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ANALYSIS OF CUSTOMER SUCCESS AND BUSINESS MODEL INNOVATION BASED ON STUDENT SATISFACTION AT POLITEKNIK TAKUMI

Lambok Rommy Sulaeman[1], Chowal Jundy Kumoro[2], Arif Prayoga[3]
[1,2,3] Digital Business Study Program, Politeknik Takumi, Indonesia

Email: lambok.lrs@takumi.ac.id [1], chowal.cjk@takumi.ac.id [2], 2213010004@takumi.ac.id [3]

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Abstract

This study aims to analyze student satisfaction and loyalty as users of higher education services through a Customer Success approach and to identify business model innovation opportunities that match student needs at Politeknik Takumi. The study employed a descriptive quantitative approach using an online survey distributed through Google Forms to 44 students from the Japanese Language, Digital Business, Mechatronics, and Information Technology study programs, representing the 2022–2024 cohorts. Student loyalty was measured using the Net Promoter Score (NPS), which classified respondents as Promoters, Passives, and Detractors. The survey was also used to validate several potential campus business ideas. The results show that 63.64% of respondents were classified as Passives, while Promoters and Detractors each accounted for 18.18%, resulting in an overall NPS of 0.00. Several service aspects obtained positive NPS values, including lecturer teaching methods (18.18%), the relevance of course materials to industry (15.91%), and the alignment between theory and practice (13.64%). In contrast, clarity of academic information recorded the lowest NPS at −11.36%. For business innovation, the Japanese-style Café/Canteen obtained an NPS of 50.00%, while Takumi Printing/Photocopy obtained 36.36%. Further financial feasibility analysis of Takumi Printing/Photocopy indicated an NPV of IDR 53,458,939, an IRR of 21.34%, and a Payback Period of approximately 4.2 years. These findings indicate that a Customer Success approach can serve as a basis for service improvement and the development of campus business units based on student needs.

Keywords:
Customer Success; Net Promoter Score; Student Satisfaction; Business Model Innovation; Higher Education

1. INTRODUCTION

When Higher education institutions are not only required to provide quality educational services but also need to understand the needs and expectations of students as the primary users of educational services. Changes in the educational environment and the development of digital technology have broadened student expectations, covering teaching quality, the relevance of learning materials to industry needs, access to learning resources, facilities, academic communication, and administrative services. Therefore, higher education institutions require a data-based approach to understand student experiences and determine which service aspects require improvement.

One approach that can be used to measure user loyalty is the Net Promoter Score (NPS). NPS classifies respondents based on their likelihood of recommending a product, service, or institution to others. In higher education, this approach can provide an overview of student experiences while identifying groups of students with high satisfaction and groups requiring further attention. In this project, NPS was used to

evaluate teaching methods, material relevance, learning-material access, lecturer–student communication, facilities, academic services, and other supporting aspects.

In addition to satisfaction measurement, higher education institutions also need to develop alternative sources of income and additional services that create value for students. The Customer Success approach can be combined with business model development so that student needs are not only used to improve service quality but also become a basis for identifying campus business opportunities. In this project, students were involved in survey design, data collection, data processing, empathy-map development, and business idea development. This approach is also consistent with project-based learning because it connects the learning process with real problems within the institution.

The research instrument combined service satisfaction measurement with assessments of potential campus business ideas. Service aspects were measured on a 0–10 scale, while loyalty was assessed through students' likelihood of recommending Politeknik Takumi to others. The business ideas assessed included a Japanese-style Café/Canteen, Takumi Printing/Photocopy, business coaching, campus merchandise, online courses, a premium campus mobile application, industry partnerships, and student business mentoring.

Based on the survey of 44 students, most students were classified as Passives. This condition indicates an opportunity for the institution to improve the student experience so that Passives can develop into Promoters. At the same time, several service aspects recorded negative NPS values, indicating areas requiring priority improvement, particularly academic information clarity and access to learning materials.

In terms of business development, the Japanese-style Café/Canteen recorded an NPS of 50.00%, while Takumi Printing/Photocopy recorded 36.36%. Although the Café/Canteen obtained a higher score, Takumi Printing/Photocopy was selected for further analysis because it is directly related to students' academic needs, including assignment printing, practical reports, proposals, binding, lamination, and document scanning.

Therefore, this study aims to: (1) analyze student satisfaction and loyalty at Politeknik Takumi using NPS; (2) identify service aspects requiring priority improvement; (3) validate potential business ideas based on student perceptions; and (4) analyze the potential development of Takumi Printing/Photocopy as a campus business unit.

2. RESEARCH METHOD

This study employed a descriptive quantitative approach using a survey method. Data were collected through an online questionnaire using Google Forms. The survey targeted students of Politeknik Takumi from several study programs and cohorts. A total of 44 students participated, consisting of 23 students from Japanese Language (52.27%), 10 from Digital Business (22.73%), 7 from Mechatronics (15.91%), and 4 from Information Technology (9.09%). Based on cohort, there were 10 respondents from 2022, 12 from 2023, and 22 from 2024.

The research instrument consisted of three groups of questions. The first identified respondent characteristics based on study program and cohort. The second measured satisfaction with campus services using a 0–10 scale covering teaching methods, relevance of learning materials to industry, access to learning materials, lecturer–student communication, alignment between theory and practice, academic information, academic document services, classroom conditions, library facilities, laboratory facilities, internet access, and mosque cleanliness and comfort. The third group measured student loyalty through the likelihood of recommending Politeknik Takumi and assessed several potential campus business ideas.

Student loyalty was measured using the Net Promoter Score (NPS). Respondents were classified into three groups: Promoters with scores of 9–10, Passives with scores of 7–8, and Detractors with scores of 0–6. NPS was calculated using the following equation:

NPS = % Promoters − % Detractors

The NPS values were then used to identify service aspects with relatively high or low levels of satisfaction and loyalty.

An empathy map approach was also used to understand students' needs, expectations, and problems. The empathy map considered what students hear, see, think or feel, and do. The results were used as a basis for recommendations for service improvement and business model development.

For business development, potential business ideas were assessed on a 0–10 scale and analyzed using an NPS-based classification. The most promising ideas were then examined in terms of market needs, business scale, marketing strategy, service innovation, Business Model Canvas, initial investment, operating costs, projected cash flow, and financial feasibility indicators.

3. RESULTS AND DISCUSSION

3.1. Student Satisfaction and Customer Success

The survey results show varied responses across the different service aspects at Politeknik Takumi. The analysis used the Promoter, Passive, and Detractor categories to calculate NPS for each aspect.

Table 1. NPS of Student Service Satisfaction

No.	Service Aspect	Promoters (%)	Passives (%)	Detractors (%)	NPS
1	Lecturer teaching methods	31.82	54.55	13.64	18.18
2	Relevance of materials to industry	34.09	47.73	18.18	15.91
3	Ease of access to learning materials	25.00	45.45	29.55	-4.55
4	Lecturer–student communication	36.36	36.36	27.27	9.09
5	Alignment between theory and practice	38.64	36.36	25.00	13.64
6	Clarity of academic information	25.00	38.64	36.36	-11.36
7	Academic document services	31.82	36.36	31.82	0.00
8	Classroom conditions	36.36	40.91	22.73	13.63
9	Library facilities	31.82	40.91	27.27	4.55
10	Laboratory facilities	25.00	47.73	27.27	-2.27
11	Internet access quality	29.55	47.73	22.73	6.82
12	Mosque comfort and cleanliness	27.27	43.18	29.55	9.09

Lecturer teaching methods obtained an NPS of 18.18%, making it one of the highest-performing positive service aspects. A total of 31.82% of respondents were Promoters and 54.55% were Passives. This indicates that most students were relatively satisfied with teaching methods, while there remains an opportunity to improve the learning experience through interactive discussions, case studies, learning-management-system utilization, and more comprehensive learning materials.

The relevance of course materials to industry obtained an NPS of 15.91%. Promoters accounted for 34.09%, Passives for 47.73%, and Detractors for 18.18%. The result suggests that course materials are perceived as reasonably relevant, but stronger links with industry can be developed through practitioner involvement, industry workshops, soft-skill development, and professional certification.

Clarity of academic information recorded the lowest NPS, at −11.36%. Detractors accounted for 36.36%, exceeding Promoters at 25.00%. This indicates that academic information delivery is a priority for improvement. Issues identified in the report include delayed information, sudden schedule changes, and suboptimal communication.

Ease of access to learning materials also recorded a negative NPS of −4.55%. Detractors represented 29.55%, indicating that some students still experience difficulties accessing learning resources. Digital libraries, e-learning, cloud storage, and more structured learning-material repositories can be considered as improvement alternatives.

Overall, Customer Success improvement should not only focus on negative-valued aspects but also maintain services that already generate positive NPS. Improvement strategies can be directed through the SERVQUAL dimensions of Tangibles, Reliability, Responsiveness, Assurance, and Empathy. Recommended actions include improving physical facilities, digitizing academic services, developing online helpdesks, increasing information transparency, and providing more responsive services.

3.2. Overall Net Promoter Score

Based on the overall survey results, respondents were distributed into three categories. A total of 18.18% were Promoters, 63.64% were Passives, and 18.18% were Detractors.

Table 2. Overall NPS Distribution

Category	Number of Respondents	Percentage
Promoters	8	18.18%
Passives	28	63.64%
Detractors	8	18.18%
Total	44	100%

NPS = 18.18% − 18.18% = 0.00

The result indicates that the proportion of Promoters and Detractors was equal, while the majority of respondents were Passives. This provides an opportunity for Politeknik Takumi to increase student loyalty by specifically converting Passives into Promoters and reducing the number of Detractors.

From a Customer Success perspective, Passives represent a strategic group because they have reached a certain level of satisfaction but have not yet demonstrated strong loyalty. Therefore, improvements in

academic information, learning-material access, laboratory facilities, internet connectivity, and administrative services may contribute to a better student experience.

3.3. Business Model Innovation

In addition to measuring student satisfaction, the study evaluated several campus business alternatives. The assessment used a 0–10 scale and was subsequently analyzed using an NPS-based classification.

Table 3. Potential Campus Business Ideas

Business Idea	NPS
Japanese-style Café/Canteen	50.00%
Takumi Printing/Photocopy	36.36%

The Japanese-style Café/Canteen recorded an NPS of 50.00% and became the highest-scoring business idea. This is associated with its fit with the characteristics of Politeknik Takumi and students' need for food facilities and social spaces. Takumi Printing/Photocopy obtained an NPS of 36.36% and was considered to have relatively stable potential because it is directly related to students' academic needs.

Although the Japanese-style Café/Canteen achieved a higher NPS, Takumi Printing/Photocopy was selected for further analysis. The selection was based on students' recurring needs for printing assignments, practical reports, activity proposals, academic documents, binding, lamination, and scanning. Interview findings also indicated demand for fast and practical services, including the possibility of uploading files online before collecting printed documents.

3.4. Market Demand and Business Model of Takumi Printing/Photocopy

Takumi Printing/Photocopy was designed as a campus business unit that provides printing services while supporting students' academic needs. The planned services include black-and-white and color printing, photocopying, lamination, binding, scanning, and basic graphic-design services.

The findings indicate recurring printing needs, particularly before midterm and final examinations. In addition to black-and-white printing, students require color printing, binding, lamination, and scanning. A digital service model can be developed through online file upload and pre-ordering so that students do not have to wait for long periods at the service location.

The proposed business model incorporates online pre-order and file-upload services, collaborative graphic-design services, and monthly printing subscription packages. These features are intended to differentiate Takumi Printing/Photocopy from conventional photocopy businesses by integrating students' digital needs into the service process.

3.5. Financial Feasibility of Takumi Printing/Photocopy

Financial analysis was conducted to determine the feasibility of Takumi Printing/Photocopy as a campus business unit. Based on the investment plan, the initial investment requirement was estimated at IDR 71,678,889. The investment includes a multifunction printer, photo printer, laminating machine, binding machine, computer and software, scanner, display cabinet, tables, chairs, and room preparation.

Table 3. Financial Feasibility of Takumi Printing/Photocopy

Indicator	Result	Interpretation
Initial Investment	IDR 71,678,889	Initial capital requirement
WACC	10.00%	Cost of capital
NPV	IDR 53,458,939	Feasible
IRR	21.34%	Feasible
Payback Period	4.2 years	Investment recovery period

The cash-flow analysis indicates positive projected cash flows. With a WACC of 10%, the analysis produced an NPV of IDR 53,458,939, an IRR of 21.34%, and a Payback Period of approximately 4.2 years.

The positive NPV indicates that the present value of projected net cash flows exceeds the initial investment. The IRR of 21.34% is also higher than the 10% WACC, indicating feasibility based on the applied financial criteria. A Payback Period of approximately 4.2 years indicates the estimated time required to recover the initial investment.

These results strengthen the potential of Takumi Printing/Photocopy as a long-term campus business unit. The business is supported by recurring demand, relatively manageable fixed costs, and projected positive cash flow.

3.6. Strategic Implications

The findings indicate that Customer Success measurement can function not only as a satisfaction-evaluation instrument but also as a basis for strategic decision-making. NPS helps the institution determine which services should be maintained and which require intervention.

Three major priorities can be identified. First, academic communication and information delivery should be improved through a more structured, timely, and transparent information system. Second, access to learning resources and academic-support facilities should be strengthened. Third, new services with a direct connection to student needs can be developed.

In the business context, Takumi Printing/Photocopy represents a student-centered business model in which a campus business unit is developed based on actual user needs. Recommended implementation strategies include equipment preparation, location arrangement, operational simulation, social-media promotion, and student involvement in operations. In subsequent stages, the system can be expanded toward automated file uploading, digital queue management, demand analysis, and additional service development.

4. CONCLUSION

This study analyzed Customer Success among students at Politeknik Takumi through Net Promoter Score measurement and identified business model innovation opportunities based on student needs. Based on a survey of 44 students, 63.64% of respondents were classified as Passives, while Promoters and Detractors each accounted for 18.18%. This resulted in an overall NPS of 0.00 and indicates substantial room to improve student loyalty through service-quality enhancement.

At the service-aspect level, lecturer teaching methods obtained an NPS of 18.18%, relevance of learning materials to industry 15.91%, and alignment between theory and practice 13.64%. Meanwhile, clarity of academic information recorded the lowest NPS at −11.36%, followed by access to learning materials at −4.55% and laboratory facilities at −2.27%. These findings indicate that academic communication, learning-resource access, and supporting facilities should be prioritized in Customer Success strategies.

For business model innovation, the Japanese-style Café/Canteen obtained an NPS of 50.00%, while Takumi Printing/Photocopy obtained 36.36%. Takumi Printing/Photocopy was analyzed further because of its direct relationship with students' academic needs. Financial feasibility analysis produced an NPV of IDR 53,458,939, an IRR of 21.34%, and a Payback Period of approximately 4.2 years, indicating feasibility under the applied assumptions.

Overall, the findings demonstrate that a Customer Success approach can serve as a basis for higher education service improvement and business innovation. Integrating student feedback, NPS, empathy mapping, and business feasibility analysis enables the institution to make more user-oriented decisions while creating opportunities for sustainable campus business development.

Future research should involve a larger number of respondents, including active students and alumni, and conduct periodic NPS measurements to identify changes in student satisfaction after improvement programs are implemented. For Takumi Printing/Photocopy, initial implementation should be conducted as a pilot project followed by periodic evaluation of transaction volume, customer satisfaction, and financial performance.

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