


*Study Visit with Coordination Meetings*  
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**Developing of the key performance  
 indicators (KPIs) in higher education  
 Republic of Serbia**

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*Development and Implementation of System for Performance Evaluation for Serbian HEIs and System*  
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## Guiding principles for PKIs

### Key performance indicators should:

- be relevant
- be statistically and methodologically rigorous
- be derived from high quality, objective data sources, and where possible collected at by an independent body, as well as not easily manipulated
- be as simple, transparent and explicable as possible
- have an explicit and consistently used definition
- be collected and analysed cost-effectively
- inform and encourage policy and practice at both the national and institution level

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## Purpose of KPIs

Primary role should be in monitoring and measuring HE performance  
'to provide an overview of Serbian HE' to:

- HEIs,
- funding bodies/policy-makers,
- the public and
- students.

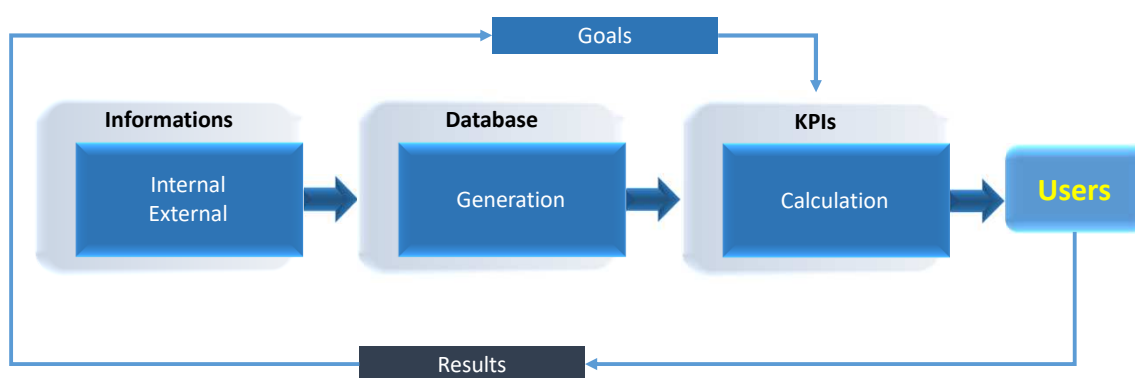
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## KPIs process



What should we measure and who should we measure?

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**The question is how to construct meaningful KPIs?**

Serbia has three types of higher education institutions: non-profit HE institutions (universities, colleges of professional career studies and colleges of academic studies), profit HE institutions (business schools) and art academies. Universities are the largest institutions. The status of university is granted if the institution has academic study programs at all levels of study (at least one at the level of master's degree) in the fields of natural sciences and mathematics, social and humanistic studies, medical science, technical and technological science, and arts.

A university is composed of faculties, which are higher education institutions that offer academic study programs and develop scientific, vocational and artistic activities. Faculties and art academies may also carry out academic study programs in other areas. Faculties and art academies are established under the name of the university that they belong to, and under their own name, in accordance with the statute of the university.

**study programmes in:**

1. Natural sciences and mathematics,
2. Social and humanistic studies,
3. Medical science,
4. Technical and technological science,
5. Arts

**Institutional Key Performance Indicators**

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**Composite or Aggregated Performance Indicators**

PESHES team propose composite quantitative performance measures in which a number of different numerical indicators are combined into a single overall indicator.

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## Optimized set of the Key Performance Indicators for Serbian HE institutions

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### IND1 - Success rate in students recruitment

$$IND1 = a + b + c$$

a = Applications per place

b = Quality of student entry

c =  $\frac{\text{Intake of 1st year bachelor students in HEI}}{\text{The number of accredited places}}$

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## IND2- Internationalization and international student enrolments

$$\text{IND2} = a + b + c$$

$$a = \frac{\text{The number of international students as \% of total number of students in HEI}}{\text{The number of international students as \% of total number of students in all HEI}}$$

$$b = \frac{\text{The number of accredited study programmes in english language as \% of total number of study programmes in HEI}}{\text{The number of accredited study programmes in english language as \% of total number of study programmes in all HEIs}}$$

$$c = \text{The number of joint degree and double degree programmes as \% of total number of study programmes in HEI}$$

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## IND3 - Graduation rate

$$\text{IND3} = a + b + c$$

$$a = \frac{\text{The number of diplomas issued (I, II and III level) in HEI}}{\text{The number of intake of 1st year bachelor students in HEI}}$$

$$b = \text{Study efficiency}$$


$$c = \frac{\text{Capacity of HEI for II level of higher education} \times \text{The number of II level students in HEI}}{\text{The number of intake of 1st year bachelor students in HEI}}$$

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 **IND4 - Capacity for PhD studies**



$IND4 = a + b + c + d$


$a = \frac{\text{The number of FTE mentors in HEI}}{\text{The number of FTE academic staff in HEI}}$

$b = \frac{\text{The number of PhD awarded in HEI}}{\text{The number of PhD students in HEI}}$

$c = \text{average number of publication per PhD awarded}$

$d = \text{Reputation of HEI for PhD studies}$

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 **IND5-Academic staff**

$IND5 = a \times b + c + d + e$



$a = \frac{\text{FTE academic staff in HEI as \% of FTE academic staff in all HEIs}}{\text{The number of students in HEI as \% of total number of students in all HEIs}}$


$b = \frac{\text{FTE academic staff in HEI share in governmental funding research}}{\text{Total FTE academic staff in HEI}}$

$c = \frac{\text{FTE academic staff in HEI share in mobility grants}}{\text{Total FTE academic staff in HEI}}$

$d = \frac{\text{The number of published text books ....}}{\text{Total FTE academic staff in HEI}}$

$e = \frac{\text{The members of SASA}}{\text{Total number of SASA members}}$

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## IND6- Research outcomes

$IND6 = axH + b + c$



$$a = H \times \frac{\text{Publications of HEI as \% of publications in all HEIs}}{\text{The number of FTE researchers as \% of total number of FTE researchers in all HEIs}}$$


H-index

$b =$  HEI as publisher of Sci. Journals

$c =$  HEI as organiser of Sci. Conferences

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## IND7-Non-academic and administrative staff



$IND7 = a + b + \dots$

$$a = \frac{\text{FTE non- academic staff in HEI}}{\text{FTE academic staff in HEI}}$$

$$b = \frac{\text{Number of.....}}{\text{Total number of students in HEI}}$$

**IND8-infrastructure and...**

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**IND9- Financial resources**  
IND9= a+b+c

**Non-profit institutions**

$$a_{NPI} = \frac{\text{Income from tuition fees, third party funding and other services of HEI}}{\text{total income HEI}}$$



$$a_{NPI} = \frac{\text{Income from tuition fees, third party funding and other services of HEI}}{\text{Income from tuition fees, third party funding and other services of all non-profit HEIs}}$$

**Profit institutions**

$$a_{PI} = \frac{\text{Surplus as \% of income HEI}}{\text{Surplus as \% of income all profit HEIs}}$$

$$b = \frac{\text{investment in infrastructures as \% of total income of HEI}}{\text{investment in infrastructures as \% of total income of all HEIs}}$$



$$c = \frac{\text{Income from third party funding and other services of HEI/number of academic staff FTE}}{\text{Income from third party funding and other services of all HEIs /total number of academic staff FTE}}$$

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**IND10- Employment**  
IND10= a+b+c

$$a = \frac{\text{employed I level graduated students as \% of total number of I level graduates in HEI}}{\text{employed I level graduated students as \% of total number of I level graduates in all HEIs}}$$

$$b = \frac{\text{unemployed I level graduated students 2 years after graduation in HEI}}{\text{total number of I level graduated students in HEI}}$$

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## IND11-General student satisfaction

A measure of students views of the teaching quality at HEI.

Data from student's evaluations.

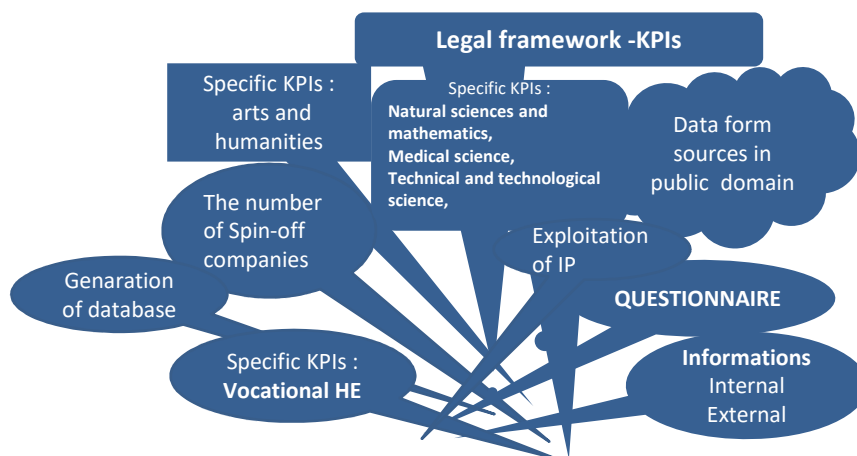
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## KPIs Current and future challenges



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