Management Strategies to Optimize Student Admissions in Higher Education: A Data-Driven Perspective

Mutmainnah[1*], Agus Timan[2], Okik Dwi Cahyani[3]

[1] Sekolah Tinggi Agama Islam Al-Muntahy, Indonesia
[2,3] Universitas Negeri Malang, Indonesia

*Email Corresponding author: iinmutmainnah879@gmail.com

Abstract

This study aims to analyze the factors that affect prospective students' decision to choose a campus and identify management strategies that can optimize student admissions at STAI Al-Muntahy. The research method used was a mixed method with an explanatory sequential design. Survey and interview data collection techniques. Surveys are used to measure public awareness and interest in institutions. Meanwhile, interviews are used to explain further from the survey results obtained. The findings of this study show several main factors that affect their decision, such as relevant study programs, affordable education costs, and the quality of academic and non-academic services. In addition, innovative, data-based promotions and strengthening the campus's external network also play an important role in attracting the interest of prospective students. The results of this study lead to five main strategies that can be applied to increase new student admissions, namely: (1) more flexible adjustment of education fees, (2) strengthening internal organizations and external campus networks, (3) more targeted and data-driven promotions, (4) improving the quality of academic and non-academic services, and (5) increasing the involvement of alums and the surrounding community. Implementing these strategies is expected to strengthen the image of the campus, increase student satisfaction, and increase the number of new student registrations in the future.

How to Cite:
Mutmainnah, M., Timan, A., & Cahyani, O. D. (2025). Management Strategies to Optimize Student Admissions in Higher Education: A Data-Driven Perspective. *JUMPA: Jurnal Manajemen Pendidikan*, 6(1), 24-35.

INTRODUCTION

Higher education is an important pillar in building the capacity of competent human resources to face global challenges (Bonilla-Jurado et al., 2024; Kjellgren & Richter, 2021; Moshtari & Safarpour, 2024). In an era marked by digital transformation and increasingly competitive competition, universities are not only required to offer quality academic programs but can attract the interest of prospective students (de Boer, 2021; Tilak & Glassman, 2022; Wong & Chapman, 2023). The dynamics of student

admissions are often complex challenges, especially for newly developed institutions. The problem is that the growth in the number of students in the last two years has not shown a significant increase in the institution's expectations. This creates an urgency to evaluate the management strategies used in the student admission process (Michel-Villarreal et al., 2023; Rosinger et al., 2021; Tohri et al., 2022).
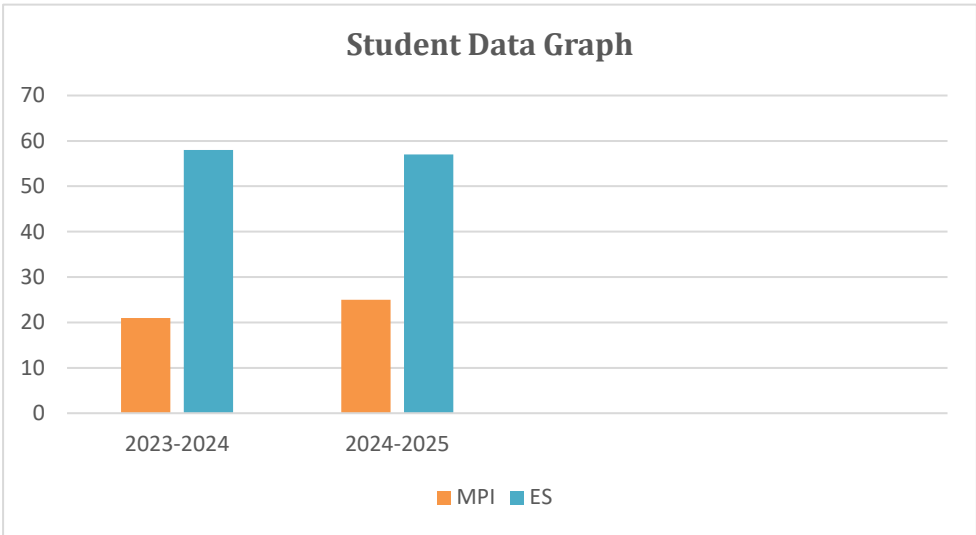
Student Data Graph

Graph 1. Student Data
Source: Internal Data of Higher Education

The strategy in marketing a data-based institution has sometimes not been carried out, so prospective students' acceptance has not been optimal. A study by Tabianan et al. (2022) shows that the analysis of trends and behaviour of prospective students can help universities identify potential market segments. Universities need to see the targets of prospective students from the environmental background, the culture of the community, and the radius of distance that can be reached by prospective students (Agasisti & Soncin, 2021; Bartolucci et al., 2022; Ismaili, 2020). The market segment is not clear about the factor of the non-optimal number of students as expected by universities.

Several literatures have examined factors influencing student enrollment decisions, focusing on program relevance, financial considerations, and the institution's reputation. Previous research has shown that the availability of desired academic programs, financial aid options, and campus facilities are key factors in determining student choices (Alenezi, 2023; Bağrıacık Yılmaz & Karataş, 2022; Martinez et al., 2021). Research by Allil (2024) emphasizes the importance of data-driven marketing strategies by suggesting that universities optimize their promotions by analyzing the behaviour and preferences of prospective students. In addition, Bisani et al. (2022) discuss the crucial role of external networks and community involvement in attracting students, emphasizing the need for universities to build strong partnerships with local industries. Although these findings provide important insights, many universities, especially in developing regions, still struggle to implement the strategy effectively and harness the full potential of this approach to optimize student admissions.

Although previous research has identified a variety of factors that influence students' choice in higher education, including the course of study, teaching quality, and the reputation of the institution, there is still a gap in understanding how localized marketing strategies, particularly those that integrate data analytics, can improve recruitment efforts at small or lesser-known institutions. The main gap lies in how applying data-driven marketing techniques, such as analyzing student behaviour and online engagement, can optimize recruitment efforts. Existing literature tends to focus on generalized strategies, often ignoring the role of a specific and targeted approach in a particular context, especially in small or developing institutions. In addition, there is still limited research examining digital media's effectiveness in building emotional and intellectual connections with prospective students. This research will explore the potential of these data analytics techniques and digital strategies to improve recruitment outcomes at institutions such as STAI Al-Muntahy.

This study aims to fill this gap by investigating the application of data-based marketing strategies in the student admission process at STAI Al-Muntahy, an Islamic higher education institution in a developing area. The study will focus on how digital tools, particularly social media and website analytics, can be used to analyze the behaviour of prospective students and tailor marketing efforts to optimize application results. The goal is to assess the effectiveness of these strategies in attracting students by increasing engagement and institutional visibility. This research will contribute to the literature by providing new insights into the localized marketing approach and its role in student recruitment in higher education, particularly in small institutions. This article will be organized as follows: the first part will review the existing literature on student recruitment strategies; the second part will explain the methodology of data collection and analysis; The third section will discuss the results and practical implications; and the last section will provide recommendations for further research.

RESEARCH METHOD

This research uses *mixed methods* to get a comprehensive overview of the factors that affect the interest of prospective students and strategies that can be used in student admissions at STAI Al-Muntahy. The type of research used is *explanatory sequential design,* namely conducting a survey as quantitative data and interviews as qualitative data (Bartholomew et al., 2021; Hirose & Creswell, 2023; Koo et al., 2021). Quantitative data was obtained through surveys conducted to the public to measure their level of awareness of the existence of the campus and evaluate the low interest in studying on campus. To deepen the survey results, this study also uses a semi-structured interview method as qualitative data.

Interviews were conducted with several selected respondents, including students as prospective students, the surrounding community, alums and sympathizers, community leaders, and campus internal parties. The goal is to explore the factors underlying low interest in studying and identify opportunities to improve admission strategies. The data from this interview will be analyzed thematically to find patterns that support or contradict the survey results (Janis, 2022; Prevett et al., 2021; Scharp, 2021). The results of the quantitative analysis from the survey and the qualitative analysis from the interviews will then be combined to provide data-driven recommendations that can be used to develop a more effective student admission strategy. This approach is expected to provide a holistic and in-depth insight into current conditions and steps that need to be taken.

RESULT AND DISCUSSION
Result

Based on the results of a previous survey, what factors interest prospective students when choosing a university? It was seen before that the influencing factors were the campus's reputation, the availability of facilities, and the availability of study programs, costs, and trust in the career path the university will provide. So that the formulation is narrowed by looking at the three aspects that are considered the most important to increase interest, namely the appropriate study program (35.9%), more affordable education costs (30.8%), and internal/external campus organizations (33.3%). This data shows that prospective students pay great attention to the relevance of study programs to market needs, the availability of excellent programs, and economic aspects in the form of education costs.
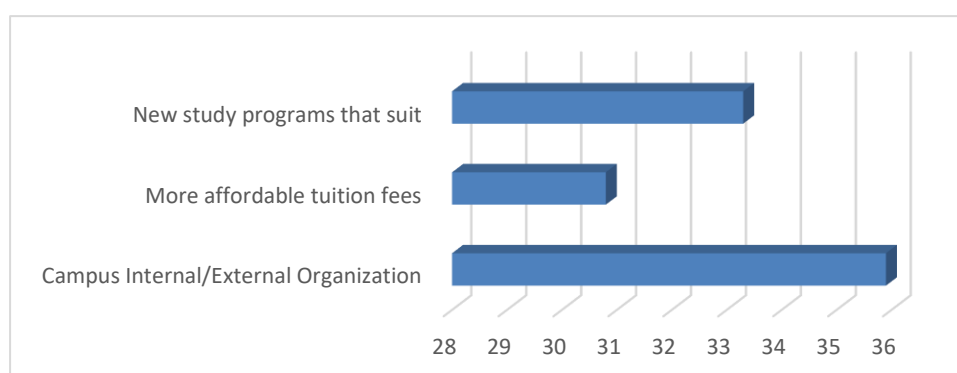
Graph 2. Campus Survey Results
Source: Internal Data of Higher Education

Factors Affecting the Interest of Prospective Students
Suitable Study Programs

Based on the research findings, the study program's suitability to prospective student's needs and interests is a key factor in choosing a university. Most prospective students stated they were more interested in study programs with high career prospects and relevance to global industry developments. For example, study programs that focus on information technology, business, and digital-based education receive more attention because they have wider job opportunities. However, most respondents revealed that they did not know in depth the advantages and specifications of the study programs offered by the institution, which led to the selection of other universities that were more aggressive in promoting their flagship programs. These findings show universities' importance in carrying out more targeted promotions to highlight the advantages of the programs they offer so that prospective students can better consider their options.

In interviews, some prospective students revealed that they tend to choose colleges that offer courses with clear career prospects and are relevant to the job market's needs. Where one of the interviews conducted with one of the informants stated, "I chose to enrol in a university that offers study programs that are in line with the times, such as technology and business management because I believe it will open up greater opportunities in the future (I_2024)." However, the main obstacle was the lack of in-depth understanding of the study programs at the institution they were considering. Several respondents stated, "I don't know much about what this campus has to offer. I feel that the information provided is not clear enough, so I tend to look for other campuses that have more promotions of their study programs (I_2024)."

Departing from the above, it shows that the suitability of study programs with career prospects and relevance to industry needs are important factors that affect the choice of universities by prospective students. The obstacles related to the lack of understanding of prospective students regarding the requirements of the study programs offered emphasized the importance of universities in improving and promoting programs. By introducing the advantages and relevance of study programs more effectively, universities can increase their attractiveness in the eyes of prospective students. Therefore, a clearer and more targeted promotion strategy is needed so that prospective students can better understand the academic options offered and how they can support their future career goals.

Affordable Tuition Fees

This study also found that affordable education costs are a significant factor that affects prospective students' decision to choose students decision to choose a university. These findings are supported by interviews that show that many prospective students and their parents are more interested in colleges that offer flexible financing schemes, such as scholarships or instalment payments. Economic factors are the main barrier for those from families with limited income to continue their studies. Therefore, universities offering lighter financing alternatives have a great opportunity to attract more prospective students from the lower middle economic class.

In interviews conducted with several prospective students, they expressed their concerns regarding the high cost of education. One of the respondents stated, "I want to continue my studies, but tuition at some universities is very expensive, so I prefer a campus that offers more affordable fees or provides (I_2024) scholarships." Another prospective student said, "The scholarship or tuition instalment is very important because I come from a family that cannot afford the full fee (I_2024)." The interviews show that the high cost of education is often an obstacle for prospective students from low- to middle-income families, which requires them to look for more economical options without sacrificing the quality of education.

Internal/External Campus Organization: Factors Affecting the Interest of Prospective Students

In addition, this study also found that the existence of internal/external campus organizations can be one factor in influencing prospective students' interest in registering. Interviews with prospective students and the surrounding community revealed they were more interested in campuses with a dynamic internal organization and extensive external network. These factors are considered important in supporting the development of student potential and improving the institution's reputation, both on and off campus. Therefore, universities that can build and promote strong internal organizations and solid external partnerships have a greater chance of attracting prospective students.

In interviews, several prospective students emphasized the importance of involvement in student organizations and activities that involve collaboration with external parties. One of the respondents said, "I am more interested in joining a campus that has an active student organization, such as BEM or UKM, because I believe this can develop my abilities outside of academics." In addition, the surrounding community also expressed similar expectations, with one community leader stating, "We see the campus as an important part of the community, and the more activities that involve collaboration with external parties, the better the reputation of the campus." So, departing from this, it shows that higher education institutions need to strengthen their organizational and network aspects as part of efforts to increase the attractiveness of the campus.

Management Strategies in Prospective Student Admissions
Development of Relevant Study Programs

The development of study programs relevant to the labour market's needs is one of the main strategies to optimize student admissions. The survey findings show that prospective students strongly consider the suitability of the study program with clear job prospects and relevance to the times. Most respondents revealed that they are more interested in study programs that have bright career opportunities in the future, such as those that focus on information technology, creative business management, or digital-based education. These findings show that people are increasingly aware of the importance of having skills that match the global industry's needs, so relevant and up-to-date study programs are the main factor in choosing a university. Therefore, universities need to map market needs and design study programs that can answer the challenges of the world of work in the future.

In interviews, prospective students stated they are likelier to choose a campus offering study programs with clear career prospects and relevance to industry developments. One of the students stated, "I want a study program that is directly related to the world of work and current technological developments, such as digital business or IT (I_2024)." In addition, the concept of market-oriented higher education also supports the importance of creating study programs that combine academic and vocational pathways to provide students with practical and theoretical skills. Therefore, educational institutions need to develop a curriculum that focuses on theory and provides opportunities for students to develop the skills that the industry needs.

Affordable Cost Adjustment

Affordable education costs are one of the main factors that affect prospective students' decision to choose a university, especially for those who come from families with lower middle economic conditions. The survey findings show that most prospective students consider the cost of education as one of the main considerations when choosing a campus. Further interviews with prospective students and parents revealed that high tuition fees are often a major obstacle, so they tend to look for institutions that offer more affordable fees. To overcome this problem, universities need to design a policy to adjust education fees to the economic conditions of the surrounding community.

Scholarship offers, instalment programs, or flexible financing schemes are highly appreciated by prospective students from the lower-middle economic group. This increases the accessibility of higher education and improves the institution's image in the public's eyes. In interviews, some prospective students stated they felt burdened by the high tuition fees. One of the respondents said, "I really want to continue my studies, but the high cost makes me doubtful, so I look for a campus that offers scholarships or installment schemes (I_2024)." Thus, this fee adjustment policy can increase student enrollment while improving the institution's reputation.

Overall, affordable education costs are important in attracting prospective students, especially those from families with financial limitations. Findings from surveys and interviews underscore that the high cost of education can be a major obstacle, leading many prospective students to choose colleges that offer financial solutions, such as scholarships and tuition instalments. Therefore, universities must strengthen communication regarding this financing scheme in a clear and directed way through effective channels such as social media, brochures, and face-to-face meetings to build public trust in the institution.

Strengthening Campus Internal/External Organizations

Strengthening internal organizations and external networks is a key strategy to increase the attractiveness of the campus for prospective students. Based on the results of the interviews, prospective students and the surrounding community view the importance of campus involvement in social activities, education, and community development as an indicator of its credibility and usefulness. In addition, internal organizations such as student bodies and student activity units play an important role in creating engaging and meaningful learning experiences.

Internally, universities need to strengthen their student organizations. This organization can be a forum for students to develop soft skills, such as leadership, time management, and communication skills, which are urgently needed in the world of work (Ntola et al., 2024; Singh Dubey et al., 2022; Tushar & Sooraksa, 2023). Training programs to increase organizational capacity and activities involving students must be designed continuously. For example, student activity units can be empowered to organize seminars, competitions, or community service programs that improve the student experience and positively impact the campus's image.

Innovative and Data-Driven Promotion Strategies

In today's digital era, innovative and data-based promotional strategies are an important element to attract the interest of prospective students. The results of surveys and interviews show that one of the main challenges of institutions is the lack of optimal exposure and introduction to the public. Many prospective students and parents do not know the campus well, thus influencing their decision to choose this institution as a place to study knowledge.

In addition to digital promotion, the campus needs to optimize the data obtained from the survey to identify potential market segments. This data can be used to develop targeted promotional campaigns, such as targeting areas with higher potential for prospective students or introducing study programs that suit the local market's needs. Research by Grandhi et al. (2021) emphasizes the importance of data-driven marketing in creating more efficient and effective promotions.

Community-based promotional activities can also be part of this strategy. Institutions can hold hands-on outreach activities, such as career seminars in high schools, campus visit programs, or community-based skills training. This direct interaction increases public awareness of the campus and strengthens the institution's positive image as part of the local community.

Improving the Quality of Academic and Non-Academic Services

Improving the quality of academic and non-academic services in higher education is one of the important strategies for increasing student satisfaction, which in turn can strengthen the attractiveness of the campus for prospective students. Based on the results of surveys and interviews, prospective students consider the quality of education and the quality of services provided by the institution. Fast and responsive academic services, such as an efficient application process and easily accessible academic advising services, as well as non-academic services that support student well-being, such as adequate facilities and helpful extracurricular activities, play a significant role in creating a positive campus experience. Therefore, colleges need to ensure that they provide services that not only meet the academic needs of students but also provide broader support for their well-being outside the classroom.

The results of interviews conducted with prospective students emphasized that the quality of academic and non-academic services is the main consideration when choosing a university. One student said, "I chose a campus that has fast academic services, such as an easy registration process and teaching that is relevant to the times (I_2024)." In addition, non-academic services such as comfortable study spaces and fast internet access are also considered important. For example, another student said, "I want a campus that provides complete facilities and supports my activities, both academically and socially (I_2024)."

Overall, these findings confirm that the quality of academic and non-academic services is important in attracting and retaining students. Efficient and responsive academic services and non-academic facilities that support student well-being are decisive factors in creating a positive campus experience. In addition, universities need to continue to develop the quality of teaching and provide adequate facilities to ensure students' comfort. Thus, universities that provide high-quality services will find it easier to build a positive image in the eyes of the public.

Discussion

This study aims to explore the factors influencing prospective students' decision to enrol in STAI Al-Muntahy and identify management strategies to optimize student admission. In an increasingly competitive landscape, where colleges must constantly adapt to student demand and the labour market, understanding these factors is essential for developing an effective hiring strategy. The main objective of this study is to assess key factors such as the relevance of academic programs, affordable tuition fees, and the quality of academic and non-academic services. In addition, this study aims to investigate how data-driven marketing strategies and strengthening external networks can play a role in increasing student enrollment in developing institutions.

The results of this study show that the most significant factors in influencing prospective students' decisions are the study program's relevance, affordable education costs, and the strength of the internal and external organization of the campus. These findings align with previous research that emphasized the importance of offering academic programs relevant to market needs (Homburg & Wielgos, 2022; Kulkov et al., 2024; Nazaretsky et al., 2022). In particular, this study highlights that students are more interested in study programs with clear career prospects, such as technology and business management. These findings support the findings of Tabianan et al. (2022), which emphasized the importance of aligning educational offerings with the job market's needs.

Unexpectedly, although the survey results confirm the importance of affordable education costs, this study also reveals a significant gap in the awareness of prospective students regarding the programs offered by STAI Al-Muntahy. Many students do not know the specific advantages of the study programs at the institution, which indicates problems in the campus promotion strategy. These findings contradict the literature from Bağrıacık (2022), which argues that an effective marketing strategy can greatly increase visibility and engagement, suggesting that STAI Al-Muntahy needs to improve its communication strategy to highlight the excellence of its programs.

Further data shows that the cost of education, particularly in regions with economically disadvantaged populations, plays a crucial role in student decision-making. These results are in line with the findings of Allil. (2024), who noted that cost considerations significantly influence higher education choices, especially for students

from low-income families. The availability of flexible payment options, such as scholarships and instalment programs, emerged as a solution to improve accessibility for such students. This supports Martinez et al. (2021) research, which found that financial aid programs can be a determining factor in student recruitment.

Additionally, the study found that active internal organizations, such as student associations and strong external networks, played an important role in increasing the interest of prospective students. These findings align with a previous study by Ismaili (2020), which suggested that a vibrant campus organization and external partnerships help create a positive image and attract prospective students. The practical implications of these results are that colleges need to focus on increasing extracurricular activities and building partnerships with local industries to increase student engagement and improve the institution's reputation.

This study contributes to student admission strategies, especially for growing institutions like STAI Al-Muntahy. It identifies key factors influencing prospective students' decisions, such as relevant programs, affordable tuition, and the quality of academic and non-academic services. The research also highlights the importance of targeted promotion and data analytics in improving recruitment efforts. Additionally, it points out that strengthening internal campus organizations and external partnerships is crucial in attracting more students. One of the practical contributions of this study is the set of actionable recommendations that colleges can use to boost their image and increase new student enrollment. These findings could also serve as a guide for other institutions facing similar challenges in higher education.

CONCLUSION

Based on the results of surveys and interviews, several key factors affect prospective students' decision to choose STAI Al-Muntahy as a place of higher education. These factors include study programs that match market interests and needs, affordable education costs, and the quality of internal and external campus organizations that support student development. In addition, innovative and data-based promotions and improving the quality of academic and non-academic services also play an important role in attracting the interest of prospective students.

Suggested strategies to optimize student admissions at STAI Al-Muntahy include adjusting more flexible and affordable education fees, strengthening campus organizations and relevant external networks, more targeted promotions through data and digital platforms, and improving the quality of academic and non-academic services. Implementing this strategy is expected to increase student satisfaction, strengthen the image of the campus, and ultimately increase the number of new student registrations.

ACKNOWLEDGMENT

REFERENCES

Agasisti, T., & Soncin, M. (2021). Higher Education in Troubled Times: On the Impact of Covid-19 in Italy. *Studies in Higher Education, 46*(1), 86–95. https://doi.org/10.1080/03075079.2020.1859689

Alenezi, M. (2023). Digital Learning and Digital Institution in Higher Education. *Education Sciences, 13*(1), 88. https://doi.org/10.3390/educsci13010088

Allil, K. (2024). Integrating AI-Driven Marketing Analytics Techniques into the Classroom: Pedagogical Strategies for Enhancing Student Engagement and Future Business Success. *Journal of Marketing Analytics, 12*(2), 142–168. https://doi.org/10.1057/s41270-023-00281-z

Bağrıacık Yılmaz, A., & Karataş, S. (2022). Why Do Open and Distance Education Students Drop Out? Views from Various Stakeholders. *International Journal of Educational Technology in Higher Education, 19*(1), 28. https://doi.org/10.1186/s41239-022-00333-x

Bartholomew, T. T., Joy, E. E., Kang, E., & Brown, J. (2021). A Choir or Cacophony? Sample Sizes and Quality of Conveying Participants' Voices in Phenomenological Research. *Methodological Innovations, 14*(2), 20597991211040064. https://doi.org/10.1177/20597991211040063

Bartolucci, A., Templeton, A., & Bernardini, G. (2022). How Distant? An Experimental Analysis of Students' COVID-19 Exposure and Physical Distancing in University Buildings. *International Journal of Disaster Risk Reduction, 70*, 102752. https://doi.org/10.1016/j.ijdrr.2021.102752

Bonilla-Jurado, D., Zumba, E., Lucio-Quintana, A., Yerbabuena-Torres, C., Ramírez-Casco, A., & Guevara, C. (2024). Advancing University Education: Exploring the Benefits of Education for Sustainable Development. *Sustainability, 16*(17), 7847. https://doi.org/10.3390/su16177847

de Boer, H. (2021). COVID-19 in Dutch Higher Education. *Studies in Higher Education, 46*(1), 96–106. https://doi.org/10.1080/03075079.2020.1859684

Grandhi, B., Patwa, N., & Saleem, K. (2021). Data-Driven Marketing for Growth and Profitability. *EuroMed Journal of Business, 16*(4), 381–398. https://doi.org/10.1108/EMJB-09-2018-0054

Hirose, M., & Creswell, J. W. (2023). Applying Core Quality Criteria of Mixed Methods Research to an Empirical Study. *Journal of Mixed Methods Research, 17*(1), 12–28. https://doi.org/10.1177/15586898221086346

Homburg, C., & Wielgos, D. M. (2022). The Value Relevance of Digital Marketing Capabilities to Firm Performance. *Journal of the Academy of Marketing Science, 50*(4), 666–688. https://doi.org/10.1007/s11747-022-00858-7

Ismaili, Y. (2020). Evaluation of Students' Attitude Toward Distance Learning During the Pandemic (Covid-19): A Case Study of ELTE University. *On the Horizon, 29*(1), 17–30. https://doi.org/10.1108/OTH-09-2020-0032

Janis, I. (2022). Strategies for Establishing Dependability Between Two Qualitative Intrinsic Case Studies: A Reflexive Thematic Analysis. *Field Methods, 34*(3), 240–255. https://doi.org/10.1177/1525822X211069636

Kjellgren, B., & Richter, T. (2021). Education for a Sustainable Future: Strategies for Holistic Global Competence Development at Engineering Institutions. *Sustainability (Switzerland), 13*(20), 11184. https://doi.org/10.3390/su132011184

Koo, B., Curtis, C., & Ryan, B. (2021). Examining the Impact of Artificial Intelligence on Hotel Employees Through Job Insecurity Perspectives. *International Journal of Hospitality Management, 95*, 102763. https://doi.org/10.1016/j.ijhm.2020.102763

Kulkov, I., Kulkova, J., Rohrbeck, R., Menvielle, L., Kaartemo, V., & Makkonen, H. (2024). Artificial Intelligence-Driven Sustainable Development: Examining Organizational, Technical, and Processing Approaches to Achieving Global Goals. *Sustainable Development, 32*(3), 2253–2267. https://doi.org/10.1002/sd.2773

Martinez, S. M., Esaryk, E. E., Moffat, L., & Ritchie, L. (2021). Redefining Basic Needs for Higher Education: It's More Than Minimal Food and Housing According to California University Students. *American Journal of Health Promotion, 35*(6), 818–834. https://doi.org/10.1177/0890117121992295

Michel-Villarreal, R., Vilalta-Perdomo, E., Salinas-Navarro, D. E., Thierry-Aguilera, R., & Gerardou, F. S. (2023). Challenges and Opportunities of Generative AI for Higher Education as Explained by ChatGPT. *Education Sciences, 13*(9), 856. https://doi.org/10.3390/educsci13090856

Moshtari, M., & Safarpour, A. (2024). Challenges and Strategies for the Internationalization of Higher Education in Low-Income East African Countries. *Higher Education, 87*(1), 89–109. https://doi.org/10.1007/s10734-023-00994-1

Nazaretsky, T., Ariely, M., Cukurova, M., & Alexandron, G. (2022). Teachers' Trust in AI-Powered Educational Technology and a Professional Development Program to Improve It. *British Journal of Educational Technology, 53*(4), 914–931. https://doi.org/10.1111/bjet.13232

Ntola, P., Nevines, E., Qwabe, L. Q., & Sabela, M. I. (2024). A Survey of Soft Skills Expectations: A View from Work Integrated Learning Students and the Chemical Industry. *Journal of Chemical Education, 101*(3), 984–992. https://doi.org/10.1021/acs.jchemed.3c00927

Prevett, P. S., Black, L., Hernandez-Martinez, P., Pampaka, M., & Williams, J. (2021). Integrating Thematic Analysis with Cluster Analysis of Unstructured Interview Datasets: An Evaluative Case Study of an Inquiry into Values and Approaches to Learning Mathematics. *International Journal of Research and Method in Education, 44*(3), 273–286. https://doi.org/10.1080/1743727X.2020.1785416

Rosinger, K. O., Sarita Ford, K., & Choi, J. (2021). The Role of Selective College Admissions Criteria in Interrupting or Reproducing Racial and Economic Inequities. *Journal of Higher Education, 92*(1), 31–55. https://doi.org/10.1080/00221546.2020.1795504

Scharp, K. M. (2021). Thematic Co-Occurrence Analysis: Advancing a Theory and Qualitative Method to Illuminate Ambivalent Experiences. *Journal of Communication, 71*(4), 545–571. https://doi.org/10.1093/joc/jqab015

Singh Dubey, R., Paul, J., & Tewari, V. (2022). The Soft Skills Gap: A Bottleneck in the Talent Supply in Emerging Economies. *International Journal of Human Resource Management, 33*(13), 2630–2661. https://doi.org/10.1080/09585192.2020.1871399

Tabianan, K., Velu, S., & Ravi, V. (2022). K-Means Clustering Approach for Intelligent Customer Segmentation Using Customer Purchase Behavior Data. *Sustainability (Switzerland), 14*(12), 7243. https://doi.org/10.3390/su14127243

Tilak, S., & Glassman, M. (2022). Gordon Pask's Second-Order Cybernetics and Lev Vygotsky's Cultural Historical Theory: Understanding the Role of the Internet in Developing Human Thinking. *Theory and Psychology, 32*(6), 888–914. https://doi.org/10.1177/09593543221123281

Tjörnbo, O., & McGowan, K. (2022). A Complex-Systems Perspective on the Role of Universities in Social Innovation. *Technological Forecasting and Social Change, 174*(2), 112–129. https://doi.org/10.1016/j.techfore.2021.121247

Tohri, A., Rasyad, A., Sururuddin, M., & Istiqlal, L. M. (2022). The Urgency of Sasak Local Wisdom-Based Character Education for Elementary School in East Lombok, Indonesia. *International Journal of Evaluation and Research in Education, 11*(1), 333–344. https://doi.org/10.11591/ijere.v11i1.21869

Tushar, H., & Sooraksa, N. (2023). Global Employability Skills in the 21st Century Workplace: A Semi-Systematic Literature Review. *Heliyon, 9*(11). https://doi.org/10.1016/j.heliyon.2023.e21023

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