A Comprehensive Bibliometric Analysis of Internationalization in Higher Education and Student Mobility: Investigating Trends and Dynamics

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Abstract

The rapid growth in international student mobility in the past decades has been a topic of increasing interest in the field of higher education research. This study aims to examine the evolution, trends and future directions of internationalization of higher education and student mobility through bibliometric analysis which serves as a method for understanding academic research dynamics through quantitative and statistical evaluations of literature. The global higher education landscape has experienced a consistent rise in the mobility of international students, driven by a growing desire among individuals to explore diverse academic experiences and engage in cross-cultural learning opportunities. This study uses the 'SCOPUS' database to collect and analyze the articles published from 1995 to 2023 using significant keyword searches. Along this line, the study draws the significant themes to understand the global trends as part of crosscultural research in international education. The diversity of research areas within the field of internationalization of higher education and students' mobility domain has led to the generation of various coherent and systematic themes such as (i) factors facilitating internationalization of higher education, (ii) inclusion of internationalization and globalization in higher education institutes, (iii) issues of equality, diversity and inclusion among students, (iv) adaptation to a new culture, (v) challenges for international students which may assist in future research in this area.

This bibliometric analysis may assist different researchers to understand the trends on Internationalization of higher education and students' mobility. Moreover, this study argues for further cross-disciplinary research to address emerging issues in global higher education and offers a path of improvement in internationalization methods by synthesizing existing research.

Keywords: International Student Mobility (ISM), bibliometric, Internationalization, Higher Education, cross-cultural opportunities.

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1. Introduction

In recent times, Internationalization of Higher Education (IoHE) and International Student Mobility (ISM) have become well-known subject among academicians, professionals, and policymakers (Ghani et al., 2022). IoHE is a systematic effort to align higher education with the demands of globalization in economic, societal, and labor market terms (Van Der Wende, 1996). It includes students, institutions, courses, staff mobility, Internationalization of Curriculum (IoC), transnational education, and quality assurance standards (Thi Thu Le et al., 2024). Amongst all these aspects student mobility has emerged as one of the most prominent aspects of IoHE (Tokas, 2017).

ISM is increasingly recognized as a multidimensional phenomenon involving academic, social and cultural integration (Zhao et al., 2005). This rapid expansion of student mobility reflects the global pursuit of competitive advantage, institutional reputation, and socioeconomic growth (Khan et al., 2015; Li-Hua, 2011). Broader IoHE agendas and expansion of ISM are driven by individual aspirations as well as institutional imperatives. This is required to enhance academic prestige, global competitiveness, and socio-economic contribution (khan et al., 2015; Li Hua, 2011). These shifts have profoundly reconfigured institutional strategies, pedagogical frameworks, and classroom dynamics (Lomer & Mittelmeier, 2021). However, the increasing complexity of international education also present challenges, including cultural dissonance, academic preparedness, disparities, and global competency deficits (Choudaha, 2017).

Higher Education Institutions (HEIs) operate in an environment which is constantly being shaped by technological disruptions, rapidly shifting socio-economic landscapes and intense global competitiveness. As a result, universities are compelled to produce globally competent graduates for knowledge driven economy (Miller & Rice, 2023). These transformations are increasingly evident across middle and lower income countries, reflecting the growing democratization and strategic importance of IoHE and ISM in shaping global education systems (Hayes & Findlow, 2022).

As part of the barriers to international mobility of students in higher education, the discrimination and unequal access to resources negatively affect international students' academic experiences, equity, diversity, and inclusion (DEI) play a vital role (Stevenson, 2018). It is also commonly stated in previous studies that acculturation difficulties, such as language hurdles and social integration, impede the ability of overseas students to adjust to new surroundings. (Spencer-Oatey & Dauber, 2019).

Despite the extensive scholarly engagement with IoHE and ISM, much of the literature remains fragmented. Prior review often focus on narrowly defined themes such as sustainability, regional mobility patterns, or decision-making processes (Albein & Beppo, 2022; Heleta & Jithoo, 2023; Li et al., 2019). Bibliometric analysis enables a comprehensive and quantitative evaluation of research trends, intellectual structures, and scholarly networks across geographies, institutions and thematic areas. It helps to identify knowledge gaps, emerging areas and historical evolution of the research domain. Therefore, this study adopts a bibliometric approach to examine the trajectory, influential contributions, and future direction in the field of IoHE and ISM contributing to a more integrated and evidence-based understanding of this rapidly expanding research domain. This study performs a bibliometric analysis to answer the following questions

- RQ1: What are the recent trends and dynamics in current publications and citations in the field of Internationalization of Higher Education (IoHE) and International Student Mobility (ISM)?
- RQ2: Which authors, articles, journals, publishers, and countries have contributed in the domain of research on Internationalization of Higher Education (IoHE) and International Student Mobility (ISM)?
- RQ3: What are the key thematic areas within the stream of Internationalization of Higher Education (IoHE) and International Student Mobility (ISM) that contemporary researchers are actively exploring?

2. Methodological framework

The study has been conducted using Scopus database which is well known for covering a wide range of research areas and topics. It is a high-quality database that offers accurate and legitimate information in different study contexts including impact metrics and citation analysis in diversified language system (Jayus et al., 2024). The advanced options of Scopus database help the researchers search and filter valid data for study. The filtering option of the Scopus database which includes the range of years, subject areas, document types, languages, nations, keywords, etc. enables seamless access to data for various research tools, including Biblioshiny, R Studio, VOSviewer etc. This facilitates a more effective and efficient analysis process for exporting data from various sources (McAllister et al., 2021).

For this study, the Preferred Reporting Item for Systematic Review and Meta Analysis (PRISMA) (Moher et al., 2009) has been applied which is a widely accepted framework used in social sciences to conduct systematic literature review (Peters et al., 2021; Hallinger & Kovačević, 2019; Levay & Craven, 2019). This study explores the Scopus database for article extraction published from 1995 to 2023. Furthermore, researchers have used different keywords for the search, such as "internationalisation" OR " internationalization " OR "transnationalization" OR "globalisation" OR "mobilisation" AND "overseas student*" OR "international student*" OR "outbound student*" OR "mobile student*" OR "inbound student*" OR "offshore student OR "exchange student*" OR "student exchange" OR "student mobility" OR "cross border student*" AND "higher education institutes" OR "overseas education" OR "HEIs" OR "tertiary education" in the social science, business, economics and management domain for extraction of necessary data from the Scopus database in CSV format.

Keywords: "internationalisation" OR "internationalization" OR lentification Records identified through Scopus "globalisation" OR database searching "transnationalization" or "mobilisation" (N=4953) (Topic) AND "international student*" OR "overseas student*" OR "mobile student*" OR "offshore student*" OR "outbound student*" OR "inbound student*" OR "exchange student*" OR "student exchange" OR "cross border Records retrieved (n=4953) student*" OR "student mobility" AND Screening "higher education institutes" AND Records filtered on the basis of publication "Tertiary education" OR education" OR "HEIs " year, subject area, document type and "Overseas language (4953 - 3393 = 1560)Full Text articles were considered after exclusion of 124 articles of year 2024; Subject area included Social sciences, arts and humanities and economics Abstract of articles assessed for articles excluded (N=2171) and eligibility (686) DOCUMENT TYPE: Article and (N=1560-874=686) review article excluded articles (N=1028) LANGUAGE: English excluded article (70) (N= 3393) Full-text articles excluded in the screening process and that did not talks ncluded about ISM and internationalization Studies included in bibliometric review (N=874) (N=686)

Figure 1: PRISMA Framework

Source: Author's own compilation

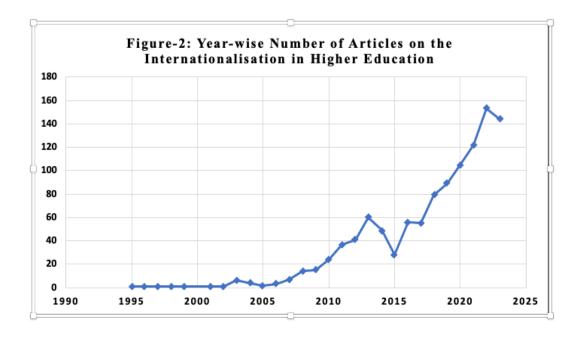
The keywords that has been used in this study are gathered from the relevant outcomes of several earlier searches that included international students' mobility (Barbosa & Ferreira-Lopes, 2021). The information includes articles and reviews of articles on the subject. The base http://jier.org

year is considered as 1995, as it appeared while searching for the articles; therefore, that has been the first time since this concept was academically introduced. However, the first article that is significant for this paper on the ISM domain was found in 1995. Figure: 1 summarizes the inclusion and exclusion criteria using the PRISMA framework.

2.1 Current publication and citation trend of IoHE and ISM

2.1.1 Publication trends

This study identifies 686 articles on IoHE and ISM that have been published between years 1995 to 2023. Higher education research about internationalization started to gain attention after 2006 showing increasing trend upto year 2013 which coincides with the growth of international students globally (OECD, 2021). After that there has been a declining trend of publications in year 2014 and 2015 (see Figure: 2). The trend gained momentum again till 2023 probably because of the UNESCO's 'Education 2030 Agenda (2015)' which laid stress on access, mobility and equity in higher education giving boost to research in this area.



Source: Authors' compilation from Scopus database

The publication jumped from 22 articles in year 2010 to 154 articles in year 2023. In the last 5 years (2018-2023), the number of publications have almost doubled from 80 articles in 2019 to 154 in 2023 (see Figure: 2). The year 2021 has seen a significant increase in the number of articles related to IoHE, which is attributed to the rise in contributions related to COVID-19, during which prominently featured the experiences of international students in the media and scholarly discourse (Huang et al., 2022).

2.1.2 Top-cited publications

Table 1 reports the top ten cited publications on IoHE and ISM. The top cited article "Beyond national states, markets, and systems of higher education: A glonacal agency heuristic" (citation=525) introduces a novel framework to highlight three intersecting and simultaneously existing forces influencing the ISM, i.e., global, national, and local forces that guide IoHE (Marginson, 2016).

Table 1: Top 10 Most Cited Publications

S. No.	Authors	Title of Publication	Journal	Citations
1	Marginson and Rhoades (2002)	Beyond national states, markets, and systems of higher education: A glonacal agency heuristic	Higher Education	525
2	King (2002)	Towards a new map of European migration	International Journal of Population Geography	521
3	Cubillo et al. (2006)	International students' decision- making process	International Journal of Educational Management	278
4	de Wit and Altbach (2021)	Internationalization in higher education: global trends and recommendations for its future	on: global trends and Policy Reviews in	
	Raghuram	Theorising the Spaces of Student	Population, Space and	
5	(2013)	Migration	Place	239
6	Mazzarol (1998)	Critical success factors for international education marketing	International Journal of Educational Management	219
		Language difficulties of	International	
7	Sawir (2005)	international students	Education Journal	209
8	Otten (2003)	Intercultural Learning and Diversity in Higher Education	Journal of Studies in International Education	167
9	Madge et al. (2015)	Conceptualizing international education: From international student to international study	Progress in Human Geography	165
10	Stein and de Andreotti (2016)	Cash, competition, or charity: international students and the global imaginary	Higher Education	159

Source: Authors' compilation from Scopus database

In one of the highly cited studies, Smart (2021) highlights five factors that help students decide their future international course, college, and country: i.e. the personal reasons, the effect of country image, the influence of city image, the institution image, and the evaluation of the programme of study. Similarly, Stein and Andreotti (2016) explore the ways how people view and place international students in the context of the global education system. This paper investigates the reasons for enticing overseas students, including monetary rewards (cash), competitive benefits (competition), or altruistic goals (charity). It is important to note that the most cited articles are mainly devoted to theorizing the process of IoHE and ISM, evaluating critical enablers and barriers to internationalization, and highlighting cultural issues related to the mobility of students.

2.1.3 Most prolific authors

Table 2 highlights the top ten authors with the most publications in IoHE and ISM. Yemini has published ten articles in the stated domain, focusing on multidisciplinary studies, examining and strengthening higher education policy-making processes and exploring different stakeholders' roles and practices in the educational systems (Kot & Yemini, 2023). Additionally, she has proposed significant approaches and interventions to augment existing educational practices in IoHE (Weinreb & Yemini, 2023). Table 2: Most prolific ten authors (in terms of publication)

Table 2: Top ten authors with the most publications

S.No	Author	Institution		Country	Publica tions	Citations	Citations per document
1.	Miri Yemini		Israel Institute of Technology	Israel	10	568	56.57
2.	Jane Knight	University	of Toronto	Canada	9	452	50.22
3.	Phillip G.Altbach	Centre international education	for higher	United States	8	645	80.625
4.	Parvati Raghuram	Indian Institu of Manageme		India	7	564	80.57
5.	Ly Thi Tran	University Queensland	of	Australia	7	167	23.86
6.	Ashley Gunter	University	of Twente	Netherlands	6	161	26.83
7.	Tim Mazzarol	University Australia	of Western	Australia	5	555	111
8.	Johanna Waters	University Liverpool	of	United Kingdom	5	181	36.2

9.	Rachael Brooks	University	of Brighton	United Kingdom	5	180	36
10.	Maia Chankseliani	University	of Oxford	United Kingdom	5	159	31.8

Source: Scopus database

Prominent authors have contributed extensively to highlight internationalization trends along with social, economic, and political challenges and motivators of IoHE (Stein & Andreotti, 2016; Altbach & Wit, 2015; Altbach & Knight, 2007; De Wit & Altbach, 2020). Out of the top ten authors, four belong to Europe, two from Australia, two from Asia, and two are from North American continent. Unfortunately, no prominent authors are from South America, Antarctica, and the African continents. It highlights the dearth of quality research in the domain of IoHE and ISM in these continents.

2.1.4 Most prolific countries and journals

Tables 3 and 4 illustrate journals and countries with a maximum number of publications in the internationalization of higher education. The top three journals are *Higher Education* (Articles=48, citations=2260), *Journal of Studies in International Education* (Articles=44, citations=1540), and *Sustainability* (Articles=18, citations=104). Notably, eight of the top ten journals (except *Sustainability* and *Population, Space and Place*) directly deal with higher education, highlighting the prominence and significance of internationalization and mobility in academic research. The articles published in the journal '*Sustainability*' essentially explores the phenomenon of internationalization and students' mobility from the sustainability perspective.

Table 3: Top 10 Journals with their number of publication

		Number of	Total	Citations per
S. No	Journal Title	Documents	Citations	Document
1	Higher Education	48	2260	47.08
	Journal of Studies in International			
2	Education	44	1540	35
3	Sustainability (Switzerland)	18	104	5.78
	International Journal of Educational			
4	Management	18	1112	61.78
5	Globalization, Societies and Education	17	323	19
6	Journal of International Students	17	187	11
7	Studies in Higher Education	14	370	26.43

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8	Tertiary Education and Management	13	110	8.46
9	Higher Education Policy	13	223	17.15
10	Population, Space and Place	12	491	40.92

Source: Scopus database

Alam (2023) illustrated the relevance of sustainable education amid the rapidly growing commercialization of international education. As shown in Table 4, the top three countries (in terms of the number of articles published) are the United Kingdom (articles=212, citations=1872, and citations/paper=8.83), China (articles=76, citations=1626, and citations/paper=21.39), and the USA (articles=73, citations=782, and citations/paper=10.71).

Table 4: Top 10 Countries (Number of Documents)

S. No.	Country/Territory	No. of Publications	Citations	Citations
				per
				document
1	United Kingdom	212	1872	8.83
2	China	76	1626	21.39
3	USA	73	782	10.71
4	Australia	72	616	8.55
5	Germany	58	589	10.15
6	Spain	58	567	9.77
7	Netherlands	49	465	9.48
8	Italy	48	392	8.16
9	Sweden	39	271	6.94
10	France	35	134	3.82

Source: Scopus database

Seven out of ten (except China, the USA, and Australia) are European countries, indicating the scarcity of studies in other regions, especially South America and Africa. We also administered trend analysis to examine the recent country-wise trends in the publications. Figure 3 suggests a recent publication spurt in non-European countries like China, Turkey, Pakistan, Israel, Vietnam, and Russia. These trends indicate the opening of relatively closer economies like Russia and China for international education and students.

denmark

Japan kazakhstan

hong kong

Vietnam

Loussian federation

Vietnam

Loussian federation

Vietnam

Loussian federation

Vietnam

Loussian federation

Figure 3: Recent Country-Wise Trends

Source: Authors' compilation

3. Themes of IoHE and ISM - Keyword co-occurrence

Keyword co-occurrence analysis has been performed in VOSviewer to determine major clusters/themes (Catone et al., 2020) in the domain of IoHE and ISM. Figure: 4 highlights the five major themes.

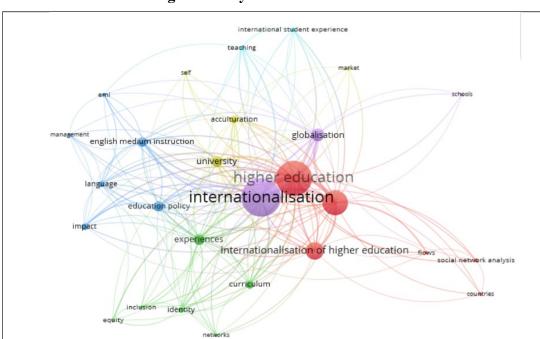


Figure 4: Keywords Co-occurrence

Source: Authors' compilation

3.1 Theme 1: Factors Facilitating Internationalization of Higher Education (Red Colour)

This cluster includes keywords such as social network, flows, countries, mobility, etc. and highlights the factors increasing student mobility across nations. Initiatives like the Erasmus program and the Bologna process have been vital in promoting cross-border cooperation in higher education within the European setting. In order to encourage mobility across European higher education institutions, the European Commission launched the Erasmus Program in 1987 and the Bologna process in 1999. Erasmus Program enables students to study, train, or acquire experience in another European nation. This program has grown over time to offer a wider variety of training and educational opportunities under the Erasmus+ framework. The Bologna process helps to promote mobility, improve educational quality, and help in easy recognition of credentials and study durations. Government initiatives like research grants, financing for international cooperation, and scholarships for overseas students (Knight & Cavusgil, 2004) act as important facilitators. Cross-border research collaborations supported by the government significantly increase institutions' internationalization (Enders, 2004). To facilitate academic mobility, universities collaborate on joint research projects, exchange agreements, and dual degree programs with foreign universities (Khadria, 2021). Geographical barriers have been removed, and internationalization has become more accessible due to the rapid growth of educational technologies. The reach of internationalization is increased by digital platforms, which facilitate virtual exchange, distance learning, and cooperative research (Altbach et al., 2019).

3.2 Theme 2: Inclusion of Internationalization and Globalization in Higher Education Institutes (Purple)

This cluster highlights the importance and role that 'internationalization' and 'globalization' play in mobility of students across borders to attain higher education. Many studies use the terms "internationalization" and "globalization" interchangeably. HEIs promote international education by ensuring a high-quality and accessible education system. It helps them to prepare for the global world and future life. However, institutional strategies of internationalization and globalization make the higher education system more effective and successful. In particular, internationalization strategies like the internationalization of faculty, research, and world-class curriculum development are typically successful when they are incorporated into institutional

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strategies (Hudzik, 2011).

Effective internationalization initiatives are well-planned, well- funded, and backed by a leadership team dedicated to incorporating global viewpoints into the institution's goal (Leask, 2015). Internationalization is now primarily driven by global university rankings. High-ranking positions in the institutes draw the attention of professors, research scholars, and international students towards the institutes. In the present scenario, HEIs prioritize internationalization as a weapon to enrich their international name and fame in the global market (Altbach, 2015).

3.3 Theme 3: Issues of Equity, Diversity, and Inclusion, Experiences and Curriculum among Students (Green Cluster)

This cluster includes keywords such as experience, equity, inclusion, identity, inclusion, assimilation, and social integration. It highlights the Equity, Diversity, and Inclusion (EDI) faced by international students in different cultural settings. In order to achieve fair access to international education and to foster intercultural understanding, internationalization processes must incorporate (EDI) (Deardorff, 2009). Internationalization in higher education must take (EDI) into account to guarantee that all students, regardless of socioeconomic status, gender, or ethnicity, can take advantage of opportunities. Equality is defined as "the presence of diversity as a marker of success, which correlates to diversity goals of increasing visibility (Wollscheid et al., 2023). Similarly, inclusion is about giving every group a voice and listening to them (Wollscheid et al., 2023). Equity, diversity and inclusion complement variety but go beyond acknowledging it to value it, giving the speaker more power than the one giving voice (Gumus et al., 2020). Diverse viewpoints are frequently encouraged in courses by institutions dedicated to EDI, guaranteeing that all students gain from global learning (Marginson, 2010). Additionally, diversity programs draw a more diverse pool of foreign faculty and students, enhancing the learning environment and fostering global competency (Benett et al., 2016). Institutions can use these EDI-based objectives to significantly enhance and change their learning environments. From the perspective of internationalization, several research shed light on international students' inclusion and equitable experiences (Guo & Guo, 2017). By creating a friendly and encouraging atmosphere, inclusive policies improve the experience of international students (Stein & Andreotti, 2016).

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3.4 Theme 4: Adaption to New Culture (Yellow Cluster)

This cluster includes keywords like acculturation, cultural norms, beliefs, value system, food habits, adoption, and ethno-phobia. When it comes to adjusting to a new culture, international students experience several difficulties, such as language hurdles, social isolation, cultural norms and beliefs, academic expectations, homesickness, prejudice or discrimination (Titrek et al., 2016). When students are exposed to a new culture, they experience cultural shock, which causes feelings of discomfort and disorientation (Carlo et al., 2022). Effective communication can be hampered by language variations that make it difficult to understand and communicate (Luthans & Morgan, 2017). Understanding the dynamics of society, interpersonal norms, and communication styles may be necessary to build valuable relationships in a foreign cultural setting (Chau, 2018). People may find it challenging to make friends and may feel alone when adjusting to the new social settings of the host country (Ward & Szabo, 2023). International students may find it difficult to adjust to differences in instructional approaches, learning objectives, and evaluation techniques (Sahin et al., 2016). Several difficulties and challenges associated with adjusting to a new culture, ranging from social dynamics, language climate changes and cultural assumptions. It is a process that requires determination, acceptance, and effort. In order to successfully adapt, one must not only overcome challenges but also embrace the diversity of the new environment. In the end, the encounter advances understanding and connectivity on a worldwide scale.

3.5 Theme 5: Challenges for International Students (Blue Cluster)

This cluster contains keywords, such as english medium, education policy, Equal Monthly Installments (EMI), language impact, job prospects, discrimination, and ethnicity. Mainly, it highlights international students' difficulties, problems and issues while studying in host countries. These barriers include their communication (Gao et al., 2024), institutional policies, academic and un-academic costs, and restricted scholarship opportunities (Marginson, 2016). Additionally, these students face different psychological issues due to the complex visa procedures, stringent immigration laws, and uncertainty regarding residency status (Byun & Slavin, 2020). Further, the academic standards between their home and host nations create diversified academic and employment issues (Jiang et al., 2020; Bretag, 2016; Waters & Brooks, 2011). Nguyen et al. (2023) suggest that lacking internet access, digital resources, and technology may prevent them from actively participating in academic activities. Newman et al. (2020) enunciate that the cultural lag influences their academic performance and integration (Wong, 2024). Hence, the HEIs, government and other stakeholders need to take the initiative http://jier.org

to create an inclusive environment, provide support services and push for laws that advance the success and well-being of international students.

4. Recent trends and future directions

Figure 5 highlights the three main clusters characterize the evolving landscape of Internationalization of Higher Education (IoHE) and International Student Mobility (ISM) research.

4.1. Purple Colour Cluster

The earliest studies on globalization and the internationalization of education point to a significant focus on various key themes. It includes keywords like globalization, education, students, curriculum, teachers, comparative education and policies. It suggests that earlier studies primarily explored the evolution of globalized and internationalized education constituents, such as syllabus, faculty, language, placement opportunities, internships, etc. With an emphasis on the modification of academic programs and institutional tactics like international syllabus, faculty, language, placement opportunities, internships etc., the effect of internationalization on student mobility highlights the growing significance of international education and its influence on curricula and academic results. Tight (2019) enunciates that the mobility of students, professors, and educational models between countries has significantly modified curriculum and academic structures, emphasizing the growing importance of comprehending global education trends.

4.2 Light Green Colour Cluster

It illustrates the issue of IoHE and talent migration from one country to another. It includes keywords like brain drain, migration, talent, talent regression, student migration, neoliberals, reverse brain drain, knowledge export etc. The cluster outlines the challenge of movement and settlement of talented, skilled, and knowledgeable students and potential employees from one country to another (host nation). Becker and Ferrara (2019) investigate the long-term impacts of brain drain, emphasizing the difficulties developing nations face in holding onto highly competent people. The notion of "reverse brain drain" refers to highly qualified people returning home to support local innovation (Boschma, 2016). King and Raghuram (2012) highlight the export of knowledge through student migration, frequently resulting in losing talent in the home country. According to Rizvi (2017), neoliberal agendas and higher education policies are changing talent migration in global knowledge economies.

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braindrain International student socialmedia identify international student mobility international student mobility international student mobility international students universities internationalisation student experience internationalisation internationalisation globalization students universities internationalisation internationalisation internationalisation student experience internationalisation interna

Figure 5: Overlay visualization

Source: Scopus database

4.3 Yellow Colour Cluster

The most recent cluster underlines the focus of current studies on sustainability issues associated with the internationalization of education and students' mobility. It includes keywords like sustainability, environment, native students and citizens, society, economies, etc. The recent study advocates alignment of global higher education with the Sustainable Development Goals (SDGs). HEIs are crucial in preparing the next generation to continue living in a sustainable world. The constant pursuit of sustainability in educational setups facilitates more opportunities for engagement of HEIs with their immediate surroundings. The field of education is confronted with issues such as the growing need for students to be prepared for changes in the economy, environment, and society, as well as challenging job demands (Lotz-Sisitka et al., 2020). HEIs are increasingly recognized as an important key player in advancing the SDGs, contributing through research, teaching, innovation and community engagement, resource sharing, fostering knowledge exchange and collective problem-solving (Leite-Filho, 2021; Serdyukov, 2017; Lozano et al., 2015). One of the innovative ways to ensure sustainability in higher education is through incorporating the SDGs in curriculum, collaboration between governments, HEIs, businesses and non-profit organizations (Koehn et al., 2017). Students are key in promoting sustainability on campuses and beyond by contributing to a culture of responsibility and participation in the SDGs (Kremleva & Jukh, http://jier.org 2037 Journal of Informatics Education and Research ISSN:1526-4726 Vol5Issue3(2025)

2018).

International higher education's alignment with the SDGs is a dynamic and vital endeavour reflecting an ongoing commitment to global responsibility and creating a more interconnected and sustainable future. The importance of environmental education pedagogies by demonstrating place-based learning and eco-justice activities can promote students' critical thinking and ecological perspective (Lozano et al., 2015). Furthermore, as Sanchez-Carracedo et al. (2024) pointed out, incorporating sustainability education into degree projects and technical curricula is crucial for encouraging sustainable solutions in higher education and fostering long-term sustainable development. Sustainability principles are present in higher education institutions' degrees, learning methodologies, and course contents (Sanchez-Carracedo et al., 2024; Sidiropoulos, 2014).

These three main clusters (Figure 5) characterize the current IoHE and ISM research developments. Early research on the effects of globalization on education (purple cluster) concentrated on internationalization tactics, faculty, and curricula. Later studies (light green cluster) focused on the talent movement, emphasizing knowledge export, brain drain, and the impact of neoliberal policies on student mobility. Sustainable Development Goals (SDGs) are aligned with higher education, and advancing sustainability through curricular innovation, research, and cooperation with international stakeholders are the main focusses of the most recent studies (yellow cluster).

5. Discussion and concluding remarks

This study comprehensively analyses the various components of IoHE and ISM and highlights the present trends in research that seek to offer various ways to transform HEIs into globalized platforms. The findings reveal that the role of IoHE and ISM supports the broader goals of internationalization, ultimately contributing to a more interconnected and dynamic educational environment. By employing co-occurrence network mappings, the study uncovers interconnections among authors, keywords, publication and countries' citations, while also identifies five core themes that reflect how international students adapt to diverse contexts Together, these results synthesize a wide range of research findings into actionable knowledge, supporting well-informed decision-making by scholars, policymakers, and institutional leaders. This review aims to synthesize numerous research findings into valuable insights that can aid in making well-informed decisions. In the IoHE and ISM fields, bibliometric reviews are essential for expanding academic knowledge, guiding future research directions, and offering practical applications. These trends have the potential to shape an emerging multidisciplinary

field of study, as well as influence practice and policy in the years to come.

The results of the publication trends, important authors, top-cited papers, geographic coverage and subtopics in internationalization studies show that research on internationalization of higher education has grown positively. The results suggest that this domain has attracted the attention of research scholars in recent times, resulting in a two-fold rise in publications in the last five years. This trend may continue to grow as HEIs are consistently encouraging and facilitating the foreign students and faculty for research and other academic pursuits. The trend is quite evident as the globalization of the world economy has rendered access to geographical boundaries, and people quickly move from one place to another for education, jobs, business, tourism, and other purposes. Internationalization of education has also followed the same trend, with countries opening their doors to international students, faculty members, and curriculums.

Interestingly, top contributors to the field are geographically spread across countries like the UK, China, USA, Australia, Germany, Spain etc. which suggests that the issue of internationalization of education and students' mobility is getting attention across the globe. However, the findings also report a paucity of studies by African and South American scholars, highlighting an immediate need to examine the practice in these continents, too. The five identified themes as mentioned in results earlier, offers an organized and well-structured framework to understand the complex dynamics of internationalization in higher education and migration of students for this purpose. These identified themes may provide a thematic roadmap to policy makers for bridging the gaps in this area of research. Other findings state that the policies that support international collaborations and global scholarships are among the enablers of internationalization (De Wit & Altbach, 2020; Altbach & Knight, 2007).

This study also highlights three major research trends i.e., globalization and internationalization of different education constituents, migration of talent from home country to host country and sustainability in higher education. Academic exchanges, faculty positions, and curricula have all changed due to internationalization and globalization of education components, preparing universities to become globally competitive (Knight, 2015). Both students and institutions benefit from globalization, which promotes a varied and thorough educational experience, according to Leal Filho et al. (2018). In recent scenarios, universities have been incorporating sustainability principles into their global education programs, indicating the rise of sustainability as a significant focus. Internationalization fosters cross-border cooperation on sustainability-related concerns and the adoption of environmentally

friendly laws and practices.

Despite its contributions, the study has certain limitations. The analysis relies solely on the Scopus database for bibliometric analysis. While Scopus is a recommended source used in previous research, it may overlook papers that are not indexed in this database. Future researchers may consider combining data from multiple sources to minimize article duplication. This approach might provide a more comprehensive view of the current body of research. Additionally, other databases, such as the Web of Sciences, can be utilized to support or challenge the findings of this study.

In conclusion, this bibliometric analysis shows that the research on internationalization and student mobility in higher education has gained significant level of importance and is evolving into a vibrant multidisciplinary field. The identified themes and emerging trends in the study not only deepens the academic understanding but also offers practical approach and insightful guidance for policy practices and institutional building. By highlighting both the strengths and limitations of existing research, the study provides a roadmap for scholars and policymakers to in-depth exploration in the field of internationalization in higher education. Ultimately, both IoHE and ISM are the crucial forces that may drive global educational integration, foster equity and inclusion, and also shape sustainable pathways for higher education in the years to come.

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