Understanding global product preferences for key source countries and the impact on global mobility

‘Deep Dive’ case study #2 | International Higher Education Student Flows via Global Data Integration Project

nous

This case study focuses on global product preferences of key source countries

The case study identifies key higher education global student segments and explores the product and other decision drivers that impact their global mobility and choice of destination.

What we already know

Product is a key driver of student decision-making when selecting study products and destinations.

There is a relatively strong understanding of trends in product preferences in the Australian context – for example concentration of growth in PG Management and Commerce programs, particularly for China and India.

However there isn't a strong understanding of how these trends align with broader global product preferences and the broader implications of product for global student mobility.

What is the focus of the research

The research for this case study has focused on two key areas:

1. Identifying key global student segments and classifying based on key drivers of student choice.
2. Understanding product preferences for key outbound countries – with a focus on level, destination, field and provider.

Why is this research area important

This case study focuses on a topic that is important for Australian providers and the broader higher education sector.

It seeks to understand the differences in product preferences in Australia's market compared with global trends, to identify potential opportunities.

It is also novel – as it's not clear that previous research has been undertaken to classify source countries based on product preference.

The approach to identify product preferences and decision drivers of source countries comprises of four key parts

This has allowed an assessment of which student segments are most significant globally and the decision drivers for students within these segments.

Section 1 – Identifying key global student segments	**Section 2 (A to D) –** Understanding product preferences for key outbound markets	**Section 3** – Differences between developing and mature source countries	**Section 4** – Classifying key global student segments
Identification of key student groups based on publically available and consistent data to identify the top 50 global student segments by origin and field of study.	Identification of the specific trends and preferences for key source countries – such as China and India – and Australia's relative performance.	Assessed the difference in preferences for developing and mature countries, in relation to the field of study and the types of institutions (based on reputation) that attract students from different segments.	The consideration of the predominant drivers of choice for the identified student groups through a cluster approach, based on available student mobility data.

Executive Summary

Key global student segments have been identified based on field of study and source country

Key global product preferences also differ across the top four global source countries and do no align with Australian inbound trends

What are the key global segments?

China and **India** are dominant markets across all fields of study – China and India as source countries constitute 15 of the top 20 key global student segments.

Top key global student segments are largely in Business and Engineering – with more than 40% international students studying in one of these two fields.

There have been some key changes in the largest global student segments in recent years – while China and India remain dominant, Central Asian countries have emerged as key student segments.

CHINA

1/3 outbound students study Business – but **2/3** study in another field.

STEM fields are growing the most, up **5 percentage points** as a share of all Chinese students.

Australia performs well in Business, but doesn't perform well in STEM.

INDIA

The majority of students study Engineering, Business or IT programs – collectively accounting for **85%** of all outbound students.

45% of Indian students in Australia study business compared to only **18%** outbound students from India.

SOUTH KOREA

While Business is the largest field for South Korean students (**16%**), outbound students study in a range of subject areas – including Science, Social Science, Engineering and Arts.

The US is the dominant market across all fields – with almost **20 times** the number of students as Australia.

NIGERIA

Approx. 25% students study Engineering globally and this is increasing as a subject choice for Nigerian students.

Australia has a low share of Nigerian students – less than **5%.**

More generally, there are not significant differences in the preferences for field of education between newly developed countries and mature countries, but there are differences in the quality or reputation of the higher education institutions students from these countries choose to study at.

Section 1 – Identifying key global student segments

This section identifies and outlines the key global student segments based on their source country and field of study. The top 50 student segments are identified with analysis of key changes over time and categorisation of the top five global source countries based on their global field of study preferences.

Integration of publically available data allows us to identify the key higher education student segments globally

The key student segments have been based student mobility data available through Project Atlas for seven destination countries.

Our approach and its limitations

The approach used by Nous has been to identify key global student segments based on publically available data, available through Project Atlas and Open Doors.

The segments have been identified based on seven destination countries – Australia, United States, United Kingdom, Russia, Japan, Germany, and Chile.

Project Atlas also outlines nine broad fields of study. These are:

- Agriculture
- Arts
- Education
- Engineering
- Health professions
- Humanities
- Mathematics and computer science
- Other
- Sciences

Nous estimates that inbound student mobility to these seven countries covers approximately 58% of global student mobility. It also includes 49 of 211 source countries. The top 50 student segments identified is estimated to account for approximately 20% of all global student mobility.

While this does not represent a comprehensive understanding of student segments, we are comfortable that this is sufficient to identify the primary student segments and key changes over time.

How have we determined the key global segments?

Step 1 – Define **'student segment'** based on **source country** and **field of study** undertaken by students

Step 2 – Determine proxies that reflect global source countries based on available destination data

Step 3 – Quantify each global segment by identifying the number of outbound students from source countries across fields of study

Step 4 – Identify key global segments based on **total number of outbounds students** and frequency of top 10 placement for a destination country

Note: The estimate for the proportion of global student mobility (~58%) was determined by calculating the proportion of outbound student numbers reported by Project Atlas and Open doors in 2017 by the total number of outbound students reported by UNESCO in 2016. Project Atlas and Open doors reported comprehensive student flow data for 49 source countries. UNESO provides student data across 211 source countries. 18% represents the students in the identified 50 key global student segments as a proportion of the total outbound students reported by UNESCO in 2016.

Identification of the key global student segments shows China and India are the primary source countries with large numbers of students studying globally across a range of fields

The list of key global student segments were identified and ranked based on student flow to seven destination countries comparable data is available (Australia, Chile, Germany, Japan, Russia, the United States and the United Kingdom) considered.

Top 20 key global student segments, by number of outbound Higher Education students and frequency of top 10 placement for a destination country, 2017

Key global student segments	Number of students	Frequency of top 10 placement for a destination country
China - Business	221,013	6
China – Engineering	117,728	6
India – Engineering	82,811	5
India - Math and computer sciences	80,797	5
China - Math and computer sciences	71,052	6
China – Sciences	59,654	6
China - Social science	53,390	6
China – Other	50,896	6
India – Business	48,259	5
China – Arts	41,744	6
China - Humanities	35,395	4
Vietnam - Business	24,068	3
Kazakhstan - Engineering	21,970	1
Kazakhstan - Business	18,815	1
India - Health professions	16,393	5
Saudi Arabia - Engineering	15,788	1
Nepal - Business	15,339	2
India - Other	13,978	5
China - Education	13,831	6
China - Humanities	12,335	1

Findings on the key global student segments were extrapolated based on the seven destination countries' top ten source countries (for each field of study).

1. Countries in Asia serve as a source of outbound students

- All source countries that make up the top 20 key global student segments are located in Asia.

2. China and India are dominant markets across all fields of study

- 90% of students in the top 20 key global student segments are from China or India.
- China and India as a source country constitute 15 of the top 20 key global student segments.
- China is a major source country for most destination countries across 10 of the 11 fields of study.
- India is consistently a key source country for 5 destination countries across 5 of the 11 fields of study.

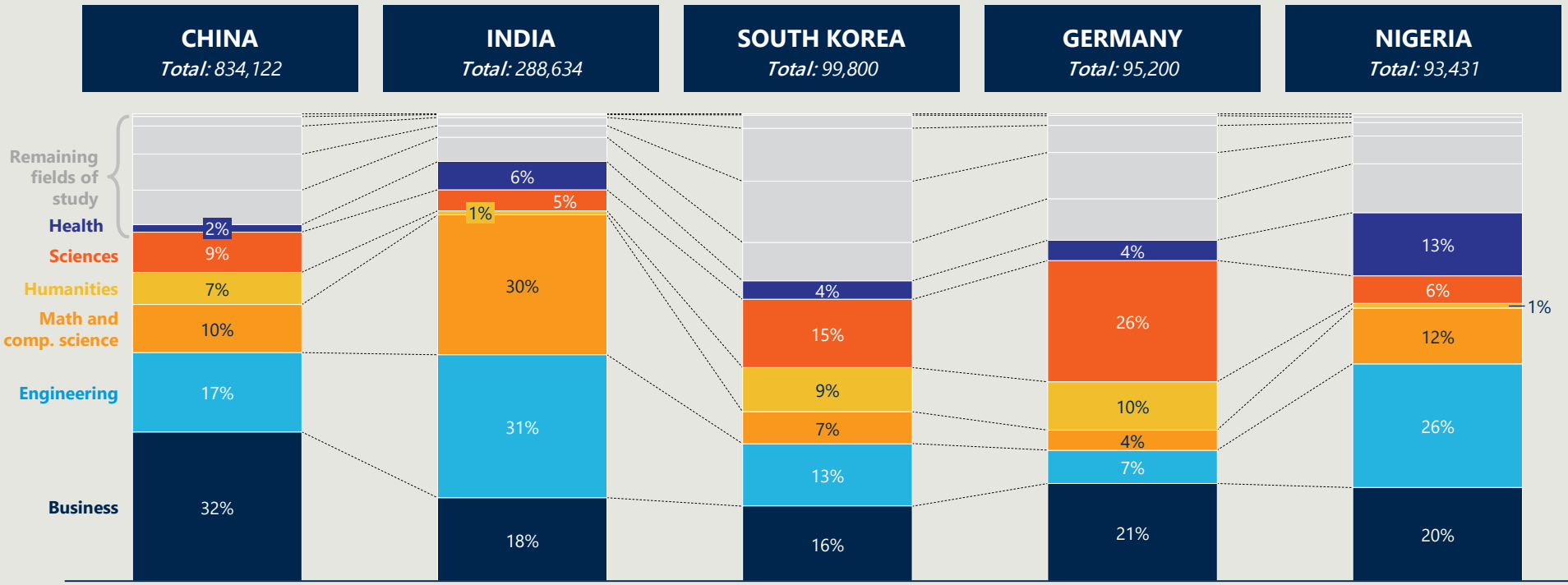
3. Top key global student segments are largely Business or Engineering

- Nine of the top 20 key global student segments are made up of Business or Engineering students.
- Approximately 42% of outbound students study Business or Engineering.

Source: Nous global student flow integrated dataset Layer 2, based on Project Atlas reported data and publically available Open Doors data for the United States. Note: Frequency of placement refers to the total number of times a source country was a top 10 source of students for the seven destination countries considered in the analysis for the respective field of study. The list of the Top 50 student segments by source country and field are included in **Appendix A – Full summary of identified global student segments.**

Key student segments allows for an initial assessment of the product preferences of large source countries based on the preferred field of study of their students

Preferences differ across the top five global source countries with a summary presented below.



Business is the dominant preference for international students from **China,** followed by Engineering and Maths and Computer Science.

Indian outbound students are distributed evenly across three fields of study: Business, Engineering and Maths and Computer Science.

The **South Korean** market is fairly evenly distributed across most fields of study – but Business is the largest.

Sciences and Business are popular preferences for **German** outbound students.

Nigeria has a relatively high proportion of Engineering and Business and Health students.

Source: Nous global student flow integrated dataset Layer 2, based on Project Atlas reported data and publically available Open Doors data for the United States Note: Total outbound numbers for the top 5 source countries are based on 2016 UNESCO student flow data. The fields of study highlighted in grey include Agriculture, Arts, Education, Social sciences and Other. The approximate apportionment of the source country's total outbound students across different fields of study was based on inbound student numbers from the following destination countries; Australia, Chile, Germany, Japan, Russia, the UK and the US. Note: Germany is not considered in further detail in this document due to limited alignment as an Australian source country.

There have been some key changes in foremost global student segments over the past four years

While China and India remain dominant – some new key markets appear to have emerged over this time period.

Top 15 global student segments, by student numbers, 2014 and 2017

2014	2017
China studying Business	China studying Business
China studying Engineering	China studying Engineering
China studying 'other'	India studying Engineering
India studying Engineering	India studying Mathematics and Computer science
China studying Mathematics and Computer science	China studying Mathematics and Computer science
China studying Social Sciences	China studying Sciences
India studying Mathematics and computer science	China studying Social Sciences
China studying Sciences	China studying 'other'
China studying Humanities	India studying Business
China studying Arts	China studying Arts
India studying Business	China studying Humanities
South Korea studying Business	Vietnam studying Business
Vietnam studying Business	Kazakhstan studying Engineering
South Korea studying 'other'	Kazakhstan studying Business
India studying Sciences	India studying Health professions

Source: Nous global student flow integrated dataset Layer 2, based on Project Atlas reported data and publically available Open Doors data for the United States. Note: the Top 15 is based on information for the seven key destination countries comparable information was available for 'Level' is not included at the segment level due to data limitations, but is included in the subsequent grouping analysis.

What has remained the same

- The top two student segments remain unchanged from 2014 to 2017.
- All global student segments from China have remained in the top 15.

What are the key changes

- India Sciences has fallen seven places and India Health has moved up 12 places.
- South Korea Business and South Korea 'other' are no longer top global student segments.
- Central Asian countries have emerged as key student segments over the three year period (driven by increasing international students studying in Russia).

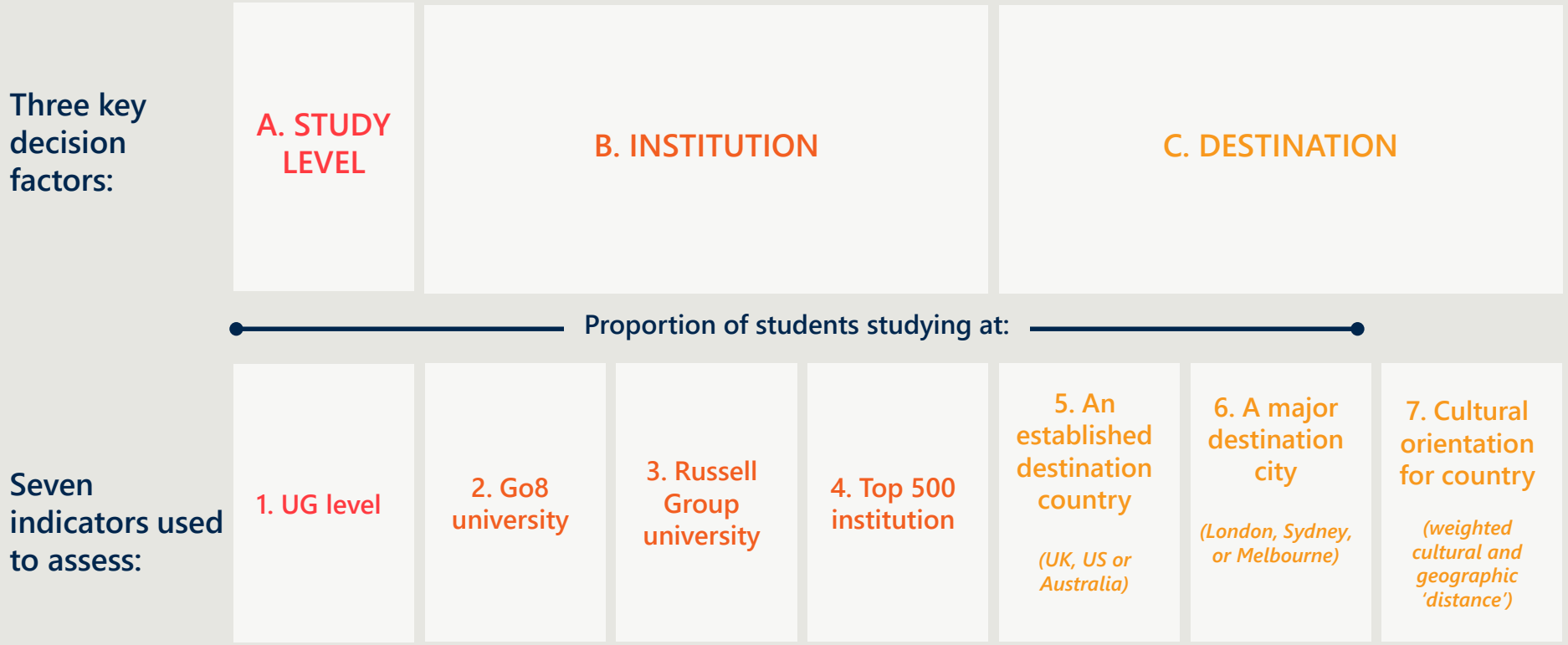
Section 2 – Understanding product preferences for key outbound markets

This section focuses on key source countries and the global student segments for each. Information is presented on the split in product preference, detail on student decision drivers for each segment, changes in source country preference for field of study and an assessment of the relative performance of Australia in each student segment.

Information is presented for four of the top five global source countries – China, India, South Korea and Nigeria.

Our approach has considered which student segments are similar based on three critical decision factors

Key global student segments have been classified based level of study, institution and destination using a cluster analysis approach.



It should be noted that our analysis does not assess the preferences of individual students, but rather the predominant study destinations for students from a country that study in a particular field. The analysis therefore does not measure preference of the student, so much as the actual outcome of the student – communicating where they went, as opposed to necessarily where they wanted to go.

Note: Details of the full methodology are available in **Appendix B – Methodological considerations for student decision driver analysis.** There were some limitations in the student decision factors methodology based on inconsistent availability of data across different destination countries. For this reasons the classification is primarily based on UK and Australian inbound students to determine study level, institution and city destination. These are also outlined in **Appendix B.** See Case study #3 for full 'Pulling Power' methodology.

Section 2A – CHINA

This section presents information on Chinese higher education students – including product preferences, detail on student decision drivers, changes in source country preference an assessment of the relative performance of Australia in each Chinese student segment.

Business is the primary study field for Chinese students – followed by Engineering, Maths and Computer Sciences

Over the past four years, the proportion of students studying business globally has declined while there have been increases in STEM oriented fields such as Maths, IT and Science

Students from China study…	Business	Engineering	Math / Computer	Science	Social sciences	Health	Arts	Humanities	Other	Education
Estimated share of all global Chinese students, 2017	**~32%**	**~17%**	**~10%**	**~9%**	**~8%**	**~2%**	**~6%**	**~7%**	**~7%**	**~2%**
Change in share, 2014 to 2017	Decreased by **5 p.p.**	-	Increased by 2 p.p.	Increased by 2.5 p.p.	-	Decreased by 0.5 p.p.	Increased by 1 p.p.	Increased by 1 p.p.	Decreased by 1.5 p.p.	-
…student from these segments tend to…	*…study at **PG level.*** *…study in **established destination** countries.*	*…study at **PG and UG level** at similar rates.* *…attend '**quality' higher education institutions** (i.e. higher ranked).* *…study in **established destination** countries.*					*…study at **UG and PG** at similar rates.* *…have a **strong travel orientation**.*	*…study at **PG level.*** *…attend a **range of destinations** (city and country).* *…less attracted to 'high quality' institutions when studying in Australia and UK.*		*…study PG.* *…attend **high-quality** institution.*

Source: Nous global student flow integrated dataset Layer 2, based on Project Atlas and Open Doors data for seven key destinations where comparable data was available. Clustering based on Layer 3 and additional data as outlined elsewhere in the document. Note: Estimated share is calculated based on available data in Layer 3 from Project Atlas and Open Doors data and is estimated to account for 50% of all outbound Chinese student mobility. Australia did not report on inbound students studying Humanities subjects in Australia, which may impact the estimate.

Business differs from these other fields – primarily in relation to the likelihood of students to study at 'high quality' institutions

Business students tend to study at high quality institutions to a far lesser extent than students in other key fields – such as STEM and Health. Further information is presented on these segments below.

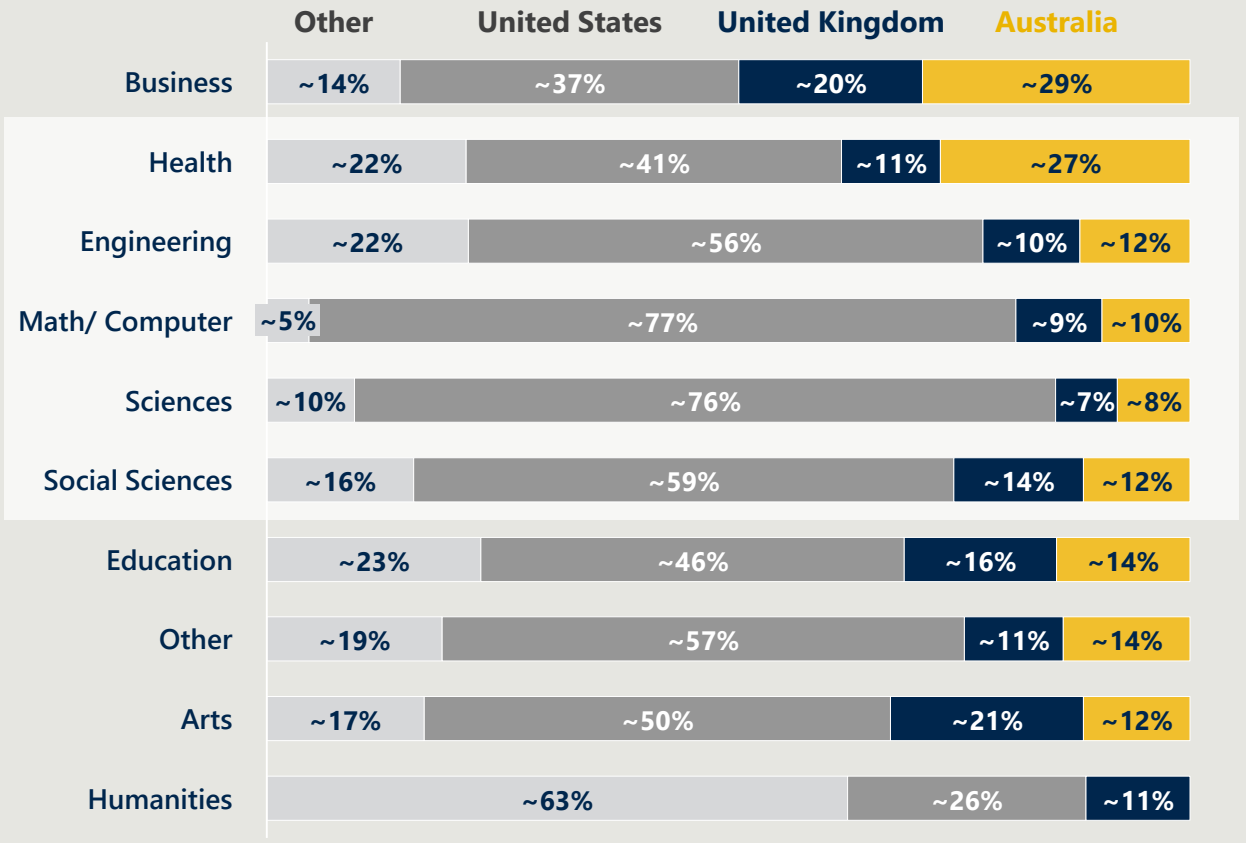
	Business	Engineering	Math / Computer	Science	Social sciences	Health
What else do we know about these students	• **Strong orientation to established destinations –** we estimate that over 60% study at one of the top three destination countries – either the US, Australia, or the UK. • **PG oriented student segment –** with over half studying PG programs and 41% studying at UG level (based on Australia and UK data). • **Studying at a major city is not a clear priority driver –** with fewer of this segment studying in major cities, including lower share in Sydney and London (14% and 2% respectively) and Melbourne in line with average for top 50 global segments. • **A relatively low proportion attend 'high quality' institutions –** A lower proportion of students study in Australia or the UK at a global 500 university than the average of the Chinese segments (approx.14% less) or the top segment average (10% less). Go8 participation is particularly low comparatively – 13% below the average (compared to Russell Group which is only 0.2% below).	• **Mixed study level –** with student across these fields studying at both PG and UG study. All fields are estimated to have between 45-55% UG students. • **High attendance at quality institutions –** of students studying in Australia or the UK, students in the above fields attend top 500 universities at a higher rate than other segments. This ranges from 95% in Sciences attending a top 500 university at the high end, to 80% in Maths at the low end. Chinese students in these fields have very high attendance at Russell Group universities (76%) – 35% higher than the median for all global student segments. For students studying in Australia this is similar (albeit lesser) with Go8 attendance higher than the average of 38%. • **Preference for established destinations, but mainly the US –** Australia has a relatively low reported share for these STEM oriented fields as does the UK. Australia is a more attractive destination for Health students (but does not outperform the UK). • **Studying at a major destination city is not clearly a driver –** segments within this cluster have a lower share of students studying in major cities – with Melbourne, Sydney and London comparably low for this group.				

Source: Nous global student flow integrated dataset Layer 3, with particular use of UK HESA) and Australia (HEIMS) enrolment data. Note: The full breakdown of the decision drivers for the other three student decision driver groups is presented in **Appendix D – Further information on student decision drivers. Note:** Non-Go8 destinations for Chinese Business students with over 5% share include UniSA (13%), Griffith Uni (8%), JCU (5%). Coventry University is the only non-Russell Group university with >5% share – followed by De Montfort University and the University of Sussex.

Australia performs well in Business, the primary field of study for Chinese students, but does not perform as well in STEM fields

As shown these STEM fields are growing as a share of total outbound global Chinese mobility, with the United States currently the key performer in these fields.

Australia's relative performance against other 'established' destination countries by field of study for 'reputed addressable markets', 2017.



Australia performs strongly in **Business**, with comparably high market share.

Australia's market share is relatively low across the majority fields in the '*Learner*' Group, which mainly consists of **STEM** oriented fields. The US appears to dominate these fields.

Health is the key exception which is a point of strength for Australia.

Australia also performs modestly across the other student segments.

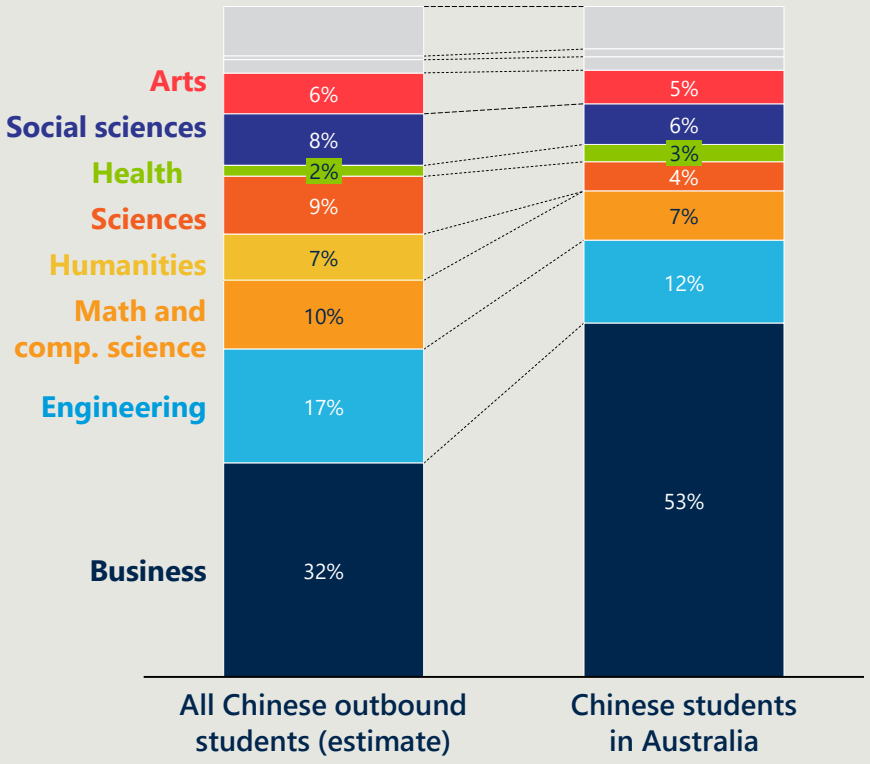
Source: Nous global student flow integrated dataset Layer 2, based on Project Atlas data for the United Kingdom and Australia, and publically available Open Doors data for the United States. Note: Australia did not report on inbound students studying Humanities subjects in Australia, which may impact the estimate for this and other fields. 'Reputed addressable market' is based on the reported data for Australia, the United States, the United Kingdom, Japan, Russia, and Germany.

The preference of Chinese students studying in Australia does not reflect global trends for Chinese students studying overseas

Over a half of Chinese students studying in Australia study Business, whereas this is more balanced for other destinations…

…this may reflect strength in the Business discipline for Australia, or perceived relative weakness in other fields.

Chinese students by field of study, China global estimate and Australian inbound students, 2017



Global product preferences

Business is the dominant preference for international students from China (32%), but other fields are significant – **Engineering** (17%) and **Math and Computer Science** (10%).

Global trends

Business is declining as a share of the global total Chinese students (37% to 32% from 2014 to 2017), with increases in other fields.

Alignment to Australia's trends

In contrast – over 50% of Chinese students study in Australia (2017). This has declined over the past three years – down from over 60%, in line with global declines.

This may represent the strength of the Australian Business program or comparative weakness in other fields (particularly in STEM).

Source: Nous global student flow integrated dataset Layer 2, based on Project Atlas data for Australia. Global estimate based on the seven countries where detailed comparative data is available – including Australia, the US, and the UK. Subject preferences of 'Domestic Chinese students' have not been considered as domestic data has not been captured as part of this project. This may represent an **area for further research.**

Section 2B – INDIA

This section presents information on Indian higher education students – including product preferences, detail on student decision drivers, changes in source country preference an assessment of the relative performance of Australia in each Indian student segment.

The majority of Indian students study Engineering, Business or IT programs – collectively accounting for around 85% of all Indian outbound student mobility

Students studying in these fields globally are typically PG students with a preference for 'established' destination countries.

Students from India study…	Engineering	Business	Maths / Computer Science	Science	Social sciences	Other	Health
Estimated share of all global Indian students, 2017	~37%	~30%	~18%	~5%	~3%	~5%	~6%
Change in share, 2014 to 2017	Increased by **4 p.p.**	Decreased by 1 p.p.	Increased by **6.5 p.p.**	Decreased by **4.5 p.p.**	-	-	-
…student from these segments tend to…	*…study at **PG level.*** *…undertake higher education study in **established destination countries.***			*…study across both **PG and UG** levels.* *…be attracted to **'quality institutions'.*** *…study in **established destination countries.***			*…study at **UG level.*** *…study in **non-major destinations** and low 'pulling power' destinations.*

Source: Nous global student flow integrated dataset Layer 2, based on Project Atlas and Open Doors data for seven key destinations where comparable data was available. Clustering based on Layer 3 and additional data as outlined elsewhere in the document. Note: Estimated share is calculated based on available data in Layer 3 from Project Atlas and Open Doors data and is estimated to account for around 50% of all outbound Indian student mobility.

Students in these three fields have a relatively low proportion studying at 'top institutions' compared to students in other fields

Across all fields of study, Indian student show a preference for established destination countries – mainly the United States and Australia – with very high numbers in Melbourne.

What else do we know about these students

- **Strong orientation towards PG study –** most students across the three fields study at the PG level. This ranges from 69% for Business, 74% for Engineering and 80% for Maths and Computer Science.
- **Strong preference for 'Established destination countries' –** for Business students, a high proportion study in the United States and Australia, while for Engineering and Maths and Computer Science, the United States is clearly the preferred destination.
- **Less prominent emphasis on institution reputation –** with students in these three fields lower than the overall median (76%) for inbound students to the UK or Australia studying at a top 500 university. There is some variation across fields, with 67% of Engineering students, in comparison to higher figures for Indian Business students (73%) and Maths and Computer Science students (72%).
- **Modest global destination pull, but clear preference towards Melbourne –** students across the three fields studying in Australia prefer to study in Melbourne over Sydney. Of those in Australia - 26% of Engineering students, 56% of Business students and 54% of Maths and Computer Science students studied in Melbourne. This is compared to an average of only 21% for all source countries and fields.
- The proportion of students studying in London is in line with the average for all students (25%) for the Business and Maths/Computing segments, but below the average for Engineering (only 10%).

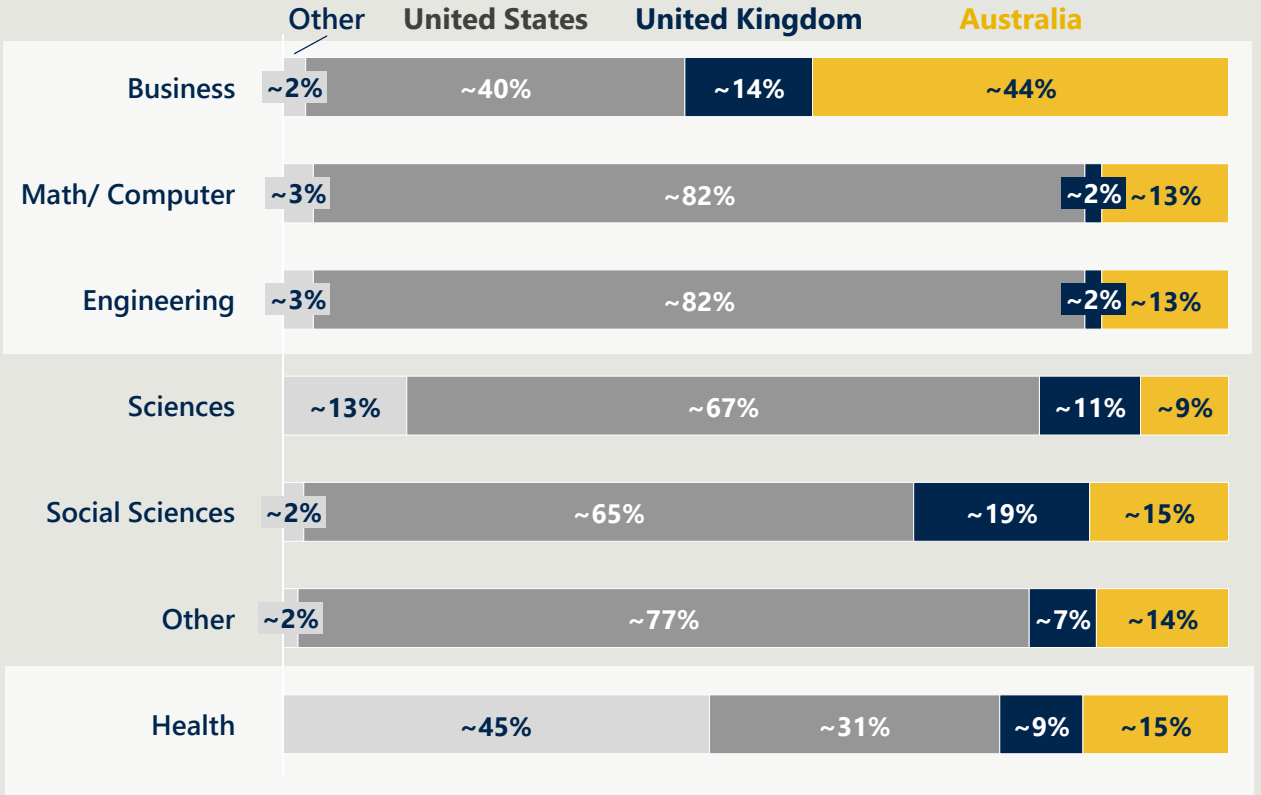
- **PG level of study orientation –** with more than 70% of Indian students studying Sciences and 57% of students studying Social Sciences.
- **Preference for high quality institutions** – there is a very high proportion of students studying in the UK and Australia at a global top 500 university - 92% for Social Sciences and 86% for Sciences (compared to a median for all countries and fields of 76%).
- Across the three student segments, at least 40% of students studying in Australia study at a Go8 university, and at least 50% of students study at a Russell Group university – higher than the respective medians for all countries and fields (37% and 40%).
- **Preference for established destination countries –** with a particular high proportion of Indian students in these fields studying in the United States, followed by the UK and Australia.
- **Preference for major cities –** All fields have a relatively high proportion of students studying in major cities. For those in Australia, destination preferences relate to field of study – with Social Sciences students opting for Melbourne over Sydney (30% to 18%), whereas students studying Sciences prefer Sydney (38% to 30%).
- There is mixed preference for London based study depending on field. 33% of Social Sciences students study in London, compared to 18% Science students (either side of the median of 25%).

Source: Nous global student flow integrated dataset Layer 3, with particular sue of UK (HESA) and Australia (HEIMS) enrolment data. Note: The full breakdown of the decision drivers for the other decision driver group is presented in **Appendix D – Further information on student decision drivers.** For Business key institution destinations include the University of London and Brunel University in the UK and RMIT, Swinburne and Macquarie in Australia. For Maths and Computer Science and Engineering, RMIT, Swinburne and La Trobe are key Australian destinations, while various London and non-London institutions are key destinations in the UK.

Australia performs well in Business, while United States dominates most of the other fields

Health is also a area of relative strength for Australia.

Australia's relative performance against other 'established' destination countries, by field of study, for 'reputed addressable market', 2017



Business is a clear area of strength for Australia – outperforming the US.

The US dominates the **Engineering, Math and Computer science** segments, but Australia is a larger destination than UK.

The US performs strongly across **Business**, **Math and Computer Science** and **Engineering**.

Australia performs comparably better in Sciences, but comparably worse in Social Sciences, than the United Kingdom.

Australia performs well in **Health,** with the US less dominant in this segment. Reported figures indicate Russia is the key destination for Indian students studying health.

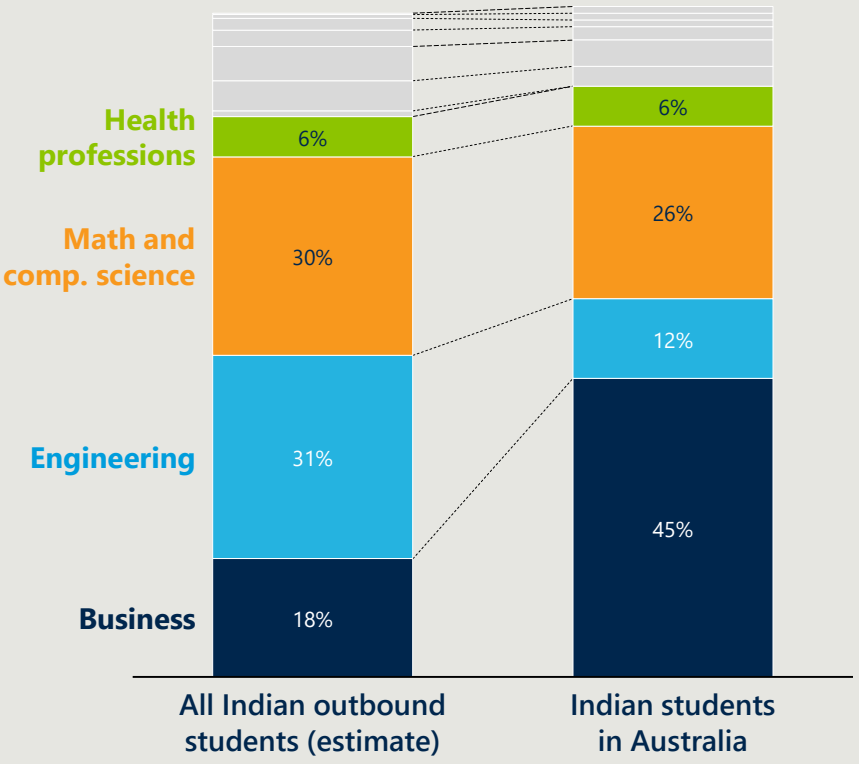
Source: Nous global student flow integrated dataset Layer 2, based on Project Atlas data for the United Kingdom and Australia, and publically available Open Doors data for the United States. 'Reputed addressable market' is based on the reported data for Australia, the United States, the United Kingdom, Russia, and Germany.

Indian product preference for study in Australia, differ from Indian preferences elsewhere

IT product preferences in Australia reflect global student preferences, but Business concentration is distinct for Australia…

…Engineering is the dominant field globally, but makes up a relatively small proportion of Indian students in Australia.

Indian students by field of study, India global estimate and Australian inbound students, 2017



Global product preferences	Indian outbound students are **distributed evenly across a wide number of fields** of study – with around 30% in **Engineering** and **Maths/Computer Science** and 18% in **Business.**
Global trends	**Two largest fields have grown as a share** – **Engineering** and **Maths/IT** – while **Business** has flattened (18.5% to 17.5%).
Alignment to Australia's trends	Indian students in Australia study in a more concentrated set of fields – for example 45% are in **Business.** While Computer Science is in line with global splits, **Engineering is comparably under enrolled** – with only 12% of all students. Business has increased as a share – distinct from global trends due to high growth (33% CAGR).

Source: Nous global student flow integrated dataset Layer 2, based on Project Atlas data for Australia. Global estimate based on the seven countries where detailed comparative data is available – including Australia, the US, and the UK.

Section 2C – SOUTH KOREA

This section presents information on South Korean higher education students – including product preferences, detail on student decision drivers, changes in source country preference an assessment of the relative performance of Australia in each South Korean student segment.

While Business is the largest field for South Korean students, outbound students study in a range of subject areas

Engineering and Sciences are already large fields of study and are growing as a share of all outbound mobility.

Students from South Korea study...	Business	Science	Social sciences	Other	Engineering	Arts
Estimated share of all global South Korean students, 2017	~16%	~14.5%	~13%	~5%	~13%	~11%
Change in share, 2014 to 2017	Decrease by **3.5 p.p.**	Increase by **8 p.p.**	Increase by 1 p.p.	-	Increased by 1.5 p.p.	-
...student from these segments tend to...	*...study at **PG level** more frequently than UG level.* *...have a moderate preference for **established destination countries.***	*...study at **UG level.*** *...either have a preference for...* *...**quality institutions** in US and Australia* OR *...will study in **alternate destination countries.***			*...study at both **UG and PG** level.* *...attend **high quality institutions.*** *...study in **established destinations.***	*...study at **UG** more so than PG.* *...are attracted to **global cities** in **established destination countries.*** *...have a **lesser focus on top ranked institutions.***

Source: Nous global student flow integrated dataset Layer 2, based on Project Atlas and Open Doors data for seven key destinations where comparable data was available. Clustering based on Layer 3 and additional data as outlined elsewhere in the document.

While South Korea is generally an UG market across all fields of study, the decision drivers appear to differ across key subject areas

Business student have a lower emphasis on highly ranked institutions compared to Science, Social Sciences and Engineering students; Arts student are more attracted to (city) destination over ranking of institution.

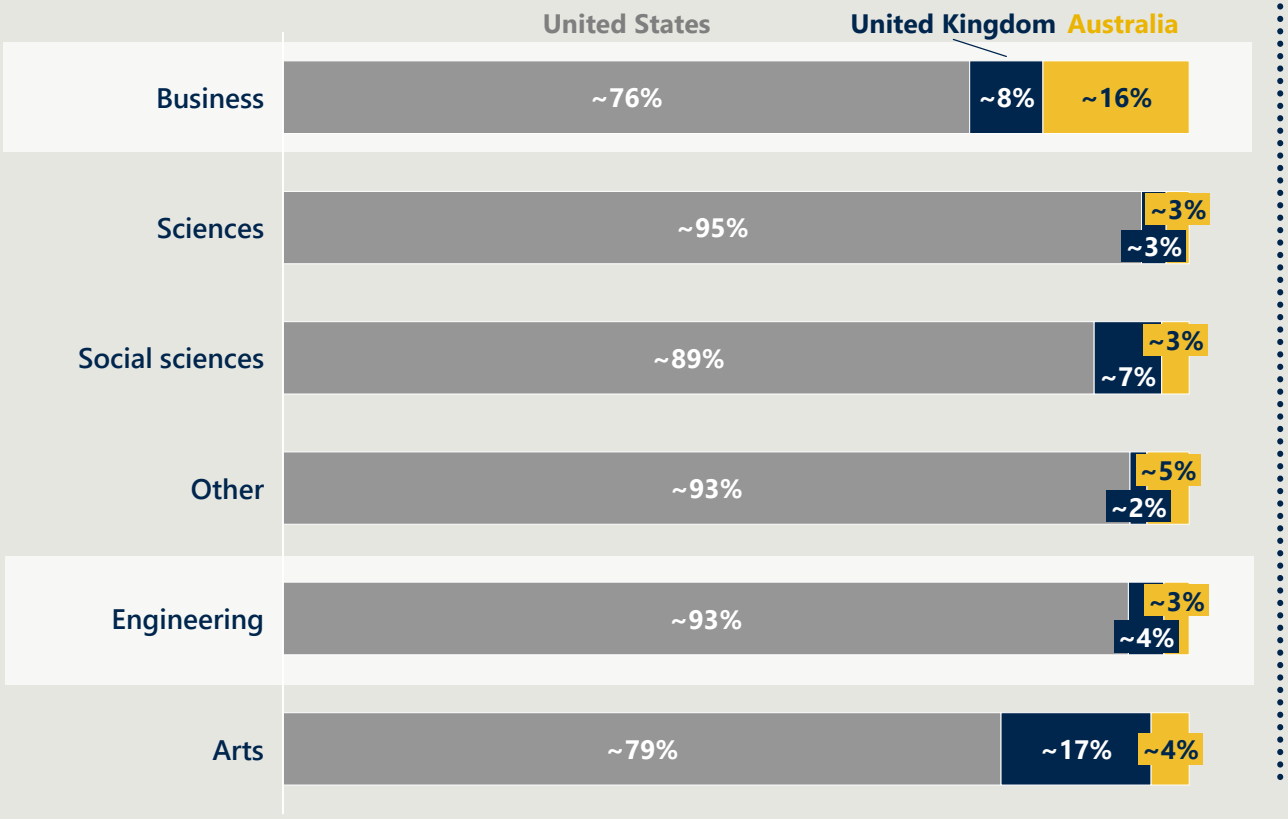
	Business	Science / Social sciences / Other	Engineering	Arts
What else do we know about these students	• **Clear preference for UG study –** with around 70% of the largest South Korean segment studying at UG level. • **Lesser emphasis on highly ranked universities –** with only 23.5% of those study studying in Australia at a Go8 and 43.7% in the UK studying at a Russell Group university. Of all UK and Australian students in this segment, two-thirds study at a top 500 university (lower than other South Korean fields). • **Attraction to certain established destination countries is high, particularly for the US –** like other South Korean segments, Business students display high preferences for the US over other established destination countries with 56.3% of students US bound.	• **Skewed towards UG study –** with more than 60% of students across the three above fields studying at this level in the UK and Australia. • **Broad preference for high quality institutions –** for Sciences and Social Sciences, with more than 90% of students studying in Australia and the UK studying at a top 500 university. While the concentration towards Russell Group universities is clear (>78%), this applies less to Australian inbound students, where the proportion of Go8 universities ranges for each of the above three fields. This proportion is highest for Social Sciences students at 47%, followed by Science students (36.1%).	• **Mixed study level –** with a slight preference to UG study (around 60%). • **Quality institutions (based on Australia and UK) –** with around 50% Australian bound students studying at a Go8 university. Of those in the UK over 80% study at a Russell Group university. In both countries over 90% of South Korean Engineering students study at an institution in the Top 500. • **Attraction to established destination countries, mainly the US –** which is estimated to have over 50% share of the segment.	• **UG study –** with two-thirds of Arts students studying at this level. • **UK/US preference, with city as a driver –** greater student flow to the UK (13%) compared to Australia (4%). We estimate that 72% of students going to the UK study in London. • **Lesser emphasis on rankings –** a comparably low proportion of students study at a top 500 institution (only 33% of all South Korean Arts students in Australia or the UK).

Source: Nous global student flow integrated dataset Layer 3, with particular sue of UK (HESA) and Australia (HEIMS) enrolment data. For Business key institution destinations include Monash, University of Melbourne, followed by other top 500 institutions – Murdoch University, University of Wollongong, University of Newcastle and Macquarie.

Australia performs strongest in Business relative to other 'established' competitors

Across all fields, the United States is the dominant destination with estimated share of over 90% of inbound students to these top three global international education destinations.

Australia's relative performance against other 'established' destination countries, by field of study, 2017 (share of top 3 destinations only)



Australia performs strongest in **Business** for the South Korean market.

Australia is a smaller destination than the UK, while the US dominates the South Korean market in these fields.

The US is the key destination for South Korean **Engineering** students.

The UK performs comparably strongly in **Arts** subjects relative to other fields, but the US is still by far the key destination.

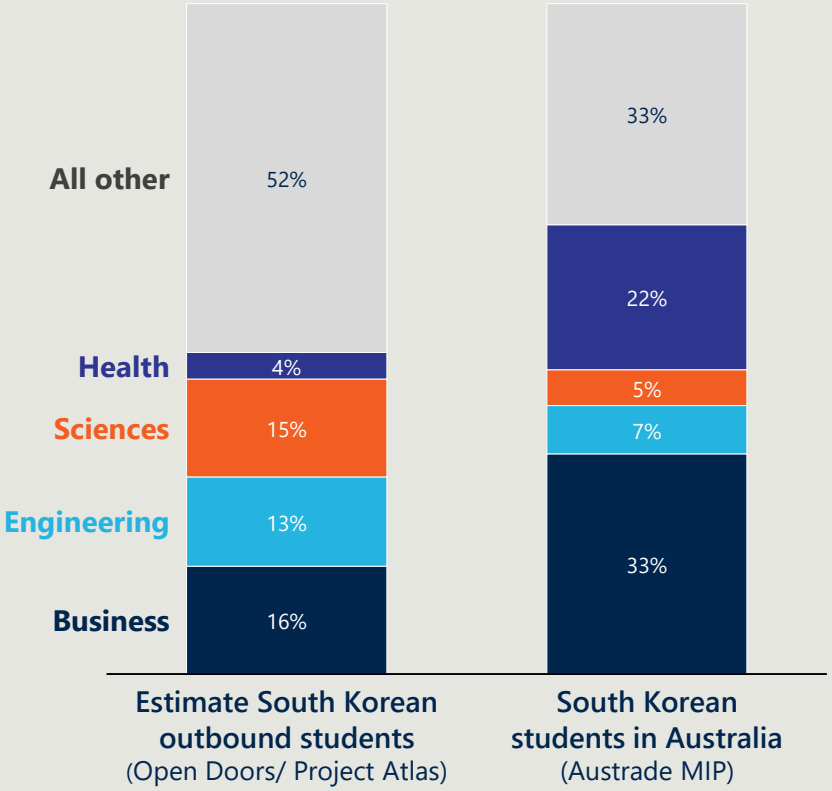
Source: Nous global student flow integrated dataset Layer 2 and 3, based on publically available Open Doors data for the United States, and national data for the United Kingdom (HESA) and Australia (Austrade MIP). Note: the information presented is only for the three 'established' destination countries, with no calculation of 'other' or estimated market share. As South Korea is not in the top 10 source countries for Australia or the UK, Layer 3 has had to be used.

South Korean preferences for study in Australia are not reflective of broader global study trends

Health and Business are comparable areas of strength for Australia…

…but Australia performs less strongly in STEM field (Science and Engineering) which are growing globally.

South Korean students by field of study, South Korean global estimate and Australian inbound students, 2017



Global product preferences

The South Korean market is **fairly evenly distributed** across most fields of study – but **Business** is the largest at 16%, followed by **Sciences** at 15% and **Engineering** at 13%.

Global trends

Business is declining, while **Sciences is growing** as a share of all Korean outbound students.

Alignment to Australia's trends

32% of all South Korean students in Australia studied **Business** in 2018 – and this had declined as an overall share of total in recent years.

Health is second largest field of study in Australia (22%) and has had the largest net growth **Sciences** are only 5% of Australian inbound numbers (compared to global 15%).

Source: Nous global student flow integrated dataset Layer 2. Global estimate based on the seven countries where detailed comparative data is available – including the US, and the UK. As South Korea is not in the top 10 source countries for Australia, Layer 3 (MIP) data has had to be used. Humanities and Maths and Computer Science are larger fields than Health globally, but have been included in 'all other'.

Section 2D – NIGERIA

This section presents information on Nigerian tertiary students – including product preferences, detail on student decision drivers, changes in source country preference an assessment of the relative performance of Australia in the Nigerian market.

Engineering is the largest student segment for Nigeria and is the only segment in the top 50 global student segments

Engineering students tend to be attracted to neighbouring low pulling power destinations and the United Kingdom…

…with other fields of study also making up large shares of the total Nigerian outbound numbers.

Students from Nigeria study…

Estimated share of all global Nigeria students, 2017

Change in share, 2014 to 2017

Engineering

~26%

Increase by **8 p.p.**

Other segments not in global top 50:

Business	Health	Math/ Computer	Science
~20%	~13%	~12%	~6%

…student from these segments tend to…

*…study at both **UG and PG levels.***

*…be attracted to **non-major destinations** and **low pulling power destinations.***

What else do we know about these students

- **PG preference –** with 55% studying at this level.
- **Preference for the UK and low pulling power destinations –** with the UK a key destination, but collectively the top three established destinations making up a relatively low share.
- **Moderate emphasis on institutional reputation –** with 38.5% of Nigerian students studying in Australia studying at a Go8 (in lines with average), while 25.9% of students studying the UK study at a Russell Group university (below average of 45% for global student segments).

Overall Nigerian tertiary flows are to:

- **United Kingdom** (17%)
- **Malaysia** (16%),
- **Neighbouring African destinations –** Ghana (13%) and Benin (8%)
- **North America –** the United States (12%) and Canada (6%).

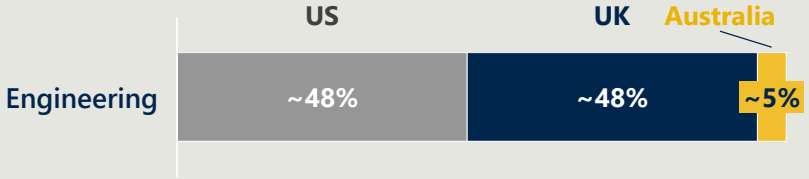
Source: Nous global student flow integrated dataset Layer 2, based on Project Atlas and Open Doors data for seven key destinations where comparable data was available. Clustering based on Layer 3 and additional data as outlined elsewhere in the document. Note: Engineering was the only segment from Nigeria in the global top 50 and has been included in the cluster analysis.

Australia does not perform as well as competitors attracting Nigerian higher education students

Australia performs poorly in this segment, with Engineering representing a small share of inbound Nigerian students…

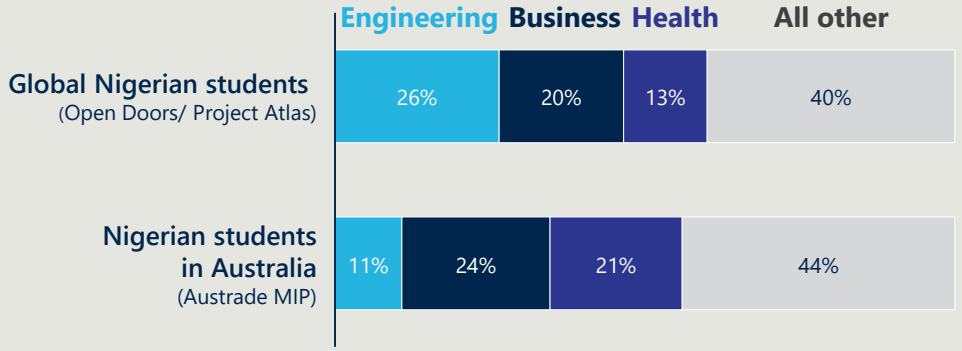
…Business as a share of total is broadly in line with global trends, while Health is an area of strength.

Australia's relative performance against other 'established' destination countries, for Engineering, 2017 (share of top 3 destinations only)



Australia's share is very small, with the UK on par with the US in this segment. It is estimated the three destinations account for around 20% of global mobility.

Nigerian students by field of study, Nigerian global estimate and Australian inbound students, 2017



Global product preferences

Nigeria has a relatively high proportion of **Engineering (26%)** and **Business students (20%)**, but students are also distributed amongst other fields.

Global trends

Engineering is increasing as a share from 18.5% in 2014, to 26.5% in 2017.

Alignment to Australia's trends

Business students make up 24% of all Nigerian students studying in Australia. This has been consistent across recent years.

Health is also a large field of study for Nigerian students in Australia – making up 21% of all Nigerian students.

Source: Nous global student flow integrated dataset Layer 2 and 3, based on publically available Open Doors data for the United States, and national data for the United Kingdom (HESA) and Australia (Austrade MIP). Note: the information presented is only for the three 'established' destination countries, with no calculation of 'other' or estimated market share. As Nigeria is not in the top 10 source countries for Australia, Layer 3 has had to be used.

Section 3 – Differences between developing and mature source countries

This section focuses on the difference in product preferences between mature source countries and newly developed source countries. This includes differences in field of study as well as the types of institutions that attract students from each type of source country.

There are not significant differences in the preferences for field of education between newly developed countries and mature countries

There do not appear to be significant differences between different source countries, with the top two global fields (Business and Engineering) representing a similar share of all students.

Source countries can be categorised into mature or newly based on emergent growth...

Mature source countries...

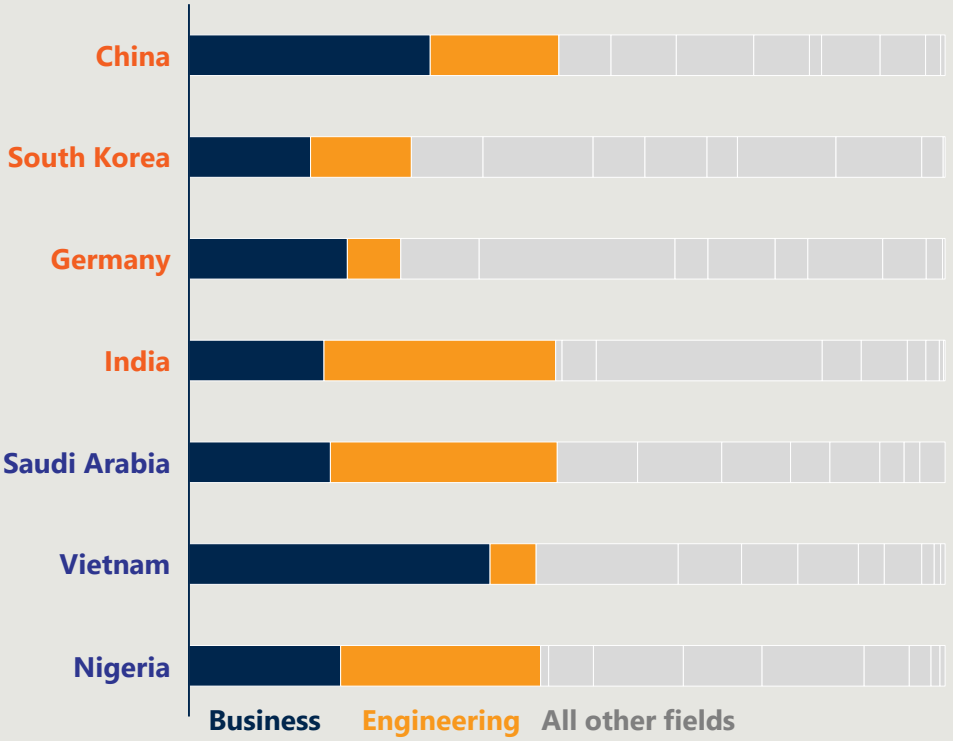
...where there is a consistently high number of outbound students. This includes China and India (which continue to grow), as well as South Korea and Germany (who have experienced reduced outbound students).

Newly developed source countries...

...where the countries have recently emerged as top source countries. This includes countries such as Nigeria, Saudi Arabia and Vietnam. All have displayed a CAGR greater than 10% in recent years.

... with analysis of field preference showing that there are not significant different in field preferences for mature and emerging source countries.

Higher Education students by country and field of education, for key global destination countries, 2017



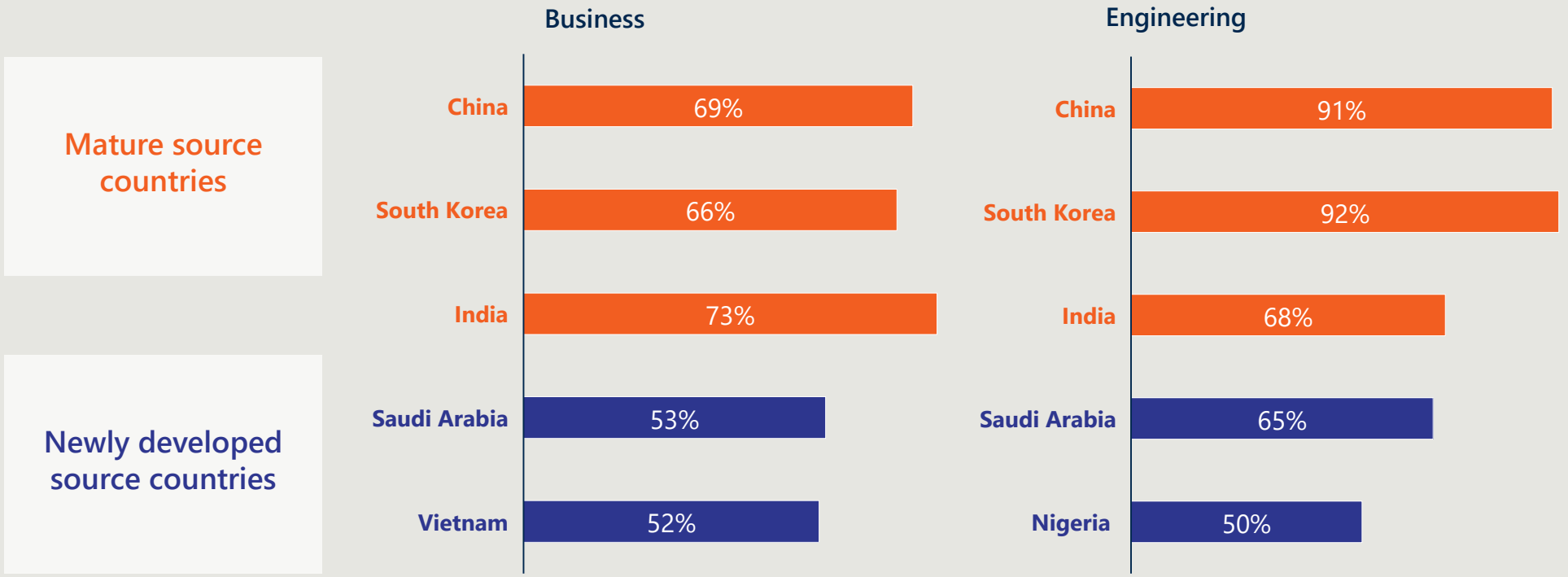
Source: Nous global student flow integrated dataset Layer 2 and 3, based on publically available Open Doors data for the United States and Project Atlas data for the six other key destination countries.

There are however differences in the quality or reputation of the higher education institutions students from these countries study at

A larger proportion of outbound students from mature source countries attend higher quality institutions compared to outbound students from newly developed source countries.

The proportion of students in a key global student segment studying in a top 500 university is higher than for mature source countries compared to newly developed source countries, when considering inbound students to Australia and the UK. Across all fields, mature source countries typically have a proportion higher than 65%, with newly developed countries have a lower proportion. A summary for the two largest fields are shown below for source countries where the data is comparably available.

Proportion of higher education students in the UK and Australia studying at a Top 500 Institution, 2017



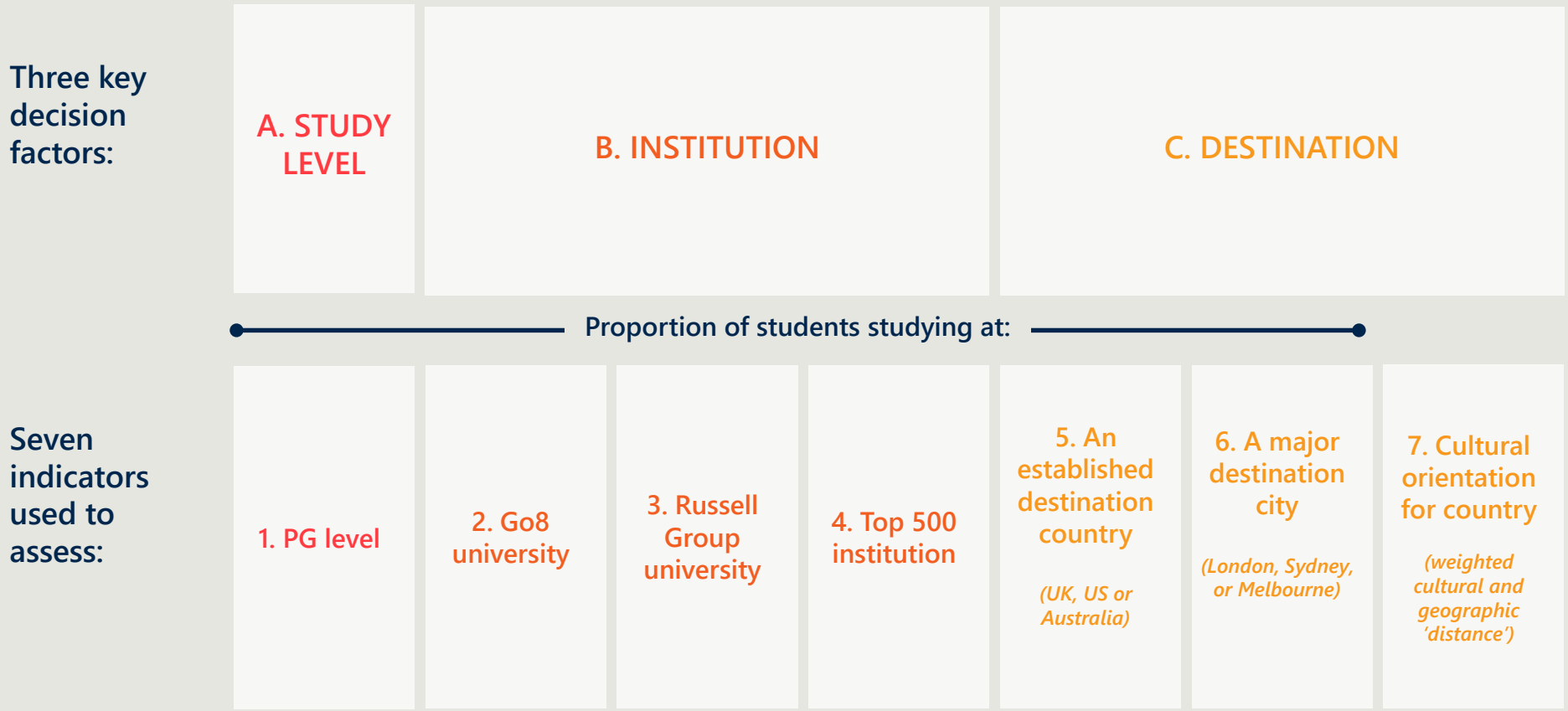
Source: Nous global student flow integrated dataset Layer 2 and 3, based on publically available Open Doors data for the United States and Project Atlas data for the six other key destination countries. Top 500 institution based on Shanghai rankings. Note: Data limitations has meant more source countries have not been included. South Korea is an exception to mature source countries across all fields having higher proportion studying at top 500 institutions – with Arts students typically studying at institutions that are outside the global top 500 institutions.

Section 4 – Classifying key global student segments

This section classifies the identified top 50 student segments based on key student decision drivers. This includes consideration of study destination, institution quality and level of study. This may provides a useful heuristic to understand and categorise student segments based on where they study going forward.

Analysis and information presented to date has been underpinned by a cluster analysis of three key student decision factors

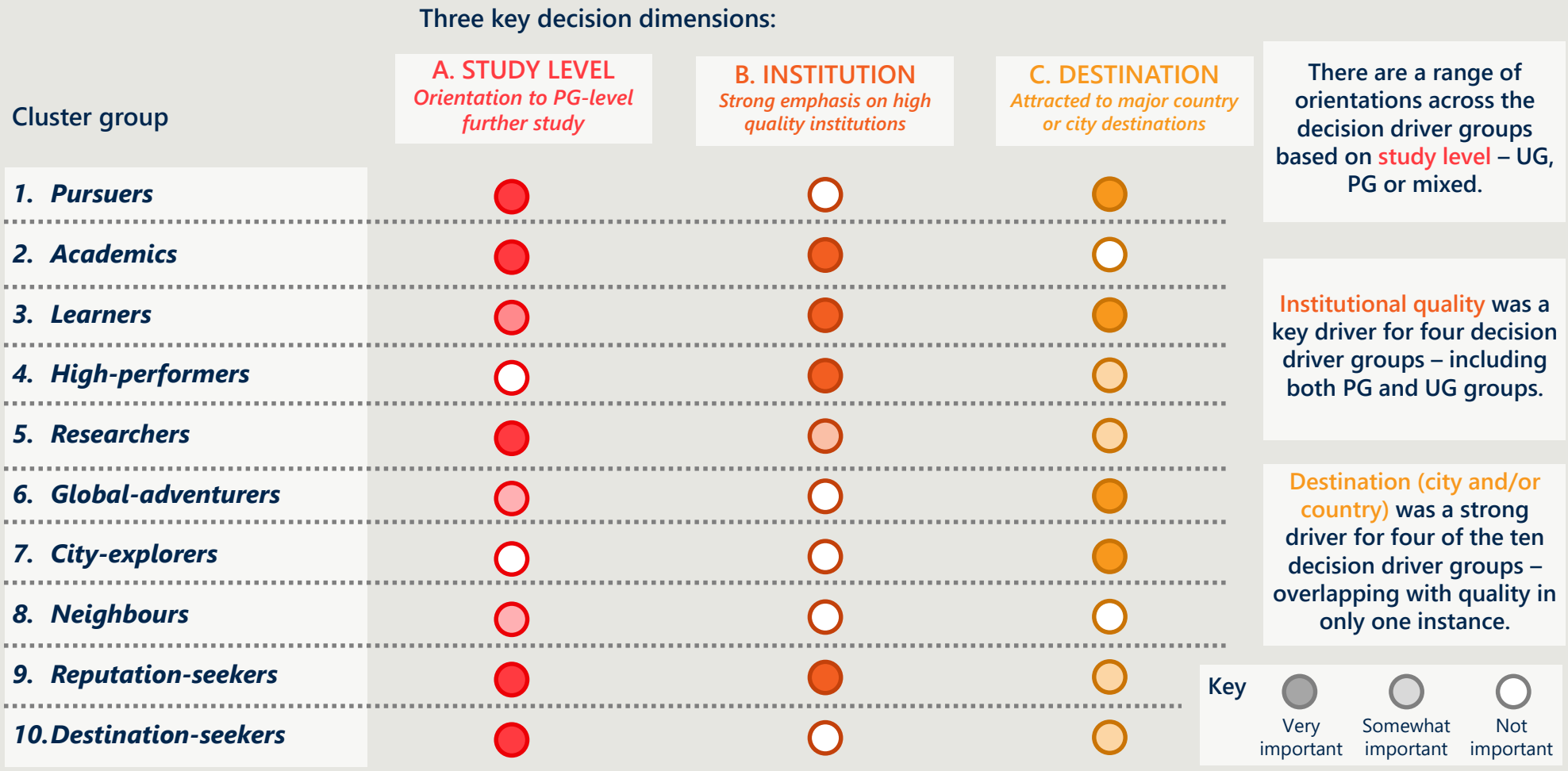
Seven variables have been used to operationalise these to understand the nature of different student segments (country + field of study) through available student mobility data.



Note: Details of the full methodology are available in **Appendix B – Methodological considerations for student decision driver analysis.** There were some limitations in the student decision factors methodology based on inconsistent availability of data across different destination countries. For this reasons the classification is primarily based on UK and Australian inbound students to determine study level, institution and city destination. These are also outlined in **Appendix B.** See Case study #3 for full 'Pulling Power' methodology.

This analysis may provide some insight on which of the three factors is most common as a driver for each group

Key global student segments have been classified based on critical student decision factors. Seven variables have been identified to operationalise the three key student decision making factors.



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Ten key groups emerge through the clustering based on where the segment cohort have similar characteristics

Information is presented on what students from each of the top 50 segments 'tend to be' based on the seven factors and outline similarities and differences in the nature of these key global segments.

Cluster group	Students in these groups tend to be	Estimated proportion	Alignment of key source country fields of study
1 'High-performers'	**UG skewed segments** with preference for towards **quality institutions** and/or **established** and other destinations	6%	Malaysia – Engineering; **South Korea –** Sciences; **South Korea –** Social Sciences
2 'City-explorers'	**UG skewed segments** with orientation to **global cities in established destinations** (and lesser quality focus)	2%	Nepal – Maths; **South Korea –** Arts
3 'Neighbours'	**UG** and mixed study level with orientation **towards non-major destinations** and **low pulling power destinations**	22%	Uzbekistan – Business; Nepal – Business; India – Health; Pakistan – Business; **Nigeria –** Engineering; Vietnam – Humanities; Kazakhstan – Business; Ukraine – Business
4 'Pursuers'	**PG** oriented students with strong preference for **established destination countries**	10%	**China –** Business; **India –** Business; **India –** Engineering; **India –** Maths
5 'Academics'	**PG** oriented students with emphasis on **quality education**	5%	**China –** Education; **India –** Social Sciences; **India –** Sciences; Saudi Arabia – Sciences
6 'Learners'	**Mixed study level** with orientation towards **quality institutions** in **established destination countries**	9%	**China –** Engineering; **China –** Maths; **China –** Sciences; **China –** Social Sciences; **China –** Health; **South Korea –** Engineering
7 'Researchers'	**Strong PG** oriented segments moderate preference for **established education destination countries** and **quality**.	12%	Kuwait – Engineering; **South Korea –** Business; Hong Kong – Business; Malaysia – Business
8 'Global-adventurers'	**Mixed study level** with strong **travel orientation** (i.e. high pulling power destinations)	10%	Vietnam – Business; Saudi Arabia – Business; Saudi Arabia – Engineering; **China –** Arts
9 'Reputation-seekers'	**PG** skewed segments with **mixed destination**, but emphasis on **quality for those studying in established countries**	15%	**China –** Humanities, United States – Humanities, Kazakhstan – Humanities, Germany – Sciences, Kazakhstan – Engineering; Ukraine – Engineering; Iran– Engineering
10 'Destination seekers'	**PG** skewed segments with **mixed destination**, with **lesser emphasis on quality** where studying in established countries	9%	Turkmenistan – Business; Belarus – Business; Uzbekistan – Engineering.

Analysis has occurred at the country-field segment level as opposed to identifying market segments within each country.

Note: Full information on the groupings is presented in **Appendix C – Outputs from the cluster analysis**. Full information on this approach is presented in **Appendix C.** Top global source countries are highlighted and are explored individually in further detail in the sections that follow. Full identification and clustering of individual market segments may represent an **area for further research** but was not possible within the scope of this project or with data available**.**

Appendices

The appendices includes:

A. Full summary of identified global student segments
B. Methodological considerations for student decision driver analysis
C. Full presentation of global student segment cluster groupings
D. Further information on student decision driver groups

Nous used inbound mobility data to identify and define the key global market segments for higher education

Appendix A – Full summary of identified global student segments

Inbound global mobility data has been used as a basis to determine the key student drivers for these segments through cluster/grouping analysis.

Project Atlas provides a detailed breakdown of inbound mobility for **2012-2017** by source country and field of study for each destination country. The dataset provides counts for the top ten source countries for each field of study.

To identify the key global market segments for higher education, we relied on two proxies:

1. The total number of students for each country-field
2. The number of times the country-field appeared in the destination country's top ten for each field of study.

Inbound information for the following seven destination countries were - Australia, United States, United Kingdom, Russia, Japan, Germany, and Chile. This was based on where complete data was available, but includes the top five destination countries.

The top 50 global student segments (based on the data available for these seven source countries) represents approximately 20% of global student mobility.

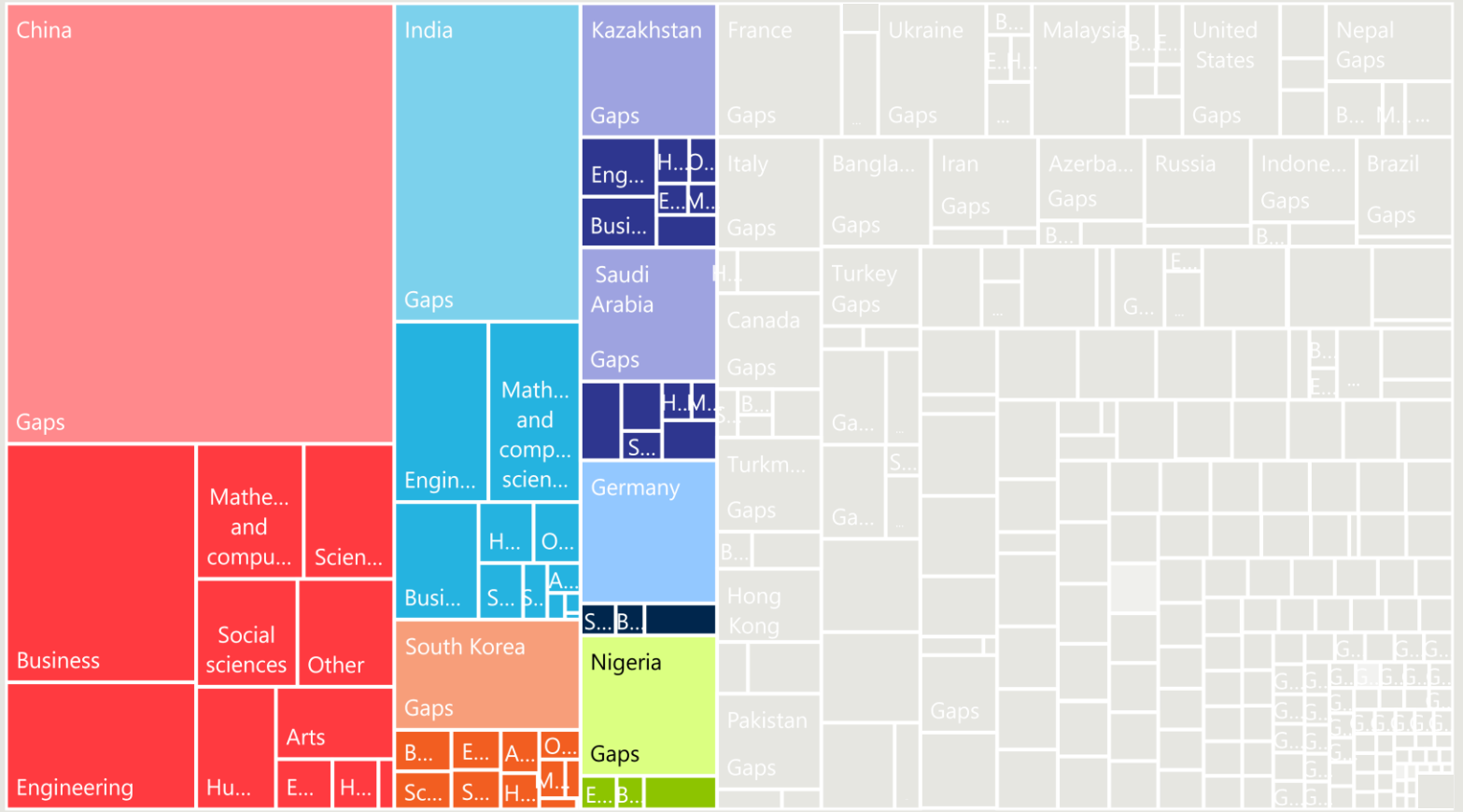
The top 50 global student segments accounts for around 45% of inbound student segments that were identified through Project Atlas and Open Doors data. In total over 150 source country-field segments were identified.

Source: Nous global student flow integrated dataset Layer 2 and 3, based on publically available Open Doors data for the United States and Project Atlas data for the six other key destination countries.

Available data provides reasonable detailed coverage for most key source countries

UNESCO and Project Atlas provide sufficient high level information to understand macro-trends, with detailed data from Australia, the United Kingdom and the United States used to supplement this later in the document.

Appendix A – Full summary of identified global student segments



The total area is determined by Layer 1 – based on UNESCO data. This represents the *estimated addressable market.*

Layer 2 – through Project Atlas and Open Doors fills gaps with detail on field of study. This represents the *reputed addressable market.*

As an example, Layer 2 FOE detail is available for around 50% of Chinese outbound numbers

Source: Nous global student flow integrated dataset Layer 1, based on modelled UNESCO student mobility data and Layer 2 – based on Project Atlas data and Open Doors data (US). Note: 'Gaps' indicated by light shades refers to the estimated students numbers (based on Layer 1 – UNESCO) that information is not available for on field of study. The information of field of education is based on Project Atlas and Open Doors data for the seven key inbound destination comparable data is available for – noting information is only available for the top 10 source countries for each destination country.

Top 50 global segments based on source country and field were identified based on 2017 student mobility data

Appendix A – Full summary of identified global student segments

Global student segments (2017)	Frequency of top 10 placement for a destination country*	Number of students	Proportion of respective source country's total cohort**
China_Business	6	221,013	26.50%
China_Engineering	6	117,728	14.11%
India_Engineering	5	82,811	28.69%
India_Mathematics and computer science	5	80,797	27.99%
China_Mathematics and computer science	6	71,052	8.52%
China_Sciences	6	59,654	7.15%
China_Social sciences	6	53,390	6.40%
China_Other	6	50,896	6.10%
India_Business	5	48,259	16.72%
China_Arts	6	41,744	5.00%
China_Humanities	4	35,395	4.24%
Vietnam_Business	3	24,068	30.20%
Kazakhstan_Engineering	1	21,970	24.61%
Kazakhstan_Business	1	18,815	21.07%
India_Health professions	5	16,393	5.68%
Saudi Arabia_Engineering	1	15,788	17.74%
Nepal_Business	2	15,339	31.72%
India_Other	5	13,978	4.84%
China_Education	6	13,831	1.66%
China_Humanities	1	12,335	1.48%
United States_Other	3	12,330	19.36%
India_Sciences	5	12,258	4.25%
South Korea_Business	2	11,622	11.65%
China_Health	6	11,285	1.35%
South Korea_Sciences	2	10,532	10.55%

Global student segments (2017)	Frequency of top 10 placement for a destination country*	Number of students	Proportion of respective source country's total cohort**
Vietnam_Humanities	1	9,891	12.41%
Saudi Arabia_Business	1	9,843	11.06%
South Korea_Engineering	2	9,628	9.65%
South Korea_Social sciences	2	9,442	9.46%
Malaysia_Business	3	8,729	14.00%
South Korea_Arts	2	8,191	8.21%
Hong Kong_Business	2	7,800	21.00%
Malaysia_Engineering	3	7,662	12.29%
Kazakhstan_Humanities	1	7,467	8.36%
United States_Humanities	2	7,151	11.23%
Ukraine_Business	2	7,108	10.10%
Belarus_Business	1	6,858	28.06%
Iran_Engineering	1	6,726	14.19%
India_Social sciences	5	6,644	2.30%
Uzbekistan_Business	1	6,519	20.31%
Pakistan_Business	1	6,359	13.06%
Turkmenistan_Business	1	6,339	13.26%
Kazakhstan_Other	1	6,235	6.98%
Nepal_Mathematics and computer science	3	6,041	12.49%
Uzbekistan_Engineering	1	5,998	18.68%
South Korea_Other	2	5,933	5.94%
Nigeria_Engineering	2	5,926	6.34%
Saudi Arabia_Sciences	1	5,849	6.57%
Kuwait_Engineering	1	5,689	25.19%
Ukraine_Engineering	2	5,621	7.99%

Source: Nous global student flow integrated dataset Layer 2 and 3, based on publically available Open Doors data for the United States and Project Atlas data for the six other key destination countries.

The top 50 global segments were also identified for 2014 to identify key changes over the most recent four years

Appendix A – Full summary of identified global student segments

Global student segments (2014)	Number of students
China_Business	210,845
China_Engineering	94,702
China_Other	50,383
India_Engineering	48,628
China_Mathematics and computer science	45,720
China_Social sciences	43,522
India_Mathematics and computer science	34,758
China_Sciences	34,541
China_Humanities	34,141
China_Arts	28,627
India_Business	28,093
South Korea_Business	18,192
Vietnam_Business	14,703
South Korea_Other	14,519
India_Sciences	13,820
Saudi Arabia_Humanities	13,507
Saudi Arabia_Engineering	12,550
Turkey_Engineering	11,480
South Korea_Social sciences	11,113
South Korea_Engineering	10,828
China_Health professions	10,768
South Korea_Arts	10,572
United States_Other	10,510
China_Education	9,780
Saudi Arabia_Business	8,991

Global student segments (2014)	Number of students
South Korea_Humanities	8,714
India_Health professions	8,637
Malaysia_Business	8,486
Germany_Business	7,604
Malaysia_Engineering	7,109
United States_Humanities	6,981
India_Other	6,803
Nepal_Business	5,901
South Korea_Sciences	5,848
Turkey_Mathematics and computer science	5,768
Turkey_Business	5,737
Iran_Engineering	5,709
South Korea_Health professions	5,463
United States_Social sciences	5,447
Nigeria_Business	5,250
Taiwan_Business	5,227
Canada_Other	5,203
Saudi Arabia_Other	5,149
France_Business	5,114
Japan_Other	5,085
Ireland_Health professions	4,415
India_Social sciences	4,373
Saudi Arabia_Mathematics and computer science	4,354
Indonesia_Business	4,352
Malaysia_Health professions	4,303

Source: Nous global student flow integrated dataset Layer 2 and 3, based on publically available Open Doors data for the United States and Project Atlas data for the six other key destination countries.

Classification of key global student segments provides insight on student mobility drivers – with segments classified based on critical student decision factors

Appendix B – Methodological considerations for student decision driver analysis

Variable type	Rationale	Variable	Operationalised
A. STUDY LEVEL	Level of study (UG or PG) is likely to be a key factor that impacts where a student will choose to study and an important factor in characterising the decision factors of key global student segments.	**1. Proportion of students studying at UG level**	For each global key segment, the level preference (UG or PG) was determined by the number of outbound students entering Australia and the UK as a proportion of the total volume of students entering either destination country.
B. INSTITUTION	Provider type is a key driver for students in choosing to study abroad. Consideration of this is a key factor in categorising the identified key student segments. The key focus is on institutions with a high quality reputation (acknowledged through university groupings or rankings).	**2. Proportion of students studying at a Go8 university**	For each global key segment, this proportion was calculated by determining the number of students studying at a Go8 university as a percentage of the total number of inbound students entering Australia.
		3. Proportion of students studying at a Russell Group university	For each global key segment, this proportion was calculated by determining the number of students studying at a Russell Group university as a percentage of the total number of inbound students entering the UK.
		4. Proportion of students studying at a Top 500 ranked institution	For each global key segment, this proportion was calculated by determining the number of students studying at an Australian or UK top 500 university as a percentage of the total number of inbound students entering Australia and the UK.
C. DESTINATION	**City destination preference –** City destination has been identified as a key pull factor for students when choosing to study overseas.	**5. Proportion of students studying at a major city destination**	For each global key segment, this proportion was calculated by determining the number of students studying at a university located in Sydney, Melbourne and London as a percentage of the total number of inbound students entering Australia and the UK.
	Country preference – Country destination is also identified as a key pull factor for international students in their choice to study abroad and where to study.	**6. Percentage of students studying at a "Global International Education Destination country"**	For each global key segment, this percentage was calculated by determining the number of inbound students entering Australia, the UK and the US as a percentage of the total number of inbound students across all destination countries. The total number of inbound students was estimated based on UNESCO and Project Atlas/Open Doors data.
	Cultural orientation (inverse of 'pulling power') – The prevalence/likelihood of the students to travel to geographically and culturally distant locations is also a key student choice driver.	**7. Weighted average on cultural/geographic difference based on study destination country**	Source country 'orientation' has been assessed based on a weighted cultural and geographic 'distance' score based on enrolments by destination country. This is also a reverse measure for 'Pulling Power' – i.e. prevalence to travel to 'distant' international education destinations.

Note: Variables 1-7 relied on HEIMS, PRISMS and HESA data to determine inbound student flow to Australia and the UK. Variable 7 has been assessed as the same for each student segment from the same country and has not been differentiated by field. There were some limitations in the student decision factors methodology based on inconsistent availability of data across different destination countries. These are outlined overleaf. See Case study #3 for full 'Pulling Power' methodology.

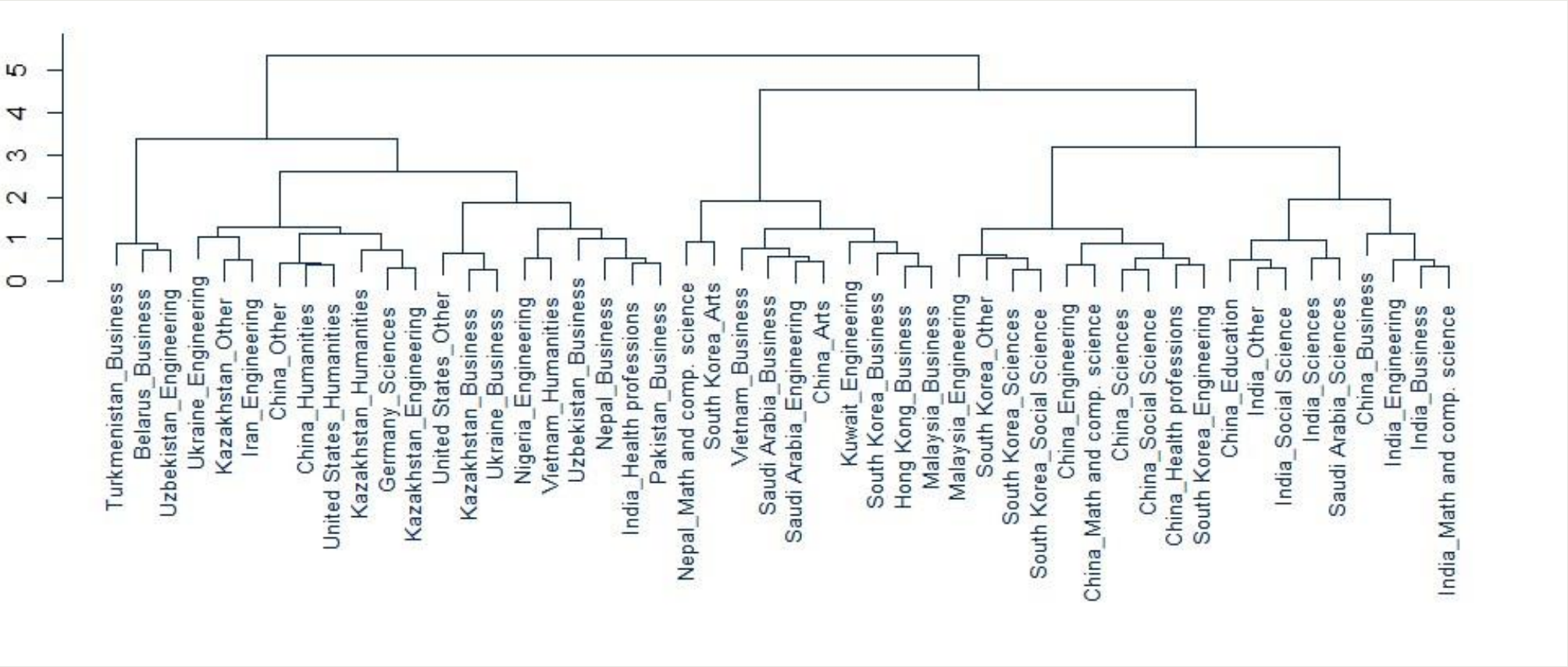
There were a range of limitation in the approach used due to the granularity of data consistently available; a preferred approach (data limitations notwithstanding) is outlined below

Appendix B – Methodological considerations for student decision driver analysis

Variable type	Variable	Limitation	Preferred approach
A. STUDY LEVEL	1. Proportion of students studying at UG level	Due to available data, the level preference of the global student segment was based on UK and Australian enrolment data (HESA and MIP respectively). This does not take into account the level of study for other key destinations – most notably the United States. Granularity of Open Doors data was a particular restriction for this.	Use of further destination country trends to identify the level of study preference for each key global segment.
B. INSTITUTION	2. Proportion of students studying at a Go8 university	Currently these two variables are based on the proportion of inbound students to Australia studying at a Go8 university and the proportion of inbound students to the United Kingdom studying at a Russell Group University. This is a limitation as it does not account for the proportion of students at a high quality institution as a share of all global student mobility for that segment. It also does not consider 'high quality' US institutions.	Measure would reflect Go8 and Russell Group students as a proportion of total mobility for that segment. 'Ivy League' or similar US university grouping would also be used.
	3. Proportion of students studying at a Russell Group university		
	4. Proportion of students studying at a Top 500 ranked institution	As above, top 500 institution refers to the proportion of UK and Australian inbound student studying at a top 500 institution.	This would represent Top 500 institution destinations as a proportion of all students in the segment, inclusive of all relevant destination countries (not just the US and UK).
C. DESTINATION	**City destination preference** 5. Proportion of students studying at a major city destination	This measure currently refers to the proportion of inbound students to Australia studying in Melbourne and Sydney and the proportion of inbound student to the UK studying in London. This does not include Vancouver, New York (major East coast) or Los Angeles (major West coast) due to available national level data for the United States and Canada.	Proportion of students studying at a global destination city (New York/Boston, Los Angeles, Vancouver, London, Sydney and Melbourne) as a proportion of total international students for the segment.
	Country preference 6. Percentage of students studying at a "Global International Education Destination country"	This measure refers to the proportion of students in this segment studying at an 'established' destination country – the United States, United Kingdom or Australia – as a proportion of all students. There are no limitation with this measure.	n/a
	Cultural orientation (inverse of 'pulling power') 7. Weighted average on cultural/geographic difference based on study destination country	Source country 'cultural orientation' has been assessed based on a weighted 'distance' score based on enrolments by destination country. Information was not available to consistently break this down for each field of education/student segment. Therefore, this value is the same for each segment from the same country, despite some differences in preference for destination.	Cultural orientation based on a weighted average of 'pulling power' based on the study destination for the segment (as opposed to study destination for source country overall).

The cluster methodology provides a set of groupings of similar student segments based on the key decision drivers of students

Appendix C – Full presentation of global student segment cluster groupings



Clusters were categorised based on extent of difference from the mean for each variable

Appendix C – Full presentation of global student segment cluster groupings

Classification was calculated using the following method.

1. Identified the median for each variable.
2. Calculated the +/- % from the median
3. Classified based on difference from the median for each variable (see right hand side)

Each cluster was classified based on the following values:

- Greater than +50% - **Very high**
- Between +50% and +25% - **High**
- Between +25% and +0% - **Medium**
- Between +0% and -25% - **Medium Low**
- Between -25% and -50% - **Low**
- Lower than -50% - **Very low**

Grouping	Level of study (UG)	Go8	Russell Group	Global top 500	Major cities	Global International Education Destination country	Pulling power
1. Pursuers	-42%	-30%	-16%	-8%	1%	57%	1140%
2. Academics	-41%	33%	44%	6%	6%	41%	28%
3. Learners	5%	19%	91%	17%	-16%	27%	383%
4. High performers	49%	7%	88%	16%	8%	5%	-11%
5. Researchers	65%	-47%	-14%	-10%	-17%	5%	-39%
6. Global explorers	1%	-8%	-34%	-22%	10%	24%	149%
7. City explorers	25%	-48%	-89%	-60%	81%	44%	-42%
8. Neighbours	44%	-56%	-19%	-18%	1%	-93%	-69%
	-23%	8%	-29%	-21%	3%	-71%	-50%
	-6%	-55%	-40%	-5%	36%	-39%	-61%
	-63%	28%	58%	20%	0%	-86%	-58%
9. Reputation seekers	-1%	34%	52%	16%	-26%	-58%	61%
10. Destination seekers	99%	-13%	-100%	9%	3%	-100%	-100%

The ten groups are based on a detailed assessment of the similarity of the global student segments across the seven variables. This provides a robust assessment of the ten groups.

Appendix C – Full presentation of global student segment cluster groupings

	Grouping	Level of study (UG)	Go8	Russell Group	Global top 500	Major city*	'Established' destination country	Pulling power
1	**Pursuers –** PG oriented students with strong preference for established destination countries	Low	Low	Medium-Low	Medium-Low	Medium	Very High	Very High
2	**Academics –** PG oriented students with emphasis on quality education ("Researchers")	Low	High	High	Medium	Medium	High	High
3	**Learners –** Mixed study level with orientation towards quality institutions in established destination countries	Medium	Medium	Very High	Medium	Medium-Low	High	Very High
4	**High-performers –** UG skewed segments with preference for towards quality institutions and/or established and other destinations	High	Medium	Very High	Medium	Medium	Medium	Medium
5	**Researchers –** Strong PG oriented segments moderate preference for established education destination countries and quality.	Very High	Low	Medium-Low	Medium-Low	Medium-Low	Medium	Medium-Low
6	**Global-adventurers –** Mixed study level with strong travel orientation (i.e. high pulling power destinations)	Medium	Medium	Low	Medium-Low	Medium	Medium	Very High
7	**City-explorers –** UG skewed segments with orientation to global cities in established destinations (and lesser quality focus)	High	Low	Very Low	Very Low	Very High	High	Low
8	**Neighbours –** UG and mixed study level with orientation towards non-major destinations and low pulling power destinations	Medium	Very Low	Low	Medium-Low	High	Very Low	Very Low
		Medium-Low	Medium	Low	Medium-Low	Medium	Very Low	Very Low
		High	Very Low	Medium-Low	Medium-Low	Medium	Very Low	Very Low
9	**Reputation-seekers –** PG skewed segments with mixed destination, but emphasis on quality for those studying in established countries	Medium-Low	High	Very High	Medium	Low	Very Low	Very high
		Very Low	High	Very High	Medium	Medium	Very Low	Very Low
10	**Destination-seekers –** PG skewed segments with mixed destination, with lesser emphasis on quality where studying in established countries	Very High	Medium-Low	Very Low	Medium	Medium	Very Low	Very Low

Note: 'Major city' refers to preference for Sydney, Melbourne or London for students studying in Australia or the UK. Classification of the variables for the clusters (i.e. high/medium/low) have been based on a calculation of the average for the cluster and a comparison against the median value for the top 50 student segments for each variable.

Further information on other Chinese segments is presented below

Appendix D – Further information on student decision driver groups

	Arts	Humanities	Other	Education
What else do we know about these students	• **Mixed study level –** with around 50% in PG level, 42% at UG, and 7.6% in "other". • **Strong travel orientation to high pulling power destinations –** including Australia, the UK, and the US. • **Major destination cities is a moderate decision driver –** with **43% of inbound students coming to Australia study in Melbourne or Sydney –** broadly aligned with the global segment average. 36% of inbound students in the UK study in a university located in London (10% higher than the median). • **High quality institutions are not a major decision driver –** with the proportion of students attending a Go8 or Russell Group university broadly in line with the global segment median (noting that other segments in this cluster have very low rates – i.e. Vietnam Business).	• **Variety of country of study destinations –** with a relatively low proportion estimated to be studying in the top three education destinations – Australia, the UK or the US. In Australia a relatively high proportion study in Sydney or Melbourne – 50% of total students. • **For those in established destinations top quality universities appears key –** with 80% of students studying humanities in Australia or the UK studying at a top 500 university – higher than the median for all segments. This is particularly key for the UK, where 60% of students studying humanities are at a Russell Group university (compared to the median of 40%).		• **Visibly high preference for PG studies –** 81% of Chinese education students are studying at a PG level. This is 31% higher than the median of the top 50 global student segments. The Chinese education segment also has the highest proportion of PG students across all Chinese segments • **Education students seek high quality institutions –** Go8 universities attract 39% of Chinese education students coming to Australia and RG universities attract 78% of students studying in the UK. For the UK in particular, this is far above the proportion of students that study at a Russell Group university (by 37%) – including UCL, University of York, University of Glasgow and University of Manchester as key destinations. • **Preference for established destination countries –** with an estimated 70% studying in US, UK or Australia. • **Modest attraction to major destination cities** – While Melbourne is a popular destination for Chinese students studying education (attracting 32% of Chinese education students coming to Australia), Sydney is not (with under 5% of the market). Students studying Education in Australia have a strong preference for Brisbane with 17.4% of inbound students studying in Universities in that area. 21% UK-bound students study in London, lower than the median for top global students segments. Instead they study at Education students are studying at York (11.9%), Edinburgh (9%), Bath and Glasgow (4.7%)

Source: Nous global student flow integrated dataset Layer 3, with particular sue of UK HESA) and Australia (HEIMS) enrolment data.

Further information on the Indian 'Health' student segment is presented below

Appendix D – Further information on student decision driver groups

Health

What else do we know about these students

- **Mixed study level –** around 40% in this segment study UG; higher than other Indian segments.
- **High quality institution preference –** the proportion of UK and Australian based students studying in top 500 institutions is in line with other global segments – around 75%. The proportion studying at Russell Group and Go8 universities is also lower.
- **City destination not a driver, but Melbourne strong –** Around one-in-four UK bound students study in London (in line with medians). A large share study in Melbourne in comparison to Sydney (41% to 12% of total) – with Melbourne higher than the median and Sydney lower.

Source: Nous global student flow integrated dataset Layer 3, with particular sue of UK HESA) and Australia (HEIMS) enrolment data.