

MANAGING DATA AND QUALITY INDICATORS OF INTERNATIONALISATION OF HE: CASE STUDY, HEI IN SLOVENIA

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Abstract:

The article deals with the field of internationalization of higher education institutions (HEI) and describes the results of a study which is a part of HEIDA project (Data-driven decision making for internationalization of HE). The project responds to two specific needs of HEI: a) the need for a data collection and sharing tool or platform for management of HEI's internationalisation activities, and b) the need to bridge the gap in communication and joint work that should exist between HEI faculty, staff, senior management and students in internationalisation efforts and activities. The present study was designed as a case study in one HEI. It includes an analysis of documentation, survey, focus group and interview. Internationalization at studied HEI is considered as transversal activity over four institution's core activities, namely: education, research, collaboration with an external environment with social responsibility, as well as a provision of resources for operation. A combination of central and faculty/department level offices carry out coordination of international activities at HEI. Therefore, sometimes it is hard to keep the track the internationalization data that are collected and their location (faculty/department offices). Through the case study, we found out that the HEI's internationalisation outcomes can be improved by comprehensive data management system, combining the availability of international data and their analysis for action/improvement with extra training on data management for administrative and management staff.

Keywords: higher education, internationalisation, management data, quality indicators, case study

1. INTRODUCTION

1.1. Internationalisation of HE in Slovenia

Slovenia is a small country in central Europe with the size of 20.273 km² and population of 2.063.077 people (the year 2015). Gross domestic product for the year 2014 reached 37.303 mil EUR. In the academic year 2014/ 2015, the share of the young population, aged 19-24 years, participating in tertiary education was 47.7%, on the other hand, the share of public expenditure on formal education reached 5.5% of GDP in the year 2013 (SURS 2015).

Bologna Declaration and Lisbon strategy significantly affected the internationalization of HE in Slovenia. In the European context, the internationalization of HE is characterized as a "top-down" process. Namely, the need for (stronger) internationalization did not occur and was not encouraged at institutional levels of HEIs as this is the case, for example, in the US but at the supranational levels (Altbach and Knight, 2007, 293). Initially, Internationalization in the European context illustrated a means for achieving the objective of the Bologna Declaration with the creation of a common European HE Area. This approach to internationalisation was mainly inwards oriented. Later on, internationalisation became an instrument for achieving the Lisbon strategy objectives with a creation of a competitive knowledge-based society, where outward perspective or so-called outer internationalization is getting more important (Zgaga 2004).

Slovenian HE Area comprises 94 HEIs included in the Register of HE (MIZS 2015). Public, private and independent HEI offer various HE study programmes. Among public institutions, there are University of Ljubljana (26 members), University of Maribor (17 members), University of Primorska (7 members) and one independent HEI - Faculty of Information Studies in Novo mesto. Among private HEIs, there are University of Nova Gorica (6 members), EMUNI University as well as other 37 independent HEIs.

1.2. Data on internationalization of HE in Slovenia

In this section of the article, we are going to provide statistical data on internationalization in Slovenia: long-term mobility (incoming) and short term mobility (incoming and outgoing). Long-term mobility relates to students enrolled in study programmes at foreign institutions in foreign countries for the entire period of study. In Slovenia, long-term mobility has been slightly increasing over the last few years (see Table 1). In the academic year 2014/2015, most international students in Slovenia come from Croatia, Italy, Bosnia and Herzegovina as well as Serbia.

Table 1: Foreign students in Slovenian higher education, long-term mobility

	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Austria	1	1	-	-	-
Bosnia and Herzegovina	26	28	47	48	57
Croatia	23	41	213	272	277
Italia	1	9	9	7	95
Hungary	1	2	2	2	1
Macedonia	19	16	15	16	21
Russia	7	9	7	6	8
Slovakia	-	2	-	-	1
Serbia	16	11	128	116	56
Ukraine	6	9	11	9	10
Bulgaria	-	-	4	5	8
Chinese	1	1	1	-	1
Germany	1	1	2	1	1
Other countries	27	23	47	74	55
Unknown	20	19	13	-	-
Country of citizenship -	149	172	499	556	591

TOTAL					
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Source: SURS

Short-term mobility relates to students' exchange which lasts on average for six months. Student leaves the home institution for a short period, and after the return to the home, institution completes the study program. The most transparent data about this type of mobility are those of the European Erasmus program (now Erasmus+). In Slovenia, short-term mobility has been steadily increasing in recent years (see Table 2). Despite the growing number of outgoing mobility students, the results deviate significantly from the objective set by the National Higher Education Program 2011-2020. As the program states, by the year 2020 at least 20% of Slovenian graduates should be participating in an exchange program (ReNPVŠ, Ur. l. RS, št. 41/2011). Nevertheless, in year 2011/2012, the percentage of incoming mobility reached only 7.36% and the outgoing mobility only 6.85%.

Table 2: Erasmus mobility for study (SMS) in Slovenia, period 2007/2008–2011/2012

				Outgoing and incoming mobility of students as a percentage of the student population in tertiary education in Slovenia		Outgoing and incoming mobility of students as a percentage of the population of graduates in tertiary education in Slovenia		
	Incoming	Outgoing	Students in tertiary education	% Incoming	% Outgoing	Graduates in tertiary education*	% Incoming	% Outgoing
2011/2012	1.516	1.411	104.003	1,46	1,36	20.596	7,36	6,85
2010/2011	1.287	1.199	107.134	1,20	1,12	20.461	6,29	5,86
2009/2010	1.138	1.118	114.873	0,99	0,97	19.694	5,78	5,68
2008/2009	991	1.132	114.391	0,87	0,99	18.103	5,47	6,25
2007/2008	825	1.018	115.445	0,71	0,88	17.221	4,79	5,91
Total	4.766	5.878	555.846	0,86	1,06	96.075	5,99	6,11

Source: CMEPIUS; SURS.

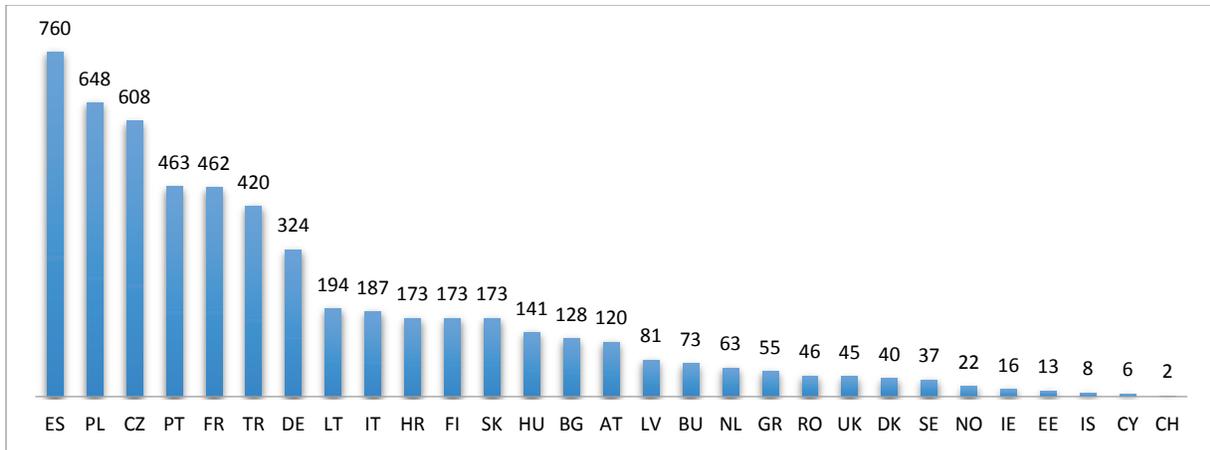
* Outgoing and incoming mobility of students as a percentage of the student population in tertiary education in Slovenia.

* Data refer to the last year, for example. 2008/2009 relating to the year of 2009.

* Note that the data on Erasmus mobility relate to tertiary education (not just higher education).

As the Figure 1 shows, the majority of incoming students come to Slovenia from Spain (760), Poland (648), Czech Republic (608), Portugal (463) and France (462). On the other hand, Slovenia might not be an attractive education destination for students from Switzerland (2), Cyprus (6), Estonia (13) and Ireland (16), and also others not listed in Figure 1.

Figure 1: Number of incoming Erasmus students, country, and period 2008/2009–2011/2012

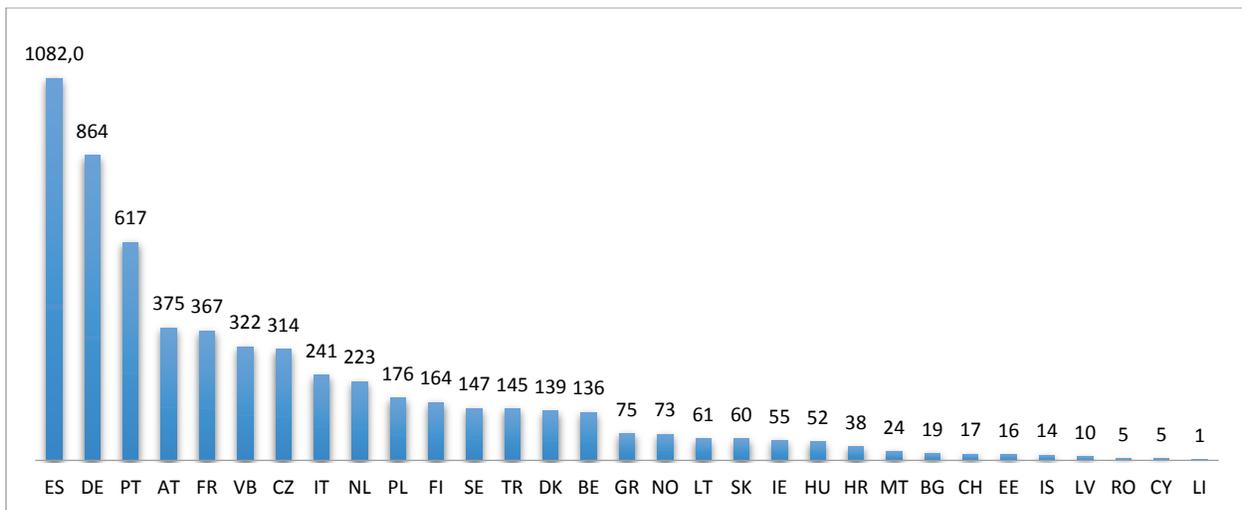


Source: CMEPIUS.

* All Erasmus motilities are included not just SMS.

In recent years, outgoing mobility has been increasing all the time. Most Slovenian outgoing mobility students leave for Spain (1,082), Germany (864), Portugal (617), Austria (375) and France (367). Countries largely uninteresting as a mobility destinations are, among others, Liechtenstein (1), Cyprus (5), Romania (5), Lithuania (10) and Iceland (10) (see Figure 2).

Figure 2: Number of outgoing Erasmus students, country, and period 2008/2009–2011/2012



Source: CMEPIUS.

* All Erasmus motilities are included not just SMS.

A brief overview of the development of internationalization of HE in Slovenia also showed that Slovenian HEIs responded to the changing environment and internationalization pressures relatively late. Slovenia, for example, still does not have an international strategy developed on a national level. To avoid possible risks related to internationalisation of HE governments should take the responsibility for ensuring the quality and transparency in the conduct of HE internationalization. Nevertheless, a significant challenge for Slovenian internationalization of HE is mostly to increase the attractiveness of Slovenian HE for international students.

2. PRESENTATION OF HEI – THE CASE STUDY

International School for Social and Business Studies (see [ISSBS](#)) is a flexible and relatively small HEI located in the north-eastern part of Slovenia. It is specialized in the field of business and social studies at all three levels - bachelor, master, and Ph.D., but with a focus on social responsibility.

ISSBS was founded in 2006 in Celje, as an independent, private owned HEI. It develops and delivers curricula in the fields of economics, business and administrative sciences at all three levels of the study (bachelor, masters and doctoral). It is also active in related fields of the research and international cooperation. All six study programmes were developed by the Bologna guidelines and accredited in Slovenia. For some of the programmes as well as for the entire institution, ISSBS also got some international accreditations of quality.

Internationalization is an important strategic direction ISSBS has been trying to implement in recent years. It is not implemented only through the mobility of students (the number is less than 10 cases of mobility per year), faculty and other staff, but also through a delivery of international summer schools and direct involvement of foreign experts and visiting professors into the delivery of the courses. Also, ISSBS is a member of many international and regional organizations (EAIE, UNAI, Danube Excellence Consortium, and Regional Chamber of Commerce Celje). Moreover, ISSBS cooperates with more than 30 European universities.

The research is strongly developed at the institution. ISSBS carries out various national research projects acquired at public tenders by Slovenian Research Agency (SRA), as well as other tenders initiated by the European Structural Funds, ministries or municipalities. ISSBS also successfully conducts international research projects (7th Framework Programme, the EACEA Tempus IV, EACEA Lifelong Learning Programme (EQF, Jean Monnet, and Leonardo da Vinci). Besides, ISSBS has been awarded the international HR Excellence in Research certificate. This way, it became one of the national contact points of Euraxess as well. Institution annually organises international scientific conference MakeLearn, various research seminars, and Student Research Conference KoME.

An important part of the infrastructure supporting the research activities at ISSBS is also the Publishing House, which issues teaching materials for students, scientific publications such as monographs, and international scientific journal The International Journal of Management, Knowledge and Learning (ISSN 2232-5107) mostly for scholars and practitioners. It is also a co-founder of the international academic publishing house ToKnowPress together with Kasetsart University, Thailand and Maria Curie-Skłodowska University, Poland.

3. RESEARCH FINDINGS – MANAGING DATA ON INTERNATIONALIZATION

3.1. Desk research on internationalisation

ISSBS does not have any independent/separate strategy for internationalization. It has designed Development strategy in recent years in which internationalization indicators are integrated as quality indicators. Such definition of the internationalization is a matter of management decision based on fundamental characteristics of the institution - the size and age of the institution. The Development Strategy has been designed by taking into consideration all fundamental institution's documents. Amongst these documents, it is necessary to highlight particularly the mission and vision statements as well as the Self-evaluation report (SER) together with the recommendations provided by the external evaluations and accreditations (national and international). Therefore, for the purpose of the desk research we reviewed the following sources related to internationalization data:

- 2014-2018 ISSBS Development Strategy,
- Self-evaluation Reports,
- an overview of available international data.

Findings:

- Internationalization is considered as a transversal activity in the four core activities of the institution, namely: education, research, collaboration with the external environment and social responsibility, and provision of resources for operations at ISSBS (see Annex_1).
- A combination of central and faculty/department level offices carries out the primary function of coordinating international activities at ISSBS. Therefore, it is sometimes hard to keep the track of all the internationalization data collected at ISSBS and their location at the institution (faculty/department offices).
- Most administrative and academic staff at the institution do not know where to find the internationalization data.
- Internationalization data are not always kept up to date.
- Internationalization data are not available in a format that is easy to query and extract for reporting.

3.2. Small scale survey: Quality indicators – process of selecting 25 indicators

We selected 25 indicators (5 from each IMPI group), which are the most important for the ISSBS (see Table 3). The methodology of selection was as followed: Firstly, we informed ISSBS staff about HEIDA project and implementation of the case study. The schedule and methodology of data gathering were presented. Because of the desk research, the decision was made that the best way of selecting the indicators was to carry out a survey. Secondly, we designed an online survey by which the respondents selected up to 5 indicators among each IMPI group. They had to choose only the indicators relevant for the implementation of internationalization strategy at ISSBS.

Table 3: Selected indicators at ISSBS/5 for each group

GROUP	SELECTED INDICATORS
"Enhancing the quality of education."	01-009 What proportion of students from the institution participates in outgoing exchange or mobility programmes in a given year?
	01-010 Out of all courses offered by the institution in a given year, what is the proportion of courses taught in a foreign language?
	01-005 Out of all degree programmes offered by the unit in a given year, what proportion are international joint/double/multiple degree programmes?
	01-001 Out of all students in the institution, what proportion studies abroad in a given year?
	01-002 In a given year, out of all international students in the institution, what proportion is in programmes taught in the national language?
"Enhancing the quality of research."	06-016 In a given year, what proportion of researchers in the institution is involved in at least one research project with an international partner?
	06-021 In a given year, what proportion of research projects with which the institution is formally associated is internationally funded?
	03-012 Does the institution participate in international networks and organisations in the field of internationalization?
	06-029 In a given year, what proportion of researchers in the institution author (or co-author) pieces (books, journal issues, articles, etc.) that are published internationally?
	06-032 In a given year, what proportion of articles authored (or co-authored) by the researchers in the institution is published in internationally refereed journals?
"Well preparing students for life and work in an intercultural	01-003 What proportion of students from the institution participates in outgoing exchange or mobility programmes in a given year?
	01-004 Out of all students in the institution, what proportion studies abroad in a given year?
	01-010 Out of all international students in the unit in a given year, what proportion are exchange or mobility programme students.

and globalizing world."	02-047 In a given year, out of all academic staff members in the institution, what proportion are visiting staff members from abroad.
	05-030 Out of all courses offered by the institution in a given year, what is the proportion of courses taught in a foreign language.
"Enhancing the international reputation and visibility of the institution."	07-013 Does the institution participate in national, regional or local networks supporting internationalisation?
	08-008 Does the institution provide international students with comprehensive pre-arrival information (covering such topics as visa procedures, the cost of living, tuition fees, accommodation options, university services, sports and cultural activities);?
	07-002 Does the institution monitor its international visibility?
	03-009 Does the institution have a particular organisational structure to support internationalisation?
	05-023 Out of all degree programmes offered by the unit in a given year, what proportion are international joint/double/multiple degree programmes?
"Providing service to society and community social engagement."	06-021 In a particular year, what proportion of research projects with which the institution is formally associated is internationally funded?
	02-030 In a given year, out of all of the institution's academic staff members, what is the proportion that attends at least one international conference or seminar?
	07-013 Does the institution participate in national, regional or local networks supporting internationalisation?
	01-004 Out of all students in the institution, what proportion studies abroad in a given year?
	02-018 In a given year, what proportion of international conferences is organised by the institution's staff members?

Thirdly, the chosen indicators were then sent to the international office for the HEIDA Case Study Indicator Data Collection – ISSBS (see Annex_2). At the international office, the staff answered questions about 25 selected indicators and their data management. The main conclusions were:

- There is a need for an independent International Strategy.
- There is a need to decentralize the entire internationalization activities.
- There is a need for a comprehensive data management system.
- Additional questions for each indicator are very useful.

3.3. Recommendations gathered from focus groups, interviews, desk review about the data sharing tool, training needs, and other aspects

Focus group

Focus group was conducted in 5th of October 2015. The main topics of the focus group were internationalisation, data management and user skills needed for internationalisation at ISSBS. Attendees were two members of administrative staff, two representatives of the management team and two teachers. Associate Dean moderated the focus group.

We found out that institutional internationalisation goals and objectives were in line with the 25 selected indicators. However, for further internationalization development at ISSBS, it would be crucial to keep the indicators and steer clear priorities for their implementation. As Administrator 1 stated: "It is necessary to define uniform indicators (indicators - aligned to key documents) which should not be changed every year, but remain unchanged for longer periods of time".

Besides, a unified system for the management of data concerning internationalization is needed as well as certain improvements to the central institution's information system. At ISSBS, information system

Novis is used, which is integrated with the data warehouse for collecting and analysing different data about the students as well as teaching and learning but not about finances related to internationalization or about the personnel. Some data is still collected by hand with the help of Excel sheets (about students, HR, etc.) which are not integrated into Novis or data warehouse. As Administrator 2 declares: "Internationalization activities are included in different services and content areas of activities at the institution. With adequate IT support and integration of activities delivered by different offices, we could improve the efficiency and transparency of data collection and data analysis".

For the administration, documentation, tracking, reporting, delivery and electronic support of the courses software application Moodle is being used at ISSBS. The system seems to be very appropriate and useful for all - the students, teachers, administrative staff, and management. Also from the internationalization point of view Moodle seems to be very effective. Manager 1, for example, says: "it is available for domestic as well as for foreign students and teachers, supports Slovenian and English language, etc."

One of the findings is also that there is no separate/individual strategy (this strategy is currently under development) available at ISSBS to ensure that internationalization data is complete, consistent, available, relevant, timely, and valid. Nevertheless, the internationalization strategy can be seen from the long-term goals and work plans points of view. "Since the internationalization at ISSBS is not tackled systematically and in a long term, the need for a strategy for providing information on the internationalization data - separate/individual strategy for data aggregation and analysis - have never occurred" (Manager 1). Currently, the internationalization data are collected and analysed as a part of ISSBS development strategy and Self-evaluation Reports. Manager 1: "We are establishing a strategy for general activities/data, but it is less focused on the internationalization".

Educational and organizational data can for sure be turned into actionable information to improve internationalisation outcomes. At ISSBS, the educational and organizational data are integrated into annual and strategic objectives. If this type of data is used as a tool for monitoring and managing the operation at ISSBS and for acting in the case of deviations, outcomes of internationalisation might even be improved. Therefore, at ISSBS the need appears to improve the annual and strategic objectives and to make them more precise, to monitor the achievement of the objectives, as well as to define more apparent internationalization strategy and tactics of how to achieve all the internationalization objectives. Moreover, it is needed to set clear but limited number of internationalization objectives, monitor their achievement and communicate findings to all the employees.

We can conclude that from the data management point of view at ISSBS it should not be difficult to compile and obtain reliable reporting on international activities and international dimensions because ISSBS is a rather small HEI and the transfer of the data/information should not be too difficult to implement. "Annual objectives in the field of internationalization are monitored manually (excel sheets), but because of a low level of activities this approach seems to be far more rational" (Manager 1). However, we agree with the statement noted by the Teacher 1: "With good information system, we could organize all the data and not just the data on internationalization, which everyone could have access to, and that would certainly contribute to greater efficiency."

Focus groups also showed relatively weak knowledge on how to use ICT technologies among administrative staff (as well as teachers) and resistance to using such technology.

Interview

The interview was done with the associate dean (from now on interviewee) on 16th of October 2015.

The interviewee noted that Internationalization data management was very complicated because internationalization related concepts had to be individualised for specific HEI (e.g., old, young, research oriented, teaching oriented, etc.) as well as for particular situation/context. The interviewee, therefore, realised, there were indicators on the list that could not be incorporated into ISSBS operations. Besides, as he noted, understanding of Internationalization indicators (IMPI indicators) might be biased and hard to understand/specify, because of cultural, linguistic, national and organisational specifics.

The interviewee stated that it was crucial to align internationalisation (concept, objectives, and indicators) with vision and mission statements and to communicate internationalization to employees. Internationalisation should be presented to the employees by using good examples. At ISSBS, a small number of internationalization objectives should be identified and clear and straightforward internationalisation strategy (including recognition of international markets, the scale and scope of international conferences, pedagogical/didactic approaches, etc.) defined. The objective should be a balanced list of indicators (balanced scorecard), which can be validly and reliably monitored by using different IT systems (student data warehouse, CRM, HR system, etc.). However, because ISSBS is a small institution sometimes a question occurs, whether or not internationalisation can be seen as a transverse activity or as "separate activity" (as an individual strategy), and integrated into the operation of the whole institution. "When I went through the case study questions and internationalization indicators and when I try to answer them in ISSBS context, some new questions arose." (Interviewee):

- Internationalisation as a transverse activity or separate activity (what is better for big and small organizations)?
- Do we have the ability for collecting the data and for calculating particular indicator?
- Do we collect the data for calculating specific indicator?
- Are collected data used for creating information?
- How/for what the information is used?

The problem that the interviewee sees is that it is still much data collected and processed outside of these IT systems (by hand), which makes it difficult to monitor, casts doubt on the credibility of the data causing unavailability of information required for quality decision-making by people who need such data, etc. Nevertheless, the problem arises precisely because of the size of the organization, as it is sometimes faster to do something by hand than to learn the use of new systems. Further, we have to keep in mind that employees are not always keen on the data collection and learning new technologies. Especially data collection is something seen as unnecessary bureaucracy (interviewee).

Some "best practices."

In the framework of a Quality assurance project the data warehouse was developed, which has been integrated with HE information system Novis. There have been recognised quite some improvements, however, most of the work is still in progress.

Every year, ISSBS prepares a Self-evaluation Report. It critically evaluates the operations of ISSBS in all activity areas, and based on its findings takes any necessary measures for improvement. The latter is recorded in the Annual Work Programme and the annual and long-term goals of ISSBS. Improvements, which are indicated in the SE report for 2014, are particularly connected to the need to maintain the number of students, allowance for diverse methods and forms of teaching, checking curricula, strengthening co-operation with foreign and national higher education institutions, strengthening research activities with dissemination activities and publicity of the research work of ISSBS research group, enhancing tutoring and increasing the inclusion of students in research work.

ISSBS Development Strategy is based on findings of international accreditations and evaluations which ISSBS approached over previous years; in 2010 ISSBS received the FIBAA programme accreditation, in 2015 two programme accreditations by AQ Austria and institutional evaluation by ASHE. By FIBAA recommendations, ISSBS more clearly defined the concept of student workload, ensured equal distribution of contact hours and credit points in an academic year, more clearly delineated full-time and part-time studies as well limited the timeframe for completion of the final thesis. For the future, ISSBS is going to increase support further to teaching in English, increase the availability of study to employed individuals, record the study and examination regulations, include leadership learning competencies in second cycle study programmes, and establish an international advisory board. On the basis of the AQ Austria and ASHE recommendations, ISSBS has already started to develop systematically and implement an internal quality assurance system, redefine competencies and learning outcomes on the study programme subject level, update the Rules on Quality and define procedures and instruments to monitor, assess and assure quality in key processes at ISSBS, outline a procedure of continuous

improvement to studying programmes, formalise the student complaint procedure, establish tutoring and continuing education with the introduction of blended learning. In the future, we intend to design the graduate competency profiles for all the study programmes, strengthen activities relating to internationalisation, design a development plan for teachers and introduce changes to study programmes.

4. CONCLUSION

In this section, we are presenting key findings of the case study conducted at ISSBS in following steps (Case study methodology): (1) desk research, (2) informing ISSBS staff about the HEIDA project and the case study, (2) selection of 25 IMPI indicators, (3) HEIDA case study indicator data collection, (4) delivery of focus group, (5) interview and (6) overview of best practices at ISSBS.

Internationalization at ISSBS is considered as a transversal activity and integrated into the four core activities of the institutions, namely: education, research, collaboration with the external environment and social responsibility, and ensuring operating conditions at ISSBS.

At ISSBS, there is no separate/individual strategy ensuring that internationalization data is complete, consistent, available, relevant, timely, and valid (this strategy is currently under development). There are no separate/individual strategies for data aggregation and analysis as well.

A combination of central and faculty/department level offices carry out the main function of coordinating international activities at ISSBS. Therefore, it is sometimes difficult to keep the track on all the internationalization data that are collected in the institution and their location (faculty/department offices).

Institutional objectives are in line with the 25 selected indicators. Further step at ISSBS is to define a clear and straightforward internationalization strategy. Currently, the internationalization data are collected and analysed as a part of ISSBS development strategy and Self-evaluation Reports. With the help of case study, we found out that the internationalisation outcomes might be improved at ISSBS in the following way:

- with independent International Strategy,
- with the centralization of the entire internationalization activities,
- with comprehensive data management system,
- by using the international data and analysis for action/improvement,
- with extra training for admins and management about data management.

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