

Analysis of International Students Source and Future Enrollment Policies: Case Study in Sanming University

Peng Huang^a, Yicha Lin^{a*}, Jingzhi Zhou^a, Jiajia Li^a

Justin.p.huang@outlook.com, 2923324192@qq.com, 1184968215@qq.com

* Corresponding author: zaaakimo@yeah.net

^aSchool of Entrepreneurship Management, Sanming University, No. 25, Jindong Road, Sanming, City, Fujian Province, China (0598) 8399217 839986

Abstract. Globally, recruiting international students is a vital aspect of higher education internationalization. This study, based on international student data from Sanming University, highlights Bangladesh, Ethiopia, and Zimbabwe as major sources of international students, primarily focusing on mechanical design, manufacturing, and automation programs. The economic gravity model places Bangladesh in the fifth tier, emphasizing its key role in enrollment. South Africa, in the first tier, also holds strategic importance within the Belt and Road Initiative for international educational cooperation, need to receive policy support.

Keywords: International Student, Enrollment Strategy, Gravity

1. Introduction

Recruiting international students globally serves as a pivotal indicator of the internationalization efforts within higher education institutions. China's burgeoning economy has significantly bolstered the reputation of its higher education sector, establishing educational prestige as the principal driving force behind the influx of international students to China, Wen & Hu (2019) [1]. Furthermore, the allure of China's unique culture and promising future prospects holds a distinct appeal for international students seeking an enriching study abroad experience, Jiani (2017) [2]. Chinese universities have adopted various recruitment strategies to attract international students, recognizing the critical role played by scholarships, English-taught courses, digital communication channels, university collaborations, and student outreach efforts,

Oladipo & Sugandi (2022) [3]. Environmental factors and the quality of educational facilities serve as potent factors that influence the decisions of international students when selecting their preferred institutions. The intrinsic educational strength of a university institution plays a pivotal role in this decision-making process, James-MacEachern & Yun (2017) [4]. Additionally, the quality of educational services significantly impacts student satisfaction with their study abroad experiences, Yılmaz & Temizkan (2022) [5]. In the digital age, international students predominantly rely on university websites to access essential admissions information when choosing their prospective universities, Le et al (2019) [6]. Encouraged by the Belt and Road Initiative, higher education collaborations have gained momentum, with scholarships and funding programs being instrumental in attracting international students and promoting international educational cooperation. However, the pursuit of international education opportunities is not without its challenges, including navigating environmental disparities and cultural differences, Khanal & Gaulee (2019) [7]. Gender disparities in certain regions also influence admission criteria, Fathi Vajargah et al (2023) [8]. As we move forward, it is imperative for Chinese universities to formulate differentiated admission policies and varying welfare provisions based on regional and economic considerations when recruiting international students. Additionally, it is vital to show-case existing educational accomplishments and articulate future development prospects to effectively attract and retain international students.

2. Data Materials and Research Methods

2.1 Data Materials

The data for this research is sourced from Sanming University's International Student Admissions Office. Figure 1 provides an overview of the international student population categorized by their countries of origin, while Figure 2 offers insights into the distribution of international students across various majors.

As illustrated in Figure 1, the international student body at Sanming University predominantly hails from six countries: Bangladesh, Ethiopia, Nigeria, Pakistan, Zambia, and Zimbabwe. Broadly speaking, the origins of these international students are primarily concentrated within the regions of Africa, Europe, and Asia, with a predominant representation from developing countries.

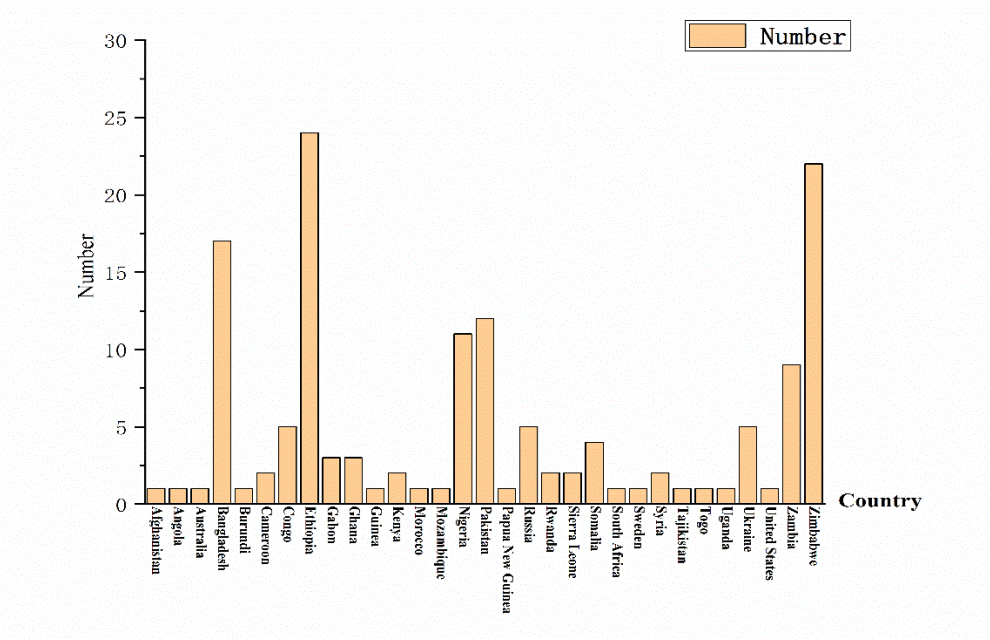


Figure 1. Number of international students at Sanming University

Data Source: Sanming University

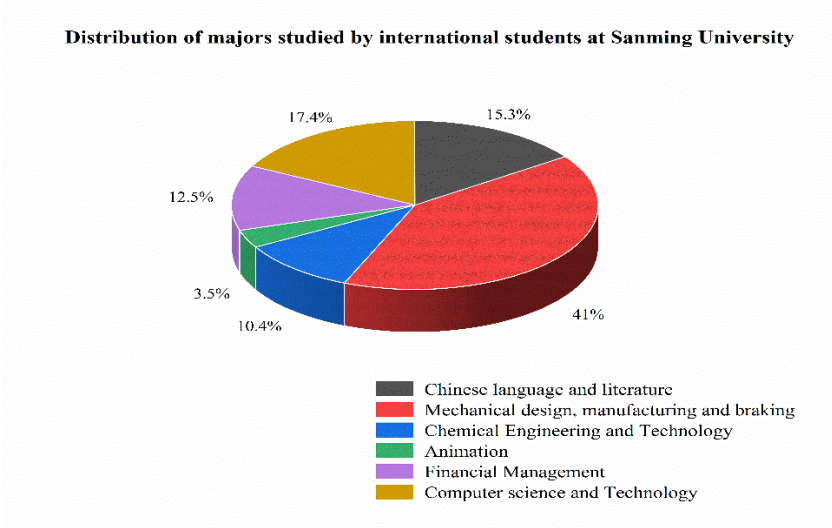


Figure 2. Distribution of majors studied by international students at Sanming University

Data Source: Sanming University

Figure 2 illustrates the academic majors chosen by international students enrolled at Sanming University. The data distinctly indicates a strong inclination among international students toward majors related to mechanical design, manufacturing, and automation, which collectively represent a significant portion, accounting for 41% of the international student population. Additionally, language and literature majors, as well as majors in computing science and technology, are also prominently favored, with respective percentages of 15.3% and 17.4%. This demonstrates the high level of interest among international students in these academic disciplines.

2.2 Research Methods

The research methodology employed in this study revolves around the development of an economic gravity model rooted in Newton's gravitational formula. As illustrated in equation (1), the economic gravity between two regions is directly proportional to the product of the number of international students enrolled at Sanming University and the GDP (gross domestic product) of the students' respective home countries, while inversely proportional to the square of the distance between these countries and China. Specific details regarding the origin and academic majors of international students were sourced from Sanming University's International Student Admissions Office. We conducted an investigation into the GDP values of each country in 2019 and the distances between these countries and China. The data obtained from this survey were then incorporated into Equation (1) to compute preliminary economic gravity calculations. These preliminary results were further visualized using ArcGIS 10.8, where we presented the geographical distribution of international students' origins in map format. A graded color scheme was employed to depict the magnitude of economic gravity, and a natural discontinuity classification method automatically segmented the economic gravity results into five categories, ranging from low to high. Subsequently, we generated an economic gravity map. Our utilization of economic gravity serves to illustrate the geographical concentration of international student flows between China and their countries of origin. Furthermore, we assessed China's appeal to various countries, using the size of economic gravity as an indicator for future international student enrollment priorities. This approach also aids in the formulation of tailored promotional strategies and educational support policies.

$$F = G \frac{P_i P_j}{R^2} \quad (1)$$

Where, F is the economic gravity value, G is the gravitational constant, p_i is the GDP value of international students' national of origin in 2019, p_j is the number of international students, and R^2 is the square of the distance between the place of origin and China.

3. Result

3.1 Economic Gravity Map

The results of the economic gravity calculations are visually represented in Figure 3, utilizing a map to depict the geographical distribution of international students' birth-places. A five-level color scheme is employed to effectively convey the magnitude of economic gravity. As depicted in Figure 3, it is noteworthy that, despite both the United States and Russia's Sanming University having an equal number of international students in their respective regions, their substantial GDP values position their economic gravity at the third and fourth levels. Hence, these regions hold strategic importance for future considerations. Of particular significance is Bangladesh, the sole region in the figure characterized by an economic gravity rating of Level 5. Notably, Bangladesh boasts the largest contingent of international students, its geographical proximity to China, and a notably high economic gravity. This underlines the pivotal role Bangladesh is poised to play in future enrollment strategies.

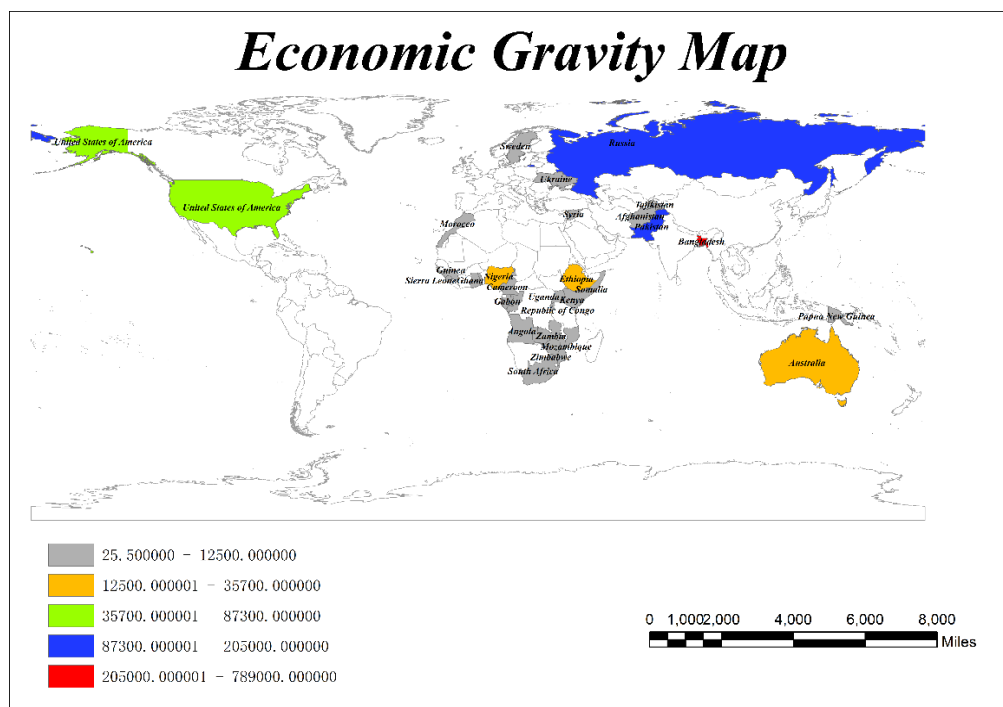


Figure 3. Economic Gravity Map

Data Source: Sanming University

The Belt and Road Initiative represents a significant endeavor by China to actively engage in global development cooperation, foster mutual development and prosperity among nations worldwide, and advance the establishment of a shared future for humanity. Within this initiative, South Africa holds a pivotal role as a key partner. Despite South Africa's economic gravity being categorized in the first tier, its demand for higher education continues to surge. Simultaneously, the influence of the Belt and Road Initiative has accelerated South Africa's economic development. Consequently, South Africa is poised to become a critical enrollment region in the future.

4. Conclusions

4.1 Opportunities and Challenges in International Student Recruitment

Sanming University, as a comprehensive institution, offers educational opportunities at a notably affordable cost compared to Western countries. This affordability positions it as an appealing choice for households in nations like Zimbabwe and Zambia, which grapple with economic instability and soaring inflation rates. Families from these regions can provide their children with a valuable international educational experience without incurring significant financial burdens. Situated in a coastal industrial city, Sanming University boasts a wide array of employment prospects. The university's robust programs in mechanical design, manufacturing, and automation hold significant appeal for countries such as Zambia and Ethiopia, which have a pressing need for expertise in infrastructure engineering, construction, and development. However, alongside these promising opportunities, certain challenges must be addressed. Sanming University should actively endeavor to establish and enhance an international curriculum system. It is imperative to expand its outreach efforts through diverse promotional channels and invest in bolstering its international reputation to attract and accommodate a diverse range of international students. Furthermore, in response to the call of the Belt and Road Initiative, the university has established a special enrollment program for basic engineering majors in South Africa and launched a specialized program for Chinese language and literature majors in Bangladesh, with the aim of attracting exceptional professional talent in these fields.

4.2 Construction of international curriculum system

International students at Sanming University often major in Mechanical Design, Manufacturing, and Automation. Therefore, it is crucial to establish a comprehensive international curriculum system that complies with Chinese education regulations and international certification

standards. This can be achieved by collaborating with academic experts and institutions specializing in mechanical engineering to develop high-quality courses and mechanical design projects. Additionally, we should implement professional teacher development programs aimed at attracting and retaining educators with international teaching experience and expertise in mechanical engineering. These programs should focus on enhancing their teaching skills, intercultural competencies, and language proficiency. For students majoring in Chinese Language and Literature, it is essential to design courses that are globally relevant and culturally inclusive. This approach promotes China's rich traditional culture. Furthermore, creating an inclusive and welcoming campus cultural environment is vital to foster cross-cultural understanding and respect. Encouraging interactions and exchanges between international and local students is key to achieving this goal.

4.3 Promote online platform promotion

Create Sanming University's dedicated international student recruitment website, offering comprehensive information on relevant academic programs, course descriptions, professional training systems, admission procedures, and support services. Develop an email database of prospective international students and regularly send them informative newsletters containing the latest updates on Sanming University's international admissions programs, scholarships, application deadlines, and campus events. Leverage internet technology to host online seminars for answering questions, and organize virtual campus tours to provide international students with an in-depth look at Sanming University.

4.4 Enhancing Educational Accessibility and Equity

Conducting a comprehensive evaluation of the education landscape in targeted developing nations entails a multifaceted analysis, incorporating factors such as international student influx and the historical economic prominence of individual countries. This evaluation necessitates the inclusion of data encompassing higher education enrollment rates, attrition figures, gender disparities, and the condition of educational infrastructure. To effectively tackle the formidable challenges and inequalities within the education sector, the implementation of preferential policies tailored to international students is imperative. These policies should be designed to curtail educational expenditures borne by international students in developing nations, encompassing provisions for scholarships, grants, and subsidies aimed at enhancing the accessibility of higher education for this demographic. In addition to conventional financial support mechanisms, the exploration of innovative financing models holds the potential to significantly expand the opportunities available to international students, mitigating the

substantial financial burdens involved. One such model could involve the customization of study-abroad loans based on the income levels of the student's home country, ensuring that financial aid aligns precisely with individual circumstances. Moreover, the enforcement of equitable admissions policies and strategies in developing nations is pivotal, effectively eradicating gender disparities in education. The creation of an inclusive and culturally diverse learning environment assumes paramount importance in the endeavor to attract a greater number of international students to these countries.

Reference

- [1] Wen, W., & Hu, D. (2019). The emergence of a regional education hub: Rationales of international students' choice of China as the study destination. *Journal of Studies in International Education*, 23(3), 303-325.
- [2] Jiani, M. A. (2017). Why and how international students choose Mainland China as a higher education study abroad destination. *Higher Education*, 74, 563-579.
- [3] Oladipo, O. A., & Sugandi, B. (2022). Recruitment and mobility of international students: spotlight on a Chinese university. *Globalisation, Societies and Education*, 20(5), 655-668.
- [4] James-MacEachern, M., & Yun, D. (2017). Exploring factors influencing international students' decision to choose a higher education institution: A comparison between Chinese and other students. *International Journal of Educational Management*, 31(3), 343-363.
- [5] Yılmaz, K., & Temizkan, V. (2022). The effects of educational service quality and socio-cultural adaptation difficulties on international students' higher education satisfaction. *SAGE Open*, 12(1), 21582440221078316.
- [6] social media electronic word-of-mouth during the university choice process. *Journal of Higher Education Policy and Management*, 41(1), 18-34.
- [7] Khanal, J., & Gaulee, U. (2019). Challenges of international students from pre-departure to post-study: A literature review. *Journal of International Students*, 9(2), 560-581.
- [8] Fathi Vajargah, K., Arefi, M., & Zamani Manesh, H. (2023). Evaluating admission barriers of foreign students into universities and institutions of higher education. *Research and Planning in Higher Education*, 17(4), 65-80.