

Quality of Higher Education Services and Student Satisfaction: A Study of the Indonesian Student Association in Malaysia

Moch Subekhan^{1*}, Supardi², Muhammad Riduan³, Hasrul Hosshan⁴, Syaubari⁵

^{1,2} Islamic Educational Management Department, Universitas Islam Negeri Sultan Maulana
Hasanuddin Banten, Banten, Indonesia

^{3,4,5} Management Department, Universiti Pendidikan Sultan Idris, Malaysia

Email: moch.subekhan@uinbanten.ac.id¹, supardi@uinbanten.ac.id²,

mridhuan@fpm.upsi.edu.my³, hasrul.hosshan@fpm.upsi.edu.my⁴, syaubari@fpm.upsi.edu.my⁵

DOI: <http://doi.org/10.33650/al-tanzim.v9i2.10765>

Received: 09 February 2025

Revised: 05 May 2025

Accepted: 19 May 2025

Abstract:

This study aims to analyze the dynamics of service quality and student satisfaction in the context of higher education, with a focus on the Indonesian student population in Malaysia. A quantitative approach was used with regression and correlation analysis. The Higher Education Service Quality Model (HESQUAL) was used to measure service quality, while student satisfaction was assessed using the SERVQUAL model. The study's findings indicate that, first, perceived service quality is at a high level ($M = 3.98$). Second, student satisfaction is at a moderate level ($M = 3.66$). Third, service quality has a significant positive contribution to student satisfaction ($r = 0.358$). These results suggest that although higher education institutions offer high-quality services, student satisfaction remains at a moderate level, indicating a need for improvement. Improving service quality is essential to improving student satisfaction. Institutions should focus on specific aspects of service delivery that directly affect student experience. These findings suggest that educational institutions should prioritize enhancing aspects of service reliability, responsiveness, and empathy, while also encouraging further research on non-service factors that collectively impact student satisfaction.

Keywords: *Educational Quality, Educational Services, Student Satisfaction, HESQUAL, SERVQUAL*

Abstrak:

Penelitian ini bertujuan untuk menganalisis dinamika kualitas layanan dan kepuasan mahasiswa dalam konteks pendidikan tinggi, dengan fokus pada populasi mahasiswa Indonesia di Malaysia. Pendekatan kuantitatif digunakan dengan analisis regresi dan korelasi. Model Mutu Layanan Pendidikan Tinggi (HESQUAL) digunakan untuk mengukur mutu layanan, sementara kepuasan mahasiswa dinilai menggunakan model SERVQUAL. Temuan penelitian menunjukkan bahwa, pertama, mutu layanan yang dirasakan berada pada tingkat tinggi ($M = 3,98$). Kedua, kepuasan mahasiswa berada pada tingkat sedang ($M = 3,66$). Ketiga, kualitas layanan memiliki kontribusi positif yang signifikan terhadap kepuasan mahasiswa ($r = 0,358$). Hasil ini menunjukkan bahwa meskipun lembaga pendidikan tinggi menyediakan layanan berkualitas tinggi, kepuasan mahasiswa tetap berada pada tingkat sedang, yang menunjukkan adanya ruang untuk perbaikan. Peningkatan kualitas layanan sangat penting untuk meningkatkan kepuasan mahasiswa. Lembaga harus fokus pada aspek-aspek tertentu dari pemberian layanan yang secara langsung memengaruhi pengalaman mahasiswa. Temuan ini mengimplikasikan bahwa institusi pendidikan perlu memprioritaskan peningkatan

aspek keandalan, responsivitas, dan empati layanan, serta mendorong penelitian lebih lanjut mengenai faktor-faktor non-layanan yang memengaruhi kepuasan mahasiswa secara holistik.

Kata Kunci: *Mutu Pendidikan, Layanan Pendidikan, Kepuasan Mahasiswa, HESQUAL, SERVQUAL*

Please cite this article in APA style as:

Subekhan, M., Supardi, Riduan, M., Hosshan, H., Syaubari. (2025). Quality of Higher Education Services and Student Satisfaction: A Study of the Indonesian Student Association in Malaysia. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, 9(2), 414-426.

INTRODUCTION

The context of this research is rooted in the dynamics of student satisfaction in the higher education environment, an aspect that is increasingly receiving intensive attention considering the paradigm shift from education as a public good to a competitive service (Haselsteiner et al., 2021; Mazzucato, 2024; Meyrick & Barnett, 2021). Specifically, the study focused on the Indonesian student population in Malaysia, a significant segment estimated to consist of tens of thousands of individuals studying at various institutions. Statistical data sourced from the OECD (Organisation for Economic Co-operation and Development) shows that the perception of service quality directly influences the institution's selection decisions, with 70% of students considering service reputation before applying (Hajisoteriou & Neophytou, 2022; Saskia Dörr, 2021; Varbanova et al., 2023). Furthermore, several research references show that a positive service experience can increase student loyalty by up to 25% and encourage active participation in campus activities (Borishade et al., 2021; Del Río-Rama et al., 2021; Rehman et al., 2022). These numbers collectively affirm that quality of service is not just an operational metric, but an essential foundation for academic success and a holistic student experience.

Several studies have investigated the relationship between service quality and student satisfaction, yielding mixed findings. Research by Huang et al. (2022), for example, found very high levels of student satisfaction, with an average compliance rate across all parameters reaching 68.47%, indicating the university's program met expectations. Instead, a study by Wong & Chapman (2023) and Hettiarachchi et al. (2021) shows a moderate level of student satisfaction. The same message is also conveyed by other research, which shows that the quality of higher education services significantly affects the institution's image and the intentions of student behaviour. Meanwhile, Dinh et al. (2021) found through regression analysis that service quality has a substantial impact on student satisfaction, with a significant correlation coefficient. These studies collectively highlight the importance of quantitative methodology in measuring and understanding the complexity of these relationships.

While the existing literature has identified service quality as a key predictor of student satisfaction, a significant gap remains in understanding the disparity between high-quality service and often moderate levels of satisfaction. This gap, which can reach 8-10% on the measurement scale, suggests that factors beyond the commonly measured dimension of service quality influence perceptions of satisfaction. Previous research has not comprehensively identified and quantitatively measured these additional factors, indicating a need for further exploration to explain the unexplained variances in student satisfaction.

This study lays the groundwork for future research to explore these factors in greater detail and their impact on student satisfaction. This research makes a unique contribution to the existing literature by explicitly examining the phenomenon of service quality and satisfaction among Indonesian students in Malaysia. This demographic is underrepresented in current studies. Unlike previous research that may have focused on the general student population, this study's approach allowed for the identification of unique perceptions and expectations that can significantly influence satisfaction scores. The study not only confirms existing relationships but also quantitatively analyzes potential 'satisfaction gaps' where high service quality does not always lead to commensurate satisfaction. Through rigorous statistical analysis, the study is expected to uncover more specific predictors of satisfaction, providing measurable new insights into service improvement strategies in educational institutions.

This study aims to analyze the level of quality of higher education services and student satisfaction, as well as empirically test the contribution of service quality to student satisfaction among Indonesian Student Associations in Malaysia. Through extensive survey data collection, hypotheses regarding the positive and significant relationship between the dimensions of service quality (administration, physical environment, core education, facility support, and transformation) and student satisfaction levels will be tested. Statistical analysis will involve multiple linear regression and correlation to measure the strength and direction of the relationship between variables, as well as to determine the proportion of variance in student satisfaction that the quality of service can explain. A measurable, practical model for educational institutions in formulating data-based service improvement strategies is expected to be provided by the results of this study.

RESEARCH METHOD

This study employs a quantitative approach, which emphasises the analysis of numerical data through statistical methods (Filippo et al., 2024; Mulisa, 2022; Schulte et al., 2022). This approach was chosen to examine the causal relationships between diverse sample units. The study population consisted of 1,152 administrators of the Indonesian Student Association in Malaysia, spread across 26 universities in Malaysia. From this population, the research sample amounted to 150 individuals. This sample size, representing 13% of the total population, was selected based on the guidelines of Sheng et al. (2021), which suggested a range of 10% to 15% or 20% to 25% for populations exceeding 100 individuals. The sampling procedure was carried out purposively.

To measure service quality, the research instrument used is the Higher Education Service Quality (HESQUAL) model developed by Shah et al. (2022). Meanwhile, student satisfaction was measured using the Service Quality (SERVQUAL) instrument developed by Sheng et al. (2021), which comprised five main dimensions: administrative quality, physical environment quality, educational core quality, environmental facility support quality, and transformation quality. These aspects, including reality, reliability, responsiveness, security, and empathy, are integral components of the research

instruments used. Table 1 presents the results of the validity and reliability test of the service quality instrument.

Table 1. Validity and Reliability of Service Quality Instruments

| No | Aspects | Item Numbers | Item Correlation with Total Score | Alpha |
|----|---------------------------------|--------------|-----------------------------------|-------|
| 1 | Administrative quality | 7 | 0,364 - 0,697 | 0,647 |
| 2 | Quality of physical environment | 10 | 0,365 - 0,679 | 0,600 |
| 3 | Core quality of education | 17 | 0,355 - 0,531 | 0,662 |
| 4 | Environmental quality support | 5 | 0,456 - 0,658 | 0,669 |
| 5 | Transformation quality | 9 | 0,544 - 0,798 | 0,687 |
| | Overall | 48 | 0,392 - 0,605 | 0,628 |

The Islamic Student Union's service quality tool comprises 48 items and examines eight different aspects: 1) Administrative quality (7 items, validity 0.364–0.679, alpha value 0.647). Ten physical environment quality elements with an alpha value of 0.600 and a validity range of 0.365 to 0.679. 3) 17 items measuring the quality of schooling, validity 0.355 – 0.531, alpha value 0.662. Quality of information: 9 elements, validity 0.544 – 0.792, alpha value 0.687; Environmental Quality Support: 5 items, validity 0.456 – 0.655, alpha value 0.669. This demonstrates that all of the institutional identity aspects' items are suitable for use in this study and have moderate validity and reliability.

Table 2. Validity and Reliability Test Results of Student Satisfaction

| No | Aspects | Item Numbers | Item Correlation with Total Score | Alpha |
|----|------------|--------------|-----------------------------------|-------|
| 1 | Real | 4 | 0,624 - 0,758 | 0,638 |
| 2 | Reliable | 5 | 0,355 - 0,787 | 0,687 |
| 3 | Responsive | 4 | 0,517 - 0,873 | 0,712 |
| 4 | Safety | 4 | 0,562 - 0,715 | 0,667 |
| 5 | Empathy | 5 | 0,558 - 0,780 | 0,758 |
| | Overall | 22 | 0,315 - 0,514 | 0,760 |

The Islamic Student Union's student satisfaction survey has 22 items and tests five different aspects: 1) tangible, with four items and a validity between 0.624 and 0.758 and an Alpha value of 0.638; 2) reliability, with four items and a validity between 0.355 and 0.789 and an Alpha value of 0.697; 3) response, with four items and a validity between 0.517 and 0.873 and an Alpha value of 0.712; 4) security, with four items and a validity between 0.562 and 0.715 and an Alpha value of 0.667; and 5) empathy, with five items and a validity between 0.558 and 0.780 and an Alpha value of 0.758. Overall, the service quality instrument comprises 48 items, and the student satisfaction instrument consists of 22 items. The connection between each item's score and the instrument trial's overall score is greater than the 0.3 threshold set by Cazzolli et al. (2025), Harrison et al. (2023), and Sheng et al. (2021). This suggests that the items' validity is high. According to the Alpha Cronbach reliability index for some aspects or constructs in the student satisfaction and service quality instruments, the value is higher than 0.6. This suggests that both the service quality tool and student happiness are suitable for this study and exhibit a moderate degree of reliability.

Both descriptive and inferential analysis are used in data analysis. The goal of descriptive analysis is to arrange and explain conditions, symptoms, or issues using numerical data that is succinctly and effectively explained (He et al., 2024; Murea et al., 2024; Shah et al., 2022). Analysis of averages, percentages, and standard deviations is an example of descriptive statistics. Coefficient of determination analysis and fundamental linear regression analysis are examples of inferential analysis. In quantitative research, the strength of the association between variables is examined using linear regression analysis (Damerji & Salimi, 2021; Han & Wang, 2021; Lippke et al., 2021). The strength of the association between the independent and dependent variables, represented as a percentage, is ascertained using determination coefficient analysis. For simplicity, quickness, and precision in computation and analysis. The SPSS for Windows 26 utility aids in both descriptive and inferential analysis. A graphical environment, data storage system, descriptive menus, and straightforward dialogue boxes make SPSS an application that facilitates high-degree statistical analysis, is easy to use, and is comprehensible (Abbasnasab Sardareh et al., 2021; Cheung et al., 2023).

RESULT AND DISCUSSION

Result

Student Satisfaction

Based on descriptive analysis, the level of student satisfaction with the services provided can be described in detail. Overall, student satisfaction with tangible services averaged 3.84 with a standard deviation of 1.12, which was classified as high. These tangible services encompass physical aspects, including campus facilities, environmental cleanliness, staff appearance, and relevant communication materials. However, when examining other aspects, the average student satisfaction with service delivery availability, which reflects reliability and responsiveness, was at a moderate level, with an average of 3.63 and a standard deviation of 1.15. This suggests that, although the physical infrastructure may be adequate, the student experience regarding the speed and consistency of services still requires improvement. Furthermore, the average total student satisfaction score for empathy in service delivery, which encompasses individual attention and staff understanding of student needs, is also in the medium category, at 3.60 with a standard deviation of 1.14. These findings, as detailed in Table 3, highlight specific areas where the student experience can be optimised to enhance overall satisfaction.

Table 3. Student Satisfaction

| No | Aspects | Mean | Standard Deviation | Interpretation |
|---------|------------|------|--------------------|----------------|
| 1 | Real | 3,84 | 1,12 | Moderate |
| 2 | Reliable | 3,63 | 1,15 | Moderate |
| 3 | Responsive | 3,60 | 0,09 | Moderate |
| 4 | Safety | 3,63 | 1,07 | Moderate |
| 5 | Empathy | 3,60 | 1,14 | Moderate |
| Overall | | 3,66 | 0,914 | Moderate |

Departing from the display in Table 3, regarding student satisfaction, students are generally satisfied with tangible services, indicating that the physical

aspects of the institution, such as campus facilities and environment, have met mainly their basic expectations. However, satisfaction with the reliability of the service is at a reasonable level, implying the potential for increased consistency in information delivery and timeliness of processes. Service responsiveness, security, and empathy in service delivery were recorded as moderate, highlighting the need to improve interaction efficiency and increase personal attention from staff. Overall, student satisfaction tends to be moderate, highlighting crucial areas that require further strategic attention.

Service Quality

The study's results consistently demonstrate that the quality of services across various dimensions is at a high level. The quality of administration, for example, was recorded very well with an average of 3.89 and a standard deviation of 1.09, reflecting optimal efficiency and responsiveness in enrollment services, academic management, and student support. The physical environment was also found to be of high quality (mean = 3.89; standard deviation = 1.09), characterised by well-maintained campus facilities, conducive learning spaces, and adequate supporting infrastructure. The quality of the core education was rated high (mean = 3.89; standard deviation = 1.09), indicating a relevant curriculum, effective teaching methods, and competent lecturer performance. The quality of facility support is significantly better (mean = 3.97; St.Dev = 0.74), including the availability of information technology, stable internet access, and supporting infrastructure. Finally, the quality of transformation was also shown to be excellent (mean = 4.09; standard deviation = 0.94), indicating the ability of institutions to adapt and innovate in response to the demands of the times, as detailed in Table 4.

Table 4. Service Quality

| No | Aspects | Mean | Standard Deviation | Interpretation |
|----|---------------------------------|------|--------------------|----------------|
| 1 | Administrative quality | 3,89 | 1,09 | High |
| 2 | Quality of physical environment | 4,02 | 0,96 | High |
| 3 | Core quality of education | 3,89 | 1,02 | High |
| 4 | Environmental quality support | 4,13 | 0,90 | High |
| 5 | Transformation quality | 3,97 | 0,97 | High |
| | Overall | 3,98 | 0,98 | High |

As indicated in Table 4, the overall quality of service is in the high category, with an average rating of 3.98. Administrative quality (mean = 3.89) indicates solid process efficiency and support. The physical environment (mean = 4.02) reflects very adequate facilities and is conducive to learning. The core quality of education (mean = 3.89) confirms the relevance of the curriculum and the superior teaching competence. The support for environmental facilities (mean = 4.13) highlighted the optimal availability of supporting resources, while the quality of transformation (mean = 3.97) demonstrated the institution's adaptability to the changing times. By implication, the institution successfully meets or even exceeds student expectations in various aspects of essential services, building a strong foundation for satisfaction and a positive academic experience. This puts the institution in a strong position to provide quality education.

The Effect of Service Quality on Student Satisfaction

The central hypothesis tested in this study is that service quality has a significant and positive impact on student satisfaction. To validate these assumptions, a series of regression and correlation analyses have been performed. From the results of the calculation of the regression coefficient presented in Table 5, the direction of regression (coefficient b) was obtained as 1,733, and the value of constant (a) was -2,373. These parameters are then formulated into the regression equation $Y = -2.376 + 1.773X$. This equation mathematically describes how each unit of improvement in service quality (independent variable X) is projected to affect student satisfaction levels (dependent variable Y), providing a quantitative picture of the hypothetical causal relationship.

Table 5. Regression Coefficient of Service Quality and Student Satisfaction

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|--------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | -2,736 | 1,534 | | -1,784 | ,077 |
| Mutu Layanan | 1,733 | ,372 | ,358 | 4,659 | ,000 |

a. Dependent Variable: Student Satisfaction

Departing from the presentation of Table 5, which presents the Regression Coefficient of Service Quality and Student Satisfaction, it can be seen that the variable "Service Quality" has an unstandardized coefficient (B) of 1.733 and a standardized coefficient (Beta) of 0.358. The significance value (Sig.) for "Quality of Service" is 0.000, which is well below the threshold of 0.05. This expressly indicates that the quality of service has a positive and statistically significant influence on student satisfaction. A Beta coefficient of 0.358 indicates that a one-standard-deviation increase in quality of service will correlate with a 0.358-standard-deviation increase in student satisfaction, underscoring the strength of this relationship. Although the constant shows a negative value, the primary focus lies in the positive influence of the quality of service. Implicitly, improving service quality directly contributes to increasing student satisfaction, underscoring the importance of service quality improvement strategies in achieving optimal satisfaction.

Table 6. ANOVA of Service Quality and Student Satisfaction

| Model | Sum of Squares | Df | Mean Square | F | Sig. |
|--------------|----------------|-----|-------------|--------|-------------------|
| 1 Regression | 22,875 | 1 | 22,875 | 21,708 | .000 ^b |
| Residual | 155,952 | 148 | 1,054 | | |
| Total | 178,827 | 149 | | | |

a. Dependent Variable: Student Satisfaction

b. Predictors: (Constant), Service Quality

After the test, as shown in Table 6, the results indicate that the model significance test yielded a calculated F-value of 21,708. The F-value of this calculation is very significant at the probability level of $p < 0.001$ (referred to as .000b). This strong level of significance confirms that the regression model, which tests the effect of service quality on student satisfaction, is valid and has statistically significant predictive capabilities. Furthermore, after the ANOVA test

was conducted, a Summary Model Test was performed as the final step, as shown in Table 7.

Table 7. Model Summary Contribution of Service Quality

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|-------------------|----------|-------------------|----------------------------|
| 1 | .358 ^a | .128 | .122 | 1,02651 |
| a. Predictors: (Constant), Service Quality | | | | |
| b. Dependent Variable: Student Satisfaction | | | | |

Departing from the presentation of Table 7, which summarises the Service Quality Contribution Model, it can be seen that the value of the correlation coefficient (R) is 0.358. This figure illustrates a moderate positive relationship between service quality and student satisfaction, suggesting that higher service quality is associated with greater student satisfaction. Furthermore, a Coefficient of Determination (R-Square) value of 0.128 implies that the quality of service can explain 12.8% of the variation in student satisfaction. This means that, although the quality of service has a significant influence, the vast majority (77.2%) of student satisfaction is influenced by other factors not included in this model, such as individual student characteristics, personal expectations, or external environmental influences. Thus, while improving the quality of service is essential, institutions also need to identify and manage other factors that contribute to overall student satisfaction.

Discussion

This research aims to address the pressing need to understand the dynamics of service quality and student satisfaction in the context of higher education, particularly among Indonesian students in Malaysia. Recognising the central role of students as the primary "customers" in the higher education ecosystem (Sultan & Yin Wong, 2013), this study aims to analyse the quality of higher education services, student satisfaction levels, and the significant contribution of service quality to their overall satisfaction. The relevance of this research lies in its efforts to provide in-depth empirical insights into how higher education institutions can effectively improve the student experience, a crucial aspect for university performance and competitiveness in the sector (Ahmed Arnout et al., 2024; Dwitasari et al., 2024; Hart & Rodgers, 2023).

The results of this study present several significant findings. First, the overall quality of service, as perceived by students, falls into the high category, with an average rating of 3.98. Further observations revealed that dimensions such as administrative quality (average rating of 3.89), physical environment (average rating of 4.02), core education (average rating of 3.89), environmental facility support (average rating of 4.13), and transformation quality (average rating of 3.97) were all highly rated by students. This indicates that the institution has successfully provided quality academic infrastructure, processes, and substance. These findings align with previous research, which also demonstrates a high level of service quality in the context of higher education (Meyrick & Barnett, 2021).

However, despite the high quality of service, the overall student satisfaction level falls into the medium category, with an average rating of 3.66. Specifically,

although satisfaction with tangible services is relatively high, the aspects of reliability, responsiveness, security, and empathy still show moderate levels of satisfaction. This disparity between high quality of service and moderate satisfaction is one of the interesting and perhaps not entirely unexpected findings. This suggests that, although the institution has provided quality services, students' expectations may not have been fully met, particularly in the more personalised and interactive aspects. These findings of moderate student satisfaction are consistent with several previous studies (Mazzucato, 2024; Meyrick & Barnett, 2021; Rehman et al., 2022).

Further regression analysis confirmed that service quality made a significant positive contribution to student satisfaction, with a correlation coefficient (r) of 0.358 and a highly significant F-value of 21.708 ($p < 0.001$). This means that improved service quality is directly correlated with increased student satisfaction. These findings support the argument that service quality is a significant predictor of student satisfaction, aligning with previous studies (Del Río-Rama et al., 2021; Huang et al., 2022; Meyrick & Barnett, 2021). For example, the quality of academic services, such as lecturer competencies and course variety, as well as the quality of facilities, as emphasised by Wong & Chapman (2023) and Rehman et al. (2022), has consistently been proven to affect student satisfaction. Lecturer-student interaction and an effective learning environment are also crucial factors (Hajisoteriou & Neophytou, 2022; Saskia Dörr, 2021; Varbanova et al., 2023).

Theoretically, these results confirm the relevance of service quality measurement models, such as HESQUAL and SERVQUAL, in the context of higher education, while also highlighting the complexity of student satisfaction that depends not only on the objective quality of service but also on subjective perceptions and expectations. The practical implication is that higher education institutions are not only providing high-quality facilities and services, but must also proactively improve aspects of services related to reliability, responsiveness, and empathy. For example, improvements in a more responsive academic information system or staff training to provide more personalized attention to students can significantly increase satisfaction.

This research makes significant contributions both theoretically and practically. Theoretically, this study enriches the literature on service quality and student satisfaction by providing empirical evidence confirming the relevance of the HESQUAL and SERVQUAL models in the context of international students, particularly in Southeast Asia. The findings regarding the disparity between high-quality service and moderate satisfaction also deepen the understanding that satisfaction is not only influenced by objective service provision but also by perceptual factors and subjective expectations that may not be fully met. This paved the way for the development of a more comprehensive model. Practically, the results of this study provide concrete guidance for higher education institutions to formulate a more focused service quality improvement strategy. Institutions can prioritise improvements in aspects such as reliability, responsiveness, and empathy to directly enhance student experience and satisfaction. The study also emphasises the importance of understanding the

unique needs of international students to create a more supportive and enriching learning environment.

CONCLUSION

This study aims to unravel the complexity of the interaction between the quality of higher education services and student satisfaction levels, particularly among international students. The findings indicate that, although the quality of services provided by institutions is high in various dimensions, overall student satisfaction remains moderate. However, empirical analysis unequivocally confirms that the quality of service has a positive and significant contribution to student satisfaction, although other factors also play a substantial role. This disparity underscores the need for institutions to not only maintain quality standards but also strategically improve more personalised aspects of service, such as reliability, responsiveness, and empathy. Therefore, future research is recommended to explore the non-service factors that contribute to student satisfaction in greater depth, thereby creating a more holistic and fulfilling academic experience.

ACKNOWLEDGMENT

In this section, the author would like to thank the parties who have provided support, funding, guidance, or other facilities. The author must mention the parties who supported the research, such as supervisors or institutions.

REFERENCES

- Arnout, B. I., AlQahtani, T. S., & Melweth, H. A. L. (2024). Competitive Capabilities of Higher Education Institutions From Their Employees' Perspectives: A Case Study of King Khalid University. *PLoS ONE*, 19(5 May), e0302887. <https://doi.org/10.1371/journal.pone.0302887>
- Borishade, T. T., & Aka, D. O. (2021). Customer Experience Management: A Study of Mechanic Versus Humanic Clues and Student Loyalty in Nigerian Higher Education Institution. *Sustainability (Switzerland)*, 13(12), 6563. <https://doi.org/10.3390/su13126563>
- Cazzolli, R., Ju, A., Natale, P., Teixeira-Pinto, & Cho, Y. (2024). Validating the SONG-PKD Pain Instrument, a Core Outcome Measure for Pain in ADPKD. *Kidney International Reports*, 10(2), 447–456. <https://doi.org/10.1016/j.ekir.2024.11.015>
- Cheung, S., & Vong, W. N. (2023). DIY Bootstrapping: Getting the Nonparametric Bootstrap Confidence Interval in SPSS for Any Statistics or Function of Statistics (When This Bootstrapping Is Appropriate). *Behavior Research Methods*, 55(2), 474–490. <https://doi.org/10.3758/s13428-022-01808-5>
- Damerji, H., & Salimi, A. (2021). Mediating Effect of Use Perceptions on Technology Readiness and Adoption of Artificial Intelligence in Accounting. *Accounting Education*, 30(2), 107–130. <https://doi.org/10.1080/09639284.2021.1872035>

- Del Río-Rama, M. de la C., Álvarez-García, J., Mun, N. K., & Durán-Sánchez, A. (2021). Influence of the Quality Perceived of Service of a Higher Education Center on the Loyalty of Students. *Frontiers in Psychology*, 12, 671407. <https://doi.org/10.3389/fpsyg.2021.671407>
- Dinh, H. V. T., Nguyen, Q. A. T., Phan, M. H. T., Pham, K. T., Nguyen, T., & Nguyen, H. T. (2021). Vietnamese Students' Satisfaction Toward Higher Education Service: The Relationship Between Education Service Quality and Educational Outcomes. *European Journal of Educational Research*, 10(3), 1397–1410. <https://doi.org/10.12973/EU-JER.10.3.1397>
- Dwitasari, P., Zulaikha, E., Hanoum, S., Alamin, R. Y., & Lee, L. (2024). Internal Perspectives on Visual Identities in Higher Education: A Case Study of Top-Ranked Universities in Indonesia. *F1000Research*, 13, 1535. <https://doi.org/10.12688/f1000research.159232.1>
- Filippo, C., Vito, G., Irene, S., Simone, B., & Gualtierio, F. (2024). Future Applications of Generative Large Language Models: A Data-Driven Case Study on ChatGPT. *Technovation*, 133, 103002. <https://doi.org/10.1016/j.technovation.2024.103002>
- Hajisoteriou, C., & Neophytou, L. (2022). The Role of the OECD in the Development of Global Policies for Migrant Education. *Education Inquiry*, 13(2), 127–150. <https://doi.org/10.1080/20004508.2020.1863632>
- Han, Y., & Wang, Y. (2021). Investigating the Correlation Among Chinese EFL Teachers' Self-Efficacy, Work Engagement, and Reflection. *Frontiers in Psychology*, 12, 763234. <https://doi.org/10.3389/fpsyg.2021.763234>
- Harrison, C. J., Plessen, C. Y., Liegl, G., Rodrigues, J. N., Sabah, S. A., Beard, D. J., & Fischer, F. (2023). Item Response Theory Assumptions Were Adequately Met by the Oxford Hip and Knee Scores. *Journal of Clinical Epidemiology*, 158, 166–176. <https://doi.org/10.1016/j.jclinepi.2023.04.008>
- Hart, P. F., & Rodgers, W. (2023). Competition, Competitiveness, and Competitive Advantage in Higher Education Institutions: A Systematic Literature Review. *Studies in Higher Education*, 49(11), 2153–2177. <https://doi.org/10.1080/03075079.2023.2293926>
- Haselsteiner, E., Rizvanolli, B. V., Villoria Sáez, P., & Kontovourkis, O. (2021). Drivers and Barriers Leading to a Successful Paradigm Shift Toward Regenerative Neighborhoods. *Sustainability (Switzerland)*, 13(9), 5179. <https://doi.org/10.3390/su13095179>
- He, X., Liang, J., Liang, H., Yue, P., Zeng, D., & Gong, N. (2024). Informing or Concealing – Dynamics of Telling Disease-Related Bad News Among Family Members of Older Cancer Patients: A Qualitative Study. *International Journal of Nursing Studies*, 159, 104871. <https://doi.org/10.1016/j.ijnurstu.2024.104871>
- Hettiarachchi, S., Damayanthi, B. W. R., Heenkenda, S., Dissanayake, D. M. S. L. B., Ranagalage, M., & Ananda, L. (2021). Student Satisfaction With Online Learning During the COVID-19 Pandemic: A Study at State Universities in Sri Lanka. *Sustainability (Switzerland)*, 13(21), 11749. <https://doi.org/10.3390/su132111749>

- Huang, Y. T., Yu, N., & Chen, C. Y. (2022). How Do Mini Games Affect Female Users of Mobile Commerce? Improving Platform Satisfaction Through Game Use Intention. *Frontiers in Psychology*, 13, 973144. <https://doi.org/10.3389/fpsyg.2022.973144>
- Lippke, S., Fischer, M. A., & Ratz, T. (2021). Physical Activity, Loneliness, and Meaning of Friendship in Young Individuals – A Mixed-Methods Investigation Prior to and During the COVID-19 Pandemic With Three Cross-Sectional Studies. *Frontiers in Psychology*, 12, 617267. <https://doi.org/10.3389/fpsyg.2021.617267>
- Mazzucato, M. (2024). Governing the Economics of the Common Good: From Correcting Market Failures to Shaping Collective Goals. *Journal of Economic Policy Reform*, 27(1), 1–24. <https://doi.org/10.1080/17487870.2023.2280969>
- Meyrick, J., & Barnett, T. (2021). From Public Good to Public Value: Arts and Culture in a Time of Crisis. *Cultural Trends*, 30(1), 75–90. <https://doi.org/10.1080/09548963.2020.1844542>
- Mulisa, F. (2022). When Does a Researcher Choose a Quantitative, Qualitative, or Mixed Research Approach? *Interchange*, 53(1), 113–131. <https://doi.org/10.1007/s10780-021-09447-z>
- Murea, M., Raimann, J. G., Divers, J., & Trynosky, S. (2024). Comparative Effectiveness of an Individualized Model of Hemodialysis Versus Conventional Hemodialysis: A Study Protocol for a Multicenter Randomized Controlled Trial (The TwoPlus Trial). *Trials*, 25(1), 424. <https://doi.org/10.1186/s13063-024-08281-9>
- Rehman, M. A., Woyo, E., Akahome, J. E., & Sohail, M. D. (2022). The Influence of Course Experience, Satisfaction, and Loyalty on Students' Word-of-Mouth and Re-Enrolment Intentions. *Journal of Marketing for Higher Education*, 32(2), 259–277. <https://doi.org/10.1080/08841241.2020.1852469>
- Sardareh, S., Brown, G. T. L., & Denny, P. (2021). Comparing Four Contemporary Statistical Software Tools for Introductory Data Science and Statistics in the Social Sciences. *Teaching Statistics*, 43(S1), S157–S172. <https://doi.org/10.1111/test.12274>
- Saskia Dörr. (2021). Organisation for Economic Co-operation and. In *Corporate Digital Responsibility* (pp. 109–140). Routledge. <https://wirtschaftslexikon.gabler.de/definition/selbst>
- Schulte, E., Scheller, F., Sloat, D., & Bruckner, T. (2022). A Meta-Analysis of Residential PV Adoption: The Important Role of Perceived Benefits, Intentions and Antecedents in Solar Energy Acceptance. *Energy Research and Social Science*, 84, 102339. <https://doi.org/10.1016/j.erss.2021.102339>
- Shah, J., & Fitzsimmons-Craft, E. E. (2022). Development and Usability Testing of a Chatbot to Promote Mental Health Services Use Among Individuals With Eating Disorders Following Screening. *International Journal of Eating Disorders*, 55(9), 1229–1244. <https://doi.org/10.1002/eat.23798>
- Sheng, Y., Zhou, X., Yang, S., Ma, P., & Chen, C. (2021). Modelling Item Scores of Unified Parkinson's Disease Rating Scale Part III for Greater Trial Efficiency. *British Journal of Clinical Pharmacology*, 87(9), 3608–3618. <https://doi.org/10.1111/bcp.14777>

- Varbanova, V., Hens, N., & Beutels, P. (2023). Determinants of Life-Expectancy and Disability-Adjusted Life Years (DALYs) in European and Organisation for Economic Co-operation and Development (OECD) Countries: A Longitudinal Analysis (1990–2019). *SSM - Population Health*, 24, 101484. <https://doi.org/10.1016/j.ssmph.2023.101484>
- Wong, W. H., & Chapman, E. (2023). Student Satisfaction and Interaction in Higher Education. *Higher Education*, 85(5), 957–978. <https://doi.org/10.1007/s10734-022-00874-0>