

Determinants Influencing Undergraduate Students' Intention to Persist or Drop Out: A Case Study of Assumption University, Thailand

Srisuda Boonyim*, Pornpop Saengthong

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Abstract

Purpose: This study aimed to identify factors influencing undergraduate students' persistence or dropout intentions at Assumption University. **Research design, data and methodology:** This study theoretically integrates Tinto's model with the SERVQUAL framework. Using a quantitative design, survey data were collected from 2,268 undergraduate students at Assumption University, including 1,693 intending to remain enrolled and 575 considering dropping out. Data were gathered via a structured questionnaire and analyzed using descriptive statistics, correlation analysis, and logistic regression. **Results:** The findings revealed that three factors, academic integration, social integration, and institutional commitment, significantly differentiated students intending to stay from those considering dropout at the 0.05 significance level. Institutional commitment had the strongest influence on dropout intention, followed by academic integration and social integration. The overall classification accuracy of the model was 76.0%, with an accuracy of 98.2% in predicting students with persistence intention and 10.6% in predicting students with dropout intention. **Conclusions:** Academic integration, social integration, and institutional commitment were identified as statistically significant predictors of students' intention to persist or drop out. These findings suggest that enhancing students' academic and social engagement, together with stronger institutional support, can improve retention and guide policymakers in developing strategies to reduce student dropout.

Keywords: Persistence intention, Dropout intention, Predictive model, Undergraduate students, Logistic regression

JEL Classification Code: A22, C25, I23, L84, M10

1. Introduction

Assumption University, recognized as Thailand's first international higher education institution, was established with a mission to respond to national needs in the domains of science, social sciences, and particularly business administration. Since its inception, the university has consistently received favorable recognition from the public. However, in recent years, the Thai higher education landscape has experienced significant shifts in response to global changes. The increasing number of both public and private universities has led to heightened competition within the sector. Moreover, the country's declining birth rate has resulted in a reduced pool of prospective students entering the higher education system.

Notably, admission to higher education does not guarantee degree completion. Based on a report by the

Quality Learning Foundation (QLF), Taros and Phusee-orn (2020) noted that approximately one in four students fails to graduate due to a combination of factors. Internal data from Assumption University over the past three academic years reveal considerable student attrition, particularly during the foundation course period and following the announcement of admissions under the Thai Central Admission System (TCAS). Even among students who proceed with enrollment, a substantial proportion consider withdrawing from the university. In response, the institution has implemented a range of strategies to improve student retention.

This study was conducted to examine the factors influencing undergraduate students' persistence and dropout intentions at Assumption University. The research is grounded in Tinto's (1975) theoretical model, which has been widely applied in studies of student persistence. The

*Srisuda Boonyim, Institute for Research and Academic Services, Assumption University, Thailand. Email: srisudajnt@au.edu
2 Pornpop Saengthong, Institute for Research and Academic Services, Assumption University, Thailand. Email: pornpopsng@au.edu

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model emphasizes the influence of socioeconomic status, academic and social integration, goal commitment, and institutional commitment on students' decisions to persist or withdraw. Although Tinto's model is widely used, few studies in Thai universities, particularly in international contexts, have explored the role of service quality. This study addresses this gap by combining Tinto's model with the SERVQUAL framework to examine how academic integration, social integration, institutional commitment, and perceived service quality influence students' dropout intentions. This integrated approach strengthens the theoretical foundation of persistence research and offers practical guidance for improving institutional services and enhancing student retention.

To further explore this integration, the SERVQUAL model developed by Parasuraman et al. (1988) was employed to assess students' perceptions of the quality of services provided by the university. The SERVQUAL framework includes five dimensions—tangibles, reliability, responsiveness, assurance, and empathy—which reflect the quality of academic services, faculty and staff support, and the physical learning environment. Differences between students' expectations and actual experiences with these services may influence their intentions to drop out.

In light of the above, the present study aims to achieve two objectives: (1) to examine the factors influencing undergraduate students' persistence and dropout intentions, and (2) to develop a predictive equation capable of classifying students based on their likelihood of persisting or considering withdrawal. The findings are expected to inform institutional strategies related to academic support, student engagement, and policy development aimed at fostering persistence and reducing the risk of dropout within the university context.

2. Literature Review

2.1 Tinto's Student Departure Theory

The researcher adopted Tinto's (1975) foundational theory on student dropout, which outlines several key factors influencing student retention and withdrawal. The relevant details and supporting research are as follows:

Academic Integration: Academic integration is measured through students' academic performance, particularly their grade point average (GPA). Compan and Apibunyopas (2019) reported that academic integration is positively associated with retention, indicating that students with higher academic performance are more likely to be retained.

Social Integration: Social integration refers to student involvement in extracurricular activities and interactions

with peers and faculty members. Studies have shown that strong social integration plays a significant role in enhancing student retention by reducing feelings of isolation and increasing commitment to completing their studies (Compan & Apibunyopas, 2019; Deejai et al., 2014).

Goal Commitment: Goal commitment refers to the degree to which students are dedicated to achieving their academic and career aspirations. It reflects a student's clarity of purpose, long-term planning, and willingness to overcome obstacles in pursuit of those goals. When students possess well-defined educational and professional objectives, they are more likely to stay motivated and focused throughout their academic journey. This sense of direction not only reinforces their engagement with coursework but also strengthens their resilience in the face of challenges. As a result, goal commitment has been found to have a direct and positive influence on student persistence and retention (Compan & Apibunyopas, 2019; Tangcharoen et al., 2019).

Institutional Commitment: Institutional commitment involves the student's satisfaction with teaching and the campus environment. Tinto (1975) emphasized its importance in supporting student retention. This is consistent with studies by Compan and Apibunyopas (2019), Khundiloknattawasa (2020), Sanguanrot and Jitkosolvanich (2021), and Yinyom (2009), which found that dissatisfaction with academic programs, instructors, and the learning environment contributes to student dropout. Therefore, institutional commitment plays a critical role in promoting retention.

2.2 SERVQUAL Framework

Among the key factors influencing student dropout, institutional service quality plays a crucial role. It shapes students' experiences, satisfaction, and emotional connection with their institutions, all of which affect their decision to persist or withdraw (Tinto, 1975). One of the most widely recognized models for assessing service quality is the SERVQUAL model, developed by Parasuraman et al. (1988). This model posits that each service quality dimension can influence students' perceptions of institutional support, which in turn affects their intention to continue or discontinue their studies. Deejai et al. (2014) emphasized that institutional factors—such as limited access to essential services, inadequate safety measures, and insufficient resources or equipment—can significantly influence students' decisions to withdraw from their studies. In line with this, several studies have highlighted the role of service quality in shaping student outcomes. For instance, Vaz and Mansori (2013), as well as Palupi and Ramadhani (2020), found that the SERVQUAL model positively impacts student satisfaction, which in turn contributes to student retention. Their findings suggest that the effect of

service quality on retention is indirect, operating through the mediating role of satisfaction. Supporting this perspective, Eresia-Eke et al. (2020) reported statistically significant positive relationships between various dimensions of service quality and student satisfaction, as well as between satisfaction and retention. More recently, Al-Shamsi et al. (2023) concluded that service quality is a critical factor in enhancing student retention in higher education institutions. The SERVQUAL framework examined in this study comprises five dimensions, each of which is pertinent to the higher education context. **Tangibles** concern the physical environment, the adequacy of facilities, and the professional appearance of staff. **Reliability** denotes the university's ability to deliver services accurately and fulfill its commitments to service users. **Responsiveness** refers to the provision of prompt services and the willingness of staff to assist students. **Assurance** emphasizes the consistency of service delivery as well as the competence and credibility of personnel. Finally, **Empathy** reflects the university's capacity to understand students' individual needs and to demonstrate genuine care and concern for them. Based on the reviewed literature, most studies indicate that service quality indirectly affects student dropout through its direct influence on satisfaction. In contrast, Al-Shamsi et al. (2023) found a direct relationship between service quality and dropout. In summary, the impact of service quality on student withdrawal may occur either directly or indirectly, depending on the institutional context, which may be shaped by factors such as management practices, student expectations, and service delivery systems.

3. Research Methods and Materials

3.1 Research Design

This study employed a quantitative research design using a survey method to investigate the discriminant factors influencing undergraduate students' persistence and dropout intentions at Assumption University. Binary logistic regression analysis was used to test hypotheses and evaluate the predictive power of selected independent variables on students' likelihood of intending to persist or to drop out.

3.2 Conceptual Framework

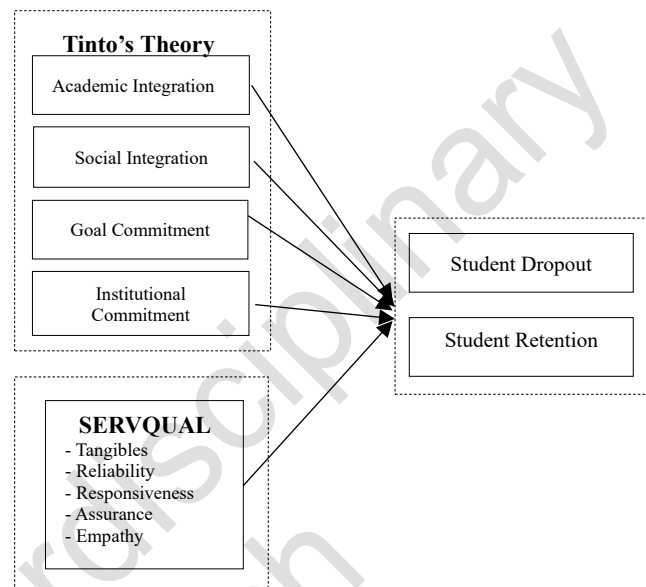


Figure 1: Research Conceptual Framework

H1: Academic integration has a statistically significant effect on students' intention to persist or drop out.

H2: Social integration has a statistically significant effect on students' intention to persist or drop out.

H3: Goal commitment integration has a statistically significant effect on students' intention to persist or drop out.

H4: Institutional commitment has a statistically significant effect on students' intention to persist or drop out.

H5: Service Quality has a statistically significant effect on students' intention to persist or drop out.

3.3 Population and Sample

The population included all regular undergraduate students at Assumption University in the academic year 2024. A sample of 2,268 students was determined using Yamane's (1967) formula at a 95% confidence level and a margin of error of 0.0185. The sample consisted of 1,693 students who expressed an intention to persist and 575 students who indicated a dropout intention. A stratified multi-stage sampling technique was employed to ensure representation across faculties and year levels.

3.4 Research Instruments

The primary data collection tool was a structured questionnaire designed to gather both demographic information and variables related to students' persistence and dropout intentions. The questionnaire consisted of six sections:

1. General background of the respondents
2. Academic integration (1 item)
3. Social integration (5 items)
4. Goal commitment (2 items)
5. Institutional commitment (11 items)
6. Perceptions of service quality (5 items)

Sections 2 to 6 of the questionnaire utilized a five-point Likert scale to measure respondents' levels of agreement or satisfaction, with the following scale points:

- 5 = Very satisfied / Strongly agree
- 4 = Satisfied / Agree
- 3 = Neutral
- 2 = Dissatisfied / Disagree
- 1 = Very dissatisfied / Strongly disagree

To ensure the quality of the instrument, both validity and reliability testing were conducted prior to the main data collection.

For validity testing, the content validity of the questionnaire was established through expert review by three specialists in the field. Each item was evaluated using the Item-Objective Congruence (IOC) method, yielding IOC indices greater than 0.70, which indicates an acceptable level of content relevance and alignment with the research objectives.

Regarding reliability, the internal consistency of the instrument was assessed using Cronbach's alpha coefficient. The questionnaire was pilot-tested with a group of 30 undergraduate students from first to fourth year who shared similar characteristics with the actual sample. The analysis produced a Cronbach's alpha value of 0.958, indicating a high level of reliability. These results confirm that the instrument is appropriate and consistent for use in the present study.

3.5 Data Collection

The study was reviewed and approved by the Institutional Review Board (IRB) of Assumption University. Prior to completing the questionnaire, participants were provided with a clear explanation of the research objectives, procedures, and anticipated benefits. Informed consent was obtained electronically, and participation was entirely voluntary, with respondents free to withdraw at any stage.

All responses were kept anonymous, with data securely stored and analyzed in aggregate form solely for research purposes.

Data were collected through an online survey. A link and QR code were distributed via student email systems to facilitate convenient access and completion of the questionnaire.

3.6 Data Analysis

Descriptive statistics including frequency, percentage, mean, and standard deviation were used to describe the general characteristics of the sample. To identify the discriminant factors between students who intended to persist and those who considered dropping out, a binary logistic regression analysis was conducted. This method enabled the prediction of group membership (persistence intention vs. dropout intention) based on interval-scale predictor variables.

4. Results and Discussion

4.1 Demographic Profile

The total number of respondents was categorized by demographic characteristics, as presented in Table 1. The data indicate that 27.1% of male students reported an intention to drop out, slightly higher than the 24.5% of female students who indicated the same. Thai and international students exhibited nearly identical dropout intentions, at 25.3% and 25.4%, respectively.

Table 1: Number and Percentage of Students' Persistence and Dropout Intentions Classified by Demographic Characteristics

Demographic Characteristics	Dropout Intention		Persistence Intention	
	Counts	%	Counts	%
Gender				
Male	205	27.1	551	72.9
Female	370	24.5	1,142	75.5
Nationality				
Thai	230	25.3	679	74.7
Non-Thai	345	25.4	1,014	74.6
Year Levels				
1-year	177	25.5	517	74.5
2-year	167	24.8	507	75.2
3-year	159	24.2	499	75.8
4-year	72	29.8	170	70.2
GPA				
<2.50	91	38.6	145	61.4
2.50-2.99	133	32.1	281	67.9
3.00-4.00	351	21.7	1,267	78.3

When comparing year levels, fourth-year students reported the highest proportion of dropout intention (29.8%), followed by first-year students (25.5%). Second- and third-year students reported similar rates, at 24.8% and 24.2%, respectively. Notably, students with a cumulative GPA below 2.50 exhibited the highest dropout intention rate at

38.6%, a substantially higher proportion compared to those with better academic performance.

4.2 Descriptive Statistics of Variables

Table 2: Mean and Standard Deviation of Variables Classified by Students' Persistence and Dropout Intentions

Variable	Dropout Intention		Persistence Intention	
	Mean	SD	Mean	SD
Academic Integration	3.06	1.10	3.24	1.01
Social Integration	3.62	0.81	3.85	0.65
Goal Commitment	3.60	0.91	3.62	0.95
Institutional Commitment	3.64	0.74	3.88	0.65
Service Quality	3.88	0.85	3.87	0.80

As shown in Table 2, students with dropout intentions displayed lower levels of social integration—including relationships with peers and instructors, as well as overall adjustment—compared to those in the retention group. The mean score for social integration among the retention group was 3.85, whereas the dropout-intention group scored 3.62. Similarly, the levels of goal commitment and institutional commitment among students with dropout intentions were 3.60 and 3.64, respectively, which were lower than those of the retention group, whose scores were 3.62 and 3.88. In addition, academic integration among students with the intention to persist was 3.24, which was higher than that of students with the intention to drop out, scored 3.06. However, both groups reported relatively similar levels of satisfaction with university services.

4.3 Discriminant Analysis of Factors Influencing Students' Persistence and Dropout Intentions

Discriminant analysis of factors related to students' persistence and dropout intentions was conducted using predictor variables measured on an interval scale. These included academic integration, social integration, goal commitment, institutional commitment, and perceived service quality. The outcome variable was a binary categorical variable with two values: persistence intention and dropout intention. Accordingly, binary logistic regression was employed to perform the analysis.

4.3.1 Correlation Analysis Among Independent Variables

To examine the relationships among the independent variables, Pearson correlation analysis was performed. The correlation coefficients ranged from 0.001 to 0.750, indicating both positive and negative relationships. Only one statistically significant correlation was found: social integration was positively correlated with institutional commitment at the 0.05 significance level. According to Table 3, all correlation values were below 0.80, suggesting

that multicollinearity was not a concern. Consequently, logistic regression analysis was conducted in the subsequent step.

Table 3: Pearson Correlation Analysis Among Independent Variables

Variable	X1	X2	X3	X4	X5
X1	-				
X2	0.027-	-			
X3	0.022	-0.010	-		
X4	0.038-	0.750*	-0.014	-	
X5	-0.007	-0.023	0.001	-0.028	-

Note: X1 = Academic Integration, X2 = Social Integration, X3 = Goal Commitment, X4 = Institutional Commitment, X5 = Service Quality, * = p-value<0.05

4.3.2 Logistic Regression Analysis

To analyze the discriminant factors related to students' persistence and their intentions to drop out, as well as to construct a predictive model, binary logistic regression was employed. The predictor variables were measured on an interval scale, while the outcome variable was a binary categorical variable with two values. The Wald statistic was used to test the significance of each predictor variable in relation to changes in the odds ratio. To further investigate these relationships, hypothesis testing was conducted to determine the extent to which each predictor significantly influenced students' intentions to persist or drop out. Table 4 presents the results of the binary logistic regression analysis based on the full model.

Table 4: Hypothesis testing results (Full model)

Hypothesis	β	Wald	Test result
H1:	0.464	44.799*	Supported
H2:	0.408	13.765*	Supported
H3:	0.123	2.009	Not Supported
H4:	0.471	17.636*	Supported
H5:	0.071	0.678	Not Supported

Note: * = p-value<0.05

H1: Academic integration has a statistically significant effect on students' intention to persist or drop out. The logistic regression coefficient ($\beta = 0.464$) indicates that higher levels of academic integration are associated with increased log odds of students' intention to persist.

H2: Social integration has a statistically significant effect on students' intention to persist or drop out. The logistic regression coefficient ($\beta = 0.408$) indicates that higher levels of social integration are associated with increased log odds of students' intention to persist.

H3: Goal commitment integration has a statistically significant effect on students' intention to persist or drop out. However, logistic regression analysis showed that goal commitment was not a significant predictor of students'

intention to persist or drop out. ($\beta = 0.123$).

H4: Institutional commitment has a statistically significant effect on students' intention to persist or drop out. The logistic regression coefficient ($\beta = 0.471$) indicates that higher levels of institutional commitment are associated with increased log odds of students' intention to persist.

H5: Service Quality has a statistically significant effect on students' intention to persist or drop out. However, logistic regression analysis showed that service quality was not a significant predictor of students' intention to persist or drop out. ($\beta = 0.071$).

Subsequently, five predictor variables were entered into a logistic regression model to examine their ability to predict students' intention to persist or drop out. Variable selection was carried out using the forward selection method. The results of the logistic regression analysis based on the reduced model are presented in Table 5.

Table 5: Binary Logistic Regression Results for Factors Influencing Students' Intentions to Persist or Drop out (Reduced Model)

Variable	β	S.E.	Wald	Df	P-value	Exp(β)
Academic Integration	0.465	0.069	45.117	1	0.000	1.593
Social Integration	0.409	0.110	13.833	1	0.000	1.505
Institutional Commitment	0.467	0.112	17.351	1	0.000	1.596
Constant	-2.387	0.323	54.654	1	0.000	0.092

Note: 2 -Log Likelihood = 2,447.191; Based model = 500.540, Proposed model = 120.988, Hosmer and Lemeshow Test $\chi^2 = 8.273$, df = 3, p = 0.142, Cox&Snell $R^2 = 0.051$, Nagekerke $R^2 = 0.075$

Based on Table 5, the logistic regression showed that adding the three predictor variables substantially improved the model's fit compared to the baseline model with no predictors. This confirms that the chosen variables meaningfully contribute to explaining students' persistence and dropout intention.

In terms of model performance, the logistic regression model accounted for 7.5% of the variance in students' persistence and dropout intentions. Three predictor variables were found to have a significant influence, and the logistic regression equation can be written as follows:

$$\text{Log (Odds)} = -2.387 + 0.465X_1 + 0.409X_2 + 0.467X_3$$

Where:

X_1 = Academic Integration

X_2 = Social Integration

X_3 = Institutional Commitment

The predictive performance of the logistic regression model was evaluated based on its classification accuracy. The model correctly classified 98.2% of students who remained enrolled and 10.6% of students who intended to drop out. Overall, the model achieved an accuracy rate of

76.0% in predicting students' persistence and dropout intentions. Details of the classification results are presented in Table 6.

Table 6: Prediction Accuracy Rates for Students' Persistence and Dropout Intentions

Status	Outcomes of Predicting		Accuracy Rate
	Student Persistence Intention	Student Dropout Intention	
Student Persistence Intention	1,663	30	98.2
Student Dropout Intention	514	61	10.6
Total			76.0

The results indicate that the logistic regression model performed exceptionally well in predicting student persistence intention, with a correct classification rate of 98.2%. This suggests that the model effectively captured patterns associated with students who continued their studies. However, the model's ability to identify students with dropout intentions was considerably limited, with a correct classification rate of only 10.6%.

The logistic regression analysis revealed that all three factors—academic integration, social integration, and institutional commitment—positively influenced the log odds of student persistence intention. Among these factors, institutional commitment has the strongest statistically significant effect on students' persistence intention. The logistic regression coefficient for institutional commitment is $\beta = 0.467$, with an odds ratio of $\text{exp}(\beta) = 1.596$. This indicates that for each one-unit increase in institutional commitment, the odds of intending to remain enrolled increase by a factor of 1.596, assuming all other variables are held constant. In other words, students with a one-unit higher level of institutional commitment are approximately 59.6% more likely to intend to stay enrolled compared to those with intentions to drop out. Academic integration was also identified as a statistically significant predictor of student persistence intention. The logistic regression coefficient for academic integration is $\beta = 0.465$, with an odds ratio of $\text{exp}(\beta) = 1.593$. This indicates that for each one-unit increase in academic integration, the odds of intending to remain enrolled increase by a factor of 1.593, assuming all other variables are held constant. In other words, students with a one-unit higher level of academic integration are approximately 59.3% more likely to intend to stay enrolled compared to those with intentions to drop out. In addition to institutional and academic factors, social integration also demonstrated a statistically significant effect on student persistence intention. According to the analysis, the logistic regression coefficient for social integration was $\beta = 0.409$,

with an odds ratio of $\exp(\beta) = 1.505$, indicating that for each one-unit increase in social integration, the odds of intending to remain enrolled increase by a factor of 1.505, assuming all other variables are held constant. Specifically, students with a one-unit higher level of social integration—such as forming friendships, participating in campus activities, and feeling a sense of belonging—are approximately 50.5% more likely to intend to stay enrolled compared to those with intentions to drop out.

These findings suggest that enhancing students' commitment to the institution has the greatest potential impact on increasing persistence intention, while academic integration also plays a crucial, though slightly less pronounced, role. Social integration, while still important, contributes somewhat less to the likelihood of students' intention to persist when compared with the other factors.

The nonsignificant results for goal commitment and service quality may be partially explained by contextual factors at Assumption University. The international student body, with diverse cultures, languages, and educational backgrounds, may increase variability in goal commitment and affect perceptions of service quality, reducing their statistical significance. Language barriers and challenges of studying in English may further influence students' academic goals and evaluations of institutional services. A key limitation of this study is the use of single- or very few-item measures for the complex construct of goal commitment. Future research should employ validated multi-item scales to improve reliability and validity, thereby enhancing the accuracy and robustness of models predicting student retention and dropout intentions.

In addition, the class imbalance may have contributed to the limited predictive power for students with dropout intentions. The disproportionate distribution of students between the two groups, with a significantly larger number intending to persist compared to those intending to drop out, may have biased the model toward predicting the majority class. Although the overall classification accuracy reached 76.0%, the model's usefulness in early identification and intervention for at-risk students is limited by its low sensitivity in detecting dropout intentions.

To improve predictive accuracy for the group with dropout intentions, future research may consider applying alternative classification techniques. Oversampling methods, such as SMOTE (Synthetic Minority Over-sampling Technique), can balance the dataset by generating synthetic examples for the minority class, thereby enhancing the model's sensitivity to at-risk students. Decision trees and random forests are capable of capturing complex, non-linear relationships among predictor variables, which may further improve predictive accuracy compared to traditional logistic regression. Additionally, incorporating machine learning algorithms

could provide more flexible modeling of student behaviors.

Including additional predictor variables related to psychological, financial, or personal factors may also help in identifying students at risk of dropout more accurately. Future studies should validate the model using independent datasets or cross-validation techniques to ensure robustness and generalizability. These methodological adjustments can help address the class imbalance observed in the current study and enhance the practical utility of the model for student retention strategies.

5. Conclusions

This study aimed to identify the discriminant factors associated with undergraduate students' persistence intention or dropout intention and to construct a predictive model using binary logistic regression. The findings revealed that academic integration, social integration, and institutional commitment significantly influenced the likelihood of students' intention to persist or dropout. The nonsignificant results for goal commitment and service quality may be attributed to the international context of Assumption University and the use of single- or few-item measures for the complex construct of goal commitment.

The developed model demonstrated strong predictive accuracy for student persistence intention (98.2%) but showed limited effectiveness in identifying students with dropout intention (10.6%). The overall classification accuracy was 76.0%. The results highlight the model's strength in recognizing students likely to remain in university but also point to the need for improvement in detecting those at risk of dropping out. Future research should consider addressing the issue of class imbalance by applying alternative classification techniques (e.g., decision trees, random forests, or oversampling methods) to enhance sensitivity for the minority group.

In addition, the model should be tested and adjusted for local university contexts. Since it was developed in an international university with a highly diverse student body, variables may behave differently in more homogeneous populations. Ensuring contextual adaptation will improve the model's predictive accuracy and enhance its usefulness for designing targeted interventions to support student retention.

From a practical standpoint, this study offers actionable strategies for university administrators and policymakers. To enhance student retention, institutions may consider strengthening mentoring programs, improving institutional services to be more responsive to students' needs, and identifying at-risk students early through predictive analytics. Additionally, integrating psychological, financial, and personal factors into early-warning systems may further improve the effectiveness of targeted interventions.

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