Academic Cooperation Association (ACA)

Comparative market analysis report

Towards a data-driven strategy for the internationalization of Slovenian higher education

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Table of Contents

List of Tables and Figure

1 Introduction

1.1 Background

The present study is conducted upon the request of the Center RS za mobilnost in evropske programe izobraževanja in usposabljanja (CMEPIUS), which is the Slovenian national organization responsible for the internationalization of higher education. **The specific objective of the study is to conduct a data-driven comparative market analysis to advise the national body on its choices of target markets suitable for future promotion of master's level English-taught programmes (ETPs) offered by Slovenian higher education institutions**. The project started with a list of 16 markets taken from the Strategy of Internationalisation of Higher Education in Slovenia (2016) and an initial trend analysis based on the mobility data obtained from the UNESCO Institute for Statistics (UIS). These are: **India, China, Brazil, USA, South Korea, Japan, Russia, South Africa, Hong Kong, Egypt, Argentina, Iran, Ukraine, Jordan, Kazakhstan, and Tunisia**. By collecting a broad range of internationally comparable data organized along four dimensions (**cooperation potential, mobility potential, push factors, and system potential**), the study aims to assist CMEPIUS to sharpen its geographical focus by means of a tested data-driven ranking methodology adapted to the Slovenian context (e.g. the economic internationalization strategic foci on R&D, logistics and green technology). The results of the present study shall point to approximately five target markets/countries on which more strategic focus for marketing and student recruitment should be developed at a later stage.

1.2 The research team

The study is conducted by the Brussels-based **Academic Cooperation Association** (ACA). ACA is an umbrella organization of national bodies responsible for the internationalization of higher education in their respective countries, as well as a think-tank with some 20 years of experience in mobility policy analysis and consultancy. The present project is jointly delivered by the ACA team – Queenie K.H. Lam (Project Manager), Bernd Wächter (Director), and Rita Morais (an independent statistician) in the period October to December 2018.

2 Methodology

2.1 Initial screening of potential markets

The initial screening of the potential markets made references to the Strategy of Internationalisation of Higher Education in Slovenia (2016), the Slovenian Programme for (economic) Internationalisation, 2015–2020 (2015) and the interest of major Slovenian universities on one hand, and global mobility data available in UIS database on the other. The resulting list of 16 countries represents the interest of Slovenian higher education in highly industrialized countries (South Korea, Japan, and the USA), the BRICS countries (Brazil, Russia, India, China, and South Africa), the Mediterranean region (Egypt and Tunisia), and markets with upward outbound mobility trend, particularly in English-speaking countries (Hong Kong, Jordan, and Kazakhstan). Argentina, although a small market with no significant growth, has been added because of the Slovenian diaspora in the country. Ukraine has been listed due to the Slavic language association and Iran because of the interest expressed by the economic sector.

European Union (EU) Member States, Turkey and a number of top-sending neighboring countries (e.g. TFYR Macedonia, Bosnia/Herzegovina) have been excluded intentionally in this particular study focusing on non-EU and more distant markets.

2.2 Ranking methodology

The methodology employed in this study is a tested data-driven methodology customized to fit the Slovenian objectives, as explained in the choice of indicators and the weighting scheme below, as well as the timeframe of the project. It is a comparative approach, i.e. comparing the suitability of the potential markets for Slovenia, rather than a competitive approach, i.e. comparing the competitors and Slovenia. The data used are largely quantitative to enable meaningful comparison across the 16 markets and the ranking of the markets for prioritization purpose.

For the ranking, the quantitative indicators, including comparison data and trend data, are scored 1 to 3 according to the following principles: The trend data, which compare data for individual countries across time, are scored 1 to 3 depending on the extent of positive or negative changes. The comparison data, which compare values for the 16 countries, are also scored 1 to 3 by ranking the values into quartiles. Such individual scores per indicator are then converted into averaged scores per criterion, which are weighted and later averaged for the scores per component. The final score for each country is obtained by summing the total weighted scores of all four components. For

more details on the scoring and ranking mechanism, please refer to the excel files Descriptive info_all criteria and Final ranking_all countries_all scores respectively.

The methodology allows us to rank the 16 markets by total weighted scores, or by selected components. The weighting of the indicators (see 2.2.2 below) can also be altered to reflect different levels of importance attached to individual indicators. For the present study, more weighting has been attached to mobility and education related indicators in line with the specific objective of this study. Likewise, the list of indicators (see 2.2.1 below) may also be expanded to include more relevant comparable data that are available to cover the 16 countries. It must be noted, however, that the more countries compared the more difficult it is to obtain timely and good quality comparable data that cover all. It is, therefore, more advisable that in-depth data collection be continued only after narrowing down the country choices with an exercise like this one.

2.2.1 List of indicators used in the ranking

As mentioned above, only internationally comparable data obtained from trusted sources (e.g. UIS, OECD, CIA World Factbook) have been used in this study. The indicator list was concluded after screening the quality and availability of data for over 60 relevant indicators. The final list of 28 indicators (Table 6), with comparable data covering all the 16 markets, is organized under four components each with four criteria.

The first component entitled **Cooperation Potential** includes indicators that are relevant not only for academic cooperation but also economic cooperation. The second component entitled **Mobility Potential** includes indicators that are most relevant for student mobility, particularly inbound mobility towards Slovenia on the desired postgraduate level and for English-taught programmes. The third component entitled **Push Factors** includes indicators that signal socio-economic pressures that may drive up outward mobility from the potential markets. The last component entitled **System Potential** includes indicators on higher education enrollment and population data signaling longer-term potential of the markets.

2.2.2 Rationales for weighting allocation

The choice of the indicators, subject to data availability and quality, has taken into consideration the interest of Slovenian higher education in the recruitment of Master's level students for English-taught programmes on, presumably, self-financing basis, as well as the economic interest in developing trade relations in general and R&D and logistics hubs in particular.

Given the known priorities expressed above, a weighting scheme has been developed to attach more importance to indicators relevant to academic mobility, which are indicators under the components Mobility Potential and System Potential. Indicators in all four components that may contribute to both economic and educational cooperation, particularly in response to the priorities named above, are also given more weighting. More detailed explanation on the weighting scheme corresponding to each indicator can be found in Table 6 below.

3 Ranking results

3.1 Overall ranking of the 16 potential markets

By applying the ranking methodology described in Section 2 above, the five top-ranked potential markets are: **India, China, Brazil, USA, and South Korea**. The same five countries occupy the top five slots, although in slightly different orders, of both rankings using either weighted (Table 1) or unweighted (

Table 2) scores. The higher position of India over China and that of Brazil over USA on the ranking with weighted scores (Table 1) indicate that India and Brazil are of relatively higher potential than China and the USA when education and mobility factors are at the focus.

Table 1. Ranking of the potential markets with weighted scores

Overall rank #	Country	Weighted score
1	India	19.40
2	China	18.96
3	Brazil	18.46
4	USA	18.40
5	South Korea	17.98
6	Japan	17.81
7	Russia	16.85
8	South Africa	16.69
9	Hong Kong	16.67
10	Egypt	16.31
11	Argentina	15.75
12	Iran	15.17
13	Ukraine	15.17
14	Jordan	14.77

Overall rank #	Country	Weighted score
15	Kazakhstan	14.69
16	Tunisia	11.44

Table 2. Ranking of the potential markets with unweighted scores

Overall rank #	Country	Unweighted score
1	China	9.42
2	India	9.23
3	USA	8.79
4	Brazil	8.73
5	South Korea	8.65
6	Japan	8.56
7	Russia	8.33
8	Hong Kong	8.15
9	South Africa	8.13
10	Egypt	7.88
11	Iran	7.52
12	Ukraine	7.46
13	Argentina	7.44
14	Jordan	7.29
15	Kazakhstan	7.13
16	Tunisia	5.56

In fact, both rankings are consistent also at the bottom with **Jordan, Kazakhstan, and Tunisia** occupying the last three spots. This should not be a surprise considering that these three countries have rather low cooperation potential despite the upward trends observed in outward mobility. Given that international student recruitment is not the only objective of Slovenia, but also fostering economic links, these markets may not be the most suitable for Slovenia in terms of general cooperation potential.

While most countries stay +/- 1 position on both rankings, one interesting country that has markedly climbed up the ranking with the weighted scores compared to that of the unweighted score is **Argentina**. It remains at mid-range position of No. 11, just below Egypt. However, given the known fact of a large Slovenian diaspora in Argentina, it may be worth revisiting the position of this country with the addition of Slovenian national and institutional data sources.

3.2 Identification of the target markets

As mentioned above, the ranking methodology allows the ranking by components also. Table 3 and

Table 4 provide another perspective for the analysis of the data. The tables show in color codes the countries that are ranked among the top 10 in all four components. With this approach, only a few markets are ranked among top 10 in all components. These are **Brazil, China, South Korea, and the USA** using the weighted scores (see balances all four components to identify markets that have reasonably good potential for both economic and academic cooperation purposes. As in the case of the league tables, the selection using weighted scores has attached more importance to academic cooperation than to economic ties.

Table 3), and **Brazil, China, Hong Kong, India, and South Korea** using the unweighted scores (

Table 4). Suh a selection approach screens out countries that are particularly weak in one or more of the components. For example, India ties with Hong Kong for the fifth position in Table 3, but both of them have one component ranked below No. 10. For **India**, the push factors, mainly economic factors as defined in this study, is comparatively weaker than other markets, whereas for **Hong Kong**, it is the mobility potential responding to Slovenian priorities that is weaker than others.

Compared to the league tables above, this approach balances all four components to identify markets that have reasonably good potential for both economic and academic cooperation purposes. As in the case of the league tables, the selection using weighted scores has attached more importance to academic cooperation than to economic ties.

Table 3. Markets that are ranked among the top 10 in all components (weighted scores)

Component 1: Cooperation potential			Component 2: Mobility potential			Component 3: Push factors			Component 4: System potential		
Rank #	Country	Weighted score	Rank #	Country	Weighted score	Rank #	Country	Weighted score	Rank #	Country	Weighted score
1	USA	4.94	1	India	6.34	1	South Africa	3.63	1	India	6.75
2	China	4.75	2	Ukraine	5.92	2	China	3.50	2	Brazil	6.50
3	Japan	4.56	3	Kazakhstan	5.50	3	Russia	3.50	3	China	5.75
4	South Korea	4.06	4	South Africa	5.50	4	Hong Kong	3.25	4	Japan	5.50
5	Brazil	4.00	5	Russia	5.17	5	Japan	3.25	5	South Korea	5.50
6	Russia	3.94	6	South Korea	5.17	6	South Korea	3.25	6	USA	5.50
7	Hong Kong	3.88	7	Egypt	5.13	7	Brazil	3.13	7	Egypt	5.38
8	India	3.56	8	China	4.96	8	Iran	3.13	8	Argentina	5.13
9	Argentina	3.50	9	USA	4.96	9	Jordan	3.13	9	Jordan	5.00
10	Egypt	3.44	10	Brazil	4.84	10	USA	3.00	10	Hong Kong	4.88
11	Iran	3.13	11	Hong Kong	4.67	11	India	2.75	11	Iran	4.75
12	Ukraine	3.13	12	Argentina	4.50	12	Kazakhstan	2.75	12	South Africa	4.63
13	South Africa	2.94	13	Japan	4.50	13	Argentina	2.63	13	Russia	4.25
14	Jordan	2.56	14	Tunisia	4.38	14	Ukraine	2.50	14	Kazakhstan	3.88
15	Kazakhstan	2.56	15	Iran	4.17	15	Egypt	2.38	15	Ukraine	3.63
16	Tunisia	1.81	16	Jordan	4.09	16	Tunisia	2.25	16	Tunisia	3.00

Table 4. Markets that are ranked among the top 10 in all components (unweighted scores)

Component 1: Cooperation potential			Component 2: Mobility potential			Component 3: Push factors			Component 4: System potential		
Rank #	Country	Unweighted score	Rank #	Country	Unweighted score	Rank #	Country	Unweighted score	Rank #	Country	Unweighted score
1	USA	2.81	1	India	2.54	1	China	2.38	1	India	2.63
2	China	2.75	2	Ukraine	2.33	2	Russia	2.38	2	Brazil	2.56
3	Japan	2.56	3	Kazakhstan	2.25	3	South Africa	2.38	3	China	2.25
4	South Korea	2.31	4	South Africa	2.13	4	Iran	2.13	4	Egypt	2.19
5	Brazil	2.25	5	Russia	2.08	5	Japan	2.13	5	USA	2.19
6	Hong Kong	2.25	6	South Korea	2.08	6	Jordan	2.13	6	Japan	2.13
7	Russia	2.19	7	China	2.04	7	South Korea	2.13	7	South Korea	2.13
8	India	2.06	8	Egypt	2.00	8	Brazil	2.00	8	Argentina	2.06
9	Argentina	2.00	9	Hong Kong	1.96	9	Hong Kong	2.00	9	Jordan	2.06
10	Egypt	1.94	10	Brazil	1.92	10	India	2.00	10	Hong Kong	1.94
11	Iran	1.75	11	USA	1.92	11	Ukraine	1.88	11	Iran	1.94
12	Ukraine	1.75	12	Argentina	1.75	12	USA	1.88	12	South Africa	1.94
13	South Africa	1.69	13	Japan	1.75	13	Egypt	1.75	13	Russia	1.69
14	Kazakhstan	1.56	14	Tunisia	1.75	14	Kazakhstan	1.75	14	Kazakhstan	1.56
15	Jordan	1.44	15	Iran	1.71	15	Argentina	1.63	15	Ukraine	1.50
16	Tunisia	1.06	16	Jordan	1.67	16	Tunisia	1.50	16	Tunisia	1.25

By combining both of the screening approaches described above, we have come to a short list of four countries that can surely be recommended for further investigation. These are: **Brazil, China, India, and South Korea** (see Table 5 below). The **USA** is certainly a country to be considered for fostering economic ties, but for mobility potential, it becomes more relevant than others only when the study programmes concerned are taught in English and are offered on a self-financed basis. The same goes to **Hong Kong**, where high living costs and strong socio-economic inequality are both strong push factors for outward mobility and enabling factors for studying abroad without scholarships.

Provided that the objective for promoting Slovenian higher education abroad is not merely for the attraction of international students in quantitative terms but also for fostering economic ties, particularly with countries strong in R&D, green technology and logistics, the above mentioned 4–6 markets are well-balanced options in response to such an objective.

Table 5. Markets that are ranked among the top 5 in overall rankings and among the top 10 in all components

	Markets ranked among top 5 in overall ranking	**Markets ranked among top 10 in all components**
With weighed scores	1. India 2. China 3. Brazil 4. USA 5. South Korea	1. China 2. South Korea 3. Brazil 4. USA 5. India/Hong Kong
With unweighted scores	1. China 2. India 3. USA 4. Brazil 5. South Korea	1. China 2. India 3. South Korea 4. Brazil 5. Hong Kong

3.3 Overview of all markets by ranking components

In the previous two sections, we have already identified a shortlist of 4-6 markets that could be considered most relevant to the Slovenian objectives for the internationalization of education and economy. These include three large emerging markets: **China, India, and Brazil** and three industrialized markets of varying sizes: **USA, South Korea, and Hong Kong**.

This is not to say that the other markets are not interesting for international student recruitment, however. In this section, we will still provide an overview of the comparable strengths and weaknesses of all the markets based on the data available for this study. Chance is that when more national and institutional data from Slovenia are fed into the methodology, which is to be recommended as the next step forward, or when the national objective has changed, some of the markets may become more relevant to Slovenia than they are now.

Figure 1. Market overview by component below is an overview of all markets by components using the unweighted scores of the indicators. The chart indicates that the six markets shortlisted in this exercise, i.e. **Brazil, China, India, South Korea**, as well as the **USA and Hong Kong**, are strongest in different aspects. For the **USA, China, South Korea, and Hong Kong**, **cooperation potential** for strengthening economic ties is comparatively stronger than mobility or system potential. Whereas for **India**, it is the **mobility potential and system potential** that make it an interesting market for international student recruitment. As for **Brazil**, the mobility potential is not particularly strong, comparatively speaking, but the **system potential** is high as it is the largest higher education market in Latin America and a high percentage of Brazilian students are enrolled in private tertiary education institutions. The mobility pattern of Brazilian students, according to UIS statistics, suggests that Brazilian students either head towards Anglo-phone destinations (USA, UK, Australia, and Canada) or Spanish/Portuguese-speaking countries (Argentina, Portugal, and Spain) in most cases. Interest in "new providers" in Europe is not particularly strong but signs of growth in countries like Poland or Estonia are observed.

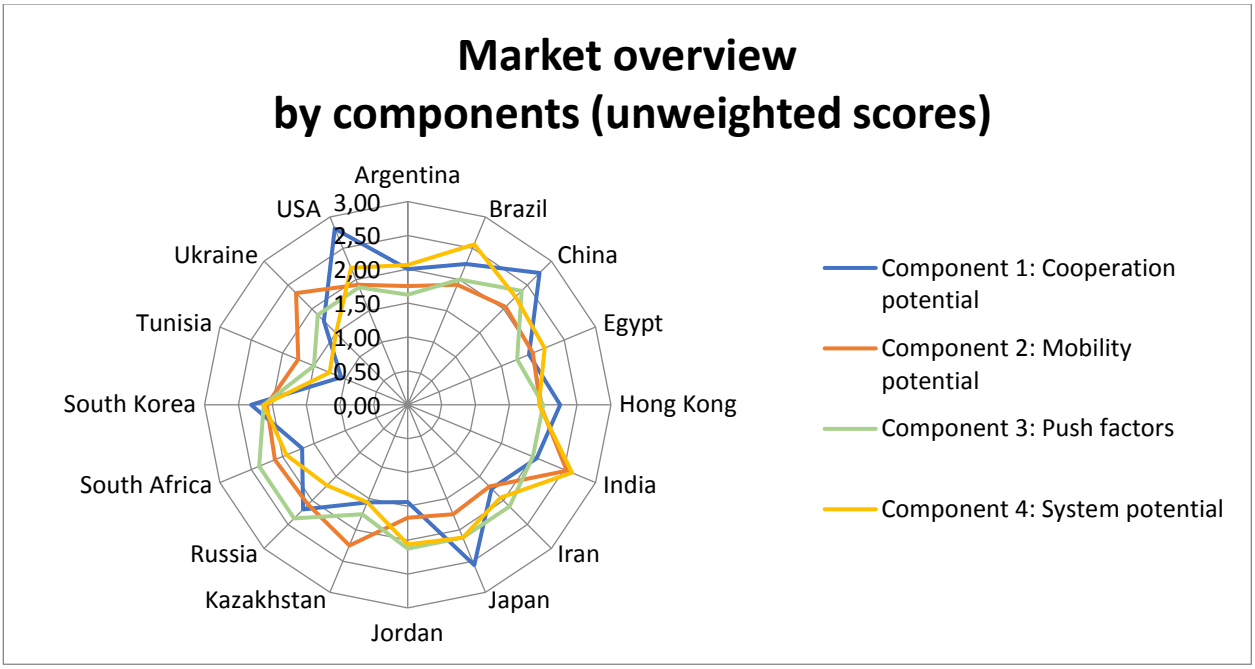

Figure 1. Market overview by components (unweighted scores)

Another two markets that consistently occupy the No. 6 and No. 7 positions on the overall rankings are **Japan and Russia** respectively. **Japan** is no doubt an interesting country for economic cooperation, particularly against the background of the free trade agreement signed between Japan and the EU that will enter into force in early 2019, but the recruitment of international students from Japan could be a challenge for various reasons. These include the recruitment cycle and culture of Japanese companies favoring graduates of local universities, and a general lack of confidence for Japanese students to use English. A clearly identified niche would be needed for attracting Japanese students, and a big number cannot be expected.

For **Russia**, where push factors are strong, it should be relatively easy for international student recruitment but only when job or migration prospects appear promising. The recruitment of fee-paying students may also be a challenge because those who are willing to pay and study in English may opt for traditional Anglo-phone destinations, whereas others may be more interested in free or low-fee alternatives in EU countries or Asian countries. Depending on the price competitiveness of Slovenian study programmes, particularly in comparison with those from Russia's bordering states (Estonia and Latvia), it may still be a relevant market.

South Africa, which is placed just below or above Hong Kong on the overall rankings, shows stronger potential for mobility and stronger push factors indicating relative ease for recruitment. However, the economic cooperation potential (e.g. logistics and technology) is comparatively weak. Also, in absolute terms, the number of outward

mobile students from South Africa (7 802) is only approximately 1/5 of the number of students from Hong Kong (37 206), according to the UIS estimates for the year 2017.

As for **Egypt and Argentina**, the two markets score in a rather similar pattern in all components. Their system potential for student recruitment is rather strong, but the economic cooperation prospect is not as good as the six markets identified, as well as Japan or Russia. The mobility potential of students from Egypt to study in Europe is much higher than that of Argentina's, but in terms of English-taught master's programmes, students from Argentina will likely be better prepared than those from Egypt, particularly because Argentina is known to have the best higher education in Latin America. It must be noted, however, that Argentina is likely a difficult market to access because of the quality of its local system, the small number of outward mobile students around the world (8 371 in 2017, according to UIS statistics) who tend to study in Anglo-phone countries (the USA) or Portuguese/Spanish-speaking countries (Brazil, Spain). For Slovenia, it may still be worth exploring the market considering the large Slovene diaspora in Argentina, but more national and institutional data from Slovenia would be required for further assessment.

Iran is another country that may be of interest to the Slovenian economic sector but does not stand out in the rankings. More data specifically on Slovene-Iranian economic and academic cooperation may change its position. The strong push factors indicate relative ease for recruitment. However, considering the political complications surrounding international cooperation with Iran, accessing this market may require special coordination with the Ministry of Foreign Affairs to ease the path for recruitment. The visa requirements for Iranians for both long-term and short-term stays appear to be much more complicated that for nationals of other countries.

Coming to **Ukraine and Kazakhstan**, where system potential is low and mobility potential is high, international student recruitment in quantitative terms may not be a big challenge. But to recruit students from these countries for English-taught master's programmes, particularly when such programmes are to be self-financed, it could turn out to be difficult to reach the right target students. The shared Slavic language tradition may ease the access to the Ukrainian market, as we can see from UIS statistics that Ukrainian students tend to head towards Poland, Russia, and the Czech Republic. However, it is unlikely that English-taught programmes are what attracted them to study in these countries. Therefore, while the Ukrainian market could be interesting for Slovenia, the pool of quality target students for ETPs may be much smaller than expected. The same goes to Kazakhstan, where the vast majority of internationally mobile students turn to Russia and Kyrgyzstan. Another reason that contributes to the low ranking of these two countries is the low economic cooperation potential, based on the comparable data available.

Finally, for **Jordan and Tunisia,** they are both low in cooperation potential as compared with the rest of the potential markets. Comparatively speaking, Jordan has a stronger system potential than Tunisia, but Tunisian students are much more likely to study in Europe (traditionally in France, Italy, and increasingly also in Hungary) than Jordanian students, according to UIS statistics. In absolute terms, the number of mobile students originated from both Jordan and Tunisia falls within the range of 20 000 to 24 000, which is still higher than the number of students originated from Argentina or South Africa (approximately 8 000). However, given the low cooperation potential in economic terms, these two countries are the least fit for the purpose in this selection process.

4 The way forward

The present exercise has clearly identified six markets (**India, China, Brazil, South Korea, USA, and Hong Kong**) in five countries (Hong Kong being a sub-system of China) that could best address the double objective of the internationalization strategy of Slovenian higher education, i.e. to increase the enrolment of international students in English-taught master's programmes, and to foster economic ties between Slovenia and those countries, particularly in the strategic areas of R&D, green technology, and logistics.

1. **Collection of Slovenian national and institutional data**

The methodology in this study has been customized to take into account the strategic priorities of Slovenian higher education and economy. To enable the provision of more precise strategic advice relevant to Slovenia, it is essential to increase the number of indicators in the methodology with Slovenian national and institutional data. Where necessary, the collection of first-hand data or interviews should be considered. National data to be included should cover, for example, flows of goods and people (migrants, tourists, students), diplomatic and economic links, cultural and civil links, etc. Institutional data to be collected should cover, for example, credit and degree mobility data, active research and academic partnerships with institutions in the target markets, web analytics of promotion campaigns and websites, study programmes in Slovenia that are targeting international students and their capacity for international student intake, etc.

While the focus of the data collection should be placed on the selected target markets, data concerning other potential markets may also be collected, if available, for a potential reassessment of the excluded markets (e.g. Argentina).

2. **More in-depth data collection from the selected target countries/markets**

The six selected markets are of substantially different sizes in terms of population, landmass, number of students in the education system, number of internationally mobile students, etc. They are also in different stages of economic development, with three being emerging economies (India, China, Brazil) and three being industrialized economies (USA, South Korea, Hong Kong). For countries that are large in land size and population size (India, China, Brazil and the USA) further data collection would be required **to identify more precise target segments** and the locations in which the target students are concentrated. For countries that are not only potential senders of students but also popular destinations of international students (USA, South Korea, Hong Kong), more precise statistics on the undergraduate international students enrolled in their system (e.g. country of origin, study level, study fields) could also be collected **to prepare for indirect recruitment of international undergraduate students** from those systems.

While fine-grained data may be difficult to obtain for comparison among 16 countries, the difficulty reduces significantly when the number of countries to be compared is smaller or when one single country is concerned.

3. **Competitor analysis**

The present study, being a comparative analysis of the markets, does not take into account competitors. To know more precisely where the potential of these markets lies, it is important to collect data from key competitors as well as new competitors, e.g. the top study destinations of the students from the markets, on what level of study and in what kind of study programmes are students from those markets enrolled, how those providers approach and appeal to students from the markets, what are the linguistic/cultural/historical links between the target markets and their existing providers, etc.)

4. **Positioning Slovenian higher education**

The detailed analyses proposed above should lead to the identification of more specific market segments in the target markets, a better understanding of the competitive edge of Slovenia and Slovenian higher education, and potentially some hints from potential competitors on how to approach and appeal to prospective students from those markets. Following that, it will be important to position Slovenian higher education in those markets and develop branding messages to target the chosen market segments. It is not only important to consider the means of promotion and marketing. For effective recruitment, it is equally important to consider national level regulations (e.g. mutual recognition of entry and exit qualifications, visa application

process), financial support (e.g. matching funds for study and research exchanges), as well as the use of existing diplomatic missions.

End.

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Table 6. List of indicators used in the ranking

No.	Component	Interpretation	Criterion	Weighting	Rationale for weighting	Indicator no.	Indicator heading	Data Source
1	Cooperation potential	The higher the better	Communication	2	In general 1 for this component, 2 is given to those that may contribute to marketing and mobility	1.1	Broadband fixed subscriptions	CIA World Factbook
2	Cooperation potential	The more connected the better	Communication	2	In general 1 for this component, 2 is given to those that may contribute to marketing and mobility	1.2a	Air transportation (passengers)	CIA World Factbook
3	Cooperation potential	The more connected the better	Communication	2	In general 1 for this component, 2 is given to those that may contribute to marketing and mobility	1.2b	Air transportation (freight)	CIA World Factbook
4	Cooperation potential	Exist would be better	Political	2	In general 1 for this component, 2 is given to those that may contribute to marketing and mobility	1.3a	Existence of embassies and/or consultar representations;	Ministry of Foreign Affairs, Republic of Slovenia (http://www.mzz.gov.si/en/)
5	Cooperation potential	No visa requirement would be better	Political	2	In general 1 for this component, 2 is given to those that may contribute to marketing and mobility	1.3b	Visa requirements for the residents of the country of destination;	Ministry of Foreign Affairs, Republic of Slovenia (http://www.mzz.gov.si/en/)
6	Cooperation potential	The higher the better	Economic	1	In general 1 for this component, 2 is given to those that may contribute to marketing and mobility	1.4a	GDP real growth rate	CIA World Factbook
7	Cooperation potential	The higher the better	Economic	1	In general 1 for this component, 2 is given to those that may contribute to marketing and mobility	1.4b	Export	CIA World Factbook
8	Cooperation potential	The higher the better	Economic	1	In general 1 for this component, 2 is given to those that may contribute to marketing and mobility	1.4c	FDI at home	CIA World Factbook
9	Cooperation potential	The higher the better	Economic	1	In general 1 for this component, 2 is given to those that may contribute to marketing and mobility	1.4d	FDI abroad	CIA World Factbook
1	Mobility potential	The higher the better, the larger increase the better	Emigration	2	In general 2 for this component, 3 is given to those that may contribute to ETPs at Master's level	2.1	Number of highly skilled migrants (15+)	OECD Social, Employment and Migration Working Papers, No. 160. Publication
2	Mobility potential	Yes is better	Language	3	In general 2 for this component, 3 is given to those that may contribute to ETPs at Master's level	2.2	English in use	EF English Proficiency Index (8th edition)
3	Mobility potential	The higher the better, the larger increase the better	Geographical preference	3	In general 2 for this component, 3 is given to those that may contribute to ETPs at Master's level	2.3	Outbound mobility ratio - Central and Eastern European (CEE) countries	Unesco Institute for Statistics (UIS)
4	Mobility potential	The higher the better, the larger increase the better	Outflow	2	In general 2 for this component, 3 is given to those that may contribute to ETPs at Master's level	2.4a	Gross outbound enrolment ratio (all regions, both sexes);	Unesco Institute for Statistics (UIS)
5	Mobility potential	The higher the better, the larger increase the better	Outflow	2	In general 2 for this component, 3 is given to those that may contribute to ETPs at Master's level	2.4b	Total outbound internationally mobile tertiary students studying abroad (all countries, both sexes)	Unesco Institute for Statistics (UIS)
6	Mobility potential	The higher the better, the larger increase the better	Outflow	2	In general 2 for this component, 3 is given to those that may contribute to ETPs at Master's level	2.4c	Outbound enrolment ratio	Unesco Institute for Statistics (UIS)

No.	Component	Interpretation	Criterion	Weighting	Rationale for weighting	Indicator no.	Indicator heading	Data Source
1	Push	The higher the better	Quality of life	2	In general 1 for this component, 2 is given to those that may contribute to self-financed mobility	3.1	Living cost index	Numbeo
2	Push	The lower the better	Quality of life	1	In general 1 for this component, 2 is given to those that may contribute to self-financed mobility	3.2a	Life expectancy at birth (indicate overall quality of life)	CIA World Factbook
3	Push	The larger rich-poor gap for the country the better for Slovenia	Socio-economic equality	2	In general 1 for this component, 2 is given to those that may contribute to self-financed mobility	3.2b	Gini index	CIA World Factbook
4	Push	The less peaceful the better	Reputation	1	In general 1 for this component, 2 is given to those that may contribute to self-financed mobility	3.3	Global Peace Index (1) Ongoing domestic and international conflict; (2) Societal safety and security	Global Peace Index 2018 report
5	Push	The fewer the better	Socio-economic equality	1	In general 1 for this component, 2 is given to those that may contribute to self-financed mobility	3.4a	Percentage of students in tertiary ISCED 8 programmes who are female (%)	Unesco Institute for Statistics (UIS)
6	Push	The fewer the better	Social-economic equality	1	In general 1 for this component, 2 is given to those that may contribute to self-financed mobility	3.4b	Percentage of students in tertiary ISCED 7 programmes who are female (%)	Unesco Institute for Statistics (UIS)
1	System potential	The lower the better; but the larger increase the better	Capacity of higher education	2	In general 2 for this component, 3 is given to those that may contribute to Master's level study (self-financed)	4.1a	Enrolment in tertiary education ISCED 7 (both sexes)	Unesco Institute for Statistics (UIS)
2	System potential	The higher the better, the larger increase the better	Pool of prospects	2	In general 2 for this component, 3 is given to those that may contribute to Master's level study (self-financed)	4.1b	Gross Enrolment ratio in tertiary education (all levels, both sexes);	Unesco Institute for Statistics (UIS)
3	System potential	The higher the better, the larger increase the better	Pool of prospects	3	In general 2 for this component, 3 is given to those that may contribute to Master's level study (self-financed)	4.2	Enrolment in tertiary education ISCED 6 (both sexes);	Unesco Institute for Statistics (UIS)
4	System potential	The more the better, the larger increase the better	Pool of prospects	2	In general 2 for this component, 3 is given to those that may contribute to Master's level study (self-financed)	4.3a	School age population, tertiary education, both sexes (number)	Unesco Institute for Statistics (UIS)
5	System potential	The lower the better	Pool of prospects	2	In general 2 for this component, 3 is given to those that may contribute to Master's level study (self-financed)	4.3b	Median age	CIA World Factbook
6	System potential	The higher the better	Demand for higher education	2	In general 2 for this component, 3 is given to those that may contribute to Master's level study (self-financed)	4.3c	Youth dependency ratio	CIA World Factbook
7	System potential	The more the better	Self-financing prospects	3	In general 2 for this component, 3 is given to those that may contribute to Master's level study (self-financed)	4.4	Percentage of enrolment in tertiary education in private institutions (%)	Unesco Institute for Statistics (UIS)

Table 7. Final ranking scores by components, ranking criteria, and countries (weighted scores)

Components and criteria	Countries															
	Argentina	Brazil	China	Egypt	Hong Kong	India	Iran	Japan	Jordan	Kazakhstan	Russia	South Africa	South Korea	Tunisia	Ukraine	United States of America
Component 1: Cooperation potential																
Criterion 1.1 Broadband fixed subscriptions_unweighted	2.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	1.00	1.00	3.00	1.00	2.00	1.00	2.00	3.00
Criterion 1.1_weight	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Criterion 1.1_weighted score	4.00	4.00	6.00	4.00	4.00	4.00	4.00	6.00	2.00	2.00	6.00	2.00	4.00	2.00	4.00	6.00
Criterion 1.2 Air transportation_unweighted	2.00	2.50	3.00	2.00	2.50	2.00	1.50	2.50	1.50	1.00	2.00	2.00	2.50	1.00	1.00	3.00
Criterion 1.2_weight	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Criterion 1.2_weighted score	4.00	5.00	6.00	4.00	5.00	4.00	3.00	5.00	3.00	2.00	4.00	4.00	5.00	2.00	2.00	6.00
Criterion 1.3 Diplomatic missions and visas_unweighted	2.00	2.50	2.00	2.00	2.00	2.00	2.00	2.50	2.00	2.00	2.00	2.00	2.50	1.00	2.50	2.50
Criterion 1.3_weight	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Criterion 1.3_weighted score	4.00	5.00	4.00	4.00	4.00	4.00	4.00	5.00	4.00	4.00	4.00	4.00	5.00	2.00	5.00	5.00
Criterion 1.4 GDP Growth/Export/FDI_unweighted	2.00	2.00	3.00	1.75	2.50	2.25	1.50	2.25	1.25	2.25	1.75	1.75	2.25	1.25	1.50	2.75
Criterion 1.4_weight	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Criterion 1.4_weighted score	2.00	2.00	3.00	1.75	2.50	2.25	1.50	2.25	1.25	2.25	1.75	1.75	2.25	1.25	1.50	2.75
Total component 1	**3.50**	**4.00**	**4.75**	**3.44**	**3.88**	**3.56**	**3.13**	**4.56**	**2.56**	**2.56**	**3.94**	**2.94**	**4.06**	**1.81**	**3.13**	**4.94**
Component 2: Mobility potential																
Criterion 2.1 Emigration_unweighted	2.00	2.00	2.50	1.00	2.50	3.00	2.00	1.50	1.50	2.00	2.00	2.00	2.50	1.50	2.00	1.50
Criterion 2.1_weight	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Criterion 2.1_weighted score	4.00	4.00	5.00	2.00	5.00	6.00	4.00	3.00	3.00	4.00	4.00	4.00	5.00	3.00	4.00	3.00
Criterion 2.2 Use of English_unweighted	3.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	1.00	1.00	2.00	3.00	2.00	1.00	2.00	3.00
Criterion 2.2_weight	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Criterion 2.2_weighted score	9.00	6.00	6.00	6.00	6.00	9.00	3.00	6.00	3.00	3.00	6.00	9.00	6.00	3.00	6.00	9.00
Criterion 2.3 Mobility towards Central Eastern Europe_unweighted	1.00	2.00	1.50	2.50	1.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.50	3.00	1.50
Criterion 2.3_weight	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Criterion 2.3_weighted score	3.00	6.00	4.50	7.50	3.00	6.00	6.00	6.00	6.00	9.00	6.00	6.00	6.00	7.50	9.00	4.50
Criterion 2.4 Outbound degree mobility_unweighted	1.00	1.67	2.17	2.50	2.33	2.17	1.83	1.50	2.17	3.00	2.33	1.50	1.83	2.00	2.33	1.67
Criterion 2.4_weight	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Criterion 2.4_weighted score	2.00	3.34	4.34	5.00	4.66	4.34	3.66	3.00	4.34	6.00	4.66	3.00	3.66	4.00	4.66	3.34
Total component 2	**4.50**	**4.84**	**4.96**	**5.13**	**4.67**	**6.34**	**4.17**	**4.50**	**4.09**	**5.50**	**5.17**	**5.50**	**5.17**	**4.38**	**5.92**	**4.96**
Component 3: Push																
Criterion 3.1 Living costs_unweighted	2.00	2.00	2.00	1.00	3.00	1.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	1.00	1.00	3.00
Criterion 3.1_weight	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Criterion 3.1_weighted score	4.00	4.00	4.00	2.00	6.00	2.00	4.00	6.00	4.00	4.00	4.00	4.00	6.00	2.00	2.00	6.00
Criterion 3.2 Quality of life_unweighted	2.00	2.50	2.50	1.50	2.00	2.00	2.00	1.50	2.00	2.00	2.50	3.00	1.50	2.00	1.50	1.50
Criterion 3.2_weight	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Criterion 3.2_weighted score	4.00	5.00	5.00	3.00	4.00	4.00	4.00	3.00	4.00	4.00	5.00	6.00	3.00	4.00	3.00	3.00
Criterion 3.3 Safety_unweighted	1.50	2.00	2.00	2.50	1.00	2.50	2.00	1.00	2.00	2.00	3.00	2.50	1.50	2.00	3.00	1.50
Criterion 3.3_weight	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Criterion 3.3_weighted score	1.50	2.00	2.00	2.50	1.00	2.50	2.00	1.00	2.00	2.00	3.00	2.50	1.50	2.00	3.00	1.50
Criterion 3.4 Female students in tertiary education_unweighted	1.00	1.50	3.00	2.00	2.00	2.50	2.50	3.00	2.50	1.00	2.00	2.00	2.50	1.00	2.00	1.50
Criterion 3.4_weight	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Criterion 3.4_weighted data	1.00	1.50	3.00	2.00	2.00	2.50	2.50	3.00	2.50	1.00	2.00	2.00	2.50	1.00	2.00	1.50
Total component 3	**2.63**	**3.13**	**3.50**	**2.38**	**3.25**	**2.75**	**3.13**	**3.25**	**3.13**	**2.75**	**3.50**	**3.63**	**3.25**	**2.25**	**2.50**	**3.00**

Components and criteria	Countries															
	Argentina	Brazil	China	Egypt	Hong Kong	India	Iran	Japan	Jordan	Kazakhstan	Russia	South Africa	South Korea	Tunisia	Ukraine	United States of America
Component 4: System potential																
Criterion 4.1 Enrollment in tertiary education_unweighted	2.25	2.25	2.00	2.25	2.50	1.50	2.50	2.00	2.25	1.75	1.50	2.00	2.00	1.25	2.00	2.00
Criterion 4.1_weight	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Criterion 4.1_weighted score	4.50	4.50	4.00	4.50	5.00	3.00	5.00	4.00	4.50	3.50	3.00	4.00	4.00	2.50	4.00	4.00
Criterion 4.2 Enrollment on ISCED 6 level_unweighted	2.00	2.50	3.00	2.00	2.00	3.00	1.50	2.00	1.50	1.00	2.50	2.00	2.00	1.00	1.50	2.50
Criterion 4.2_weight	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Criterion 4.2_weighted score	6.00	7.50	9.00	6.00	6.00	9.00	4.50	6.00	4.50	3.00	7.50	6.00	6.00	3.00	4.50	7.50
Criterion 4.3 School age population_unweighted	2.00	2.50	2.00	2.50	1.25	3.00	1.75	1.50	2.50	1.50	1.75	2.75	1.50	1.75	1.50	2.25
Criterion 4.3_weight	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Criterion 4.3_weighted score	4.00	5.00	4.00	5.00	2.50	6.00	3.50	3.00	5.00	3.00	3.50	5.50	3.00	3.50	3.00	4.50
Criterion 4.4 Enrollment in private tertiary education_unweighted	2.00	3.00	2.00	2.00	2.00	3.00	2.00	3.00	2.00	2.00	1.00	1.00	3.00	1.00	1.00	2.00
Criterion 4.4_weight	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Criterion 4.4_weighted score	6.00	9.00	6.00	6.00	6.00	9.00	6.00	9.00	6.00	6.00	3.00	3.00	9.00	3.00	3.00	6.00
Total component 4	**5.13**	**6.50**	**5.75**	**5.38**	**4.88**	**6.75**	**4.75**	**5.50**	**5.00**	**3.88**	**4.25**	**4.63**	**5.50**	**3.00**	**3.63**	**5.50**
Final score (ranking)	**15.75**	**18.46**	**18.96**	**16.31**	**16.67**	**19.40**	**15.17**	**17.81**	**14.77**	**14.69**	**16.85**	**16.69**	**17.98**	**11.44**	**15.17**	**18.40**

The final score (ranking) was obtained by summing the total scores of the four components.