose distance-mode education over conventional-mode education. This factor is

the distinguishing attribute which differentiates distance-mode university education from conventional education.

4. ANALYSIS AND DISCUSSION :

The primary objectives of this study were to explore variables involved in the student decision-making process, and their importance in UT setting. Various studies on the student decision-making process in choosing conventional universities provided a fundamental basis for exploring these variables. While this study shows further support for the importance of these variables, it also reveals that these variables are applicable in UT. However, this study also found that additional variables attributed to distance education were deemed to be more important, compared to those previously-reported in conventional-mode education.

Figure 6 summarises the key findings from this study, highlighting the importance of each factor and the impact of the relevant demographic characteristics.

attaining long-term career objectives were the most important motivation (Chiu, 1999). However, the findings show that experiential was perceived to be the most important motivation. Further investigation revealed that status improvement displayed the major difference in motivation across the age groups, with the younger groups more influenced by this motivation.

Much can be done by understanding student motivation in pursuing distance higher education. Donaldson & McNicholas (2004) suggest that clear marketing communication can be developed by understanding students' needs, including their motivation. Furthermore, this information may also benefit the instructional design of distance education by developing various learning interfaces to suit students' needs.

This study identified the convenience aspect (flexibility factor) of the university as the main decision criterion for students. This is in line with previous studies which found that convenience is the most important consideration when enrolling in distance education (Galusha, 1997).

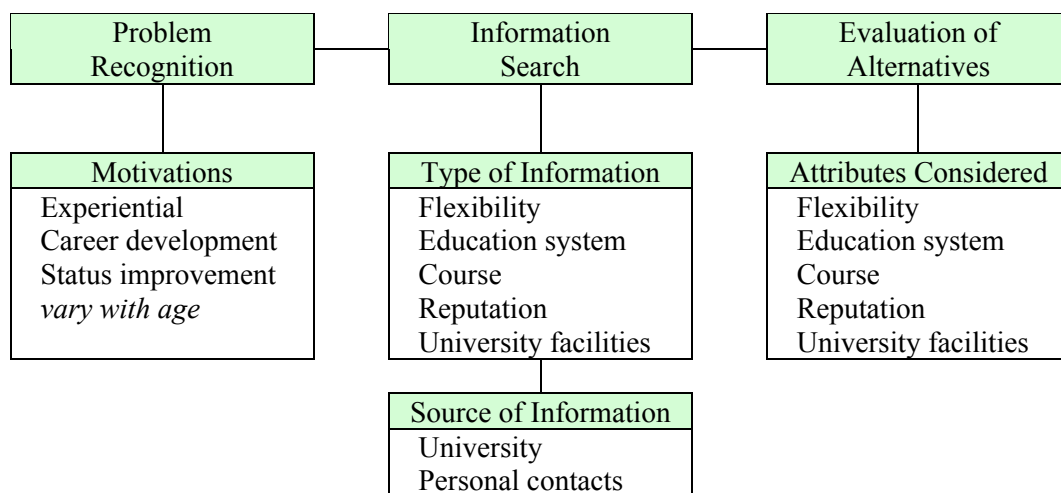


Figure 2 : The decision-making process factors for distance education students

For motivation, prior to study, it was predicted that career development would be the most important motivation. This was based on previous research in distance learner motivation, which found that remaining competitive in the job market and

However, the course, reputation, and facility aspects should not be ignored. Although it seems that the convenience and distance education systems are some of the aspects why students chose distance learning over conventional-mode learning,

this should not be used as the only basis for university development in the future. Students may take for granted aspects like course, reputation, and facility. Nonetheless, these aspects are part of a universities' main offering; ignoring these aspects will jeopardise the university's offering as a whole. Hence, universities still should work on these aspects.

Investigating the importance of university facilities, it is surprising that UT students did not perceive facilities such as libraries and computer facilities to be important. Considering the nature of distance education, which relies primarily on library and computer technology for its delivery, these facilities should be an important consideration for UT students. However, with limited usage of advanced computer technology in Indonesian distance education, students may not yet consider these aspects important. This may change in the future when competition for the distance education in Indonesia becomes more intense, and advanced technology becomes the main competitive advantage for universities offering distance education. While this has already happened in Western countries, it may take time to occur in Indonesia, due to both limited ability and resources of Indonesian distance teaching universities and the low adoption rate of technology among students.

Examining the results for information type and evaluative criteria showed there was no difference in their importance. This suggests that the perceived importance of the evaluative criteria led to willingness to collect various pieces of information. This information will provide a useful basis for a distance education institution to improve its ability to attract suitable candidates by providing information relevant to them. Students need to be able to select the university or courses most suited to their ability and interests; there is no benefit in attracting students who would be more suited to an alternative university. Cain & McClintock claim that in the higher education sector, the best outcomes for all parties result from good matches between student values and college characteristics (Moogan et al., 1999).

Attracting and retaining students suited to the programs offered should be the most important objectives for distance education institution, particularly UT. This process involves designing a clear marketing communication strategy, target marketing, and promotional activity using a variety of tools and media. Marketing communication objectives should focus on increasing prospective students' knowledge in the area of attributes that they perceive to be important. Provision of information relating to these attributes will expand prospective students' knowledge regarding the institution and its programs, which eventually increase students' interest. The next step to do is then to develop unique selling points, based on important attributes, and communicate them to prospective students in order to increase preference. Institutional image can be raised based on the attributes that are worthy to attendances. Therefore distance education institution should also pursue superiority in attributes that are perceived as being important; they should do this in order to survive.

The study identified the information sources that students want to use and rely on most are those produced and distributed by the university itself. University brochures and websites are rated highly for usage compared to other information sources. This may be due to the fact that university is perceived to be more knowledgeable, compared to other sources. Emphasizing the university as an information source suggests that university has control over information dissemination. This leads to an onus on the university to provide accurate, timely and easily accessible data in all publications.

The findings also show that students depend on personal sources such as past and current students, which were rated third in source of information importance. This implies that university should ensure that its students engage in positive word-of-mouth, because in service industries current consumers are a pivotal source of information. Nonetheless, there is an underlying condition for students to engage in positive word-of-mouth which is satisfaction. Hence, institutions should be

aware of the importance of students' satisfaction to its marketing communication strategies. It is also important to investigate the sources of students' dissatisfaction and find way to redress these; communicating solutions of students' dissatisfaction will help to mitigate the negative word-of-mouth which may occur.

## 5. CONCLUSION :

This study has found several attributes which can measure UT students' decision-making process. The attributes which were previously reported in relation to conventional-mode universities have been proven relevant also to the distance learning setting as well. However, some changes have also been discovered to adjust to the nature of distance education. Criteria such as location and local environment have been excluded from the evaluative criteria in this study, while convenience and the conventional/distance education-mode have been incorporated into the study. Attributes closely attached to the distance education characteristics, such as convenience, become the most important alternative criteria, and the most important information type sought by students.

Investigating the student decision-making process can provide valuable information for universities to develop marketing communication strategies. In the case of UT this could be either to increase candidates' knowledge of program offering or to convince candidates that the institution's products suit their needs. In addition, understanding student needs may also help course designers to develop more effective learning strategies for students. Caution should be taken when interpreting this study's findings. With the very small sample size, the findings may not adequately reflect the actual values held by students. Hence, the results cannot be used to make generalizations. Important decision-making should not be carried out based on these results. The small sample size also hindered more in-depth statistical analyses such as identifying which factors are the best predictors in each stage of the

decision-making process. Future studies need to use larger sample sizes in order to make findings more valid and reliable.

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