

# Developing a manageable system of internationalization indicators for universities in Asia

Indicators for  
Asian  
universities

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## Abstract

**Purpose** – This study aims to construct a system of indicators for measuring the internationalization of universities allowing comparative self-assessment by universities in Asia.

**Design/methodology/approach** – To achieve the aforementioned research purpose, the authors conducted three surveys and held an expert roundtable discussion. Two surveys were conducted, one in Japan and the other in Asia, to identify important indicators for measuring the internationalization of universities. Additionally, a survey of experts was conducted to identify effective indicators for benchmarking internationalization among universities in Asia. An analysis of each survey was examined during the roundtable discussion, and a system of internationalization indicators was constructed.

**Findings** – The three survey results showed similarities and differences between the relative importance accorded to 53 internationalization indicators by universities in Japan and in other Asian countries, as well as in the experts' perspectives on the effectiveness of each indicator for benchmarking. An analysis of those surveys resulted in 24 core internationalization indicators categorized into six key dimensions of university internationalization.

**Originality/value** – This study proposed a system of internationalization indicators based on an analysis of empirical research targeting universities in Asia. The resulting system reflects not only the opinions of academic experts but also the perspectives of its potential users, administrators in Asian universities. It consists of six internationalization dimensions with a manageable number of indicators, 24. These include both quantitative indicators and checklists of internationalization activities which can be used as quantitative or qualitative indicators.

**Keywords** Internationalization of universities, Internationalization assessment, Internationalization indicators

**Paper type** Research paper

## Introduction

It is more than three decades since the internationalization of higher education (HE) began to be discussed at the national level in many countries as an important aspect of the response to challenges and needs brought by globalization (Scott, 1998; Teichler, 2004). In Asian countries, the creation of world-class universities and improvement of their institutions in terms of global/world university rankings are often included in the agenda for university internationalization, and governments have adopted strategic policies to achieve such goals. Project 211, Project 985, and Double First-Class University in China (Li and Chen, 2013; Li, 2020) and Brain Korea 21 and World Class University Project in Korea are typical examples (Shin and Kehm, 2013). Pre-determined numerical key performance indicators (KPIs) linked to governments' internationalization initiatives have also become prevalent as such policy measures have increased (Helms *et al.*, 2015). Taking the case of Japan as an example, the Ministry of Education, Culture, Sports, Science, and Technology (MEXT) has been promoting



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the internationalization of HE through competitive grant projects, including Global 30 (2009–2013), Go Global Japan (2012–2016), and the Top Global University Project (TGU) (2014–2023), since 2009. Influenced by these grant projects, the internationalization strategies and efforts of the selected universities are converging due to the frameworks, goals, and targets stipulated by MEXT even from the application stage (Ota, 2018). In particular, TGU demanded that applicant universities establish 18 main numeric targets, along with subordinate targets, and these numeric targets have become KPIs. MEXT believe that they can thus increase transparency and fulfill the need for accountability for such large grants allocated to a small number of universities (Ota, 2018). However, the problem is that achieving the KPIs has often become the end purpose or goal in and of itself at the selected universities (Ota, 2018). In the above-mentioned Chinese and Korean governments' initiatives, global ranking indicators, e.g. Times Higher Education World University Rankings, and academic journal indexes, e.g. Science Citation Index, are KPIs and entail the same problem (Shin and Kehm, 2013). Numerical targets should rather be considered as a means or a guide to achieving the vision and goals for the university's internationalization. Moreover, the government has determined the KPIs in a top-down way without prior agreement with universities. Thus, in a sense, universities have begun to lose the ownership of their own internationalization strategies and efforts. Furthermore, there does not appear to be much freedom for universities to devise their own, unique ways to promote internationalization. In turn, there is a growing need for a set of internationalization indicators that reflect institutional perspectives about its assessment.

This study therefore attempts to develop a set of indicators to assist universities in Asia in conducting a comparative self-assessment of their internationalization performance. It intends to provide a systemic framework of indicators to allow universities to analyze their current situation relative to their internationalization objectives and targets, identify weaknesses and potential for improvement, and develop or revise their strategies and plans for internationalization.

### **Measuring internationalization efforts at universities**

The perception of internationalization of HE as a means to improve the quality of education and research, as well as that of institutions themselves, became more prominent as higher education institutions (HEIs), national and regional governments, and other organizations began investing large sums in such internationalization (Helms *et al.*, 2015; Shin and Kehm, 2013). The demand or need to monitor and assess the internationalization performance of universities became significant as a result (Helms *et al.*, 2015).

The International Quality Review Program (IQRP) was the first endeavor to provide a self-assessment tool assisting HEIs in measuring their internationalization efforts (Knight and de Wit, 1999). Since then, measurement indicators for university internationalization have been proposed by various scholars. Most of these indicators were developed to serve universities in a particular country or region, such as the UK (Ayoubi and Massoud, 2007), the US (Green, 2005; Horn *et al.*, 2007), Australia (Krause *et al.*, 2005), Germany (Brandenburg and Federkeil, 2007; DAAD, 2010), the Netherlands (van Gaalen, 2009), Japan (Furushiro, 2006; Watabe, 2010; Watabe and Ota, 2016), Taiwan (Chin and Ching, 2009) or China (Chen *et al.*, 2009). Some studies and projects, such as IQRP, the Indicators for Mapping and Profiling Internationalisation (IMPI), UNESCO Bangkok (2018), and Gao (2019), aimed to serve universities in the regional or international context.

Many of these studies and projects developed assessment measures for university internationalization, aiming to determine its dimensions and identify indicators useful for its evaluation. While numerous dimensions and indicators of internationalization were discussed in the literature, in 2010 IMPI proposed the most comprehensive set of 489

indicators, categorized into nine dimensions, based on extensive desk research. These dimensions are (1) students, (2) staff, (3) administration, (4) funding and finance, (5) curricular and academic services, (6) research, (7) promotion and marketing, (8) non-academic services, and campus and community life, and (9) other. In 2018, UNESCO Bangkok proposed additional dimensions, such as social engagement and institutional networks. As all United Nations Member States adopted the Sustainable Development Goals (SDGs) in 2015, the third mission of a university, social engagement and partnership, began to be emphasized in the internationalization of HE.

The number of indicators, meanwhile, continued to grow and reached about 500. [Gao \(2019\)](#) argues that a very complex indicator system might be unusable and proposed a set of 15 indicators to make an assessment feasible in terms of time, cost, and expertise required. Her proposed 15 indicators are all quantitative values examining the achievements of internationalization. She concludes that there is a consensus on the quantitative nature of indicators among the existing studies on university internationalization measurement. However, those studies also include descriptive information as indicators to examine the process of internationalization.

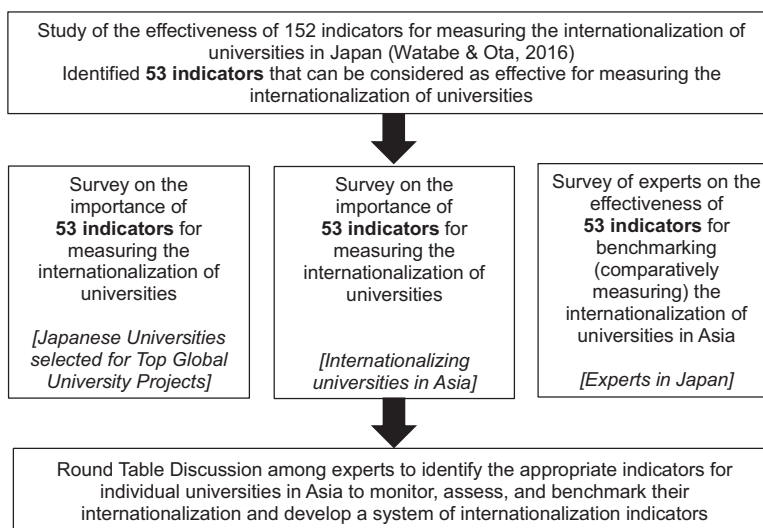
When developing the new instrument, [Gao \(2019\)](#) also contended with a bias towards the dominant Western perception of internationalization in most of the existing assessment tools. She aimed to create an internationally applicable set of indicators, conducting her research in 17 flagship research universities in Australia, China, and Singapore. Her study is the first effort to develop an internationalization assessment tool based on empirical research targeting multiple countries in Asia. Considering the rapid HE development in Asia, which places great importance on internationalization, perspectives from different parts of this region need to be considered further when developing measures for university internationalization.

## Methods

This study aimed to construct a system of indicators for measuring the internationalization of universities allowing comparative self-assessment by universities in Asia. Self-evaluation and comparison have an internal function, usually aiming at improvement ([Gao, 2019](#)). To achieve this objective, we conducted three surveys and held a roundtable discussion among experts (see [Figure 1](#)).

We first surveyed universities selected for TGU in Japan regarding the importance of 53 internationalization indicators, then extended our survey to universities in Asia. These two surveys adopted the 53 indicators that were regarded as effective based on the results of a former study conducted in 2014 (see [Watabe and Ota, 2016](#)). In the former study, we surveyed 228 universities in Japan who were visibly working toward internationalization regarding the effectiveness of 152 internationalization indicators selected from among IMPY's 489 indicators. There were 141 responses, yielding a response rate of 62%. The 53 internationalization indicators were selected as effective based on the results of this survey.

In January 2015, we sent an online questionnaire on the importance of the 53 internationalization indicators to 37 universities selected for TGU in Japan. There were 32 responses in April, yielding a response rate of 86%. After completing the research in Japan, we extended our research to universities in Asia and conducted the same survey from March 2017 through May 2018. This survey's target population was academic and administrative staff members working on international affairs at universities viewed as internationally oriented. Specifically, those universities were selected from among institutions listed in the world university rankings and participating in the three major international education conferences, APAIE (Asia Pacific Association for International Education), EAIE (European Association for International Education) and NAFSA: Association of International Educators, where the target population could be reached. This time, we employed both an



**Figure 1.** Research approach to identify appropriate indicators for measuring the internationalization of universities in Asia

online and paper-based questionnaire. We received 200 valid responses, of which 12% were from Oceania (Australia, New Zealand, Fiji), 42% from South and Southeast Asia (India, Brunei, Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam), and 46% from East Asia (China, Hong Kong, Taiwan, South Korea). Both the Japan and Asia surveys asked participants to evaluate the importance of the 53 indicators in assessing their university's internationalization. A three-point Likert scale (1 somewhat important, 2 important, 3 extremely important) was used, with the condition that the maximum number of extremely important indicators had to be fewer than 27 (fewer than half). The mean for each indicator was calculated, and the top 30 important indicators were generated from each of the surveys.

After completing these two surveys to determine how universities regarded the importance of the 53 indicators, we conducted a survey of experts in Japan in March 2018. Thirty selected scholars and practitioners with expertise in university internationalization and international education were asked how effective the 53 indicators were for benchmarking institutional internationalization among major universities in Asia. A three-point Likert scale (1 somewhat effective, 2 effective, 3 extremely effective) was used, with the condition that the maximum number of extremely effective indicators had to be fewer than 27. They were also asked if there were any other effective indicators that had not been included in the list of 53 indicators. The mean for each indicator was calculated, and the top 30 effective indicators were selected from this survey.

Finally, seven researchers from our team, consisting of two experts in assessment and quality assurance in HE, four in international education, and one in economics and statistics, and two experts who participated in the survey (both seasoned researchers and experienced senior international administrators) held a roundtable discussion and selected a final set of indicators. Our research team then constructed a system of internationalization indicators appropriate for universities in Asia. The proposed assessment tool consists of 10 quantitative indicators and 14 checklists of internationalization activities (see [Table 1](#)).

This study has some limitations. Our research initially surveyed universities in Japan; therefore, the Japanese perception of university internationalization could be reflected more strongly than those of other Asian countries. However, we obtained a sufficient number of

Dimension	Indicator	Number	Number and contents of the listed items / Types / Services / Facilities
		Contents	
Strategy and Governance	SG1	5	<ul style="list-style-type: none"> <li>(1) items included in the institution-wide strategy for internationalization</li> <li>(2) goals</li> <li>(3) verifiable objectives (e.g., key performance indicators)</li> <li>(4) initiatives and an action plan to achieve the objectives</li> <li>(5) a plan to ensure ongoing financial resource for implementation of internationalization initiatives</li> <li>(6) a clear assignment of responsibilities for internationalization initiatives</li> </ul>
	SG2	3	<ul style="list-style-type: none"> <li>(1) Items related to internationalization public relations activities for which the university has a defined strategy</li> <li>(2) information, communications, and the media</li> <li>(3) student recruitment</li> </ul>
	SG3	8	<ul style="list-style-type: none"> <li>(1) Functions and services provided at the institution-wide level</li> <li>(2) international student services</li> <li>(3) international scholar services</li> <li>(4) study abroad</li> <li>(5) international relations and network</li> <li>(6) international strategic planning</li> <li>(7) service to the community</li> <li>(8) international recruitment and admissions</li> </ul>
Student and Staff Characteristics	SG4	3	<ul style="list-style-type: none"> <li>(1) Types of international networks and organizations in which the university participates</li> <li>(2) those assisting universities' internationalization efforts</li> <li>(3) exchanges</li> <li>(4) international consortia of universities</li> </ul>
	SSC1	-	Percentage of inbound international graduates last year
	SSC2	-	Percentage of non-degree seeking international students such as exchange students last year
	SSC3	-	Percentage of graduates who participated in study abroad programs last year

(continued)

## Indicators for Asian universities

**Table 1.**  
A proposed system of internationalization indicators

Table 1.

Dimension	Indicator	Number and contents of the listed items / Types / Services / Facilities	Number / Contents	
			Number	Contents
Education and Learning	EL1	Percentage of courses taught in a foreign language, excluding courses for the study of a foreign language	-	
	EL2	Number of international double/multiple/joint degree programs and twinning programs	-	
	EL3	Types of academic courses/services that the university offers to study abroad (outbound) students to support their overseas studies	5	<ol style="list-style-type: none"> <li>(1) courses on academic writing in one or more foreign languages</li> <li>(2) courses on presentation in one or more foreign languages</li> <li>(3) courses on discussion in one or more foreign languages</li> <li>(4) one-on-one instruction on writing in one or more foreign languages</li> <li>(5) courses on cross-cultural communication and adaptation rules and criteria for the transfer / recognition of credits earned at foreign institution are institutionalized</li> </ol>
	EL4	Items the university offers to study abroad (outbound) students regarding the transfer/recognition of credits earned at foreign institutions	4	<ol style="list-style-type: none"> <li>(1) credits earned at foreign institutions can be transferred and treated as credits for courses offered at the home university</li> <li>(2) credits earned at foreign institutions can be recognized at the home university without being transferred and treated as courses offered at the home university</li> <li>(3) credits earned at foreign institutions can be transferred to the home university through the European Credit Transfer System (ECTS)</li> <li>(4) information on the academic calendar</li> </ol>
	EL5	Items relating to academic information and services that are provided on the university's website in one or more foreign languages	6	<ol style="list-style-type: none"> <li>(1) information on courses</li> <li>(2) information on course registration</li> <li>(3) information on advancement to the next year of study and graduation</li> <li>(4) online course registration system</li> <li>(5) learning management system</li> <li>(6)</li> </ol>

(continued)

Dimension	Indicator	Number	Number and contents of the listed items / Types / Services / Facilities
Student Services	SS1	5	<ol style="list-style-type: none"> <li>(1) facilities and services that the university provides to serve the needs of a culturally diverse student population</li> <li>(2) cafeteria offering halal foods</li> <li>(3) cafeteria menu specifying ingredients</li> <li>(4) prayer room, quiet room, or meditation room</li> <li>(5) student residence hall accommodating both international and domestic students</li> <li>(6) universal restroom</li> <li>(7) immigration services and procedures (e.g. visa application, entry procedures and work permits)</li> <li>(8) finance (e.g., living costs, tuition fees, and scholarships/scholarship applications)</li> </ol>
	SS2	8	Types of information that the university provides to inbound international students <i>prior to their arrival</i>
	SS3	8	Types of information that the university provides to inbound international students at the orientation session <i>immediately after their arrival</i>
Student Services	SS4	7	Types of service that the university provides to inbound international students <i>while they are enrolled at the university</i>
			<ol style="list-style-type: none"> <li>(1) academic support (e.g., tutoring service, writing center)</li> <li>(2) internship and job placement service</li> <li>(3) on/off-campus events for cross-cultural exchange</li> <li>(4) student counselling and advice</li> <li>(5) academic support (e.g., programs teaching the host country's language as a second language, tutor system, writing center)</li> <li>(6) career development support including internships</li> <li>(7) cross-cultural activities in partnership with local volunteer or friendship organization or local government offices (e.g., homestay and home visit programs)</li> <li>(8) risk and safety management in partnership with off-campus professional organizations</li> <li>(9) housing services/support</li> <li>(10) immigration services and procedures (e.g., visa, residence and work permit services/support)</li> </ol>
			<ol style="list-style-type: none"> <li>(1) student life (e.g., opening a bank account, procedures at the local government office, purchasing a mobile phone, health and accident insurance)</li> <li>(2) on-campus student services (e.g., health center, disability assistance center, student counselling center, international student advisory office)</li> <li>(3) academic support (e.g., tutoring service, writing center)</li> <li>(4) internship and job placement service</li> <li>(5) on/off-campus events for cross-cultural exchange</li> <li>(6) student counselling and advice</li> <li>(7) academic support (e.g., programs teaching the host country's language as a second language, tutor system, writing center)</li> <li>(8) career development support including internships</li> <li>(9) cross-cultural activities in partnership with local volunteer or friendship organization or local government offices (e.g., homestay and home visit programs)</li> <li>(10) risk and safety management in partnership with off-campus professional organizations</li> <li>(11) housing services/support</li> <li>(12) immigration services and procedures (e.g., visa, residence and work permit services/support)</li> </ol>
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Indicators for Asian universities

Table 1.

Table 1.

Dimension	Indicator	Number	Number and contents of the listed items / Types / Services / Facilities
SS5	Types of information that are provided to study abroad (outbound) students on the university's website	6	<ol style="list-style-type: none"> <li>(1) study abroad scholarships</li> <li>(2) partner institutions and student exchange programs with them</li> <li>(3) number of students who have studied at each partner university</li> <li>(4) courses for which international exchange students can (or cannot) register at each partner university</li> <li>(5) credit-transfer/recognition procedures after studying abroad</li> <li>(6) results of credit-transfer/recognition applications submitted by those students who studied abroad</li> </ol>
SS6	Services that the university provides to facilitate interaction between inbound international students and domestic students	5	<ol style="list-style-type: none"> <li>(1) peer support for cross-cultural interaction (e.g., mentor/buddy program)</li> <li>(2) tutoring service</li> <li>(3) on-campus events for cross-cultural interaction (e.g., coffee hours, language community, language exchange lounge)</li> <li>(4) events to interact with domestic students wishing to study abroad</li> <li>(5) events to learn about international students' home countries / regions and their cultures</li> </ol>

(continued)



Dimension	Indicator	Number	Contents
Research	R1	–	Percentage of conference presentations delivered abroad (or in the context of international conferences) relative to the number of researchers in the institution
	R2	–	Percentage of research projects involving international partners relative to the total number of research projects with which the institution is formally associated
	R3	–	Percentage of single- or co-authored pieces published internationally in the last five years as a proportion of the total number of faculty members and researchers at the university
	R4	–	Percentage of peer-reviewed, scientific publications co-authored with faculty members and / or researchers at foreign institutions in the last five years as a proportion of the total number of publications authored by faculty members and researchers at the university
	R5	–	Number of times cited in international journals per publication (the citation performance of international research publications, known as Elsevier SciVal) in the last five years
Quality Assurance	QA1	4	Types of quality assurance procedure the university utilizes to monitor the progress of internationalization (1) self-evaluation (2) evaluation by a quality assurance agency (3) international accreditation (4) consultation by experts

Table 1.

responses to the same survey conducted among universities in Asia. Besides, the 35 expert survey respondents in Japan included two foreign nationals and seven scholars whose expertise is comparative and international education in the Asian region, although they work at universities in Japan.

### Proposing a system of internationalization indicators

A system of internationalization indicators is hereby proposed based on the results of the above-mentioned three surveys. The proposed system contains 10 quantitative indicators and 14 checklists of internationalization activities, categorized into six internationalization dimensions, as shown in [Table 2](#). The six internationalization dimensions are Strategy and Governance (SG), Student and Staff Characteristics (SSC), Education and Learning (EL), Student Services (SS), Research (R), and Quality Assurance (QA), which were redefined from the original eight indicator categories (see [Table 2](#)).

To identify the most appropriate indicators for constructing an internationalization assessment system, first, those indicators which were ranked in the top 30 in at least two of the three surveys were selected. Then our research team and two expert survey participants held a roundtable discussion to carefully examine whether each indicator could contribute to comparative self-assessment of internationalization by universities in Asia. As a result, 10 quantitative indicators and 14 checklists of internationalization activities were created, as shown in [Table 1](#). The following sections discuss the selected indicators for each dimension in detail.

#### *Strategy and governance*

Thirteen indicators in [Table 3](#), A1, A2, A3, A4, A6, A7, FF1, FF2, FF3, FF4, CAS4, PM1 and NSCC2, were classified under the dimension of Strategy and Governance (SG). Of those 13 indicators, seven indicators, A1, A2, A3, A4, FF4, PM1 and NSCC2, were selected and

Original		Newly Proposed	
Components	Number of indicators	Components	Number of indicators
Administration	8	Quality Assurance	1
Funding and Finance	4	Strategy and Governance	4
Promotion and Marketing	3		
Student	5	Student and Staff Characteristics	3
Academic and non-academic staff	4		
Curricular and Academic Services	11	Education and Learning	5
Non-Academic Services, and Campus and Community Life	12	Student Services	6
Research	6	Research	5
Total	53	Total	24

**Table 2.** Internationalization components and indicators: original versus newly proposed

Indicators		Selected and Redefined Indicator NO.	Japanese Expert Survey		Asian University Staff Survey		TGU Survey: All Types (Japan)	
			N	Mean	N	Mean	N	Mean
<b>Administration</b>								
A1	Does the institution have a clearly defined strategy for internationalization?	SG1	30	2.50	200	2.67	32	2.72
A2	Does the institution have a clearly defined human resources strategy for internationalization?	SG1	30	2.23	200	2.16	32	2.28
A3	Within the institution, is the responsibility for internationalization clearly assigned at central and sub-unit levels?	SG1	30	1.97	200	2.35	32	2.22
A4	Does the institution have a specific organizational structure to support internationalization?	SG3	30	2.33	200	2.60	32	2.06
A6*	Does the institution set quantitative targets for international students?	(SG1)	30	1.87	200	2.14	32	2.50
A7	Does the institution set quantitative targets for study abroad?	X	30	1.90	200	2.10	32	2.50
<b>Funding and finance</b>								
FF1*	In a given year, what is the total budget within the institution dedicated to internationalization?	X	30	1.93	200	2.37	32	2.34
FF2	In a given year, what proportion of students in the institution receive a scholarship from the institution or external sources for study abroad?	X	30	1.80	200	2.14	32	1.97
FF3	In a given year, what proportion of international students in the institution receive a scholarship from the institution or external sources?	X	30	1.80	200	2.03	32	1.84
FF4	Does the institution have a strategy or plan to ensure the financial sustainability of its internationalization activities?	SG1	30	2.33	200	2.32	32	2.53
<b>Curricula and academic services</b>								
CAS4	Does the institution articulate a set of intended international/intercultural learning outcomes and assessment indicators for students?	X	30	2.23	200	1.99	32	2.00
<b>Promotion and marketing</b>								
PM1*	Does the institution have a defined strategy for international communication, promotion, and marketing?	SG2	30	1.97	200	2.27	32	2.00
<b>Non-academic services, and campus and community life</b>								
NSSCC2	Does the institution have an international student center?	SG3	30	2.20	200	2.42	32	2.25

Note(s): Indicators highlighted in grey didn't rank in the top 30

**Table 3.**  
Indicators of strategy  
and governance

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restructured into three SG indicators: SG1, “items included in the institution-wide strategy for internationalization,” SG2, “items related to internationalization public relations activities for which the university has a defined strategy,” and SG3, “functions and services provided at the institution-wide level” (see [Tables 1 and 3](#)).

SG1, which consists of A1, A2, A3 and FF4, refers to the quality of the internationalization strategy and assesses whether the developed strategy clearly addresses goals and objectives through a concrete action plan, ensuring financial and human resources. A6 is a specific target for international student mobility. It is not included in the final set of internationalization indicators since it can be an item of SG1.

SG2 explicitly focuses on the institutional marketing strategy, expanded from PM1. PM1 did not fulfill the selection criteria since it was ranked in the top 30 only by the Asian university survey. We further examined the data from the Japanese TGU survey, comparing the mean of PM1 from TGU’s Type A universities (aiming for a place among the top 100 in world university rankings) with the same mean from TGU’s Type B universities (required to undertake institution-wide internationalization initiatives). Type A universities regarded PM1 as one of the top 20 indicators with a mean of 2.20, while Type B universities ranked it below the top 30 with a mean of 1.91. We also scrutinized the data from the Asian university survey, comparing the means of PM1 among three Asian regions (Oceania, East Asia, and South and Southeast Asia). PM1 was ranked in the top 30 in all the regions. At the expert roundtable discussion, the emerging importance of the globalizing HE market was pointed out, and PM1 was eventually included in the final set of internationalization indicators regardless of different perceptions about its importance among universities.

SG3 is composed of A4 and NSCC2, with a sub-list of expected internationalization functions and services. It allows universities to examine how many of those standard functions and services are provided at the institutional level.

SG 4, “types of international networks and organizations in which the university participates,” was not one of the 53 internationalization indicators included in the three surveys. However, at the roundtable discussion, Japanese experts pointed out that many universities have become more strategic in selecting and collaborating with international partner institutions in order to improve the capacity and quality of their education and research, and they insisted that SG 4 should be included in order to assess the university’s strategy on participation in international networks and organizations (see [Table 1](#)).

#### *Student and staff characteristics*

As shown in [Table 4](#), seven indicators, S1, S2, S3, S5, ANS1, AN3 and ANS4, were classified under the dimension of Student and Staff Characteristics (SSC). The three indicators S1, S2 and S5 were selected and rephrased as SSC1, “percentage of inbound international graduates last year,” SSC2, “percentage of non-degree seeking international students last year” and SSC3, “percentage of graduates who participated in study abroad programs last year” (see [Tables 1 and 4](#)). S2 did not fulfill the selection criteria since it was ranked in the top 30 only by the survey of Japanese experts. However, at the expert roundtable discussion, the increasing number of students participating in short-term study abroad and exchange programs as well as the impact of exchange students on the on-campus learning environment were emphasized as significant trends. Therefore, S2 was included in the final set of internationalization indicators.

#### *Education and learning*

Ten indicators, ANS2, CAS1, CAS3, CAS5, CAS6, CAS8, CAS9, CSA10, CAS11 and PM2, were classified under the dimension of Education and Learning (EL), as shown in [Table 5](#). Seven

Indicators		Selected and Redefined Indicator NO.	Japanese Expert Survey		Asian University Staff Survey		TGU Survey: All Types (Japan)	
			N	Mean	N	Mean	N	Mean
<b>Students</b>								
S1	Out of all students that graduate from the institution in a given year, what proportion are international students?	SSC1	30	2.43	200	2.01	32	2.25
S2*	Out of all international students in the institution in a given year, what proportion are exchange or mobility program students?	SSC2	30	2.30	200	2.06	32	1.91
S3	In a given year, from how many different countries do the institution's international students come?	X	30	1.87	200	1.99	32	1.63
S5	Out of all students that graduate from the institution in a given year, what proportion have studied abroad?	SSC3	30	2.37	200	1.95	32	2.59
<b>Academic and non-academic staff</b>								
ANS1	Is the previous professional experience abroad of staff members taken into consideration for promotion and tenure?	X	29	1.79	200	1.75	32	2.03
ANS3	In a given year, out of all academic staff members in the institution, what proportion have foreign citizenship?	X	30	1.93	200	1.67	32	2.25
ANS4	In a given year, out of all non-academic staff members in the institution, what proportion have foreign citizenship?	X	30	1.73	200	1.27	32	1.47

**Note(s):** Indicators highlighted in grey didn't rank in the top 30

**Table 4.**  
Indicators of student  
and staff  
characteristics

**Table 5.**  
Indicators of education  
and learning

Indicators	Selected and Redefined Indicator NO.	Japanese Expert Survey		Asian University Staff Survey		TGU Survey: All Types (Japan)	
		N	Mean	N	Mean	N	Mean
<b>Academic and non-academic staff</b>							
ANS2 In a given year, what proportion of the institution's academic staff members teach a course delivered in a foreign language (excluding foreign language courses)?	= CAS6	30	2.33	200	1.89	32	2.28
<b>Curricula and academic services</b>							
CAS1 Does the institution provide support to study abroad students with special academic needs, such as study skills and terminology used in the field of study in a foreign language?	EL3	30	2.13	200	1.97	32	2.25
CAS3 Does the institution use the International Diploma Supplement?	X	30	2.00	200	1.68	32	1.66
CAS5* In a given year, what proportion of international joint/double/multiple degree programs does the institution offer at each academic level (Bachelor, Master, Ph.D.)?	EL2	30	1.97	200	1.92	32	1.88
CAS6 Out of all courses offered by the institution in a given year, what proportion of courses are taught in a foreign language (excluding foreign language courses)?	EL1	30	2.27	200	2.06	32	2.38
CAS8 Does the institution use English language proficiency tests such as TOEFL, TOEIC, or IELTS for the purpose of educational activities or graduation requirements?	X	30	1.73	200	2.25	32	1.91
CAS9 Does the institution have a regulation or guidelines and a systematic process for the transfer/recognition of credits earned at foreign institutions?	EL4	30	2.40	200	2.41	32	2.38
CAS10 Does the institution have an English-language information platform (e.g. website) providing information about the learning environment, courses (e.g. syllabus), and registration guidelines?	EL5	30	2.60	200	2.51	32	2.38
CAS11* Number of administered study abroad programs for credit	X	30	2.17	200	2.10	32	2.22
<b>Promotion and marketing</b>							
PM2 Does the institution provide web pages for international students in at least one foreign language?	= CAS10	30	2.50	200	2.36	32	2.28

**Note(s):** Indicators highlighted in grey didn't rank in the top 30

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indicators, ANS2, CAS1, CAS 5, CAS 6, CAS 9, CAS 10 and PM 2, were selected and reorganized into five indicators (see [Tables 1 and 5](#)).

The rephrased EL1, “percentage of courses taught in a foreign language, excluding courses for the study of a foreign language,” was derived from CAS6. ANS2 was merged into EL1, since ANS2 refers to the proportion of academic staff teaching in a foreign language, while CAS6 addresses the proportion of courses taught in a foreign language.

EL2, “number of international double/multiple/joint degree programs and twinning programs,” was rephrased from CAS5. CAS5 was not ranked in the top 30 in any of the surveys. However, at the expert roundtable discussion, the role of international joint/double/multiple degree programs for internationalizing the curriculum and their potential for diversifying the student population were discussed. As a result, it was decided that EL2 should be a part of the final indicator list.

EL3, “types of academic courses/services that the university offers to study abroad students to support their overseas studies,” was redefined based on CAS1. At the expert roundtable discussion, an opinion that CAS1 is applicable only to universities in Japan was expressed. At the same time, another member was of the opinion that not only courses or workshops on cross-cultural communication and adaptation but also those on the host country’s academic language skills should be an essential part of the pre-departure preparation for study abroad. Based on this discussion, we finally included that indicator in the final list, adding a sub-list of specific academic courses/services.

EL4, “items the university offers to study abroad students regarding the transfer/recognition of credits earned at foreign institutions,” was redefined based on CAS9, with a sub-list of specific institutional actions that are necessary for smooth transfer and recognition of the credits earned at foreign institutions to a home institution.

EL5, “items relating to academic information and services that are provided on the university website in one or more foreign languages,” was rephrased based on CAS10. PM2 fulfilled the selection standard, ranking in the top 30 in two out of the three surveys, and was merged into EL5, since it can be the part of the information provision in a foreign language on a university’s platform.

Finally, it was decided not to select CAS11, “number of administered study abroad programs for credit,” even though it fulfilled the selection criteria. At the expert roundtable, it was argued that the results of the Japanese surveys about this indicator strongly reflected the TGU initiative, but that it was not prioritized by Asian universities according to the Asian survey results.

### *Student services*

As shown in [Table 6](#), 14 indicators, CAS2, CAS7, PM3, NSCC1, NSCC3, NSCC4, NSCC5, NSCC6, NSCC7, NSCC8, NSCC9, NSCC10, NSCC11 and NSCC12, were classified under the dimension of Student Services (SS). Of these, 11 indicators, CAS2, CAS7, PM3, NSCC1, NSCC3, NSCC4, NSCC5, NSCC6, NSCC7, NSCC8, NSCC10 and NSCC11, were selected and reorganized into six indicators: SS1, “facilities and services that the university provides to serve the needs of a culturally diverse student population,” SS2, “types of information that the university provides to inbound international students *prior to their arrival*,” SS3, “types of information that the university provides to inbound international students at the orientation session *immediately after their arrival*,” SS4, “types of information that the university provides to inbound international students *while they are enrolled at the university*,” SS5 “types of information that are provided to study abroad (outbound) students on the university’s website” and SS6 “services that the university provides to facilitate interaction between inbound international students and domestic students” (see [Tables 1 and 6](#)). The six

**Table 6.**  
Indicators of student service

Indicators	Selected and Redefined Indicator NO.	Japanese Expert Survey		Asian University Staff Survey		TGU Survey: All Types (Japan)	
		N	Mean	N	Mean	N	Mean
<b>Curricula and academic services</b>							
CAS2	SS4	30	2.23	200	2.08	32	2.50
CAS7*	SS4	30	1.97	200	1.83	32	2.00
<b>Promotion and marketing</b>							
PM3	SS2,3,5	30	2.07	200	2.27	32	2.06
<b>Non-academic services, and campus and community life</b>							
NSCC1	SS1	30	2.27	200	2.32	32	2.00
NSCC3	SS2	30	2.47	200	2.54	32	2.31
NSCC4	SS3	30	2.37	200	2.46	32	2.34
NSCC5*	SS4	30	1.93	200	2.12	32	1.72
NSCC6	SS6	30	2.00	200	2.26	32	2.06
NSCC7	SS6	30	2.33	200	2.31	32	2.00
NSCC8	SS4	30	2.37	200	2.47	32	2.19
NSCC9	X	30	2.10	200	1.86	32	2.03
NSCC10*	SS4	30	2.07	200	2.23	32	2.03
NSCC11	SS4	30	2.13	200	2.19	32	2.09
NSCC12	X	30	1.73	200	1.93	32	1.78

**Note(s):** Indicators highlighted in grey didn't rank in the top 30



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new indicators, SS1, SS2, SS3, SS4, SS5 and SS6, can be categorized into three groups based on the target student population for those services.

The first group, including SS1, SS2, SS3 and SS4, concerns services for international students. SS1 is rephrased from NSCC1 with a sub-list of five standard facilities and services. SS2 and SS3 are redeveloped from PM3, NSCC3 and NSCC4, with the addition of a sub-list of eight standard services, information about which is necessary for inbound international students. Both of the indicators are basically the same except for the timing of provision (SS2: prior to their arrival and SS3: immediately after their arrival). SS4 is composed of CAS2, CAS7, NSCC5, NSCC8, NSCC10 and NSCC11, with a sub-list of seven standard services for inbound international students. CAS7 and NSCC5 did not meet the selection requirements; however, they were included in the final indicator list, since these two indicators were considered essential for a university's contribution to the development of multi-cultural society and human resources in many countries. Although NSCC10 did not fulfill the selection criteria either, this indicator was ranked in the top 30 by the Asian survey across all three regions except Japan. At the expert roundtable, it was pointed out that this indicator was becoming more important to universities in countries emerging as study abroad destinations. Thus, it was adopted into the final indicator set.

The second group (SS5) concerns services for study abroad (outbound) students. SS5 is expanded from PM3, with the addition of further sub-items besides scholarships for study abroad, considering the current expansion of short-term study abroad programs.

The third group (SS6) relates to services to facilitate interaction between domestic students and international students. SS6 consists of NSCC6 and NSCC 7, with a sub-list of five concrete services and events.

### *Research*

Six indicators, R<sup>orig.1</sup>, R<sup>orig.2</sup>, R<sup>orig.3</sup>, R<sup>orig.4</sup>, R<sup>orig.5</sup>, and R<sup>orig.6</sup>, were classified under the dimension of Research (R), as shown in [Table 7](#). Of these, five indicators, R<sup>orig.1</sup>, R<sup>orig.3</sup>, R<sup>orig.4</sup>, R<sup>orig.5</sup>, and R<sup>orig.6</sup>, were selected and rephrased. R<sup>orig.1</sup> was rephrased as R1, "percentage of conference presentations delivered abroad (or in the context of international conferences) relative to the number of researchers in the institution." R<sup>orig.2</sup> was rephrased as R2, "percentage of research projects involving international partners relative to the total number of research projects with which the institution is formally associated." R<sup>orig.4</sup> was renamed as R3, "percentage of single- or co-authored pieces published internationally in the last five years as a proportion of the total number of faculty members and researchers at the university." R<sup>orig.5</sup> was renamed as R4, "percentage of peer-reviewed, scientific publications co-authored with faculty members and/or researchers at foreign institutions in the last five years as a proportion of the total number of publications authored by faculty members and researchers at the university." R<sup>orig.6</sup> was rephrased as R5, "number of times cited in international journals per publication (the citation performance of international research publications, known as Elsevier Scival) in the last five years" (see [Tables 1 and 7](#)). Four out of the five indicators are relevant to research outcomes.

### *Quality assurance*

Three indicators, S4, A5 and A8, were classified under the dimension of Quality Assurance (QA), as shown in [Table 8](#). All three indicators were selected and integrated into one indicator, QA1, "types of quality assurance procedure the university utilizes to monitor the progress of internationalization" with a sub-list of four types of quality assurance procedure (see [Tables 1 and 8](#)). QA1 was proposed as the indicator of an overall quality assurance system for the internationalization of universities, covering the original three quality assurance practices for each specific internationalization activity.

**Table 7.**  
Indicators of research

Research	Indicators	Selected and Redefined Indicator NO.	Japanese Expert Survey		Asian University Staff Survey		TGU Survey: All Types (Japan)	
			N	Mean	N	Mean	N	Mean
R <sup>orig.1</sup>	In a given year, what proportion of conference presentations are delivered abroad (or in the context of international conferences) relative to the number of researchers in the institution?	R1	30	2.13	200	2.12	32	1.97
R <sup>orig.2</sup>	In a given year, what proportion of research projects with which the institution is formally associated are internationally funded?	X	30	1.87	200	2.12	32	1.97
R <sup>orig.3</sup>	In a given year, what proportion of research projects with which the institution is formally associated involve international partners?	R2	30	2.13	200	2.18	32	1.97
R <sup>orig.4</sup>	In a given year, what proportion of authored (or co-authored) pieces (books, journal issues, articles, and so on) are published internationally relative to the number of researchers in the institution?	R3	30	2.27	200	2.31	32	2.03
R <sup>orig.5</sup>	In a given year, how many and what proportion of publications in scholarly/peer-reviewed journals are authored (or co-authored) in a foreign language by researchers in the institution?	R4	30	2.33	200	2.12	32	2.25
R <sup>orig.6</sup>	Citation performance of international research activities (e.g. Science Citation Index (SCI) / Citations of paper (CPP))	R5	30	2.17	200	2.38	32	2.31

**Note(s):** Indicators highlighted in grey didn't rank in the top 30

Students	Indicators	Selected and Redefined Indicator NO.	Japanese Expert Survey		Asian University Staff Survey		TGU Survey: All Types (Japan)	
			N	Mean	N	Mean	N	Mean
S4	Does the institution provide exchange places/programs to meet qualitative and quantitative demands of students?	QA1	29	2.14	200	2.26	32	2.50
<b>Administration</b>			<b>N</b>	<b>Mean</b>	<b>N</b>	<b>Mean</b>	<b>N</b>	<b>Mean</b>
A5	Is a quality assurance procedure in place for the international study programs in the institution?	QA1	30	2.17	200	2.31	32	2.38
A8	Does the institution have a clearly defined strategy for measuring outcomes of internationalization?	QA1	30	2.27	200	2.27	32	2.22

**Table 8.**  
Indicators of quality assurance

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## Discussion

This study proposes a manageable system of internationalization indicators to assist universities in comparative self-assessment. The proposed instrument contains 10 quantitative indicators and 14 checklists of internationalization activities (see [Table 1](#)). The quantitative indicators refer to the outputs of internationalization activities. In contrast, the checklists of internationalization activities indicate standard measures employed to internationalize a specific university dimension. They can be used as either quantitative or qualitative indicators. If universities assess their performance based on the number of internationalization activities they have implemented, the list can be a quantitative measure. If universities examine how the listed internationalization activities are effectively contributing to the achievement of an internationalization objective, the list can be used as a qualitative measure since they will need to collect descriptive information on their activities.

To capture the different dimensions of university internationalization, it is essential to measure internationalization performance using quantitative and qualitative measurements ([Green, 2012](#)). Some dimensions can be adequately examined with quantitative tools, while others can be sufficiently analyzed with descriptive information ([Gao, 2018](#)). The proposed instrument can respond to this need. The findings of the study also led to recommended measurements for each internationalization dimension.

Of six dimensions, two, Student and Staff Characteristics and Research, include only quantitative indicators. These dimensions look mainly at the outputs of internationalization efforts, for example, SSC1, “percentage of inbound international graduates last year,” or R3, “percentage of single- or co-authored pieces published internationally in the last five years as a proportion of the total number of faculty members and researchers at the university.” In contrast, three dimensions, Strategy and Governance, Student Service, and Quality Assurance, include only checklists of internationalization activities. These dimensions focus on the process of internationalization. In other words, to measure the internationalization of these dimensions, it is necessary to assess what activities have been implemented and how they have been carried out in practice. Finally, the dimension of Education and Learning includes both types of indicators. It is suggested that both the outputs and the process of internationalization efforts should be assessed in this dimension.

The proposed system of internationalization indicators is not a complete list of indicators, but rather a list of carefully selected indicators with the primary objective being its operability. Universities should employ additional measurements, considering their priorities on the goals and the scale of internationalization. Although it has some limitations, the proposed set of indicators reflects the perspectives of academic and administrative staff who are engaged in the internationalization of a respected university in 16 Asian countries and regions. This instrument is more relevant to the practice of internationalization of universities in Asia, compared with the indicator set provided by the government in a top-down way. Policymakers tend to adopt quantitative indicators to confirm the outputs of internationalization activities in the name of accountability; however, the study revealed that individuals serving on the front-line at universities regarded indicators examining the process of internationalization as more critical for four out of six internationalization dimensions.

Finally, the proposed instrument includes neither dimensions nor indicators related to SDGs. In our two surveys, the participants were asked to prioritize their institutional internationalization goals by ranking (1) the quality of education, (2) the quality of research, (3) student preparation for an intercultural and globalizing world, (4) international reputation and visibility and (5) social engagement and contribution. Of these, the social engagement and contribution goal was ranked at the bottom. It revealed a lack of a social responsibility dimension to the current agenda of internationalization in HE.

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Knight (2008) has discussed the changing rationales driving internationalization, identifying the emergence of rationales reflecting an institution's own interests and benefits, instead of the three fundamental missions of universities, education, research, and social engagement and services, since the late 1990s. This is because neoliberal reforms have been applied to HE to respond to global challenges. Internationalization has begun to be regarded as a measure for universities to compete and survive in international and national HE markets (Knight, 2008).

Nonetheless, we began observing the emphasis on the third mission of HEIs in the discourse of university internationalization around the time SDGs were adopted in 2015. SDGs introduced HE into the global development agenda. At the same time, HEIs are expected to be key drivers to achieve SDGs. On the EAIE website, Hunter (2015) proposed a revised definition of the internationalization of HE, reminding readers that university internationalization is a means to enhance the quality of education and research within and beyond the institution to make a meaningful contribution to society. As aforementioned, in 2018, UNESCO Bangkok proposed a new set of internationalization indicators composed of five dimensions, including social engagement. Brandenburg *et al.* (2020) also proposed a new concept of "Internationalization in HE for Society," aiming to benefit the wider community, at home or abroad, through international or intercultural education, research, service and engagement (the social responsibility component of internationalization).

### Concluding Remarks

Universities have their own purposes, objectives, and targets to promote internationalization; however, they are also influenced by society's expectations (Knight, 2008). The emerging trend of HE internationalization for society may drive universities to extend their internationalization activities into the third mission of social engagement, such as community projects involving foreign cultures and qualitative discussion of community engagement activities abroad. Furthermore, reexamining internationalization from the viewpoint of sustainability could broaden its scope. Integrating the elements of global citizenship, global issues such as poverty and climate change, and sustainable development into the existing curriculum can be part of curriculum internationalization. Internationalizing students, academics and non-academic staff is a matter of diversity and inclusiveness. Sustainability issues are compatible with internationalization efforts when universities take the initiative to respond to globalization. Future studies on measuring university internationalization should take sustainability initiatives into account.

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