

Determinants of students' loyalty at Universitas Terbuka

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Abstract

Factors affecting students' loyalty were explored in this paper. The objective of the study was to identify the most important factors involved in determining students' loyalty at Universitas Terbuka, Indonesia. The research was conducted through a quantitative approach and all data were processed using the path analysis method. Respondents were students registered at the Faculty of Social and Political Science, the Faculty of Economics, and the Faculty of Mathematics and Natural Sciences. A proportionate simple random sampling was taken and 193 questionnaires were completed. These questionnaires explored five variables and 24 attributes through 114 valid and reliable statements using a Likert Scale ranging from 1 – 5. These instruments were used to gather responses from students to ascertain what factors determined students' loyalty at Universitas Terbuka. The respondents were students registered in the first semester of academic year of 2012. They have also been registered in least two previous semesters in the relevant program/faculty. Students' loyalty was the dependent variable. Service quality, student expectations and university image were the independent variables; student satisfaction was the intervening variable. Nine hypotheses were examined, and all were validated by the analysis. The most significant factors affecting students' loyalty were student expectations and university image.

Introduction

Customer loyalty is widely accepted as an important factor in the long-run success of a service firm (Hennig-Thurau, Langer, & Hansen, 2001). This concept is also applied in a wider context, i.e., the university. In a service firm, the term used is customer. Whereas in the university context, as stated by Helgesen and Nettet (2007), the term used is student, and the issue of student loyalty is explored. At a more specific level, especially in the context of institutions offering distance education, student loyalty is commonly referred to as student retention or persistence (Roberts & Styron, 2009). Garland (1993) also used the term persistence with the same connotation as student loyalty. This implies that student loyalty, student persistence or retention have the same meaning as customer loyalty in the business context.

Recently, factors affecting student loyalty at Universitas Terbuka are becoming critical to maintaining the size and growth of the student body. For example, for the second semester of academic year 2011, the target student number was 550,000. However, the actual number fell substantially short of that target with only 432,683 students, including 352,014 students registered at the Faculty of Education and Teacher Training (FETT) and 80,669 students in

other faculties/programmes, i.e., the Faculty of Social and Political Science (FSPS), the Faculty of Economics (FE), the Faculty of Mathematics and Natural Sciences (FMNS), and the Post Graduate Program (Universitas Terbuka, 2012).

Having observed that gap, it is then useful to explore why the target was not achieved. At first glance, it is relevant to ask several questions such as: Was it because many students graduated? Was it due to fewer new student registrations? Or, was it because many students did not re-register in the successive semester(s)? Each of these possibilities has different policy implications.

After examining internal documents and external forces, it can be concluded that a major factor in the short fall in target is many students did not re-register in the subsequent semester, especially for students registered in FSPS, FE and FMNS. The data shows that new student registrations in these three faculties increased steadily in each semester. The data also shows that there was no particular increase in graduation rates. However, the rates of non re-registered students in these three faculties were relatively high. The university's operational plan initially stated that in 2010, 2011 and 2012 the targeted student numbers for these three faculties collectively were expected to be 90,000, 100,000 and 125,000 in the respective years. Consequently, the reality of 80,669 registrations falls substantially below the planned target (Universitas Terbuka, 2011 & 2012).

At this stage, it appears that there was a problem of student loyalty. It is therefore relevant to investigate potential factors that might affect student loyalty at Universitas Terbuka. The investigation is devoted especially to those students who were registered at the FSPS, FE and FMNS.

The model, definition and hypothesis

Evans and Lindsay (2005, p. 155–156) introduced five factors affecting customer loyalty in the relatively broader service area. The factors include customer expectation, perceived quality, perceived value, customer satisfaction and customer complaints. Additionally, another study by Brown and Mazzarol (2009) showed that student loyalty was also influenced by institutional image and student satisfaction. Singh (2006) examined customer loyalty through customer satisfaction and found that this leads to student retention at Asia Pacific University College of Technology & Innovation, Malaysia.

Student loyalty was also studied in a German context using the Relationship Quality-based Student Loyalty Model. It was found that determinants of student loyalty included trust in the institution's personnel, perceived quality of teaching services, emotional commitment to the institution, cognitive commitment to the institution, and goal commitment (Hennig-Thurau et al., 2001). In the Italian context, according to Petruzzelis, D'Ugento, and Romanazzi (2006), student satisfaction and quality of service determined student loyalty. This view was also in line with what was stated by Zeithaml, Parasuraman, and Berry (1990). Rojas-Mendez et al. (2009) showed that service quality, long-term relationships, satisfaction, trust and commitment relate to loyalty. This study was done in a Latin American university context.

Based on several factors related to student loyalty discussed above, this study proposes that the model used in this investigation would be as shown in **Figure 1**.

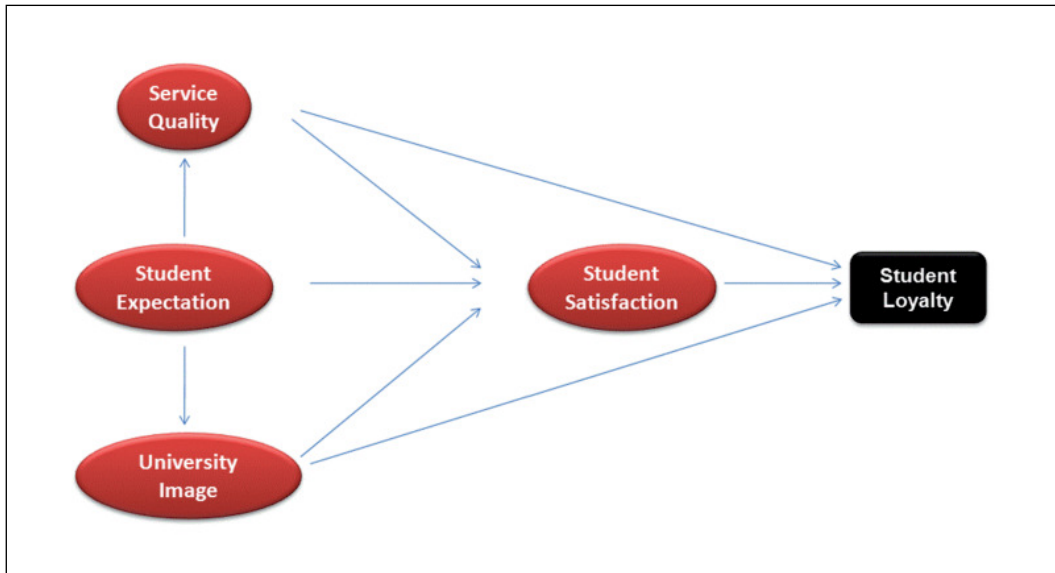


Figure 1 The model of the research

In terms of implementation, the research for all the variables was done via questionnaires (five in total). Figure 1 describes the factors affecting student loyalty at Universitas Terbuka including service quality, student expectations, university image which lead to student satisfaction and then student loyalty. Student loyalty is the dependent variable. Service quality, student expectation and university image are all independent variables; student satisfaction is categorised as an intervening variable. Conceptually, student loyalty is defined as a commitment to re-use a preferred service consistently in the future, namely re-enrollment, despite potential situational influences that may cause switching behaviour for some reason. Operationally, student loyalty is defined as student judgment of success in studies completed, recommendations to others, continuing further study in the same university, maintaining relations with the university, and contribution to the alumni association.

Looking at the three independent variables, student expectation is defined as ‘student judgment about graduation, academic performance, further career, service excellence and society acknowledgement’. The second independent variable, service quality, is defined as ‘perception of customer experience of all services provided by the institution including empathy, accuracy, reliability, and responsiveness in the university level’. The third independent variable, university image, is defined as ‘the summary of perceptions of the institutional reputation nationally, regionally and globally’. University image is measured via a questionnaire and viewed from general information about the university, university contribution, accreditation and/or certification and students and/or alumni profiling.

Student satisfaction, the intervening variable, is defined as 'conformance of all services provided by the institution'. Student satisfaction is operationally measured via a questionnaire and viewed from the provision of service on course materials, tutorials, exams, registration and general administration.

Having described the definitions of all variables involved, nine hypotheses are constructed and analysed using a quantitative approach with the help of a path analysis method. The nine hypotheses are:

1. H₁: Student loyalty is influenced by service quality
2. H₂: Student loyalty is influenced by student expectation
3. H₃: Student loyalty is influenced by university image
4. H₄: Student loyalty is influenced by student satisfaction
5. H₅: Student satisfaction is influenced by service quality
6. H₆: Student satisfaction is influenced by student expectation
7. H₇: Student satisfaction is influenced by university image
8. H₈: Service quality is influenced by student expectation
9. H₉: University image is influenced by student expectation.

Context, limitation and the methodology

The research was conducted at Universitas Terbuka, the Indonesian open university headquartered outside Jakarta. The population is limited to the students registered in the first semester of 2012. Respondents were students who were registered at three faculties of the university — FSPS, FE and FMNS. Additionally, all respondents had been registered for at least two semesters previously, so they had some experience and impressions of Universitas Terbuka and its programmes.

This research used a quantitative approach from surveys that collected data from students (following Singarimbun & Effendi, 1989, p. 162 – 164). Instruments in the form of questionnaires were then developed incorporating the five variables involved. Each variable was subdivided into dimensions; in this study there are 24 dimensions.

Literature suggests that there are two approaches to determine adequate samples from the population. Firdaus and Affendi (2008) suggest that the minimum number of respondents under a path analysis approach ranges from 5 to 15 with respect to each dimension involved. This implies that the number of respondents based on this rule of thumb should be between 120–360 respondents. A second method, the proportionate simple random sampling (PSRS) approach, the number of respondents in the sample ranges from 0.01 up to 0.10 per cent (Sugiyono, 2012, p. 132 – 133). This implies that under PSRS, the number of respondents should be approximately 45 up to 450, relative to the population of 44,402 students*.

No.	Faculties	Students*	%	Respondents
1	Social and Political Science	27,552	0.43	118
2	Economics	14,643		63
3	Mathematics and Natural Sciences	2,207		10
Total		44,402		191

Table 1 Total number of students and required respondents

* Source: Division of Registration, Universitas Terbuka (30 April 2012)

For this study, the minimum number of respondents is 191 students, i.e., 0,43%. This decision supports both methods of calculating the acceptable number of respondents. To have those minimum samples, 500 questionnaires were provided and distributed to the eligible students as the respondents. The total number of students and the selected eligible respondents can be seen in **Table 1**.

As mentioned earlier, five sets of questionnaires were developed for this research. The first one measures student loyalty under five dimensions and 11 attributes with initially 25 statements. The other four questionnaires measured student expectation under five dimensions and 10 attributes with originally 26 questions or statements; service quality is under five dimensions and 10 attributes with at first 22 statements; university image is under four dimensions and eight attributes with initially 22 statements; and student satisfaction is under five dimensions and 10 attributes with at first 42 statements (inspired by Tjiptono & Fandi, 2011). In order to be considered valid, all statements should be responded to and/or answered properly by all respondents. Finally, path analysis was used to statistically draw conclusions and illustrate the results descriptively as well as inferentially (Firdaus & Affendi, 2008).

As a brief quantitative summary, the total number of variables involved is five. There are 24 dimensions and 49 attributes. The statements before the tryout were 140 and the final statements used (after the tryout) are 114. The complete list of variables, dimensions, attributes and the number of statements involved altogether is presented in **Table 2**.

No.	Variables	Dimensions	Number of ...	Notes
1	Student Loyalty	1. Study accomplishment 2. Recommends to others 3. Study continuation 4. Maintain relations 5. Contribution to alumni	Attributes Statements • Before tryout • After tryout	11 25 22 Dependent Variable (Y)
2	Student Expectation	6. Graduation 7. Academic performance 8. Future career 9. Service excellence 10. Social appreciation	Attributes Statements • Before tryout • After tryout	10 26 19 Independent Variable 1 (X ₁)
3	Service Quality	11. Tangible 12. Empathy 13. Accuracy 14. Reliability 15. Responsiveness	Attributes Statements • Before tryout • After tryout	10 25 22 Independent Variable 2 (X ₂)
4	University Image	16. Acknowledgement 17. University contribution 18. Accreditation 19. Alumni/student profile	Attributes Statements • Before tryout • After tryout	8 22 19 Independent Variable 3 (X ₃)
5	Student Satisfaction	20. Course materials 21. Tutorials 22. Exams 23. Registration 24. General administration	Attributes Statements • Before tryout • After tryout	10 42 32 Intervening Variable (X ₄)

Table 2 Variables, dimensions, attributes and statements involved

Results and discussions

As anticipated, the model was particularly relevant to Universitas Terbuka, as it was the focus of the research. However, before discussing the results, it is useful to portray the characteristics of the students selected as respondents as presented in **Table 3**. This will provide a better context for the findings.

No.	Description	Notes
1	Students' domicile	Jakarta and Bogor Regional Centres
2	Population Minimum samples	44,402 191 (FSPS = 118, FE = 63, FMNS = 10)
3	Questionnaires • Provided and distributed • Returned and processed	500 sets 193 sets (FSPS = 118, FE = 63, FMNS = 12)
4	Study at UT for ... (<i>Y: Year</i>)	1Y = 30%; 2Y = 30%; 3Y = 15%; 4Y = 10% 5Y or more = 15%
5	Grade Point Average (GPA)	0.00 – 1.49 = 5%; 1.50 – 1.99 = 45%; 2.00 – 2.49 = 25% 2.50 – 2.99 = 15%; 3.00 – 3.49 = 9%; 3.50 – 4.00 = 1%
6	Study at other university	6%
7	Gender	Female = 35%; Male = 65%
8	Profession	Public Service = 50%; Private Sector = 46%; Others = 4%

Table 3 Respondents' characteristics, population, samples and questionnaires

The output after processing all the 193 filled returned questionnaires from respondents, under path analysis approach, is shown in **Table 4**. The first table statistically constitutes a non-specific result, prior to modification.

Model	Variables	Betha	P-Value	t	R-Square
<i>Sub-Structural I – Expectation and Quality</i>					
$X_2 (PX_1X_2)$	Expectation	0.649	0.000**	11.800**	0.422
<i>Sub-Structural II – Expectation and Image</i>					
$X_2 (PX_3X_2)$	Expectation	0.598	0.000**	10.300**	0.357
<i>Sub-Structural III – Expectation, Quality, Image and Satisfaction</i>					
$X_1 (PX_4X_1)$	Quality	0.732	0.000**	14.122**	0.720
$X_2 (PX_4X_2)$	Expectation	0.129	0.021*	2.330*	
$X_3 (PX_4X_3)$	Image	0.047	0.323	0.950	
<i>Sub-Structural IV – Expectation, Quality, Image, Satisfaction and Loyalty</i>					
$X_1 (P_Y X_1)$	Quality	0.126	0.242	1.174	0.419
$X_2 (P_Y X_2)$	Expectation	0.347	0.000**	4.290**	
$X_3 (P_Y X_3)$	Image	0.243	0.001**	3.408**	
$X_4 (P_Y X_4)$	Satisfaction	0.036	0.730	0.346	

Table 4 Path analysis results prior to modification

Having analysed the results revealed in **Table 4**, some modifications were needed to improve them statistically. This is because there was no acceptable significance to several variables in Sub-Structural III and IV, i.e., no signs of ‘**’ or even ‘*’ appeared in the *P-Value* and *t* columns, of **Table 4**, particularly for X_3 (PX_4X_3), X_1 (P_YX_1) and X_4 (P_YX_4). Consequently, if all those values from **Table 4** were incorporated into the model, it will then appear as follows.

At glance, **Figure 2** looks solid. However, it was inappropriate to depict the conclusion statistically since the value of X_3 (PX_4X_3), X_1 (P_YX_1) and X_4 (P_YX_4) was beyond the accepted significance limits for Alpha which ranged from 0.05 up to 0.01. The result will be stronger when that Alpha is within the tolerable value (see **Figure 3**).

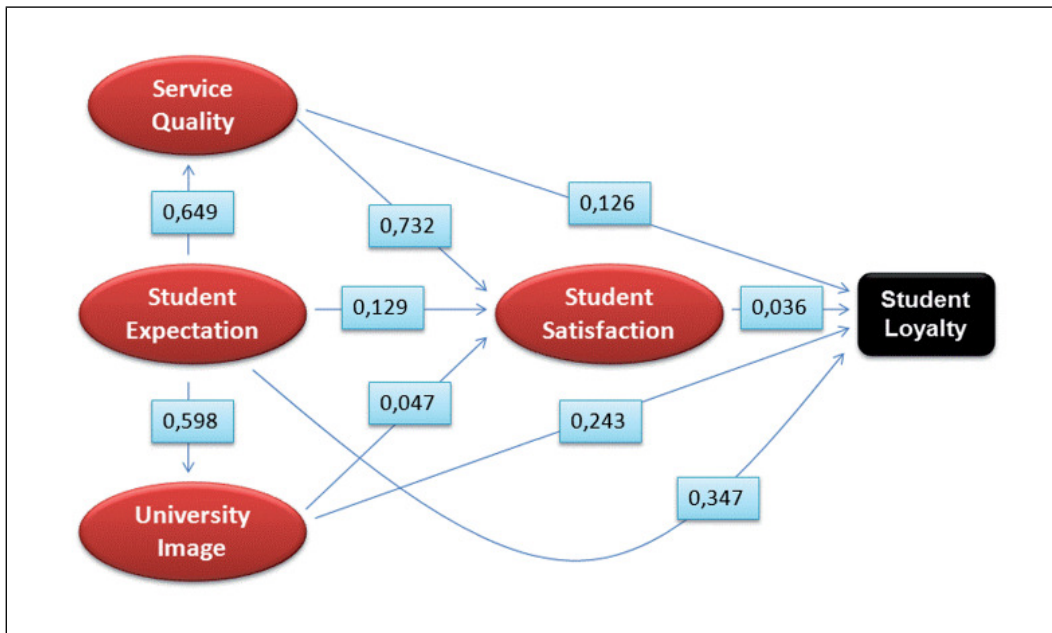


Figure 2 The results prior to modification

Consequently, the results of the first analysis required a modification in order to conform to the rule of thumb in a path analysis routine. After running the modification, the result then appears in the following table.

Model	Variables	Betha	P-Value	t	R-Square
<i>Sub-Structural I – Expectation and Quality</i>					
X_2 (PX_1X_2)	Expectation	0.649	0.000**	11.800**	0.422
<i>Sub-Structural II – Expectation and Image</i>					
X_2 (PX_3X_2)	Expectation	0.598	0.000**	10.300**	0.357

Sub-Structural III – <i>Expectation, Quality, Image and Satisfaction</i>					
$X_2 (PX_4X_2)$	Expectation	0.150	0.004**	2.956**	0.719
$X_1 (PX_4X_2)$	Quality	0.734	0.000**	14.686**	
Sub-Structural IV – <i>Expectation, Quality, Image, Satisfaction and Loyalty</i>					
$X_1 (P_YX_1)$	Expectation	0.432	0.00**	6.192**	0.405
$X_3 (P_YX_3)$	Image	0.276	0.000**	3.957**	

Table 5 Path analysis results subsequent to modification

Referring to the results from both **Table 4** and **Figure 3**, all nine hypotheses examined were essentially accepted. In general, this implies that student loyalty at Universitas Terbuka was influenced by service quality ($H_1 = 0,126$), student expectation ($H_2 = 0,347$), university image ($H_3 = 0,243$) and student satisfaction ($H_4 = 0,036$). Besides, student satisfaction was also influenced by service quality ($H_5 = 0,732$), student expectation ($H_6 = 0,129$) and university image ($H_7 = 0,047$). At the same time, service quality ($H_8 = 0,649$) and university image ($H_9 = 0,598$) were also influenced by student expectation. The output after the modification will be better studied and illustrated in **Figure 3** with values taken from **Table 5**.

As it was mentioned previously, the most important factors determining student loyalty in the Universitas Terbuka context are student expectation ($H_2 = 0,432$) and university image ($H_3 = 0,267$). The study confirmed that they are all accepted in the range of *Alpha* (0.01) for both the P-Value and *t*. The findings indicated that students' perceived expectation and university image as two distinct fundamental and critical aspects that should be taken into account by the university. Having reviewed the dimension and attributes within the student expectation variable, it implies that being able to finish the programme as planned with reasonably high grade point average (GPA) were high priority from the students' perspective. Additionally, having better career opportunities, and experiencing service excellence during the course of study are becoming more important from the students' standpoint. This reaffirms the work of Martsenovskiy (2008).

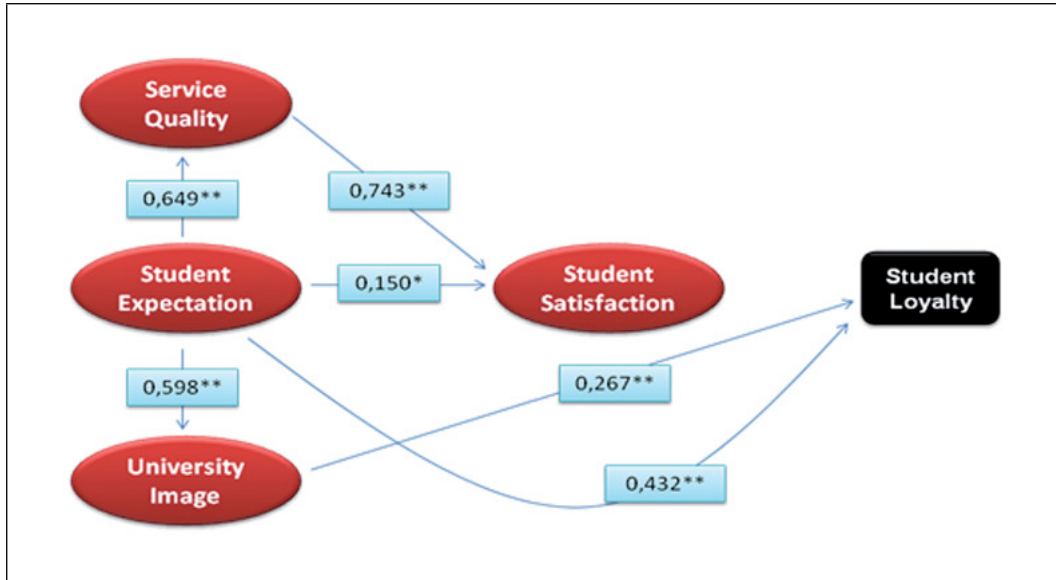


Figure 3 The results subsequent to modification

Regarding university image, students considered that acknowledgement from an internationally reputable board or a national government as very promising. Similar results also came from Arisetyanto (2010), Anwar (2011) and Andreassen (1994). In this context, accreditation and certification nationally, regionally and globally were included. Besides, university contribution in several related fields apart from academic excellence also impressed the students. The profile of the student body and alumni were part of the university image. More students and/or alumni from higher profiles of the society to the university implies the higher the possibility the student would remain loyal.

Interestingly, student satisfaction is not one of the factors that most affects loyalty. Similarly, many findings from this field of study generally stated that loyalty was strongly influenced by satisfaction (Ali & Ahmad, 2011; Helm, Eggert, & Garnefeld, 2010). It is possible that students did not pay attention to their satisfaction or conversely that they already experienced higher quality of service. However, in this study, students were asked about how they perceived the level of their satisfaction regarding the provision of learning materials, tutorials, exams, registration and general administration problems. Further investigation is needed to elucidate the satisfaction aspect. As the first step to this investigation, it would be relevant to reflect on Sahin's work (2007).

Remarks and future suggestion

This study created a quantitative model of student loyalty derived from a comprehensive review of educational and relationship marketing and consumer behaviour literature. The model was confirmed by using a path analysis approach that examined the empirical data from a survey of 193 students from three faculties at Universitas Terbuka. The study shows that two variables in particular are the main determinants of student loyalty, i.e., student expectation and university image. These results indicate that the impact of the fulfillment of student expectation and maintaining the image of the university are two major aspects that should be cultivated by the University. This is particularly relevant to address problems related to re-registration in subsequent semesters.

At this point, especially for Universitas Terbuka, re-registration (continuing enrollment) is of minor, but growing concern. Even if students are unsatisfied and the service quality is not yet the highest quality, students still re-register themselves in the next semester as long as their expectations are fulfilled. In the future, however, Universitas Terbuka should improve the quality of all services that lead to students' satisfaction. This is very relevant since in the future the needs as well as the wants of students will change and will increase with the development of available technological supports as indicated by Swail (2004).

Consequently, additional research is necessary, including follow-up studies with students who did not enroll in each semester consecutively. At the same time, future research should explore loyalty factors beyond the four variables involved in this research. The scope should also be broadened beyond students registered for the bachelor's degree programmes in FSPS, FE and FMNS. Similar research would be relevant to students in the diploma and/or even in the graduate level. These results would present a more comprehensive and complete perspective on student loyalty. Meeting the needs of students as distance learners will improve retention (and persistence) rates (Sampson, 2003). All of this research would help Universitas Terbuka to retain and/or to even improve the student body of the University.

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