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Quantifying Internationalization: A Data-Driven Institutional Assessment

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ABSTRACT
Indian higher education institutions are increasingly engaging in internationalization efforts to align with global trends and National Education Policy objectives. This study intends to evaluate the strategic internationalization approaches adopted by Indian Higher Education Institutions and to assess their effectiveness using five quantitative measures - Internationalization Index, Return on Internationalization Investment, Global Research Collaboration Index, Student Exchange Efficiency and Institutional Competitiveness Score. Data from five Indian higher education institutions are collected. Findings show that stronger Internationalization Index and Return on Investment on Internationalization is achieved by institutions with higher international engagement especially that excel in student mobility and global research partnerships. Results confirm that there is a positive correlation between strategic investments in internationalization and financial sustainability and international academic reputation. This study offers Indian institutions a framework to evaluate and effectively manage their internationalization strategies. Additionally, it provides insights for Government bodies to evaluate the outcomes of education policies.

Keywords: Internationalization Strategy, Indian Higher Education, Internationalization Index, Global Research Collaboration, International Mobility

INTRODUCTION

In today's world, in the context of higher education, there is a need to remain globally connected and engaged for which internationalization of higher education has become essential and almost all higher education institutions (HEIs) across the globe have been receptive to the call to internationalize. HEIs are making rigorous efforts to internationalize their academic programs, partnerships, and campuses in order to attract global talent, enhance academic quality and improve their positions in international rankings. In the Indian context, the government has also placed internationalization of higher education as one of its key policy priorities in the last five years that has been reflected in the National Education Policy (NEP) 2020. The policy calls for promoting India as a global study destination that offers affordable, high-quality education and emphasizes the importance of international collaboration, student and faculty exchanges and an internationally relevant curriculum.

Knight, J. (2008) defined internationalization as "the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education". HEIs implement internationalization through a variety of strategies, including student and staff exchanges, international student recruitment, transnational education, curriculum internationalization, global research collaboration and the establishment of branch campuses (de Witt, 2011). Internationalization has evolved over the past two decades, shaped by changing geopolitical contexts, global academic mobility trends, and technological advancements. As noted by Rumbley *et.al.*. (2012), internationalization that was once a peripheral activity has now become central to institutional identity and strategic planning, impacting quality assurance, global positioning, social relevance and revenue generation. Despite the increasing importance of internationalization, the implementation of internationalization strategies remains uneven, particularly in countries such as India. Indian HEIs face several roadblocks such as infrastructural limitations, financial restrictions, regulatory constraints and lack of clarity on returns on investment. Some HEIs have successfully formed global partnerships and launched joint programs, while many others continue to face operational hurdles.

In response to these challenges, this study uses a quantitative research design to evaluate the effectiveness of internationalization strategies in Indian

HEIs. It analyses institutional performance using objective data and a set of structured evaluation models. In order to enhance the international engagement and competitiveness of Indian HEIs, this study aims to inform benchmarking, strategic decision-making and policy development by offering a data-driven and scalable evaluation framework.

REVIEW OF LITERATURE

There is a growing interest in the internationalization of higher education, particularly with respect to the performance of the HEIs internationally and their standing in the global rankings. There are several studies that have evaluated this phenomenon through measurable indicators such as student mobility, research collaborations, and international partnerships. A review of relevant literature supporting the assessment of internationalization in HEIs is presented in this section. Internationalization in higher education is no longer restricted to student and faculty mobility. It covers a wide range of institutional strategies, from internationalization of curriculum and joint research initiatives to virtual partnerships. Avolio and Benzaquen (2024) carried out an extensive study of 74 academic publications focusing on the internationalization strategies adopted by the non-western HEIs in the post pandemic era. The framework comprised of six critical dimensions - students, programs, faculty, research, international ventures, and other sources, and nine facilitators of internationalization including international partnerships, funding, government education, international policies, technology, internationalization culture, diversity and inclusion, staff competence and attitude, student/faculty engagement, intercultural experience and satisfaction, English as a medium of instruction (EMI), and knowledge transfer mechanisms. The study used the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) methodology, and developed a conceptual framework that links the strategic initiatives to performance indicators. This model serves as a basis for the Internationalization Index (II) in this present study that captures multi-dimensional engagement. Enkhtur et al. (2024) studied the role of virtual student mobility, particularly in Erasmus+ and Collaborative Online International Learning (COIL) frameworks and showed that virtual exchanges are becoming central to internationalization strategy, especially in HEIs with limited resources. The study provides insights into quantifying virtual engagement, making it an important addition to student mobility metrics.

International research collaborations have a high impact and play a significant role in enhancing the academic quality and overall visibility of the HEI (Vorng 2024, Wai-Chan 2017). Research productivity and international collaboration are important indicators used by The Times Higher Education World University Rankings and accounts for 5.5% and 2.5% weightage respectively. Robinson-Garcia and Rafols (2019) have analyzed joint research publications resulting from international collaboration as an indicator of internationalization and their findings show that co-authorship numbers remain a valid input for measuring cross-border academic engagement. Wagner et al. (2018) examined OECD (Organisation for Economic Co-operation and Development) nations and found a strong positive correlation between mobility of the researcher and international co-authorship and research impact which provided the basis for the use of research partnerships as an indicator for evaluating internationalization in the current study.

From the standpoint of financial sustainability, internationalization offers potential benefits through tuition revenue, research grants, and strategic alliances. In a related study, Throsby (2017) studied the cost–benefit framework to analyze the economic returns of internationalization strategies particularly with respect to international student flows. Studies by Chisti, S. (1984), Heaton, C., & Throsby, D. (1998), Ilieva, R. *et.al.* (2014), Zhang *et.al.*. have shown that it is important for HEIs to balance academic ambition with institutional sustainability. These studies also laid the basis for the Return on Internationalization Investment (RoII) used in the current research work. A study by Makrydakis *et.al.*. (2025) mapped 96 key performance indicators (KPIs) across nine strategic categories of HEI internationalization that include international student, student mobility, faculty mobility, faculty international profile and experience, study programs with international elements, double/joint degree programs, international partnerships and networks, international research and international oriented management and governance. The study's empirical approach presents a validated KPI set that aligns closely with the constructs of Internationalization Index and Return on Internationalization Investment of the current study. Such mapping is essential for creating a data-driven framework that captures the scope and effectiveness of internationalization strategies.

Student mobility is a widely used internationalization strategy by HEIs. However, balanced mobility between partners is important for sustainable internationalization. Imbalances in student exchanges can lead to inequities in partnerships. Georgoudaki, E. *et.al.*. (2025) analyzed Erasmus+ student mobility trends across European HEIs and underscored balanced internationalization across Europe. Egron-Polak and Hudson (2014) in the IAU Global Survey emphasized the need for institutions to track and benchmark both inbound and outbound mobility for better planning.

There are several motivations for HEIs to internationalize. For some it is a source of revenue generation (economic). For others, it is driven by the desire to collaborate for knowledge exchange or curriculum internationalization (academic). Some HEIs internationalize for socio-cultural reasons (Altbach and Knight 2007). While global frameworks offer scalable strategies, Indian HEIs face unique institutional, regulatory, and cultural challenges. Studies have highlighted constraints in the Indian context such as

policy rigidity, absence of clear policies related to internationalization, inadequate funding, and limited institutional autonomy. Due to the lack of a comprehensive internationalization policy, many Indian HEIs often rely on short-term partnerships or ad hoc student and faculty exchanges. There is a significant policy shift with the recent National Education Policy (NEP) 2020 that emphasizes internationalization and India's potential as a study destination. However, the application of empirical tools to measure the effectiveness of internationalization strategies remain underdeveloped in Indian HEIs. Existing global ranking mechanisms include international indicators but HEIs do not have the access to customized tools for internal assessment. This study addresses this gap by developing and applying data-driven models to effectively quantify internationalization in Indian HEIs.

Theoretical Framework

The internationalization of higher education is a multifaceted process that requires a clear understanding of how institutions align with global standards, optimize internal resources and form strategic partnerships. This study uses three interrelated theoretical frameworks - Institutional Theory, the Resource-Based View (RBV), and Network Theory to evaluate and interpret the strategic internationalization of Indian Higher Education Institutions (HEIs). Five quantitative indicators are developed in this research which are guided by the abovementioned frameworks: Internationalization Index (II), Return on Internationalization Investment (RoII), Global Research Collaboration Index (GRCI), Student Exchange Efficiency (SEE), and the Institutional Competitiveness Score (ICS). Each metric captures a unique yet interconnected dimension of HEI's internationalization efforts. Overall, it provides a comprehensive, theory-driven analysis of how effectively internationalization is being implemented in the HEI.

Institutional Theory

The Institutional Theory explains that organizations conform to external expectations to achieve legitimacy (DiMaggio & Powell, 1983). In the realm of higher education, HEIs adopt globally accepted norms such as accreditation standards, global rankings, and policy alignment in order to demonstrate their commitment to academic excellence and global relevance. Metrics such as Student Exchange Efficiency (SEE) and the Global Research Collaboration Index (GRCI) are used in this study to assess the efforts made by the HEI to comply with global academic expectations and enhance their positioning in international rankings.

Resource-Based View (RBV)

The RBV framework emphasizes how organizations use their internal resources to gain a competitive advantage (Barney, 1991). In the context of higher education, this includes faculty expertise, research infrastructure, and administrative capacity. In this study, Internationalization Index (II) and the Return on Internationalization Investment (RoII) are used to assess how HEI convert their internal resources to quantifiable international outcomes. (Makrydakis *et.al*.., 2025). These models provide a quantitative basis to evaluate resource utilization and financial viability in HEIs with respect to internationalization.

Network Theory

Network Theory sheds light on how cooperation arrangements such as international partnerships, research collaboration and student/faculty exchanges enhance institutional visibility and innovation capacity (Powell et al., 1996; Wagner, Park, & Leydesdorff, 2018). The Global Research Collaboration Index (GRCI) is used in this study to assess the institutional visibility within global research networks and the Institutional Competitiveness Score (ICS), a composite metric, is used to capture the network strength and strategic outcomes.

By grounding the study in these interrelated theoretical perspectives, the research not only investigates what strategies are used by Indian HEIs to internationalize but also explains why and how these strategies are developed and sustained. In the Indian context, while a few institutions have adopted comprehensive strategies, many continue to struggle with fragmented and ad hoc approaches. Studies by Singh and Papa (2021), Kumar (2020), and Tilak (2013) have documented the structural and policy-level barriers that constrain internationalization in Indian universities, including regulatory rigidity, inadequate infrastructure, and insufficient incentives for faculty participation. This literature review highlights that strategic internationalization requires both qualitative transformation and quantitative monitoring. While existing studies have proposed conceptual models and case-based insights, there is a paucity of empirical studies applying measurable frameworks to evaluate internationalization efforts in Indian HEIs. By focusing on student and faculty mobility, internationalization at home, research collaboration, and virtual engagement—and assessing their outcomes through II, RoII, GRCI, SEE and ICS—this study seeks to contribute a structured, replicable approach to understanding and enhancing internationalization in the Indian higher education context.

METHODOLOGY

This study adopts a model-based quantitative approach to evaluate the strategic implementation and impact of internationalization in Indian HEIs. This research is grounded in objective institutional data and is structured around the development and application of mathematical models to quantify institutional performance across key dimensions of global engagement. The choice of a mathematical modeling approach is driven by the need to:

- Objectively quantify complex phenomena (e.g., faculty diversity, research output, student mobility)
- Develop performance indicators aligned with global benchmarks

- Support decision-making and resource allocation in institutional strategy development

These models enable scenario-based evaluation and comparative analysis, which are particularly useful in the context of strategic planning at the institutional level. To translate the theoretical constructs into actionable evaluation models, this research introduces five quantitative tools:

Internationalization Index (II)

The Internationalization Index quantifies the level of global engagement by aggregating indicators such as student mobility, faculty diversity, international research collaboration, and transnational education programs. Similar to metrics proposed by Taylor (2004) and van der Wende (2001), II provides a composite score that enables benchmarking and institutional self-assessment.

The Internationalization Index (II) measures the degree of global integration of a university:

$$II = \sum W_i = W_1 S + W_2 R + W_3 P + W_4 C + W_5 T$$

Where:

- S = Student mobility rate (percentage of international students enrolled)
- R = Research collaboration index (number of joint publications with international authors)
- P = Percentage of international faculty
- C = Cultural exchange programs (number of global engagement initiatives)
- T = Number of transnational education programs
- W_i = Weights assigned based on institutional priorities

A higher II indicates a greater degree of internationalization.

Return on Internationalization Investment

The Return on Internationalization Investment (RoII) provides a financial viewpoint by comparing revenues that a HEI generates from internationalization activities such as tuition fee from international students, research grants with the associated costs. This model resonates the call by Choudaha (2017) and Agarwal (2009) for having evidence-based strategies that can justify the financial viability of internationalization efforts in Indian HEIs.

The financial sustainability of investments in internationalization is assessed by

$$RoII = \sum_{t=1}^{n} (I_t - C_t)$$

Where:

- I_t = Revenue generated from international students, research grants, and institutional partnerships in year t
- C_t = Cost of implementing internationalization strategies in year t
- n = Number of years under evaluation

A positive RoII suggests financial sustainability, while a negative RoII indicates financial challenges.

Global Research Collaboration Index (GRCI)

The Global Research Collaboration Index (GRCI) is used to quantify the research based international engagement. It is computed as the proportion of internationally co-authored publications to the total number of research publications, expressed as a percentage.

To assess the impact of international collaborations, the Global Research Collaboration Index (GRCI) is calculated as:

$$GRCI = \frac{T_p}{J_p} \times 100$$

Where:

- J_p = Number of joint research papers published with international authors
- T_p = Total research papers published

A higher GRCI represents greater global engagement in research activities.

Student Exchange Efficiency (SEE)

The Student Exchange Efficiency (SEE) metric evaluates the balance in student mobility flows between inbound and outbound students in the student exchange programs implemented by the HEI.

The efficiency of student exchange programs is determined by:

$$SEE = \frac{O_s}{I_s}$$

Where:

- I_s = Number of inbound exchange students
- O_s = Number of outbound exchange students

A SEE value close to 1 suggests a balanced exchange program, while values greater or lower than 1 indicate imbalances.

Institutional Competitiveness Score (ICS)

The Institutional Competitiveness Score (ICS) is introduced as a composite metric that evaluates an institution's overall standing and effectiveness in internationalization. It integrates three core performance indicators—Internationalization Index (II), Global Research Collaboration Index (GRCI), and Student Exchange Efficiency (SEE)—while adjusting for the cost of implementation. It builds on RBV by evaluating resource efficiency and on Network/Institutional Theory by incorporating global engagement indicators.

Institutional competitiveness in internationalization is determined using:

$$ICS = \alpha II + \beta GRCI + \gamma SEE - \delta C_t$$

Where:

- α,β,γ,δ = Weight factors based on institutional priorities
- II = Internationalization Index
- GRCI = Global Research Collaboration Index
- SEE = Student Exchange Efficiency
- C_t = Cost of internationalization

A higher ICS implies a more competitive and strategically aligned internationalization effort that balances performance with cost-efficiency and signifies stronger global positioning.

Table 1: Summary of the theoretical alignment

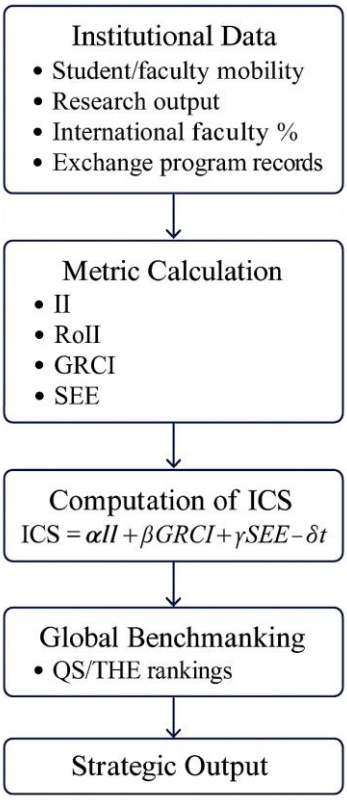
Metric	Theory	Key Constructs Measured	Strategic Value
II	Institutional Theory	Conformity to international norms	Global standing
RoII	RBV	Financial returns from strategic investments	Efficiency, sustainability
GRCI	Network Theory	International research linkages	Knowledge exchange, reputation
SEE	Institutional Theory	Balance in student mobility	Equity in exchange partnerships
ICS	RBV + Composite view	Combined impact of II, GRCI, SEE, Cost	Strategic performance

Together, these five indicators form a comprehensive evaluative framework that is both theoretically grounded and can be empirically tested. Five Indian universities were selected for this study using purposive sampling to ensure diversity in institutional type, location, and level of internationalization. 15 administrators (Heads of International Offices, Senior Administrative Officials looking after international initiatives), 30 faculty members involved in international collaborations and 50 students (both inbound International and Indian students with mobility experience) were the respondents. Data sources that were used included publicly available annual reports, institutional records (mobility reports, MOUs, partnership databases), financial documents related to internationalization efforts, research publication databases, institutional websites and survey responses. To validate the findings, results from the models were compared with the institutions' standings in global rankings (QS World University Rankings and THE Rankings). Triangulation was applied to enhance credibility by cross-verifying insights from different sources (quantitative scores, survey responses and institutional documents).

System Architecture

As illustrated in the system architecture (Figure 1), the process begins with institutional data collection, followed by computation of II, RoII, GRCI, and SEE. These are then integrated into the ICS framework. The system outputs are benchmarked against international standards (e.g., QS World University Rankings, Times Higher Education Ranking), supporting strategic planning, internal audits, and resource allocation. This theoretically grounded and quantitatively rigorous architecture provides Indian HEIs with a scalable, evidence-based model to assess, benchmark and enhance their internationalization strategies, in alignment with global best practices and national policy directives such as NEP 2020 (Varghese, 2013).

Figure 1: System Architecture



RESULTS AND DISCUSSION

The data presented in the Table 2 reflects the performance of five HEIs based on two key parameters: Student Mobility (%) and Research Collaborations (%), both of which contribute to the calculation of the Internationalization Index (II). The Percentage Change in II from the Previous Year illustrates the progression of internationalization efforts over time.

Institution E stands out with the highest Student Mobility (90%) and Research Collaborations (85%), resulting in the highest II score (0.95). The institution has also recorded the most significant year-on-year improvement in II (+10%), indicating a robust and rapidly evolving internationalization strategy. This suggests a strong institutional focus on both outbound/inbound mobility and global research partnerships.

Institution B also demonstrates notable internationalization metrics, with 80% student mobility and 70% research collaborations, leading to a high II score of 0.92 and a percentage change of +8%. These figures suggest a mature and consistently improving international engagement strategy.

Institution A performs moderately well with a student mobility rate of 75% and research collaboration at 60%, achieving an II of 0.85 and a +5% growth. While competitive, the lower collaboration metric compared to top performers like Institution E highlights a potential area for strategic investment.

Institution C and Institution D lag behind, with II scores of 0.78 and 0.65, respectively. Their student mobility and collaboration percentages are significantly lower, particularly for Institution D (50% and 40%, respectively), correlating with the lowest percentage change in II (+2%). These results suggest limited international exposure and underline the need for more focused policy interventions.

These results clearly demonstrate the correlation between strong performance in student mobility and research collaboration with higher internationalization index scores. Institutions E and B are leveraging international partnerships, student and faculty mobility to strengthen their international presence. The II thus proves to be a reliable quantitative indicator to compare the international engagement performance of HEIs.

The percentage change in II from previous year indicates that it is a dynamic process and institutions are strategically scaling their efforts over time. These findings corroborate the idea that strategic prioritization of internationalization not only enhances academic reputation but also contributes to long-term institutional competitiveness, as indicated by the ICS (Institutional Competitiveness Score) framework. Policymakers and academic leaders can reassess their internationalization strategies, prioritize investment areas, and monitor progress over time with the help of this data-driven approach. Future studies could explore correlations between II scores and student satisfaction levels to further validate its predictive value.

Table 2: Internationalization Index (II) Analysis

Institution	Student Mobility (%)	Research Collaborations (%)	Internationalization Index (II)	Percentage Change in II from Previous Year (%)
Institution A	75%	60%	0.85	+5%
Institution B	80%	70%	0.92	+8%
Institution C	65%	55%	0.78	+3%
Institution D	50%	40%	0.65	+2%
Institution E	90%	85%	0.95	+10%

The analysis of Return on Internationalization Investment (RoII) and global rankings (Table 3) provides insights into how well Indian HEIs are translating their internationalization strategies into tangible outcomes. The five institutions in this study exhibit varying degrees of success in leveraging their international efforts for institutional benefit.

Institution E recorded the highest RoII at 20%, followed by Institution B at 18%, which shows that these institutions are maximizing the financial returns from their internationalization strategies. This includes revenue from international student tuition, research grants and institutional partnerships, offset by the expenses of international programs, faculty mobility, and infrastructure.

In contrast, Institution D, with an RoII of only 10%, appears to lag behind in generating proportional returns. Although there has been some investment in internationalization, it has not yet yielded significant financial sustainability. This disparity emphasizes the need for either more targeted investments or better execution of current strategies.

The annual change in RoII further complements institutional progress. Institution E stands out with an increase of 8%, followed by Institution B at 6%, both indicating effective growth in returns resulting from improved student recruitment, diversified international partnerships, and more efficient program implementation.

Institutions C and D show minimal improvements (+2% and +1%, respectively), which could be due either stalled initiatives or challenges in making the most of existing resources. This calls for strategic re-assessment and possibly a shift in emphasis toward international collaborations with significant impact.

Table 3: Return on Investment (RoII) and Global Ranking Comparison

Institution	Return on Investment (RoII) (%)	Global Ranking (QS)	Global Ranking (THE)	Percentage Change in RoII from Previous Year (%)
Institution A	15%	Within top 700	601-800	+4%
Institution B	18%	Within top 600	501-600	+6%
Institution C	12%	1001-1200	601-800	+2%
Institution D	10%	1201-1400	801-1000	+1%
Institution E	20%	Within top 510	401-500	+8%

Global Rankings

The correlation between RoII and institutional prestige is further supported by the HEI's standing in the QS World University Rankings and Times Higher Education (THE) World University Rankings. Institution E, with the highest RoII, ranks in the top 510 in QS World University Rankings 2026 and within 401-500 in THE World University Rankings 2025, exhibiting a strong global brand presence and research output. Keeping up with its high RoII, Institution B also performs well with ranking within the top 600 (QS) and in the 501-600 (THE). Institution D which has the lowest RoII and the least growth, ranks lowest among 1201-1400 (QS) and 801-1000 (THE). This clearly suggests that inefficient internationalization efforts can directly impact institutional visibility and competitiveness on the global stage. The findings support the hypothesis that when effective internationalization is strategically implemented, it can enhance both financial sustainability and global academic reputation. Institutions like E and B demonstrate that a high RoII have improved global positioning, validating the Return on Internationalization Investment (RoII) as a reliable metric for assessing institutional success in this area.

CONCLUSION

The internationalization of higher education has become a strategic priority for institutions aiming to enhance academic quality, global visibility, and financial sustainability. This study examined the strategic approaches adopted by Indian HEIs to effectively manage their internationalization processes, focusing on student and faculty mobility, international research collaborations, and virtual academic partnerships. The study introduced and applied quantitative tools such as the Internationalization Index (II), Return on Internationalization Investment (RoII), Global Research Collaboration Index (GRCI), Student Exchange Efficiency (SEE), and Institutional Competitiveness Score (ICS) to quantify the internationalization efforts. The results confirm that HEIs with higher international engagement reflected through mobility, collaborations, and global partnerships tend to report higher financial returns and better global rankings. The study further validates that HEIs can evaluate the effectiveness of

their internationalization strategies and do an evidence-based decision-making through data-driven frameworks.

However, this research is not without limitations. The focus of this study was on quantitative data and limited institutional sampling. Complex institutional factors such as leadership vision, stakeholder engagement, and organizational culture which could influence internationalization strategies were beyond the scope of this study. Future research can expand on this work by incorporating qualitative methodologies. Additionally, this model could be expanded to include longitudinal data and assess the impact of national and international policy shifts to further enhance our understanding of drivers of sustainable and impactful internationalization in higher education.

REFERENCES

1. Agarwal, P. (2009). Indian higher education: Envisioning the future. SAGE Publications India.
2. Altbach, P. G., & Knight, J. (2007). The internationalization of higher education: Motivations and realities. Journal of Studies in International Education, 11(3-4), 290–305. https://doi.org/10.1177/1028315307303542.
3. Altbach, P. G., & Mathews, E. (2015). India's Need for Higher Education Internationalization. International Higher Education, (82), 23–25. https://doi.org/10.6017/ihe.2015.82.8874
4. Avolio, B. and Benzaquen, J. (2024), "Internationalization strategies for non-Western higher educational institutions: a systematic literature review and conceptual framework", International Journal of Educational Management, Vol. 38 No. 4, pp. 1079-1099. https://doi.org/10.1108/IJEM-05-2023-0243
5. Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
6. Georgoudaki, E., Stavropoulos, S., & Skuras, D. (2025). Regional Pathways to Internationalization: The Role of Erasmus+ in European HEIs. Urban Science, 9(5), 144. https://doi.org/10.3390/urbansci9050144
7. Chishti, S. (1984). Economic costs and benefits of educating foreign students in the United States. *Res High Educ, 21*(4), 397–414.
8. de Wit, H. (2011). Globalisation and internationalisation of higher education. RUSC. Universities and Knowledge Society Journal, 8(2), 241–248.
9. DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. American Sociological Review, 48(2), 147–160.
10. Egron-Polak, E., & Hudson, R. (2014). *Internationalization of Higher Education: Growing Expectations, Fundamental Values* (4th Global Survey). International Association of Universities.
11. Enkhtur, A., Zhang, X., Li, M., & Chen, L. (2024). Exploring an Effective International Higher Education Partnership Model Through Virtual Student Mobility Programs: A Case Study. ECNU Review of Education, 7(4), 971-990. https://doi.org/10.1177/20965311241232691
12. Heaton, C., & Throsby, D. (1998). Benefit-cost analysis of foreign student flows from developing countries: the case of postgraduate education. *Econ Educ Rev, 17*(2), 117–126.
13. Ilieva, R., Beck, K., & Waterstone, B. (2014). Towards sustainable internationalisation of higher education. *High Educ, 68*(6), 875–889.
14. Knight, J. (2008). *Higher education in turmoil: The changing world of internationalization*. Sense Publishers.
15. Knight, J. (2012). Student Mobility and Internationalization: Trends and Tribulations. Research in Comparative and International Education. 7. 10.2304/rcie.2012.7.1.20.
16. Kumar, K. (2020). Challenges in the internationalization of Indian higher education. Higher Education for the Future, 7(2), 155–168.
17. Makrydakis, N., Spiliotopoulos, D., Michalakelis, C. Mapping key performance indicators for evaluation and monitoring the internationalization of higher education institutions. International Journal of Research in Marketing Management and Sales 2025;7(1):25-36
18. Leydesdorff, Loet & Wagner, Caroline & Park, Han & Adams, Jonathan. (2013). International Collaboration in Science: The Global Map and the Network. El Profesional de la Informacion. 22. 10.3145/epi.2013.ene.12.
19. Lopez, M.R. et al. (2016). Sustainable Internationalization? Measuring the Diversity of Internationalization at Higher Education Institutions. In: Leal Filho, W., Zint, M. (eds) The Contribution of Social Sciences to Sustainable Development at Universities. World Sustainability Series. Springer, Cham. https://doi.org/10.1007/978-3-319-26866-8_2
20. Ministry of Education. (2020). *National Education Policy 2020*. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf).
21. Vorng, P. (2024). Two rows of the lunar year equals a human's age - Effective strategies for enhancing collaboration and cooperation with global institutions: Engaging and communicating with partners. Global Governance A Review of Multilateralism and International Organizations. Vol. 2024. TBD.
22. Powell, W. W., Koput, K. W., & Smith-Doerr, L. (1996). Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology. *Administrative Science Quarterly*, 41(1), 116–145.
23. Rajkhowa, Gautam. (2017). Internationalising Indian Higher Education: Opportunities, Challenges and the Way Forward. Space and Culture, India. 5. 25. 10.20896/saci.v5i1.259.

24. Robinson-Garcia, N., & Rafols, I. (2019). Meaningful metrics for measuring international collaboration: Beyond co-authorship. arXiv preprint. https://arxiv.org/abs/1909.10274
25. Rumbley, L. E., Altbach, P. G., & Reisberg, L. (2012). Internationalization within the higher education context. In D. K. Deardorff, H. de Wit, J. D. Heyl, & T. Adams (Eds.), *The SAGE handbook of international higher education* (pp. 3–26). SAGE Publications.
26. Taylor, J. (2004). Toward a strategy for internationalization: Lessons and practices from four universities. Journal of Studies in International Education, 8(2), 149–171. https://doi.org/10.1177/1028315303260827.
27. Throsby, D. (1998). FINANCING AND EFFECTS OF INTERNATIONALISATION IN HIGHER EDUCATION - The Economic Costs and Benefits of International Student Flows. Organisation for Economic Co-operation and Development (OECD).
28. Tilak, J. B. G. (2013). Higher education in India: In search of equality, quality and quantity. Orient BlackSwan.
29. Times Higher Education (THE). *World University Rankings 2024 methodology*. https://www.timeshighereducation.com/sites/default/files/the_2024_world_university_rankings_methodology.pdf
30. van der Wende, M. (2001). Internationalisation policies: About new trends and contrasting paradigms. Higher Education Policy, 14(3), 249-259. https://doi.org/10.1016/S0952-8733(01)00018-6
31. Varghese, N.V. (2015). BRICS and international collaborations in higher education in India. Frontiers of education in China, 10(1), 46-65.
32. Varghese, N.V. (2017). Internationalization and cross-border mobility in higher education. In: Egetenmeyer, Regina, Guimaraes, Paula and Nemeth, Balazs (eds) Joint modules and internationalization in Higher Education, pp. 21-38. Frankfurt: Peter Lang.
33. Wai-Chan S. International research collaboration creates higher impact. *Nordic Journal of Nursing Research*. 2017;37(2):59-60. doi:10.1177/2057158517706259
34. Wagner, C. S., Whetsell, T., Baas, J., & Jonkers, K. (2018). Openness and Impact of Leading Scientific Countries. Frontiers in Research Metrics and Analytics, 3. https://doi.org/10.3389/frma.2018.00010
35. Zhang, LC., Worthington, A.C. & Hu, M. Cost economies in the provision of higher education for international students: Australian evidence. High Educ 74, 717–734 (2017). https://doi.org/10.1007/s10734-016-0078-9