

Research Article

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Student Preferences for Educational Services in Open and Distance Learning: A Structural Equation Modeling Approach of Indonesia's Open University (Universitas Terbuka)

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Abstract

Background/purpose. Improving student retention in open and distance education depends on understanding their preferences for the educational services provided. This study aimed to analyze students' preferences for UT's educational services to improve retention.

Materials/methods. This study employed a descriptive quantitative method. The research sample consisted of 208 students. The data were collected using questionnaires and interview methods. The data were analyzed using descriptive analysis and the structural equation model (SEM).

Results. The research results indicated that the students preferred printed teaching material highly; 88.5% of the respondents agreed and strongly agreed. For the tutorial service, the respondents strongly preferred online tutorials (83.6%) and course tasks (70.2%), while 45.7% preferred face-to-face tutorials and 47.1% webinar tutorials. The respondents had similar preferences for examination services between take-home examinations (THE) and offline written examinations; 77.9% said they were satisfied with the THE service, and 77.9% of respondents were also satisfied with offline written examinations. The result of the SEM analysis of the effect of student characteristics (X1), learning experience (X2), and participation in distance-learning success support service (X3) on the students' preference for UT educational services, revealed that learning experience (X2) was the only variable influencing the students' preference for teaching material and online tutorial services with a t value exceeding 1.96 at $t = 6.92, 8.52, \text{ and } 7.04$, respectively.

Conclusion. The conclusions of this study indicate that students' preferences for educational services at Universitas Terbuka show that the majority prefer printed learning materials and online tutorials. In contrast, the learning experience significantly influences students' preferences for learning materials and online tutorial services.

1. Introduction

The Universitas Terbuka (an Indonesian Open University) learning process uses open and distance learning (ODL). Universitas Terbuka (UT) has encouraged students to engage in self-regulated learning and guided using the primary teaching materials with instructions and learning schedules. In the open and distance learning (ODL) system, cognitive, affective, and psychomotor learning outputs are achieved through several learning strategies (Hariyanta et al., 2022). The learning modes can be face-to-face, online, or blended learning (Lindsey & Rice, 2015). Learning outcomes must align with the stated output competencies, as stated in the Ministry of Education and Culture Regulation (Permendikbud) No. 53 of 2023 concerning Outcome-Based Education (OBE).

In the learning process, UT provides learning support services through face-to-face and online tutorials. The "non-compulsory" tutorials are followed by students (diploma and undergraduate levels), while for the postgraduate level, student tutorials are mandatory. Through guided learning and using various learning resources as a unified whole in the learning system, students are expected to experience optimal and satisfactory learning outcomes. Online learning, as a subset of all distance education, has always been concerned with providing access to an educational experience that is, at the least, more flexible in time and space than campus-based education (Sutiman et al., 2022). The quality of online learning is not inferior to face-to-face learning; the only difference is the learning mode (Kaur, 2022; Zaitun et al., 2021). Online learning can be conducted in synchronous and/or asynchronous modes (Giesbers et al., 2014; Stankovska et al., 2021).

UT continues to expand its reach to various levels of society, both those living in urban and rural areas. Currently, UT has 412,697 students as of 15th November 2022. The number of students is spread across 39 UT's Regional Offices (UT's RO) in Indonesia and abroad. The geographical condition of Indonesia, an archipelagic state, makes it challenging for UT to provide the best student services. The age of UT students is dominated by the age group <25 years, which is 54.04% (www.ut.ac.id).

Learning facilities, including facilities and infrastructure available in urban and rural areas, are very different. These differences affect UT students' access to educational services to educational services provided. Therefore, UT always provides a variety of educational services to reach all levels of society, which other universities do not reach. Furthermore, student retention to continue studying at UT from Semester 2017/18.1 to 2019/20.1 is 9%-11 % of the number of students who have the potential to re-register. The percentage is fairly high, considering the total number of UT students is in the hundreds of thousands. Student retention in distance higher education is lower than in face-to-face (conventional) universities, which is 10% % -20 %.

Therefore, strategies are needed to increase UT student retention. One of them is by providing diversified educational services for students. Students can apply for educational services that correspond to their conditions. Students with unlimited internet access can choose online learning; however, if internet access is limited, students can choose other learning services. This study aimed to analyze student preferences for UT education services and the influence of internal and external factors on UT students' preferences for educational services.

Based on this background, the research seeks to answer the following questions:

1. What factors influence student retention at Universitas Terbuka during the learning process?
2. How do these factors affect student retention?
3. What strategies can be developed to improve student retention based on the influencing factors?
4. How can the developed strategies be effectively implemented to enhance student retention at UT?

2. Literature Review

2.1. Open and Distance Learning Services

Higher Education Institutions are complex entities interacting with many stakeholders to conduct institutional activities (Yusuf & Fajari, 2022). Students are the university's primary stakeholders. The student retention rate reflects the students' faith in their university. A high student retention rate implies that the university has a solid commitment to service quality and sustaining students' confidence in the quality of education provided by the institution where they first chose to enroll. A low student retention rate shows that the university must address this issue quickly to maintain the students' willingness to continue their education there (Zb et al., 2021). A university must pay close attention to student retention, as it can influence both current and prospective students. Ali Sawand et al. (2015) & Cabacang (2021) found that teaching and learning factors were the most influential in determining student satisfaction. These factors concern course materials or subject matter and the teaching staff's capacity to provide instructional services.

Students and tutors are increasingly linked by various communication methods and technology (Hrastinski, 2008). Pedagogical approaches must be enriched with personality-oriented, non-linear educational technologies, allowing students sufficient learning action flexibility and the opportunity for personally comprehended educational outcomes with learning process satisfaction (Hariyanta et al., 2022; Sibagariang & Pandia, 2021). Due to the rapid evolution of knowledge and technology, students must adopt innovative ways of engaging with information and adopt open learning positions. Significantly more value is placed on the ability to learn independently and select optimal resources, strategies, and instruments (Giesbers et al., 2014). Eliyasni et al. (2019), comparing student perceptions of blended learning courses with their actual achievement, revealed a solid relationship between perception and grade. The study concludes that low-achieving students may not be able to manage the hybrid format as well as high-achieving students; it is strongly recommended that students be given a choice, whenever possible, between multiple study methods. Personal learning environments allow students to reclaim control over their learning process by providing various options for collecting, organizing, classifying, analyzing, developing, sharing, disseminating, and interpreting information, resulting in knowledge generation (Contrino et al., 2024).

2.2. Educational Services

The relationships between learners and education systems have always involved educational services. Educational services are procedures or activities, are intangible in nature. The quality of education services is determined by comparing the educational services received or discovered (perceived service) to the education services expected from students (Islam & Bag, 2020). According to Mansori et al. (2014), students usually evaluate the efficacy of educational services along five dimensions: (1) Reliability, or the capacity to provide educational services as promised, accurately and reliably, by student expectations, as demonstrated by timeliness, uniformity of service, and absence of errors; (2) Receptivity, which is the capacity to assist pupils and provide educational services quickly. If someone experiences failure, they should deal with it professionally immediately; (3) Assurance is the knowledge and ability of employees to perform tasks spontaneously, which guarantees excellent performance and fosters student confidence and trust; (4) Empathy, exemplified by a willingness to provide personal attention to each pupil out of care; and (5) Physical facilities, technology, employees, and communication media are examples of tangibles.

3. Methodology

3.1. Research Design

This research employs a quantitative survey design with an explanatory approach. It involves data collection through questionnaires distributed to a large number of respondents. The aim of this research design is to test the causal relationships between various variables. Specifically, it examines the effect of student characteristics, learning experiences, and student participation in distance-learning success support services (DLSSS) on student preferences for educational services at UT (Figure 1). The variables tested in this study consisted of endogenous (X) and exogenous (Y) variables, as well as several indicators (manifest variables) to measure these two variables (Table 1).

Table 1. Research Variables and Indicators

Variable	Indicator
Student characteristics (X ₁)	Age (X ₁₁)
	Educational background (X ₁₂)
	Occupation (X ₁₃)
Learning experience (X ₂)	Trust in UT (X ₂₁)
	Socializing experience (X ₂₂)
	Motivation in learning at UT (X ₂₃)
Participation in DLSSS (X ₃)	Freshman Study Orientation (FSO) (X ₃₁)
	Distance Learning Skills Workshop (DLSW) (X ₃₂)
Teaching material services (Y ₁)	Ownership (Y ₁₁)
	Substance (Y ₁₂)
Face-to-face tutorial services (Y ₂)	Execution (Y ₂₁)
	Substance (Y ₂₃)
Online tutorial Services (Y ₃)	Execution (Y ₃₁)
	Substance (Y ₃₂)
Webinar tutorial Services (Y ₄)	Execution (Y ₄₁)
	Substance (Y ₄₂)
Course assignment Services (Y ₅)	Execution (Y ₅₁)
	Substance (Y ₅₂)
Practice/Practicum Service (Y ₆)	Execution (Y ₆₁)
	Substance (Y ₆₂)
	Socialization (Y ₆₃)
Take home exam (THE) Service (Y ₇)	Execution (Y ₇₁)
	Substance (Y ₇₂)
Exam Service (Y ₈)	Execution (Y ₈₁)
	Substance (Y ₈₂)
Regional Services (Y ₉)	Information (Y ₉₁)
	Administration service (Y ₉₂)

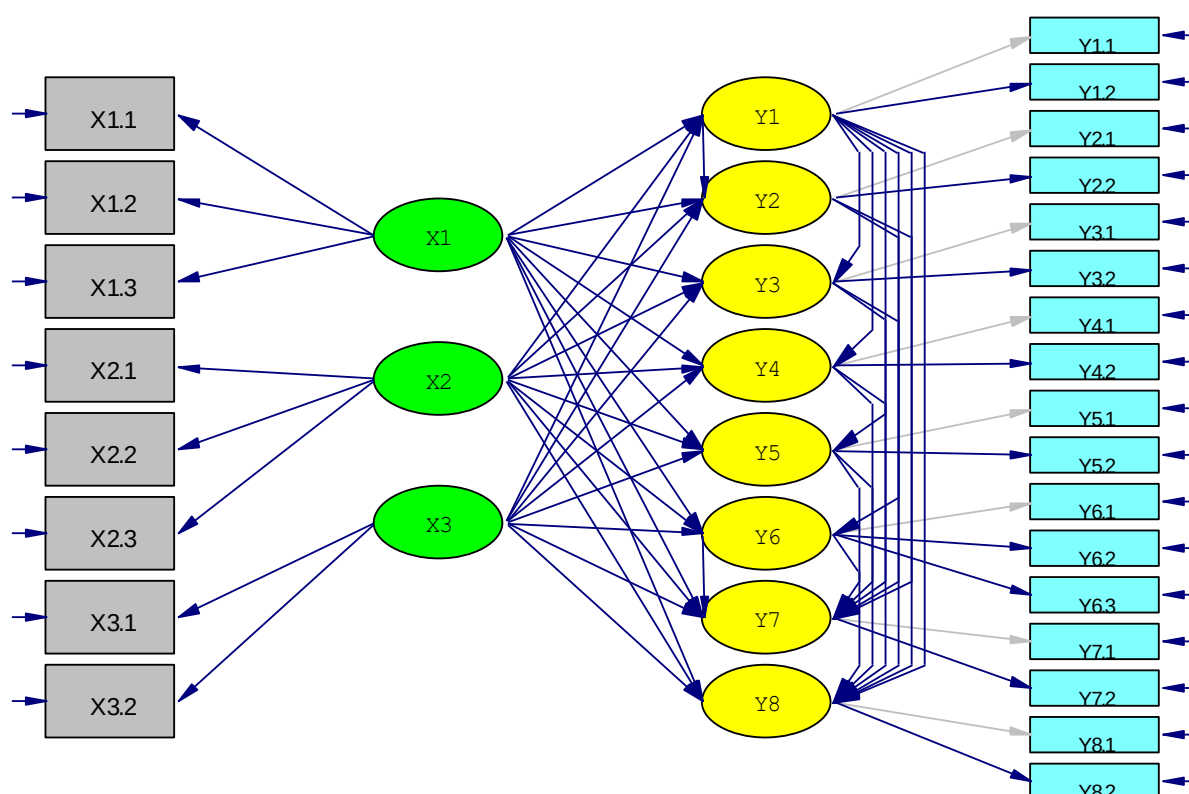


Figure 1. Study Framework

3.2. Samples and Sampling Techniques

The research population consisted of all UT students from UT's Regional Offices, including Medan, Semarang, Banjarmasin, Makassar, Ambon, Bogor, and Serang, totaling 122,961 students. Specifically, there were 23,287 students from the Medan Regional Office, 28,228 students from the Semarang Regional Office, 10,678 students from the Banjarmasin Regional Office, 9,619 students from the Makassar Regional Office, 3,563 students from the Ambon Regional Office, 33,077 students from the Bogor Regional Office, and 14,509 students from the Serang Regional Office. The research sample was selected through random sampling giving each student an equal chance of being selected as a respondent. Of 122,961 students registered at various Universitas Terbuka Regional Offices (RO), 208 were selected as the research sample.

3.3. Data Collection Techniques

The data collection techniques used were non-test techniques in the form of questionnaires and interviews. The survey was conducted by distributing questionnaires to 900 respondents; however, only 208 respondents completed the questionnaires in full. The questionnaire consisted of closed-ended questions using a Likert scale and open-ended questions to explore more profound opinions regarding the educational services at Universitas Terbuka. In addition, several students at UT's Regional Offices (RO) in Bogor and Serang were interviewed to obtain more in-depth information regarding the quality of UT's educational services. The semi-structured interviews allowed open-ended questions that could be adapted to the respondents' answers.

The questionnaire instrument was tested for construct, content, and criterion validity to ensure that the instrument accurately measured the quality of UT's educational services. Construct validity was tested through factor analysis or expert judgment, while content validity ensured that all critical aspects related to academic services were covered in the questionnaire. Criterion validity was tested by comparing the survey results with other relevant data or research. In terms of reliability,

Cronbach's Alpha test was used to measure the consistency of responses in the questionnaire, with a value above 0.7 indicating good reliability. For the interviews, reliability was assessed based on the consistency of findings from various respondents. The reliability was considered high if the interviews produced answers consistent with the survey findings. Additionally, if the same survey was conducted again under similar conditions and yielded similar findings, the research instruments could be considered reliable.

To address the issue of external validity due to the 23% response rate (208 out of 900 distributed questionnaires), the study acknowledges the potential limitations in generalizing the findings to the entire population of UT students. However, following Nulty (2008) it is recognized that low response rates are common in online survey-based research, especially in open and distance learning settings. To mitigate this concern, the study compares the demographic distribution (e.g., gender, age, region, and study program) of the respondents with the known characteristics of the UT student population.

In this study, triangulation refers to data source triangulation, not the use of multiple methods. The study primarily uses a quantitative survey with closed-ended questions designed to gather structured data. The open-ended questions serve as a supplementary tool to capture qualitative insights from respondents, offering a richer context to the quantitative findings. By combining data from both closed-ended and open-ended questions, the study aims to enhance the validity and reliability of its results by corroborating findings across different data sources. In addition, the ethical considerations were strictly followed in this study. Prior to participation, all informants, including students, teachers, and school principals, were informed about the study's objectives, procedures, and potential impact.

3.4. Data Analysis Techniques

The data were analyzed using descriptive analysis and the Structural Equation Model (SEM) to assess the effect of independent variables (respondent characteristics, learning experiences, and DLSSS) on the dependent variable (students' preferences for UT educational services). SEM is a statistical technique for analyzing causal relationships between latent and observed variables in a complex model. This technique allows for testing direct and indirect relationships while considering measurement errors. The process of using SEM begins with the development of a theoretical model, which involves identifying research variables based on supporting theories. Next, model specification is carried out by constructing relationships between variables through a path diagram. Afterward, the model is tested through parameter estimation using the Maximum Likelihood Estimation (MLE) method or other estimation techniques. Then, the model is evaluated by reviewing the Goodness of Fit indices to ensure that the model fits the data. If the model does not meet the expected criteria, model modification is performed, such as adjusting the paths between variables.

4. Results

4.1. Data Description

4.1.1. UT Students' Characteristics

The survey on the characteristics of the respondents resulted in data that the highest number of respondents were 19-25 years old at 116 (55.8%) (Table 2). This indicates that most participants were young adults, likely representing university students or early-career professionals. Other demographic factors, such as gender, educational background, and occupation, were also analyzed to understand the respondent profile comprehensively. The detailed distribution of respondent characteristics is presented in Table 2.

Table 2. Respondent Characteristics

Variable	Attribute	Frequency	Percentage (%)
Age	19-25 years	116	55.8
	26-28 years	24	11.5
	29-34 years	31	14.9
	>34 years	37	17.8
Educational Background	Senior High School/Vocational High School	179	86.1
	D1/D2	6	2.9
	D3	7	3.4
	S1	16	7.7
Occupation	Unemployed	39	18.8
	Part-time	59	28.4
	Full time	110	52.9

The distribution of respondents by faculty was as follows: 1) the number of male respondents was 95 (45.7%) and female respondents 113 (54.3%); respondents from the Faculty of Teacher Training and Education (FKIP) were 79 respondents (38%), Faculty of Law, Social, and Political Sciences (FHISIP) 57 respondents (27.4%), Faculty of Economics (FE) 40 (19.2%) and Faculty of Science and Technology (FST) 32 (15.4%). Most respondents were graduates of Senior High School/Vocational High School or its equivalent at 179 (86.1%); therefore, they did not transfer credit. The respondents who worked full-time numbered 110 (52.9%), part-time 59 (28.4%), and 39 (18.8%) were unemployed.

4.1.2. Experience Studying at UT

Most respondents answered that they strongly agreed (52.18%) and agreed (45.55%) with the UT learning experience indicators. 60.6% of respondents reported that UT met their expectations in pursuing higher education. They also believed studying at UT could improve their knowledge per their expectations and allocated as much time as possible to complete their education there. Based on these findings, it can be assumed that students who apply to UT have confidence that UT can fulfill their expectations in pursuing higher education.

4.1.3. Socializing Experience

Most of the respondents stated that they strongly agreed (52.18%) and agreed (45.55) with the indicators of social experience. As many as 89.4% of the respondents answered that when they studied at UT, they had friends and received support from UT. Most respondents (87.5%) interacted with fellow UT students, while 77.9% interacted with other university students. Based on these findings, this suggest that the respondents had a good social experience, which is an asset in conducting lectures at UT.

4.1.4. Motivation to Study at UT

Most of the respondents (85.63%) had high learning motivation. Most respondents (99.0%) had a strong will to complete their studies at UT, and 98.6% had a strong motivation. Furthermore, most

respondents (86.5%) were satisfied with their test scores and preferred doing easy things rather than challenging ones.

4.1.5. Distance Learning Success Support Services

Distance Learning Success Support Service (DLSSS) is a service that aims to equip new students with the knowledge of how to study and conduct distance learning at UT. DLSSS consists of New Student Study Orientation (Orientasi Studi Mahasiswa Baru/OSMB), Distance Learning Skills Training (Pelatihan Keterampilan Belajar Jarak Jauh/LPKBJJ), Assignment Workshop (Workshop Tugas/WT), and Examination Clinic (Klinik Ujian/KU). After the new students participate in DLSSS, they should be better prepared to learn at UT to increase student retention. However, in this study, the survey was conducted only on students who participated in OSMB and PKBJJ. The survey on student participation in OSMB and PKBJJ showed that most respondents (91.4%) followed OSMB, and 84.1% participated in PKBJJ. This is good because students attended the OSMB and PKBJJ as new students. However, student participation in OSMB and PKBJJ needs to be increased so that all (100%) new students participate in these activities.

4.1.6. Teaching Material Service

Learning at UT places great emphasis on independent learning sourced from the primary teaching materials of the courses, called Basic Material Textbooks (Buku Materi Pokok/BMP), which are known by the general public as 'modules' (Yunus & Yuliana, 2022). These were developed by applying these principles: self-contained, self-explained, and self-instructional (Rowntree, 1994). Teaching material service is the primary and most crucial service because teaching materials are the primary learning resource for UT students. Teaching materials, which are sent directly by the UT Center to students through various modes, must be owned by every UT student. The survey on ownership of teaching materials showed that most respondents (88.5%) received teaching materials on time, and 94.7% received teaching materials corresponding to their order. Regarding the teaching material substance, most respondents (98.1%) thought the teaching materials were presented systematically, and 88.5% of the respondents 88.5% felt that the teaching materials were easy to understand. In general, respondents were satisfied with UT's teaching materials service.

4.1.7. Tutorial Service

Of the 208 respondents, only 101 used face-to-face tutorial services. Most respondents strongly agreed that the face-to-face tutorial activities were engaging and that TTM activities helped them understand the materials. The statements that the place of the face-to-face tutorial was easy to access, the TTM tasks could be completed well, and the time of the face-to-face tutorial corresponded with the students' conditions, most of the respondents agreed. Among the 208 respondents, 189 reported using the online tutorial service (Tuton). Most respondents felt that the flexible online tutorial time was suitable for them, whereas 9.6% doubted that participating in online tutorials could help them understand the course material. Of the 208 respondents, 100 used the webinar tutorial learning assistance service (Tuweb). Most respondents agreed with the five statements regarding the implementation and substance of webinar services. As part of the open and distance learning (ODL) system organized by UT, online learning is associated with more flexible access in terms of time and space compared to on-campus, classroom-based education (Van Bruggen, 2005). Of the 208 respondents, 150 used coursework learning assistance services (tugas mata kuliah/TMK). Most respondents strongly agreed with the four statements related to TMK services. The statement that they could do the coursework (TMK) well was responded to with an "agree" response.

4.1.8. Exam Service

Under normal conditions, the examination services at UT have several modes: web-based online exams, semi-online proctoring exams, face-to-face written exams, and take-home exams (THE). UT applied only one exam mode during the COVID-19 pandemic in 2020 and 2021: THE. In the second semester of 2022, all modes will be available again to students.

4.1.9. The Take Home Exam (THE) Service

THE is an end-of-semester exam activity carried out by downloading the questions and uploading the students' answers through the THE application within a specific duration. THE exam questions are at the high-order thinking skills (HOTS) level; therefore, students can take the exam at home using open-book format without supervision. THE exam questions are designed in the form of case studies and are answered by students reflecting their level of analytical ability. The results of the survey on THE services showed that most of the students (>70%) stated that THE UT services were satisfactory in terms of socialization, implementation, accessibility, and handling of student complaints (Table 3).

Table 3. Take-Home Exam Service

Statement	SA	A	U	D	SD	Did not answer	Total
THE socialization							
I received adequate explanation/ socialization regarding the implementation of THE	36.5%	43.3%	1.4%	1.0%	0.0%	17.8%	100%
THE implementation							
I can access the Take Home Examination (THE) service well	41.8%	36.1%	2.9%	1.4%	0.0%	17.8%	100%
My complaints regarding THE have been well-handled	35.6%	42.3%	2.9%	1.4%	0.0%	17.8%	100%

4.1.10. Face-to-face Exam Service

The survey about face-to-face examination services showed that, on average, most students (>70%) were satisfied with the UT examination services. However, some students (11.1%) felt that the speed of announcing the final grades of the courses was still dubious and unsatisfactory (Table 4). The final grades of student courses are the basis for registering for courses next semester, so the timeliness of grade announcements is critical. The results of this survey are input for UT to increase the speed of announcement of test scores.

Table 4. Exam Services

Statement	SA	A	Undecided	D	SD	Did not answer	Total
The exam location is easy to access	29.3%	50.0%	2.9%	0.5%	0.0%	17.3%	100%
UT is fast in announcing the exam scores/results	25.0%	46.6%	5.8%	4.3%	1.0%	17.3%	100%
I am satisfied with the exam service at UT	38.0%	39.9%	3.8%	1.0%	0.0%	17.3%	100%
The exam questions are in line with the materials in the teaching materials	33.7%	44.2%	2.9%	1.9%	0.0%	17.3%	100%
The duration of the exams is suitable for the number of problems	29.3%	51.0%	1.0%	1.0%	0.5%	17.3%	100%
I believe my efforts are in line with the scores I received	31.3%	45.7%	3.4%	1.9%	0.5%	17.3%	100%

4.1.11. Regional Office Service

UPBJJ (Regional Office) services play an essential role in UT's teaching and learning process because UPBJJ is directly related to the students. Most of the students (>70%) felt satisfied with UPBJJ's services; however, a few students (5.8%) did not feel assisted by UPBJJ staff, and 5.8% of the students did not think that they received adequate information from UPBJJ about the learning process at UT (Table 5).

Table 5. UPBJJ (Regional Office) Service

Statement	SA	A	Undecided	D	SD	Did not answer	Total
I received adequate information from the UPBJJ-UT	44.7%	49.5%	4.8%	1.0%	0.0%	0.0%	100%
I feel helped by the UPBJJ-UT staff	45.2%	49.0%	5.3%	0.5%	0.0%	0.0%	100%
I receive adequate education and administration services from the UPBJJ-UT	43.8%	52.4%	3.4%	0.5%	0.0%	0.0%	100%

4.2. Effect Between Variables

The test results of the influence between variables using multivariate analysis with the structural equation model (SEM) resulted in the initial model (Figure 2). The results of the model fit measurement to appraise the feasibility of the initial model show that the influence value (β) of the exogenous latent variable on the endogenous latent variable cannot be used because the t value <1.96 (Figure 3). A model is considered fit and can be interpreted by the goodness of fit in the SEM analysis. After a model is tested, the hypothesis can be tested (Santoso, 2014). Therefore, a re-specification of the model was done to achieve a fit model (Figure 4).

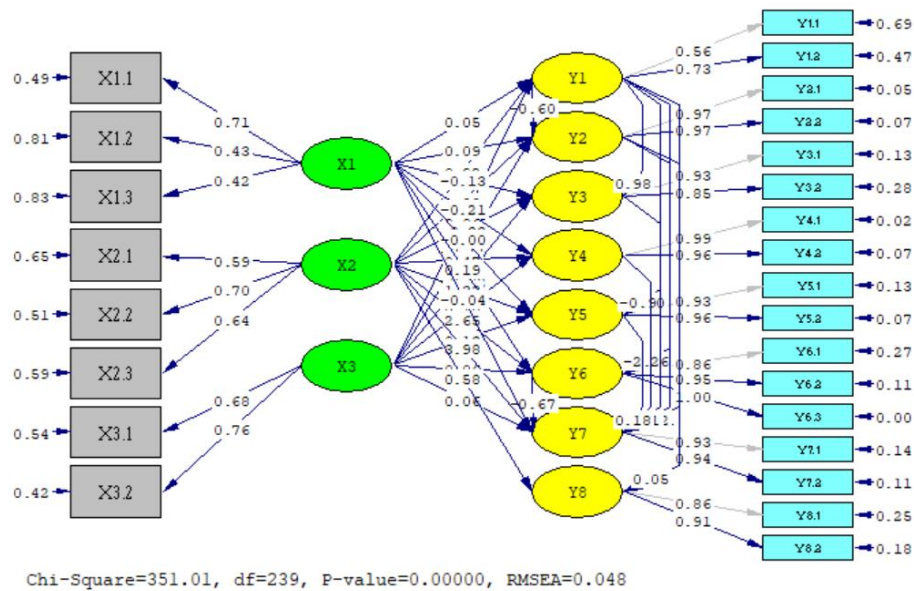


Figure 2. The Initial Model Produced

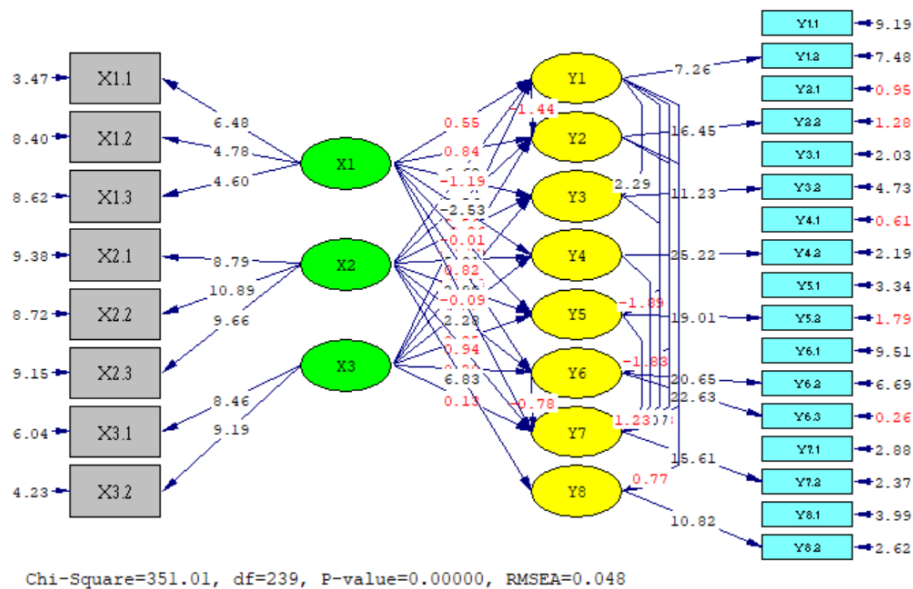


Figure 3. The Fit Model Measurement Results

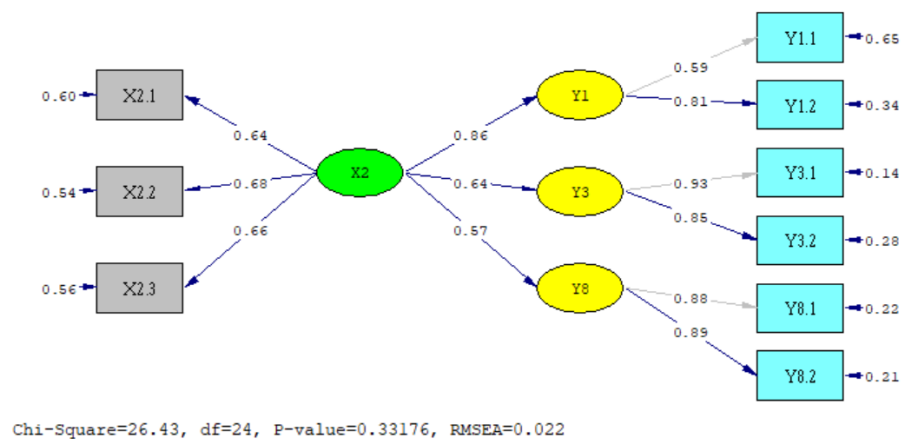


Figure 4. The Standardized Fit Model

($Y_1 = 0.86 X_2$, $R^2 = 74\%$; $Y_3 = 0.64 X_2$, $R^2 = 41\%$; $Y_8 = 0.57 X_2$, $R^2 = 33\%$)

Based on the standardized fit model (Figure 3), it can be seen that student preferences for teaching materials services at UT (Y_1) were influenced by the student's learning experiences at UT (X_2). All manifest variables for the learning experience (X_2) had a significant effect on X_2 : trust in UT (X_{21}), social experience (X_{22}), and motivation to learn at UT (X_{23}). UT has made various efforts to foster student learning motivation. High learning motivation increased the preference for UT teaching material services. One of UT's efforts is to motivate support services for successful distance learning for new students. The program also increases the students' sense of ownership of the teaching materials they study.

It was similar to the students' preferences for online tutorial services (Y_3), which was also influenced by the students' learning experience (X_2); the students had a high level of satisfaction for implementing online tutorials, for example, interesting online tutorials (Y_{31}). The ease of access and flexible online tutorial times are the main factors of student interest in online tutorial services. Student preferences for examination services (Y_8) are also influenced by student experience (X_2). Students have strong inclinations for the substance of the exam questions (Y_{82}) because it was in line with the material contained in the teaching materials, and the exam durations corresponded with the number of questions.

5. Discussion

5.1. The Influence of Learning Experiences on Student Preferences

The research findings indicate that students' learning experiences at UT (X_2) significantly influence their academic service preferences. The SEM test results show that the influence values (β) of X_2 on Y_1 (preference for learning materials), Y_3 (preference for online tutorials), and Y_8 (preference for exam services) increased after the model was adjusted, with t-values > 1.96 , indicating statistical significance. These findings are supported by research conducted by Kebritchi et al. (2017) and Sun & Rueda (2012), demonstrating that student engagement in learning experiences significantly enhances satisfaction with online education services. This study is also reinforced by Moore (1997) Theory of Transactional Distance (TDT), which states that student interaction with the learning environment, including learning materials and online tutorials, greatly determines the effectiveness of learning. TDT explains the relationship between learners and facilitators (instructors) in distance education by highlighting that learning success is influenced by the levels of interaction, structure, and learner autonomy (Falloon, 2011). This theory posits that in distance learning environments, there exists a "transactional distance" that is physical but also psychological and communicative (Moore, 2003). This distance is influenced by three main elements: structure, dialogue, and learner autonomy (Moore, 1997, 2003). Structure refers to the extent to which the learning design allows flexibility or rigidity in the learning process: the more rigid the learning structure, the greater the transactional distance. Dialogue refers to the level of interaction between learners and facilitators, whether through direct discussions, feedback, or communication technologies. The higher the intensity of dialogue, the smaller the perceived transactional distance. Learner autonomy reflects the extent to which learners can manage their learning.

5.2. Factors Influencing Learning Experiences

Trust in UT (X_{21}), social experiences (X_{22}), and learning motivation (X_{23}) significantly influence students' learning experiences (X_2). The SEM test results show that each manifest variable highly influences X_2 , with t-values > 1.96 and p-values < 0.05 . Learning motivation (X_{23}) has the most significant influence compared to the other factors. This study is supported by Richardson et al. (2017) findings, which show that learning motivation in online education significantly contributes to student engagement and academic success. Another study by Kahu (2013) emphasizes that better learning experiences occur when students have high levels of engagement with their academic

environment. Meanwhile, research by Sun & Rueda (2012) indicates that trust in distance education institutions can increase student retention and satisfaction in online learning systems.

Various theories and studies have shown that students' learning experiences are influenced by numerous internal factors, such as motivation and readiness to learn, and external factors, such as social support and the quality of academic services. In this study, trust in the institution, social experiences, and learning motivation play key roles in shaping students' learning experiences. Students with high trust in UT are likelier to engage actively in learning and absorb the material more effectively. Trust in the institution is a psychological condition that enables students to feel confident that the institution provides credible, fair, and high-quality education (Ferdiansyah & Angin, 2020). This trust fosters a positive perception of academic services, ultimately enhancing student engagement in the learning process (Ahmed et al., 2024; Setyaningrum & Pangesti, 2020). When students have confidence in the institution, they are more motivated to attend lectures, utilize learning resources, and participate in academic activities (Calderone & J. Fosnacht, 2023; Deniz & Erdener, 2023).

Furthermore, the findings of this study are supported by Social Learning Theory, which posits that the learning process is influenced by social interaction, observation of the environment, and cognitive factors such as motivation and trust (David, 2015). This theory explains that individuals learn not only through direct experience but also by observing the behavior of others and the consequences of those behaviors (McLeod, 2016). This is further reinforced by the view that social interaction within the academic environment, even in online settings, remains essential in fostering meaningful learning experiences. Students who actively participate in discussion forums and online study groups can share understanding, overcome difficulties together, and gain broader perspectives on the material (Falloon, 2011; Richardson et al., 2017). Individuals learn more effectively through observation, discussion, and collaboration with others (Jaradat & Ajlouni, 2020). Additionally, social engagement can enhance students' intrinsic motivation because they feel part of a supportive learning community (Stankovska et al., 2021). Intrinsic motivation also affects students' resilience in facing academic challenges (Kruger-Ross & Waters, 2013). Students driven by internal motivation can better persist through difficult situations, such as understanding complex concepts or completing tasks that require in-depth analysis (Koçak, 2021). They are more likely to view difficulties as challenges rather than obstacles (Sogolittappeh et al., 2018).

5.3. The Influence of Service Suitability and Accessibility on Student Preferences

Students prefer services that meet their needs. The SEM test results show that preferences for learning materials (Y1) are significantly influenced by ease of access ($\beta = 0.62$), online tutorials (Y3) by time flexibility ($\beta = 0.57$), and exam services (Y8) by the alignment of exam materials with the learning materials ($\beta = 0.65$). All values have t-values > 1.96 , indicating that the relationships between the variables are statistically significant.

These findings are consistent with several studies on user satisfaction in higher education services, which state that service quality must align with student expectations and needs to enhance their learning experience. This indicates that the easier it is for students to access learning materials, the higher their satisfaction with the services provided (Islam & Bag, 2020). These findings align with research by Fredericksen et al. (2020), which emphasizes that the accessibility of learning resources plays a crucial role in the effectiveness of distance education. Furthermore, the findings indicate that students prefer evaluation systems relevant to the materials they have studied, reducing academic anxiety and increasing their trust in the assessment systems implemented by institutions. This is supported by a study conducted by Wang et al. (2020) which shows that students who face exams based on the materials they have studied experience a 35% reduction in academic anxiety compared to those facing tests with unpredictable formats.

In addition, the findings show that time flexibility in online tutorials also influences student preferences, reflecting that services allowing students to learn according to their schedules are more favored. Accessing materials according to individual schedules enables students to adapt their learning processes to their rhythms and commitments, enhancing engagement and learning satisfaction (Hrastinski, 2008). Giesbers et al. (2014) concluded that conventional and e-learning methods show that about 70% of e-learning students feel comfortable with the time flexibility offered. Students appreciate having control over when and where they study, allowing for more personalized learning that suits their pace (P.-C. Sun et al., 2008).

6. Conclusion

The students' preference for DLSSS is strongly supported by the findings, as most of the students followed OSMB and PKBJJ. Most students received printed teaching materials on time and as ordered. Students' preferences for tutorial services were good in various tutorial modes (TTM, Tuweb, Tuton) and TMK. The students' preference for exam services is good both in THE mode and face-to-face exams. However, a few students said the final course grades need to be announced faster. The results of multivariate analysis using SEM indicated that the students' preferences for teaching materials and services at UT were influenced by the students' learning experiences at UT. Likewise, student preferences for online tutorial services were influenced by their learning experiences. Students showed strong preference for the implementation of online tutorials. Student preferences for exam services were also influenced by their experiences. Students have a positive evaluation for the exam question substance.

7. Limitation

This study has several limitations. First, the relatively low response rate limits the generalizability of the findings to the broader UT student population. Second, while the study captured key indicators of students' preferences and experiences, it did not explore in depth the underlying psychological or socio-emotional factors, such as intrinsic motivation, digital literacy, or peer interaction, that may also influence preferences. Lastly, the qualitative data from interviews were used primarily to support quantitative findings rather than provide rich, standalone insights, which limits the depth of contextual understanding of students' preferences.

8. Suggestion

Based on the research findings, several recommendations can be given to relevant external stakeholders. For policymakers, it is necessary to establish policies that support the acceleration of the announcement of learning evaluation results in distance higher education and improve the quality of online learning services through regulations that are more adaptive to students' needs. For educational technology providers, collaboration with distance learning institutions should be enhanced to develop more interactive tutorial and online examination systems that are responsive to students' learning experiences, for distance education associations, such as ICDE (International Council for Open and Distance Education) or SEAMOLEC, further research and capacity-building programs for lecturers and academic staff are needed to maximize the effectiveness of teaching materials and technology-based tutorial services. For future researchers, more in-depth studies can be conducted on other factors influencing students' preferences in distance education, such as the role of learning motivation, social engagement in online communities, and the effectiveness of various technology platforms in supporting students' learning experiences.

Declarations

Author Contributions. M.Y.: Literature review, conceptualization. M.Y. and H.K.: methodology, data analysis. M.Y. and E.Y.: review-editing and writing, original manuscript preparation.

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