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Satisfaction Index Regarding Financial Study Loans Among Students in UTHM Pagoh

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Abstract

Financial studies loans have been imperative in aiding students to pursue further studies at higher learning institutions, particularly in relation to the handling of financial components. However, the issues concerning the sufficiency, repayment and financial burden of the loan studies program have questioned the overall level of student satisfaction towards financial studies loan programs among UTHM Pagoh students. This study aims to measure the level of student satisfaction with financial study loans among students at Universiti Tun Hussein Onn Malaysia (UTHM) Pagoh and to identify the key factors influencing their satisfaction. A quantitative research design was employed using a structured questionnaire administered among 300 undergraduate students of UTHM Pagoh. The central information collected was analyzed using descriptive analysis, factor analysis and customer satisfaction index. The findings indicate that the overall level of student satisfaction towards financial studies loan programs is influenced by a complex array of factors revolving around the level of student satisfaction towards the details of loan adequacy, loan management and disbursement, loan terms and information and impact on student life and studies. The results also show that there are important relationships existing among the students' personal characteristics and the factors that have been determined from the satisfaction components. In conclusion, the findings that have been generated from the research should be giving important insights to the students on the perceptions that they have about financial study loans, besides providing scientific evidence to the concerned parties to help improve financial aid schemes to benefit the students academically and financially

1. Introduction

The financing of higher education is an issue taken seriously across the world because increasing tuition fees and rising living costs have put considerable financial burdens on students [1]. Student financial study loans are among the most important mechanisms that enable students, especially from low and middle-income households, to have access to tertiary education [2]. In Malaysia, it is the various loan schemes provided by the government, institutions and other bodies, including PTPTN, MARA, banks and private education financing, that play a vital role in supporting students through their academic journey [3].

Students generally depend on university study loans for not only tuition fees but also for accommodation, transportation, learning materials and daily expenses [3]. Various studies have documented that dissatisfaction with financial aid systems can lead to increased financial stress, anxiety and reduced academic focus [6]. The key determinants in the level of satisfaction regarding financial university study loans were enumerated to include adequacy of the loan, efficiency in the loan release, clarity of conditions and good communication from the lending agency [4][5].

In the Malaysian higher education system, there have been many studies that have identified issues associated with the delayed disbursement of funds, insufficiency of funds and the uncertainty of repayments for the recipients of the PTPTN loans [4][5]. The financial pressures faced by students have also been proven to have adverse impacts on the academic achievements and the lives of the students as well [6]. The above-mentioned problems have confirmed that the issue of student satisfaction related to the financial study loans not only involves finance, but it also involves other critical issues related to the students' lives as well as their studies.

At Universiti Tun Hussein Onn Malaysia Pagoh, a significant proportion of the students receive financial study loans as the main source of funding. Yet, there is a mixed population of students from various faculties, study levels and socio-economic groups, thereby giving rise to the possibility of differing degrees of satisfaction towards the corresponding schemes. This is added to the difference created by the loan schemes' providers, as well as the processes involved.

Hence, the objective of this study is to analyse the satisfaction index with financial study loans offered by students of UTHM Pagoh. In this regard, the study utilizes descriptive analysis in summarising students' details in terms of background statistics. Additionally, it uses factor analysis in discovering factors influencing the students' levels of satisfaction with financial study loans. Lastly, it uses satisfaction index to measure the level of student satisfaction toward financial study loans using a Customer Satisfaction Index (CSI) approach. The result of this study is expected to be beneficial.

2. Methodology

2.1 Data Collection

Data collection is the systematic process of gathering data. For the research, the data was collected using a structured research survey form designed to measure the level of students' satisfaction with financial study loans. The research data was collected among the Universiti Tun Hussein Onn Malaysia (UTHM) students in Pagoh, specifically those in the Faculty of Applied Sciences and Technology (FAST), Faculty of Engineering Technology (FTK) and Center of Diploma Studies (PPD). The population of students in UTHM Pagoh is 2589. These students were chosen as they constitute the primary population of financial study loan borrowers at the Pagoh campus. The online questionnaire was conducted through Google Forms, which enabled anonymity and convenience. This research employed a convenience sampling method, which selects respondents readily available for participation in conducting the research [7]. A convenience sampling strategy was also found to be appropriate for this research, considering the time constraint and lack of access to the whole sampling frame of the population comprising students. Even though convenience sampling has limited generalization, it has been widely employed for research involving university students. A total of 300 participants were able to successfully complete the research questionnaire to be used for final analysis. The sample size of 300 respondents was determined based on the sample size determination table developed by Krejcie and Morgan (1970). According to their table, for a population of several thousand individuals, a sample size of approximately 300 is considered sufficient to represent the population with a 95% confidence level and a 5% margin of error. Since the population of UTHM Pagoh students who are financial study loan recipients is large and exceeds several hundred, a sample of 300 respondents meets the recommended requirement for ensuring adequate statistical power and representativeness.

The measurement used in this study was a five-point Likert scale, which is widely applied in satisfaction research to measure perceptions and attitudes. Respondents were asked to indicate their level of satisfaction for each statement using the following scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. The Likert scale allows the data to be quantified and analysed statistically, making it suitable for factor analysis and the calculation of a Customer Satisfaction Index (CSI).

2.2 Reliability Test

This study conducted a reliability test to assess the internal consistency of the questionnaire items measuring students' satisfaction regarding financial study loans. Reliability analysis ensures that the measurement items are consistently representing the same underlying construct and produce stable results consistently [8][9]. In this study, Cronbach's Alpha was used as the reliability coefficient to test the consistency of the survey instrument. A pilot study was conducted among 30 undergraduate students at Universiti Tun Hussein Onn Malaysia (UTHM) Pagoh before the formal data collection. Responses from the pilot study were analysed using the Statistical Package for the Social Sciences. A Cronbach's Alpha value of 0.70 and above was considered acceptable, while above 0.80 was considered to reflect good internal consistency. Satisfaction-related constructs had Cronbach's Alpha values greater than 0.80, reflecting a high level of internal consistency. This shows that the questionnaire items were reliable to measure students' satisfaction regarding financial study loans. Therefore, all the items were retained and the instrument was appropriate to use for the actual survey. The formula is shown in equation 1, with k (number of items), s_i (standard deviation of the i[th] item) and s_t (standard deviation of the total score).

$$\alpha = \frac{k}{k-1}\left(1 - \frac{\sum_1^k {s_i}^2}{{s_t}^2}\right) \quad (1)$$

2.3 Descriptive Analysis

The descriptive analysis was conducted to summarize the characteristics of the respondents and the profile of the study's loan. This form of analysis of the data involved the examination of the variables of the respondents, including gender, level of study, faculty, semester, accommodation status, part-time work status during the semester, provider of the loan, and purpose of the loan. This analysis of the data was essential in the presentation of the data clearly and obtaining an overall view of the backgrounds of the respondents. Descriptive analysis is considered a fundamental form of analysis in quantitative research because it helps to summarize and organize the data without any form of inference beyond the data itself [10]. By presenting the data in a manner that shows the frequency and percentage of the data, a clearer understanding of the sample composition can be obtained and can be used as a preliminary analysis before conducting further analysis, including factor analysis and satisfaction index, which help to reveal the underlying relationship of the variables of the research [11].

2.4 Factor Analysis

Factor analysis is a multivariate statistical technique used to identify the underlying dimensions that explain the correlations among observed variables [12][13]. In this study, factor analysis was applied to satisfaction items from the survey to determine the main constructs influencing students' perceptions of financial study loans. The formula is shown in equation 2, with X_i = ith observed variable, λ_{ij} (factor loading of the *i*th variable on the *j*th common factor), F_j (the *j*th common factor), m (number of common factor) and ϵ_i (error term).

$$X_i = \lambda_{i1}F_1 + \lambda_{i2}F_2 + \cdots + \lambda_{im}F_m + \epsilon_i \quad (2)$$

Step 1: The suitability of the data for factor analysis was first examined using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Barlett's Test of Sphericity.

Step 2: Factor extraction was carried out using Principal Component Analysis (PCA). Factors with eigenvalues greater than 1.0 were retained based on Kaiser's criterion.

Step 3: Varimax rotation was applied to obtain a clearer and more interpretable factor structure.

Step 4: Items with factor loadings of 0.50 and above were considered significant and retained for interpretation. Each factor was then labelled based on the common characteristics of the items loading onto it, representing key dimensions of students' satisfaction with financial study loans.

The suitability of the data was first assessed using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity. A KMO value of 0.902 and a significant Bartlett's Test ($p < 0.001$) confirmed that the dataset was appropriate for factor extraction.

2.5 Customer Satisfaction Index

This study employs the Customer Satisfaction Index (CSI) approach to measure the level of student satisfaction toward financial study loans among UTHM Pagoh students. The CSI is a quantitative method that evaluates overall satisfaction based on students' perceptions of multiple key attributes related to the loan service, such as the application process, clarity of information, timeliness of disbursement, and support during repayment [14]. A structured questionnaire was used, with a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), to measure both the importance and performance of each attribute; the Likert scale is widely adopted in satisfaction research to quantify respondents' attitudes consistently and reliably for statistical analysis [15].

Step 1: Average Satisfaction Score
The average satisfaction score was calculated by summing all individual satisfaction scores and dividing the total by 5. This step provides the mean level of satisfaction for each item measured in the study.

$$Average\ Satisfaction = \frac{\sum s_i}{n} \quad (3)$$

where,
n = Total number of respondents
S_i = Average satisfaction score

Step 2: Weighted (W)
The weighted for each dimension was determined by dividing the importance score of that dimension by the total importance scores of all dimensions.

$$W_j = \frac{P_j}{\sum P_j} \tag{4}$$

where,
W_j = Weight of attribute j
P_j = Mean satisfaction score j
$\sum P_j$ = Total satisfaction score j

Step 3: Weighted Satisfaction Scores
The weighted satisfaction score for each dimension was obtained by multiplying the average satisfaction score by its corresponding weight. This step ensures that dimensions with higher importance contribute more significantly to the overall satisfaction index.

$$S_j = W_j \times P_j \tag{5}$$

where,
S_j = Weighted satisfaction score for dimension j
W_j = Weight of dimension j
P_j = Average satisfaction score of dimension j

Step 4: Calculation of Customer Satisfaction Index

The Customer Satisfaction Index (CSI) was calculated by summing all weighted satisfaction scores across dimensions and converting the value into a percentage scale. The CSI provides an overall measure of students' satisfaction with financial study loans.

$$CSI = (\sum_{j=1}^{m} S_j) \times 100 \tag{6}$$

where,
S_j = Weighteed satisfaction score for dimension j
n = Total number of dimensions
100 = Conversion to percentage scale

3. Results and Discussion

3.1 Pilot Study

A pilot study was conducted with 30 UTHM Pagoh students to test the clarity, reliability and consistency of the questionnaire. Reliability analysis using Cronbach's Alpha produced values above 0.80, indicating good internal consistency across all sections. The KMO value of 0.875 (Table 1) and significant Bartlett's Test ($p < 0.001$) confirmed the suitability of the data for factor analysis. Feedback from respondents helped refine wording and structure, ensuring the instrument was reliable and valid for the formal survey of 300 students.

Table 1 Output Cronbach's Alpha in Section C

Reliability Statistics			
Section	**Cronbach's Alpha**	**Cronbach' Alpha Based on Standardize Items**	**N of items**
Section C	0.883	0.875	20

4. Demographic Profile

Table 2 presents the demographic profile of the respondents including gender, faculty, current semester, accommodation, part time during semester, loan provider and loan status.

Table 2 Demographic Profile of Respondents

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	133	44.3
	Female	167	55.7
Faculty	PPD	88	29.3
	FAST	111	37
	FTK	101	333.7
Current Semester	1	16	5.3
	2	13	4.3
	3	47	15.7
	4	51	17
	5	84	28
	6	42	14
	7	29	9.7
	8	18	6.0
Accommodation	Stay with family	14	4.7
	Rent House	97	32.3
	Hostel	189	63
Part time during semester	Yes	110	36.7
	No	190	63.3
Loan Provider	PTPTN	2111	70.3
	MARA	49	16.3
	Bank/Private education	17	5.7
	Other government scheme	23	7.7
Loan Purpose	Tuition fees	124	41.3
	Living expenses	108	36
	Transport	29	9.7
	Book/learning tools	39	13.0

4.1 Factor Analysis

Table 3 KMO and Barlestt's test

Kaiser-Meyer-Olkin Measure Adequacy	of Sampling	0.902
Bartlett's Test of Sphericity	Approx. Chi-square	5753.623
	df	190
	Sig.	0.000

Factor analysis was conducted to accomplish the second objective which is to identify the underlying factors that influence students' satisfaction with financial study loans using factor analysis. Table 3 shows Kaiser-Meyer- Olkin

(KMO) for measure verified the sampling adequacy for the analysis, KMO = 0.902 and p-value for the Bartlett's test is 0.000. This indicates that correlations between items were sufficiently large for factor analysis.

Kaiser-Meyer-Olkin (KMO) sampling adequacy had a value of 0.902, which is a reflection of good sampling adequacy. In addition, Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 5753.623$, df = 190, $p < 0.001$), confirming that the correlation matrix was appropriate for factor analysis.

Table 4 Category of factors

Variables	Component			
	1	**2**	**3**	**4**
I am satisfied with the overall amount of financial study loans provided to me.			0.916	
The financial study loan adequately supports my living expenses as a student.			0.912	
The amount of loans I receive matches my financial needs during my studies			0.901	
I am satisfied with the adequacy of the financial study loan.			0.907	
I am satisfied with the timeliness of the loan disbursement each semester.			0.912	
The loan disbursement schedule is consistent and reliable.				0.920
The process of receiving the loan is well managed.				0.911
I am satisfied with how efficiently the loan is administered.				0.892
I am satisfied with the management of the financial study loan.				0.913
I am satisfied with the clarity of the loan terms and conditions		0.917		
The information provided about the financial study loan is easy to understand.		0.910		
I am satisfied with the repayment conditions of the loan.		0.917		
The loan provider provides sufficient information regarding my financial obligations.		0.912		
I am satisfied with the terms and information of the financial study loan.		0.911		
The financial study loan helps reduce my financial stress as a student.	0.909			
I am satisfied with how the loan supports my academic focus.	0.917			
The loan enables me to manage my study related expenses effectively.	0.910			
I feel financially more secure because of the financial study loan.	0.923			
I am satisfied with the impact of the financial study loan.	0.910			

The following is the result of the factor analysis conducted on PCA with Varimax rotation, as shown in Table 4. There are four distinct factors identified with loadings of 0.50 and above. Factor 1 (0.901-0.916) represents the "Satisfaction with Loan Adequacy," whereby students' satisfaction levels with the adequacy of loans in fulfilling their educational and living needs would be identified. Factor 2 (0.892-0.920) represents "Satisfaction with Loan Management and Disbursement," whereby students' views on the effective managing of loans would be recognized. Factor 3 (0.910-0.917) represents "Satisfaction with Loan Terms and Information," whereby the students' views on the information provided on loan terms would be identified. Factor 4 (0.909-0.923) represents "Satisfaction with Impact on Students' Life and Studies, (Table 5)"

Table 5 Category of factors

Factor	Explanation
Satisfaction with Loan Adequacy	Refers to students' perceptions of whether the loan amount is sufficient to cover tuition fees, living expenses and overall study-related needs.
Satisfaction with Loan Management & Disbursement	Represents students' satisfaction with the efficiency, timeliness and administration of loan disbursement by loan providers
Satisfaction with Loan Terms & Information	Reflects students' understanding and clarity of loan conditions, repayment terms and information provided by loan agencies.
Satisfaction with Impact on Student Life & Studies	Indicates the extent to which financial study loans reduce financial stress and support students' academic focus and overall well-being.

4.2 Customer Satisfaction Index

The Customer Satisfaction Index (CSI) analysis was conducted to determine the overall level of student satisfaction toward financial study loans among students at UTHM Pagoh. The CSI method provides a comprehensive measure by integrating satisfaction scores from multiple service dimensions into a single index value. In this study, satisfaction was evaluated across four key dimensions: loan adequacy, loan management and disbursement, loan terms and information and the impact of loans on student life and studies. Each dimension consisted of several questionnaire items measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The average satisfaction score for each dimension was calculated by computing the mean of the item scores within each category (Table 6).

Table 6 CSI score calculation

Variable	**Average Satisfaction**	**Weight (W)**	**Weighted Satisfaction**
Satisfaction with Loan Adequacy	3.454	0.247	0.853
Satisfaction with Loan Management & Disbursement	3.442	0.246	0.846
Satisfaction with Loan Terms & Information	3.534	0.2533	0.894
Satisfaction with Impact on Student Life & Studies	3.544	0.254	0.900
Total			3.493
Customer Satisfaction Index			69.88 %

The results show that the average satisfaction score for loan adequacy was 3.454, loan management and disbursement was 3.442, loan terms and information was 3.534, and impact on student life and studies was 3.544. Since the questionnaire did not include separate importance ratings, all dimensions were assumed to have equal importance. Therefore, the weights for each dimension were derived by normalizing the satisfaction scores against the total satisfaction score. The total of all average satisfaction scores was 13.974, and the weight for each dimension was calculated by dividing its average satisfaction score by this total. This resulted in weights of 0.247 for loan adequacy, 0.246 for loan management and disbursement, 0.253 for loan terms and information, and 0.254 for impact on student life and studies. The weights collectively sum to approximately one, confirming proper normalization.

The weighted satisfaction score for each dimension was obtained by multiplying the weight by its corresponding satisfaction score. The weighted scores were 0.853 for loan adequacy, 0.846 for loan management and disbursement, 0.894 for loan terms and information and 0.900 for impact on student life and studies. The overall CSI score was then determined by summing these weighted scores, resulting in a CSI value of 3.493. As the measurement scale used in the questionnaire ranged from 1 to 5, the CSI score was converted into a percentage to facilitate interpretation. This was achieved by dividing the CSI score by the maximum scale value of 5 and multiplying by 100, producing a final CSI value of 69.86%.

The CSI value of 69.86% indicates a moderate level of satisfaction among students regarding financial study loans. While the overall perception is generally positive, the score suggests that improvements are still needed. The dimension "impact on student life and studies" recorded the highest weighted satisfaction score, indicating that students perceive study loans as significantly beneficial to their academic and daily living needs. In contrast, the "loan management and disbursement" dimension recorded the lowest weighted score, suggesting that administrative procedures and fund disbursement processes may require enhancement. Overall, the CSI analysis provides a clear quantitative summary of student satisfaction and identifies areas that should be prioritized to improve the effectiveness of the study loan system.

5. Conclusion

This research aimed to determine the level of student satisfaction with financial study loans offered to undergraduate students at Universiti Tun Hussein Onn Malaysia (UTHM) Pagoh through the combination of descriptive analysis, factor analysis and Customer Satisfaction Index (CSI) method. From the data collected from 300 students in three faculties, the results offer a complete understanding of the perception of financial study loans and the factors that contribute to overall satisfaction. The factor analysis yielded four significant dimensions of student satisfaction, namely satisfaction with loan adequacy, loan management and disbursement, loan terms and information, and the influence of loans on students' life and studies. The large KMO index and the significance of Bartlett's Test ensured the validity of the factor structure, indicating that the extracted dimensions are reliable indicators of the constructs of student satisfaction. Among these dimensions, loan adequacy and the influence of loans on students' academic life were found to be of prime significance, emphasizing the pivotal role of financial assistance in supporting students' academic and living needs.

The Customer Satisfaction Index analysis further demonstrated that the overall level of satisfaction among UTHM Pagoh students is at a moderate level, with a CSI value of approximately 69.86%. While students generally perceive financial study loans as beneficial, particularly in reducing financial stress and supporting academic focus, the results also indicate areas that require improvement. Specifically, loan management and disbursement recorded the lowest weighted satisfaction score, suggesting that administrative efficiency, timeliness of fund release, and consistency in loan processes remain key concerns among students. Overall, it may be concluded that financial study loans play an important role as an essential tool for students to achieve their higher educational goals. However, the moderate level of satisfaction indicates that there is a need to improve aspects of transparency, efficiency and communication by financial loan providers to better meet students' needs in their experience. The findings of this research would be beneficial for policymakers, financial loan providers, and higher learning institutions to assess and improve financial aid for students. By identifying areas of weakness in financial study loans, they can be improved to better meet students' needs for their academic achievement and well-being.

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Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

The authors confirm contribution to the paper as follows: ***study conception and design:*** *Nik Azlin Nik Aziz, Suliadi Firdaus Sufahani;* ***data collection:*** *Nik Azlin Nik Aziz;* ***analysis and interpretation of results:*** *Nik Azlin Nik Aziz;* ***draft manuscript preparation:*** *Nik Azlin Nik Aziz, Suliadi Firdaus Sufahani. All authors reviewed the results and approved the final version of the manuscript.*

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