

A Study of the Drivers of Internationalisation in Higher Education

Nehajoan Panackal^{1*}, Sonica Rautela² and Adya Sharma¹³

^{1*}*Symbiosis Centre for Management Studies-Pune, Symbiosis International
(Deemed University), Pune, India*

ORCID: <https://orcid.org/0000-0002-9552-6763>, E-mail: nehajoan.panackal@scmspune.ac.in

²*Symbiosis Centre for Management Studies-Pune, Symbiosis International
(Deemed University), Pune, India*

ORCID: <https://orcid.org/0000-0002-2891-3819>, E-mail: sonicaonnet@gmail.com

³*Symbiosis Centre for Management Studies-Pune, Symbiosis International
(Deemed University), Pune, India*

ORCID: <http://orcid.org/0000-0001-7040-0278>, E-mail: adyaindia@gmail.com

KEYWORDS Cross Border Education. Enabler. Global Education. Institutions. Total Interpretive Structural Modelling

ABSTRACT The world has witnessed massive development in the past few decades. The development trajectory of many countries has relied on the higher skills of people from other countries. All nations do realise that interdependence is a part of life. Developed countries have welcomed bright talent from developing countries for education, who have then stayed on in the country and contributed to its development. The brain drain of some countries has been brain gain for other countries. Internationalisation of higher education has gained utmost importance in recent years. This paper explores the enablers that facilitate the adoption and practices of internationalisation in higher education. The researchers followed the guidelines of total interpretive structural modelling (TISM) and fuzzy MICMAC analysis to conceptualise the relation between the identified enablers. This study will help academicians, researchers, and policy makers by providing a path map to implement internationalisation in higher education.

INTRODUCTION

Vasudhaiva Kutumbakam-The world is one family - Maha Upanishad

“*Vasudhaiva Kutumbakam*” is a well-known Sanskrit verse that means the world is one family. This is found in ancient Indian scriptures said to have been written centuries ago. This ancient verse presents the importance of globalisation. It suggests that the world is one family, which can be created by valuing and working with each other. This verse captures the changing picture of the current world. The world has witnessed massive development in the past few decades (Kokode et al. 2020). The development trajectory of many countries has relied on the higher skills of people from other countries. All nations do realise that interdependence is a part of life. Developed countries have welcomed bright talent from developing countries for education, who have then stayed on in the country and contributed to its development. The brain drain of some countries

has been brain gain for other countries. In a way, cross-border education became the source of future skilled labour supply for the developed nations, and in the process, promoted the internationalisation of education. It is seen that students who have multicultural exposure are more equipped to face adverse and challenging situations. They also have a broader intellectual horizon and a more remarkable ability to appreciate other perspectives.

The world economic landscape has undergone profound changes (Kokode et al. 2020). The onset of the “fourth industrial revolution” or Industry 4.0, can be said to be one of the critical reasons for the change. The “fourth industrial revolution” has shaken human lives and has transformed economies as never before. It has unleashed many radical changes and introduced new paradigms and convergence of cutting-edge ICT and manufacturing technologies. Also, knowledge, information and data fuel the new economy (Ghobakhloo 2020). Higher Education Institutes (HEIs), being at the centre of this knowledge economy, play a vital role in the gen-

*Address for correspondence

eration of new knowledge and form “the bases for the cultivation of human resources” (Chiu and Ho 2023). However, in the case of higher education, the knowledge economy is entangled with internationalisation (Yeravdekar and Tiwari 2016). De Wit (2019) said, “Internationalisation must be seen in the context of the changing role and position of higher education in the world”. Also, the internationalisation of higher education is a vital agenda for most educational institutions worldwide. In internationalisation, higher education’s mission-goal functions, whether teaching, administration, or research, are all incorporated with an international and multicultural perspective (Knight 2004). Global awareness and connecting through the internationalisation of higher education significantly shape today’s youth. The internationalisation of higher education helps to raise the quality of education (Tight 2022). It helps provide students with the right skills to perform in the increasingly interconnected world. Internationalisation allows knowledge to be shared globally and helps gain academic credibility.

Objectives of the Study

The landscape of internationalisation in higher education is evolving rapidly and continuously, witnessing the entry and rise of new countries and institutions. However, the impact of internationalisation on regions, countries, and institutions is different, as it is based on particular contexts. Internationalisation of higher education can be practised in many forms, such as

1. Student or faculty mobility, which is the incoming students or faculty within a country or outgoing students or faculty across the border for education (Castro et al. 2018).
2. Program mobility in the form of distance learning courses, virtual mobility, and online courses, which are not confined by geographical boundaries (Serpa et al. 2020).
3. Institute mobility is when an institute of one country is present in another country through branch campuses, franchising, or some other way (Teichler 2017).

Internationalisation and global engagement have become an inevitable part of quality higher

education in various parts of the world. The internationalisation of higher education provides multiple advantages and opportunities to higher education institutions.

With this background, the current research papers attempt to achieve the following objectives.

1. To study the enablers that facilitate the internationalisation of higher education institutions.
2. To propose a model using Total Interpretive Structural Modelling that describes the nature of the identified enablers.
3. To further investigate the nature of the linkages between the enablers using Fuzzy MICMAC Analysis.

Theoretical Background: Enablers of Internationalisation in Higher Education Institutions

This section will focus on the factors identified through the literature review that encourage and facilitate internationalisation in higher education institutions. These factors have been termed as the enablers of internationalisation. The researchers have identified seven enablers.

Globalisation (E1)

A literature review showed that globalisation is a crucial driver for internationalisation. Globalisation has encouraged global mobility of people, increased exchange of information, and rapid economic transformations (Altbach 2004). This has resulted in the unfolding of internationalisation. According to Stromquist (2007), internationalisation of higher education is an agent for globalisation. There is a close association between globalisation and the internationalisation of higher education, and many researchers have given their interpretation of the interconnectedness between the two (Fumasoli 2021). Globalisation helps to formulate policies and strategies for higher education to adopt internationalisation to cope and prosper in the changing global academic environment. Globalisation has resulted in cross-border dialogues and mobility across countries, facilitating international student and faculty recruitment, international cooperation and compliance, global citizenship, and e-learning (Jowi 2012). Another

important area of contribution is the standardisation of education and benchmarking that helps education meet global standards.

Technological Advancements: Online Learning (E2)

Advancement in technology has helped set up tertiary learning opportunities that shift from the traditional brick-and-mortar education model. This has enabled learners to pick up courses of interest from across the globe. This technological advancement has helped to pave the way for the internationalisation of higher education (Cheng et al. 2020). There are multiple forms of internationalisation. A simple form is the internationalisation of curriculum abetted by technology. Massive Open Online Courses (MOOCs) are platforms for online education that include an interactive combination of lectures, sessions, tests, discussions, assignments, and more. In 2013, Siemens created the Connectivism and Connectivity Knowledge course, for which the word “MOOC” was first used. Globally, there will be 70 million students using Coursera in 2020, according to an impact study. The top five nations with the most Coursera students are India (3 million), Brazil (3.5 million), Mexico (3.8 million), China (3.5 million), and the United States (14 million). Several factors promote the popularity of MOOCs. The easy accessibility through the Internet, cost efficiency, and time and place convenience are just a few factors. Many education institutes are now offering MOOCs as part of their program structures.

Collaborative Online learning, or COIL, is another practice for internationalisation aided by technology. In COIL, two cohorts of students from two or more countries work together on a project that is part of their evaluation and assessment. In today’s times, when people in different parts of the world are working together on corporate projects, COIL provides that perfect learning environment for students (Yates et al. 2021). It combines virtual mobility with program mobility to offer an academic and cultural environment for the internationalisation of education at no extra cost. Participating in a COIL project can be vital in getting one work experience that, as an international student, may otherwise be difficult to get. Technology plays an

important role in connecting cohorts, developing e-learning content, storing and providing access to e-learning content, virtual synchronous classes, etc. (Panigrahi et al. 2018).

Academic Motives (E3)

Academic motives revolve around acquiring knowledge, achieving international quality standards (Knight 2024), enriching the institution’s curriculum or programs, mutual collaboration in research, and accomplishing the educational institution’s mission (Hawawini 2011).

An enabler of internationalisation is enhancing the quality of education by benchmarking with the best institutes across the globe. Collaborations help to compare curricula and get international feedback, which helps to enhance the quality of the curriculum (Knight 2018). Internationalisation of Curriculum (IOC) covers learning and teaching at the formal and informal levels. It is a process of incorporating global dimensions into the curriculum learning outcomes, pedagogies, and assessments (Leask 2013). A benefit of IOC is imparting global skills to students that would help them take up jobs beyond their own country (Tangney 2018).

Economic Motives (E4)

Economic motives include commercial advantages such as more revenue from students’ fees, enhancing competitive positioning in the global marketplace (Warner 1992), collaboration in projects with grants/subsidies, etc. (De Wit and Hunter 2015). Internationalisation of higher education generates a good revenue model for institutions. The tuition fee charged to international students is relatively high, which helps generate significant revenue for institutions (Jiang and Carpenter 2014). Becoming a global brand in education also has the benefit of expanding the market reach of institutions that provide a competitive advantage. Another motivator is access to foreign funding and attracting foreign investments through global collaborations (Wihlborg and Robson 2018).

Social and Cultural Motives (E5)

Social and cultural motives aim at enhancing the social and cultural understanding of the dif-

ferent cultures around the world, preparing and mentoring students to become global citizens, and enhancing a deep understanding of international issues so that students can play a vital role in social transformation, etc. (Warner 1992). Curiosity about cultural practices and socio-cultural exchange is a driver for students and faculty to participate in internationalisation (Lewkowicz et al. 2018). Internationalisation helps to bring students of diverse cultures together, and it promotes cultural understanding, sensitivity, and acceptance. It provides opportunities for exploring new languages, diverse cuisines, religious beliefs, and practices (Lumby and Foskett 2016).

Political Motives (E6)

Political motives for internationalisation involve promoting culture to other nations, enhancing the understanding of other economies, and promoting international education as a source of peace and harmony between nations (Scott 1992). Soft power and diplomacy are other political enablers for internationalisation. This helps to improve diplomatic relations. Such collaborations help to increase public image and provide a competitive advantage (Van Tulder 2015). The government often looks at higher education spaces as a means to strengthen diplomatic relations. Hence, they develop guidelines and policies that encourage internationalisation (Barlozewski and Trapczyński 2021). Research funding and collaborations for knowledge transfer also encourage innovation that helps in economic growth. Many countries also offer scholarships and education aid to facilitate positive relations between countries.

Research Motives (E7)

Data by Vincent-Lancrin (2006) shows that collaboration through research has increased considerably in the last few decades. Research collaboration between faculty and students is a crucial aspect of internationalisation (Yesufu 2018). This collaboration could result in joint research papers and projects that could be funded or non-funded. Internationalisation through research initiatives provides access to different datasets, databases, culture-specific research,

and diverse experts. These collaborations also help achieve global citations and better visibility for faculty and institutions (Cruz-Castro et al. 2015). Many countries and unions also have funding opportunities that provide access to research funds. This is another motivator for internationalisation in higher education.

RESEARCH METHODOLOGY

The researchers have followed the guidelines laid down by Total Interpretive Structural Modelling (TISM) to understand the levels and significance of the seven enablers that have been identified through the literature review and have been discussed in the previous section. TISM is an extension of Interpretive Structural Modelling (ISM) proposed by Warfield in 1973. This methodology is used to derive contextual relations between variables in a study. The process relies on expert opinion to derive a structural matrix which is then transformed into a model. Figure 1 demonstrates the steps followed in TISM.

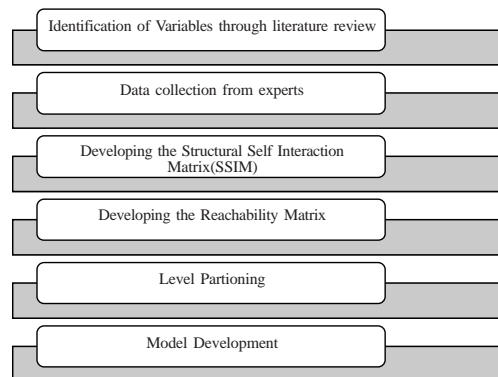


Fig.1. Steps followed in TISM

Source: Authors

Data Collection from Experts

Once the enablers were identified, a group of 30 experts was approached to understand the relationship between the variables. Data collection was based on the Delphi approach. A characteristic of the Delphi approach is that members are external, that is, they have no associa-

tion with the researchers. This helped to reduce biases and influence the outcomes. The experts were faculty, academicians, policymakers, and researchers who have sufficient experience with internationalisation either through COIL projects, research collaborations, funded projects, curriculum development, and policy making. A questionnaire was developed that depicted the relation between the seven enablers. The questions showed a single-direction relation, two-way relation, or no relation between the variables. Table 1 represents the demographics of the experts. They were approached between September and November 2023. The number of experts was restricted to 30 as per the principles of qualitative research. This enabled the researchers to interact at length and thoroughly understand their opinions.

Structural Self Interaction Matrix (SSIM)

The research instrument used was a questionnaire the questionnaire was distributed to the 30 experts. As per the rule of $n(n-1)$ of TISM where n represents the number of variables, 42 statements were a part of the questionnaire. The questions depicted the relationship between V,A,X, and O in accordance with the TISM principles, that is,

V represents i effects j but j does not impact i

A suggests that while j affects i, i does not affect j

X represents a two-way relationship, meaning that i and j have an affect on one another

O suggested that i and j had no relationship

The outcome is represented in the Structural Self Interaction Matrix(SSIM) shown in Table 2.

Table 1: Demographic profile of the experts

Variable	Category	Respondents
Age (years)	25-40	16
	40-55	10
	Above 55	4
Gender	Male	12
	Female	18
Designation	Faculty with international teaching experience	5
	International research faculty	10
	Policymaker	2
	Faculty with international research funding	4
	COIL experience faculty	9

Source: Authors

Table 2: Structural self interaction matrix

	E7	E6	E5	E4	E3	E2	E1
E1	X	X	V	V	V	X	
E2	X	A	A	X	V		
E3	X	A	V	X			
E4	X	A	X				
E5	V	V					
E6	A						
E7							

Source: Authors

Reachability Matrix

Binary digits 1 and 0 as per TISM guidelines were used to arrive at the final reachability matrix. Transitive links and the principle of transitivity were also checked before arriving at the final reachability matrix depicted in Table 3.

Table 3: Final reachability matrix

	E1	E2	E3	E4	E5	E6	E7
E1	1	1	1	1	1	1	1
E2	1	1	1	1	0	0	1
E3	0	0	1	1	1	0	1
E4	0	1	1	1	1	0	1
E5	0	1	0	1	1	1	1
E6	1	1	1	1	0	1	0
E7	1	1	1	1	0	1	1

Source: Authors

Level Partitioning

The final reachability matrix helped to arrive at the antecedent set and reachability set. A series of iterations are performed to arrive at the levels of the model. Tables 4, 5, 6 and 7 represent the different levels in partitioning.

Table 4: Level partitioning level 1

	<i>Antecedent Set (AS)</i>	<i>Reachability Set (RS)</i>	<i>AS</i>	<i>RS</i>	<i>Level</i>
E1	(1,2,3,4,5,6,7)	(1,2,6,7)	(1,2,6,7)		
E2	(1,2,3,4,7)	(1,2,4,5,6,7)	(1,2,4,7)		
E3	(3,4,5,7)	(1,2,3,4,6,7)	(3,4,7)		
E4	(2,3,4,5,7)	(1,2,3,4,5,6,7)	(2,3,4,5,7)		
E5	(2,4,5,6,7)	(1,3,4,5)	(4,5)		
E6	(1,2,3,4,6)	(1,5,6,7)	(1,6)		
E7	(1,2,3,4,6,7)	(1,2,3,4,5,7)	(1,2,3,4,7)		Level 1

Source: Authors

Table 5: Level partitioning level 2

	<i>Antecedent Set (AS)</i>	<i>Reachability Set (RS)</i>	<i>AS</i>	<i>RS</i>	<i>Level</i>
E1	(1,2,3,4,5,6)	(1,2,6)	(1,2,6)		
E2	(1,2,3,4)	(1,2,4,5,6)	(1,2,4)		
E3	(3,4,5)	(1,2,3,4,6)	(3,4)		
E4	(2,3,4,5)	(1,2,3,4,5,6)	(2,3,4,5)		Level 2
E5	(2,4,5,6)	(1,3,4,5)	(4,5)		
E6	(1,2,3,4,6)	(1,5,6)	(1,6)		

Source: Authors

Table 6: Level partitioning level 3 and 4

	<i>Antecedent Set (AS)</i>	<i>Reachability Set (RS)</i>	<i>AS</i>	<i>RS</i>	<i>Level</i>
E1	(1,2,3,5,6)	(1,2,6)	(1,2,6)		Level 3
E2	(1,2,3)	(1,2,5,6)	(1,2)		Level 4
E3	(3,5)	(1,2,3,6)	(3)		Level 4
E5	(2,5,6)	(1,3,5)	(5)		Level 4
E6	(1,2,3,6)	(1,5,6)	(1,6)		Level 4

Source: Authors

Table 7: Final levels of enablers

<i>Enabler</i>	<i>Name of the enabler</i>	<i>Level</i>
E7	Research Motive	Level 1
E4	Economic Motive	Level 2
E1	Globalisation	Level 3
E2	Technological Advancement	Level 4
E3	Academic Motive	Level 4
E5	Socio Cultural Motive	Level 4
E6	Political Motive	Level 4

Source: Authors

RESULTS AND DISCUSSION

TISM Model

In the last 25 years, internationalisation has progressed from insignificant to a “global, strategic, and mainstream factor” in higher education. The rationale approaches and strategies have

evolved with the constantly changing contexts (Knight and Wit 2018). In the past, researchers believed educational institutions had various motives or rationales regarding IHE (Knight 2004; De Wit 2009).

As shown in Figure 2, technological advancement, academic motive, socio-cultural motive, and political motive form the base for internationalisation in higher education. Internationalisation can take place both at home and abroad. Internationalisation of higher education has been a topic of discussion within and outside educational institutions for the social, cultural, political and economic benefits that it offers (Tran et al. 2023). It helps to promote a cultural understanding between participating countries, stakeholders understand and appreciate the diverse cultural perspectives. Internationalisation significantly examines the movement of students, faculty members, and research scholars abroad

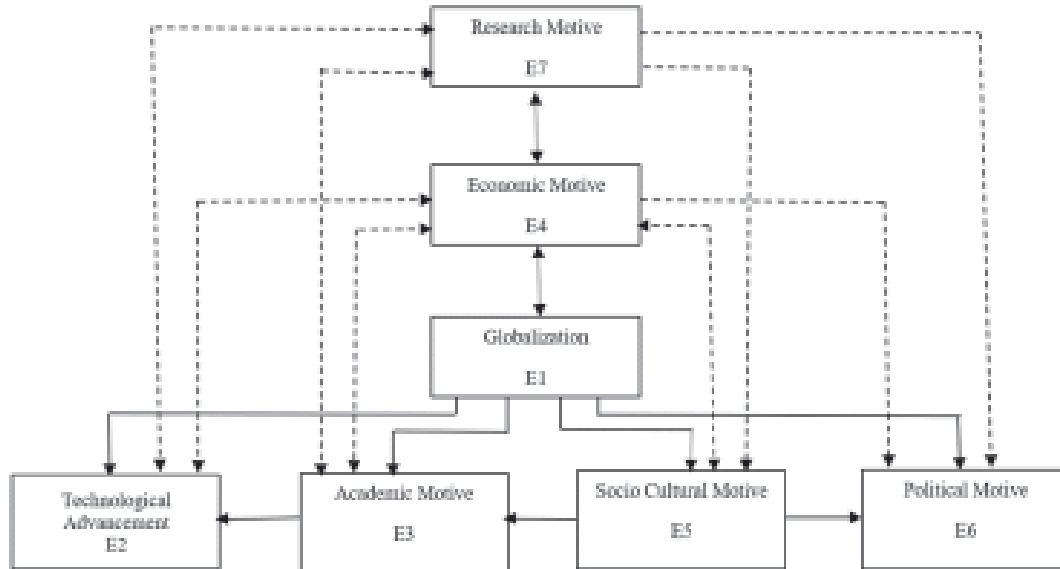


Fig. 2. Hypothesised Model of the enablers of internationalisation in higher education
 Source: Authors

(Serpa et al. 2020). It also looks at mapping courses across international boundaries so that students can significantly benefit from credit transfer. Internationalisation at home can provide all students with global perspectives within their program of study, whether or not they spend time abroad. This can be achieved by incorporating internationalised outcomes and learning in the curriculum, encouraging intercultural student engagement and virtual mobility with international partners. Internationalisation of curriculum is a crucial aspect. Exchange of pedagogical methods, assessment methods, best practices in curriculum help to create a global experience in the classroom which is appreciated by faculty and students. Digital technologies have an impact on the promotion of Internationalisation of higher education (Sahin and Brooks 2023; Banda and Zungu 2024). Technological advancement forms the backbone that facilitates the process (Chiu and Ho 2023). Such a kind of exchange encourages global practices that aid in globalisation. A strategic approach is important for the success of internationalisation of higher education, an enabling environment that has inclusive strategies, policies, resources is important (Gonfa et al. 2024). This helps to improve the economic motives,

including commercial advantages such as more revenue from students’ fees, enhancing competitive positioning in the global marketplace, collaboration in projects with grants/subsidies, etc. Once the collaboration has been established, it opens up opportunities for students and faculty to take the next step, that is, collaboration through research (Ghobakhloo 2020).

Fuzzy MICMAC Analysis

The third research objective aims to understand the nature of linkages between the identified seven enablers. To further understand the nature of these linkages, the researchers conducted a Fuzzy MICMAC (cross-impact matrix multiplication applied to classification) Analysis. Figure 3 demonstrates the four quadrants of this analysis. The final reachability matrix, shown in Table 3, helps arrive at the driving and dependent power. The group of experts play a role in identifying the extent of associability between the identified enablers, this has been demonstrated in Tables 8 and 9.

Plotting the graph based on the driving and dependence power helps to classify the seven identified enablers into four distinct clusters, these clusters as shown in Figure 3 are:

Table 8: Scale for associability of ν values

Associability	No relation	Very low	Low	Medium	High	Very high	Complete
Value	0	0.1	0.3	0.5	0.7	0.9	1

Source: Authors

Table 9: Expert opinion based reachability matrix

Enablers	E1	E2	E3	E4	E5	E6	E7	Driving Power
E1	0	0.4	0.7	0.5	0.8	0.6	0.8	3.8
E2	0.6	0	0.4	0.8	0.5	0.6	0.5	3.4
E3	0.6	0.8	0	0.4	0.6	0.9	0.7	4
E4	0.7	0.5	0.8	0	0.7	0.5	0.8	4
E5	0.6	0.9	0.7	0.8	0	0.9	0.8	4.7
E6	0.5	0.6	0.4	0.7	0.7	0	0.6	3.5
E7	0.5	0.4	0.7	0.6	0.5	0.8	0	3.5
Dependence Power	3.5	3.6	3.7	3.8	3.8	4.3	4.2	

Source: Authors

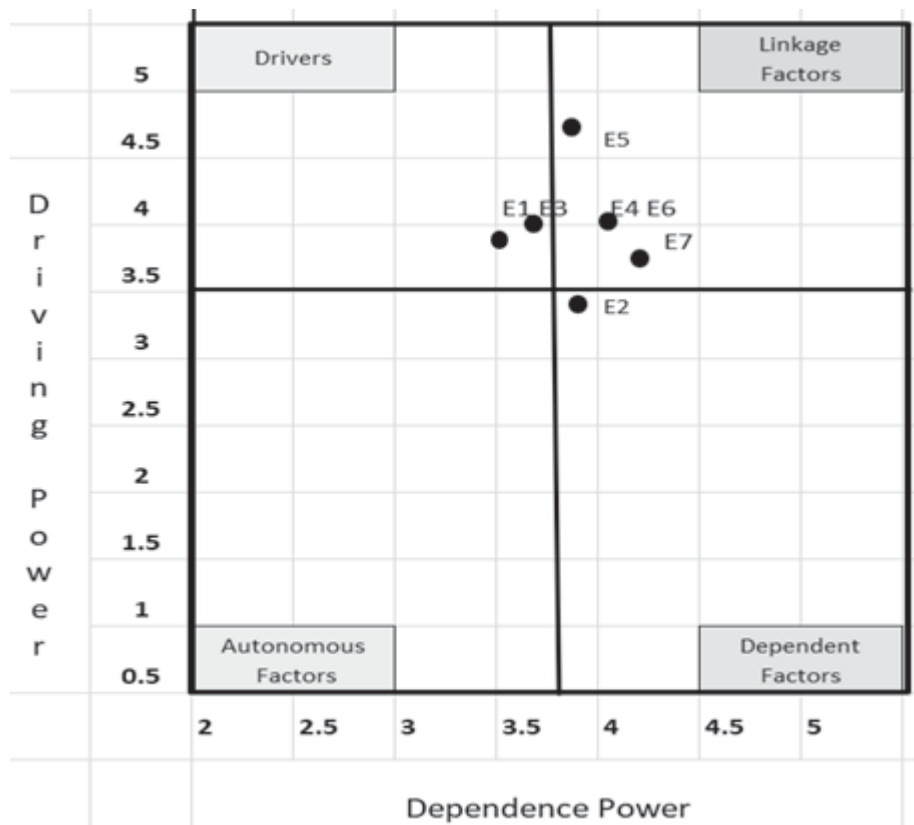


Fig. 3. Fuzzy MICMAC analysis

Source: Authors

the variables that have a very weak driving power but a high dependence power. There is only one dependent variable in the study, that is, E2. Technological Advancement has been identified as the dependent variable. Technological Advancement is dependent on variations in other variables such as globalisation, economic factors, research and academic inclination, etc.

Cluster 2: Driving Variables: These are the drivers of the model that have low dependence powers. The model has two drivers, that is, E1 and E3. Globalisation and Academic Motives are the drivers of the model.

Cluster 3: Linkage Variables: The linkage variables are important variables with strong driving and dependent powers. There are four linkage variables in the model, that is, E4, E5, E6 and E7. Research Motive, Economic Motive, Socio Cultural Motive and Political Motive are the linkage variables in the model.

Cluster 4: Autonomous Variables: These are the weak variables in the study that have low driving and low dependence powers. They are the variables that do not have any significant contribution to the model. The current model does not have any autonomous variables.

CONCLUSION

The world is now a global village, and knowledge is the driving force of this global village. Using this knowledge most effectively and efficiently gives the country a competitive advantage. Higher education institutions, being at the centre of knowledge creation, can play the most potent and strategic role. In other words, the internationalisation of education is no longer a choice but a necessity. Internationalisation of education institutes will help in knowledge acquisition, development of globally relevant curriculum, economic development, and quality upgradation. Universities should incorporate programs like COIL, MOOC, etc., that are easy to implement as compulsory parts of their curriculum. This will help make internationalisation reach the masses and contribute to internationalisation at home. Also, teachers and faculty should know the importance and need for internationalisation. They should be motivated to add an international example, perspective, case studies, etc., as a part of their content. This may be a small step towards internationalisation, but taken in the right way, it impacts the teaching-learning process.

RECOMMENDATIONS

Globalisation has provided opportunities to higher education institutions to explore opportunities of collaboration. Countries have looked at strategic opportunities in collaborating through educational opportunities. The total interpretive structural model proposed in the paper provides an overview of the enablers that are constructs that drive practices of internationalisation in higher education institutions. The levels in the model provide an understanding of the hierarchical level of future action. The seven enablers identified based on literature review and expert opinion are the key focus areas that academicians, policymakers and researchers should focus for the successful implementation of internationalisation. Research Motive, Economic Motive, Socio Cultural Motive and Political Motive are important linkage variables that should be the focal point of policies that countries should collaborate upon. Academic motives are key for successful internationalisation practices, these motives could be further explored in terms of international curriculum development, pedagogical exchanges, exchange of best practices in evaluation, and exploring opportunities for technology driven pedagogy. The exchange would enhance learning experiences in a classroom and improve the quality of education provided.

LIMITATIONS AND SCOPE FOR FUTURE RESEARCH

This study highlighted seven enablers that are important for internationalisation in higher education. The method adopted was TISM. A drawback of this method is that it is based on the experiences and interpretations of experts. The model and identified variables may be further validated using statistical techniques. It would also be interesting to explore Collaborative Online International Learning (COIL) as a practice for internationalisation.

REFERENCES

- Altbach PG 2004. Globalisation and the university: Myths and realities in an unequal world. *Tertiary Education and Management*, 10(1): 3-25.
- Barlozowski K, Traczyński P 2021. Internationalisation motives and the multinationality-performance relationship: The case of Polish firms. *Entrepreneurial Business and Economics Review*, 9(2): 85-104.

- Banda T, Zungu B 2024. Internationalisation and the lived experiences of non-South African postgraduate students in accessing higher education in South Africa. *South African Journal of Higher Education*, 38(1): 130-148.
- Castro P, Woodin J, Lundgren U, Byram M 2018. Student mobility and internationalisation in higher education: Perspectives from practitioners. In: Claudia Borghetti, Ana Beaven (Eds.): *Study Abroad and Interculturality*. Routledge, pp. 106-124.
- Cheng C, Zhong H, Cao L 2020. Facilitating speed of internationalization: The roles of business intelligence and organizational agility. *Journal of Business Research*, 110: 95-103.
- Chiu DK, Ho KK 2023. Advances in information and knowledge management. *Library Hi Tech*, 41(4): 993-1005.
- Cruz-Castro L, Jonkers K, Sanz-Menéndez L 2015. The internationalisation of research institutes. In: Linda Wedlin, Maria Nedeve (Eds.): *Towards European Science: Dynamics and Policy of an Evolving European Research Space*. Massachusetts, USA: Edward Elgar Publishing Limited, pp.175-198.
- De Wit H 2009. Measuring success in the internationalisation of higher education: an introduction. *Measuring Success in the Internationalisation of Higher Education*, 22(1): 8.
- De Wit H 2019. Internationalization in higher education, a critical review. *SFU Educational Review*, 12(3): 9-17.
- De Wit H, Hunter F 2015. The future of internationalization of higher education in Europe. *International Higher Education*, (83): 2-3.
- Fumasoli T 2021. Purposive design or ecology? A critique of teleological perspectives on internationalisation in higher education. *European Journal of Education*, 56(2): 151-156.
- Ghobakhloo M 2020. Industry 4.0, digitization, and opportunities for sustainability. *Journal of Cleaner Production*, 252: 119869.
- Gonfa DK, Gibbons P, Sugrue C, Kuma B 2024. Internationalisation of higher education in Ethiopia: A strategic process? *Journal of Studies in International Education*, 10283153241235696.
- Hawawini G 2011. The Internationalization of Higher Education Institutions: A Critical Review And A Radical Proposal. INSEAD Faculty and Research Working Paper. From <<http://www.insead.edu/facultyresearch/research/doc.cfm?did=48726>> (Retrieved on 10 January 2024).
- Jiang N, Carpenter V 2014. A case study of emerging challenges and reflections on internationalization of higher education. *International Education Studies*, 7(9): 50-56.
- Jowi JO 2012. African universities in the global knowledge economy: The good and ugly of internationalization. *Journal of Marketing for Higher Education*, 22(1): 153-165.
- Knight J 2004. Internationalization remodeled: Definition, approaches, and rationales. *Journal of Studies in International Education*, 8(1): 5-31.
- Knight J 2018. The changing landscape of higher education internationalisation—for better or worse? In: David Law, Michael Hoey (Eds.): *Perspectives on the Internationalisation of Higher Education*. Routledge, pp. 13-19. DOI:10.4324/9781315160870-3
- Knight J, De Wit H 2018. Internationalization of higher education: Past and future. *International Higher Education*, 95: 2-4.
- Knight J 2024. Higher education cooperation at the regional level. *Journal of International Cooperation in Education*, ahead-of-print. <https://doi.org/10.1108/JICE-09-2023-0021>
- Kokode TA, Lomachenko TI, Maidanevych YP, Nekhaychuk DV, Romanova YA 2020. Effect of world economy globalization and supply chain upon socio-economic processes at the national level. *International Journal of Supply Chain Management*, 9(2): 822.
- Leask B 2013. Internationalizing the curriculum in the disciplines—Imagining new possibilities. *Journal of Studies in International Education*, 17(2): 103-118.
- Lewkowicz MA, Young LD, Budrytė D, Boykin SA 2018. Bringing the study of American government to life in a diverse classroom: Internationalization and individualization. In: Semire Dikli, Brian Etheridge, Richard Rawls (Eds.): *Curriculum Internationalization and the Future of Education*. USA: IGI Global, pp. 1-17.
- Lumby J, Foskett N 2016. Internationalization and culture in higher education. *Educational Management Administration and Leadership*, 44(1): 95-111.
- Panigrahi R, Srivastava PR, Sharma D 2018. Online learning: Adoption, continuance, and learning outcome—A review of literature. *International Journal of Information Management*, 43: 1-14.
- Sahin, B. B., & Brooks, R. (2023). Nation-bounded internationalization of higher education: A comparative analysis of two periphery countries. *Higher Education Research & Development*, 42(5): 1071-1085.
- Scott RA 1992. *Campus Developments in Response to the Challenges of Internationalization: The Case of Ramapo College of New Jersey (USA)*. Springfield: CBIS Federal.
- Serpa S, Caldeira SN, Serpa MSD, Gonçalves RL, Montenegro HM, Rego IE 2020. Mobility in the internationalisation of higher education institutions. *International Journal of Higher Education*, 9(4): 46-60.
- Siemens G 2013. Learning analytics: The emergence of a discipline. *American Behavioral Scientist*, 57(10): 1380-1400.
- Stromquist NP 2007. Internationalization as a response to globalization: Radical shifts in university environments. *Higher Education*, 53: 81-105.
- Tangney S 2018. The development of a reflective tool for internationalisation of the curriculum. *Innovations in Education and Teaching International*, 55(6): 640-649.
- Teichler U 2017. Internationalisation trends in higher education and the changing role of international student mobility. *Journal of International Mobility*, (4): 177-216.
- Tight M 2022. Internationalisation of higher education beyond the West: Challenges and opportunities—the research evidence. *Educational Research and Evaluation*, 27(3-4): 239-259.
- Tran LT, Jung J, Unangst L, Marshall S 2023. New developments in internationalisation of higher education.

- Higher Education Research & Development*, 42(5): 1033-1041.
- Van Tulder R 2015. Getting all motives right: A holistic approach to internationalization motives of companies. *The Multinational Business Review*, 23(1): 36-56.
- Vincent Lancrin S 2006. What is changing in academic research? Trends and futures scenarios. *European Journal of Education*, 41(2): 169-202.
- Warfield JW 1973. Binary Matrices in System Modeling. *IEEE Transcript on Systems, Men and Cybernetics*, vSMC-3 5: 441-448.
- Warner G 1992 Internationalization models and the role of the university. *International Education Magazine*, 8(1): 21.
- Wihlborg M, Robson S 2018. Internationalisation of higher education: Drivers, rationales, priorities, values and impacts. *European Journal of Higher Education*, 8(1): 8-18.
- Yates A, Starkey L, Egerton B, Flueggen, F 2021. High school students' experience of online learning during Covid-19: The influence of technology and pedagogy. *Technology, Pedagogy and Education*, 30(1): 59-73.
- Yeravdekar VR, Tiwari G 2016. *Internationalization of Higher Education in India*. SAGE Publications India.
- Yesufu LO 2018. Motives and measures of higher education internationalisation: A case study of a Canadian University. *International Journal of Higher Education*, 7(2): 155-168.

Paper received for publication in
Paper accepted for publication in