

Challenges of Strategic Decision-Making within Higher Education and Evaluation of the Strategic Decisions

Blaženka Divjak

Faculty of Organization and Informatics

University of Zagreb

blazenka.divjak@foi.hr

Abstract. *This paper gives a brief overview of the changes within higher education system during the last few decades. Further, the paper brings critical analysis of approaches to strategic decision-making and strategic planning in higher education and most importantly, it brings examples of strategic problems and possible strategic decisions as well as strategic decision evaluation possibilities within higher education and the corresponding impact evaluation within Croatian HE institutions.*

Keywords. Strategic decision-making, higher education, impact evaluation, strategic planning, learning analytics.

1 Introduction

Tremendous changes in economic, social and technological sphere pose new challenges for higher education (HE) and especially for decision making in HE. The most important characteristic of the changes in higher education that occurred during the last 30 years is growth resulting from the expanded enrolments within HE (Ho Mok, et al., 2015) due to the needs of the labour market but also due to the societal needs for education and personal needs. The number of students is growing as well as the number of higher education institutions (HEIs). The next important characteristic of change is diversity (Kuh, et al, 2015). It is determined the varied student population (previous education, social position, underrepresented groups in higher education etc.) but also the higher education institutions (universities, polytechnics, academies).

As stated in (Divjak, 2014), and according to the OECD 2012¹ the higher education is characterized by the extreme expansion of system, development of approach; with new global players (China and

India), more diverse institutions, study programs and students; accepting and implementing IT technologies in learning and teaching, bigger internationalization, growing costs and new forms of financing, changing modes and roles of governance, increasing emphasis on performance, quality and accountability of the HE institutions.

The overview of HE status and the growth and expansion problems within Croatian higher education can be found in (Divjak, 2014).

As a result of the stated changes and impacts, the level of competition within the HE area is extremely developing, and in the last two decades the HE institutions are in competition with the online education and open courses and resources (MOOC, OER and similar).

In order to stay competitive on the existing markets and to win some new markets or market shares the HE institutions shall foster the quality of their teaching, relevance of the awarded qualifications, potential and international relevance of its research and the role in development of local, national and international (also EU) economy and society. All stated demands significant funds and human resources to be invested. Whereby the HE funding becomes state burden in systems where HE is public good (and public concern) this includes families and students and in cases where the value of HE is considered as private property it is considered the personal responsibility of students and their families. Moreover, the state has reduced the HE funding per student in relative values (Zechlin, 2008). Finally, according to (Brennan et al, 2014) three main challenges that the higher education sector faces across the globe are: (i) pressures from globalisation; (ii) changing supply of and demand for higher education; and (iii) changes in higher education funding.

¹OECD, Assessment of higher education learning outcomes, Feasibility study report, Vol 1, 2012

The results are more complex and more demanding missions, visions and strategic planning in HE so the need for strategic planning, management and governance in higher education has been drastically changed i.e. considerably expanded.

2 Strategic decision-making and approaches to strategic planning in higher education

Influenced by changes and demands from political, economy and social spheres as well as all impacts stated above, the HE system includes much complex decision-making with far-reaching consequences. Furthermore, the HE institutions have more autonomy but also more responsibility (Zechlin, 2008). In order to take responsibility, the HE institutions use theories and practices of strategic decision-making from business sector but also create new models tailored for HE.

We can say the strategy has become a form of leadership within HE institutions.

Strategic decision has been defined by (H. Mintzberg et al, 1976) as one that is “important, in terms of the actions taken, the resources committed, or the precedents set and the scale of plan to enable its implementation. Strategic decision-making usually includes the term strategic planning that generally describes the process of research of changes, needs and scenarios that grow into the strategic goals and action plans after the consultation phase and decision-making process.

The action plans shall be implemented, monitored and finally evaluated. In this way, the so-called Deming PDCA cycle (Plan-Do-Check-Act) is closed.

There are quite opposite attitudes on the usage value of the strategic planning within higher education despite the general attitude that a form of strategic planning is essential within HE. But there are questions how, why and for how long as well as how to evaluate the success of strategic decision-making, including different answers on what are the key success factors.

After the strategic planning entered the HE at the end of 20th century there were some negative voices on transfer of the strategic planning in HE (Mintzberg, 1994; Buller, 2014). Particularly, the strategic planning, as well as some other approaches, technologies and methodologies were developed for military (in World War II) and as such presume the hierarchical organization and structure within organization. First academic institution to accept strategic planning was MIT (1959) but more impact

was done in the middle of 1980s by Penn State (Buller, 2014).

In his 1983 book *Academic Strategy*, George Keller struck a vital chord for a large audience in describing how strategic planning could respond to the ominous changes in the environment of HEIs. (Morris, R.L., 2010)

The strategic planning usually starts with the SWOT analysis and ends with the Strategic Plan. However, the critics emphasize that if the governance and the management are not visionary enough or if their implementation plan is not clear, the strategic plan has no significant impact on the institutional development.

However, the mission and vision are in this case too generic and different benchmarks and impact factors (Key Performance Indicators-KPIs) tolerate only measurable results. Therefore, (Buller, 2014) emphasizes the importance of leadership in HE while (Mintzberg, 1994) upholds strategic thinking but not strategic planning, with the former including creativity and synthesis and the latter being by its nature mainly analytical. Furthermore, one of the important processes for problem recognition is the diffusion of innovation (Rogers, 2003) that shall be carefully considered within HE (Buć, Divjak, 2015).

As a basis for decision-making, we need data, research and evaluations conducted during and after the implementation of the strategic decision to serve for the impact evaluation of the strategic decisions.

It is important to differentiate the terms strategic decision-making and strategic planning because the strategic decision and the implementation of the strategic decisions shall not include the strategic planning process.

However, there are different approaches to implementation of strategic decisions in HE. One of them titled *New Public Management* (Zechlin, 2008) (NPM) represents the modification of the standard strategic planning for usage in public sector. NPM was developed in the UK during 1980s, it soon became widespread in the USA, Australia, Scandinavia, and it is widely used today in the states that base the funding of their public sectors (education, health etc.) on programme funding in order to connect the public funding with certain quantity and quality of public administration. This „new” approach represents the transition from the input-oriented to output-oriented. The NPM approach includes the long-term impact as the highest level in terms of values that bring to the industry, society and individual. Afterwards, the values are expressed for the certain period in terms of specific outputs taking into account the differences within some parts of the mission eg. the development of social dimension of the society is

not described in the same manner as the scientific productivity or teaching.

However, this model will not bring considerable shift if the special attention is not given to the implementation of the strategy, its monitoring and environment developments (eg. developments within IT) in order to timely respond to the perceived changes and certain trends. In this way, the deliberate strategies are developed and according to (Mintzberg, 1999) the final strategy is the sum of two strategies (formal and informal).

Finally, the impact evaluation of such strategy that recognizes both components influencing the implementation is not developed enough nor regularly implemented within HE institutions.

Within (de Boer et al., 2007) de Boer emphasizes five different dimensions of the relationship between university and state that are not in collision: state acts on HE restraining the autonomy of the university (eg. human resources), managerial university relying to market laws and professional management, academic autonomy within the university, university steered by its stakeholders and university run by the principles of competition.

Due to the big influences of emerging information and communication technologies on operation of public institutions and services and the occurrence of the development strategies that change systematic strategies continued in practice, the *Digital Era Governance (DEG)* was developed at the beginning of 2000s. Advocates of the DEG (Dunleavy, 2007) especially emphasize that together with the positive effects in highly developed countries the *Needs Based Holism (NBH)* lead to the agentialization in public sector by establishing a large number of state agencies that govern, control and direct system.

Within the first phase (2005-2010) the DEG therefore includes reintegration of the sector, redesign of public service according to the needs of its users, structure of the agile government sector and the step towards the digitalization that includes the centralised online public service or similar. In the following endeavour, the bigger emphasis was dedicated to the online processes taking into account new possibilities of the ICT (Dunleavy & Margetts, 2010). Within the area of the DEG service evaluation it is especially emphasized the universal online evaluation based on the reputation of public services.

3 Characteristics of strategic decision making in HE

3.1 In general

The objective of the research of the problems in strategic decision-making in HE, with special emphasis on challenges of Croatian higher education institutions. First, we shall research the content of the term strategic decision making and its context within HE.

The definition is by (G. Johnson et al., 2005) chapter. According to (H. Mintzberg et al 1976, p. 126.) a strategic decision has been defined as one "important, in terms of the actions taken, the resources committed, or the precedents set. Furthermore, according to (K.M. Eisenhardt & M.J. Zbaracki. 1992, p. 17) infrequent decisions made by the top leaders of an organisation that critically affect organizational health and survival". Furthermore, the process of creating, evaluating and implementing strategic decisions is typically characterised by the consideration of high levels of uncertainty, potential synergies between different options, long term consequences, and the need of key stakeholders to engage in significant psychological and social negotiation about the strategic decision under consideration.

For the need of this analysis, we shall define strategic decisions as those:

- being important, in terms of the actions taken, the resources (human, material, financial) committed
- being highly uncertain and risky but also including potential synergy of different options
- including potentially long-term consequences
- being brought by higher management
- demanding negotiation efforts to be implemented.

One of the fundamental disadvantage of strategic decision and strategic planning is transfer from business systems to higher education system without deliberate adjustments. Namely, the higher education institutions are described as knowledge organizations and very often as expert organizations and professional organizations in which the experts rather than the organization are owners of the most important delivery (knowledge) (Zechler, 2008). Being quite loose such organization is as quality as its experts are curious (researchers and professors), creative and innovative. Strong hierarchical structure of governance can harm its creative potential, and the lack of planning and strategic

directionality can result in chaotic movement with low results. Due to the concerns about this loose balance and well-rooted tradition the changes are slow and the HE system stagnant.

The differences that influence making and implementation of strategic decisions within HE in relation to corporative environment:

- HE institutions are specialized institutions that „manufacture” knowledge
- owners of the products are experts (researchers and professors)
- value system that is usually crucial in strategic decision
- long-term timeframe including the period of 5 years, opposed to the 2-3 years in industry
- need to reach consensus for top-down decisions requesting the participation of all stakeholders
- the final client is not clearly determined
- tradition preservation and slow process of change
- special status of HE as a public good.

3.2 Croatian HE

Next to the differences in making strategic decisions in HE and in corporations, some characteristics of the Croatian HE can be identified. Firstly, it includes the way the HE system is organized and governed (de Boer et al., 2007) being half-way between state regulated system and autonomous university system since the state holds the crucial role in employment and deciding on promotion criteria.

Furthermore, after the pilot programme funding (2012-2015) in Croatian HE the further development of programme funding has been neglected and the first phase evaluation results were not made public.

The characteristics of strategic decision-making within Croatian HE institutions can be hypotized as the following:

- significant dependence of the HE institutions on the regarding ministry
- HE institution is often very lightly connected institution (e.g. association of faculties within a university)
- decision-making includes very complex success indicators that are often impossible to be classified (customer-driven, profit-driven, mission-driven?)
- the lack of continuation in governance (leadership elections are in cycles of 2,3, or 4 years)

- leaders are often lacking adequate knowledge, skills and vision on strategic planning and leadership
- the existing leadership system “successfully” suspends changes because the choices are based on the cyclic affirmation and legitimacy (e.g. deans elect rector, rector affirms the programmes of the deans)
- strategic documents are created to be stored on shelves or for external evaluation rather than for the implementation
- monitoring of the strategy implementation is not conducted nor are the necessary corrections based on the environmental or institutional impacts introduced
- no impact evaluation of strategy decisions or strategy documents
- strategic decisions within HE system are brought on different levels and do not correlate

The abovementioned characteristics should be researched further taking into account different perspectives.

Levels of strategic decisions are (1) the level of HE system, (2) HE institution – universities, autonomous faculties, polytechnics, colleges and (3) autonomous units – e.g. departments within integrated universities. In the consistent system, it is necessary clearly determine the authority, interdependence and responsibilities on all three levels within HE governance.

Within the heading 5 of this paper, it is stated the context of strategic decisions within Croatian HE system with the special emphasis on its recognition and impact evaluation of strategic decisions. The term evaluation of the strategic decisions is determined within the following heading.

4 Monitoring and impact evaluation of strategic decisions

Within the Deming cycle, regarding the strategic decision-making, the monitoring and impact evaluation phase come after the decision-making and its implementation but as a rule it should be conducted simultaneously to the decision implementation to enable, except the planned strategies, the alternative development strategies. In theory, there are different evaluation types. According to (Stake et al., 2012) the impact evaluation of strategic decisions can be formative and summative, formal and informal (Figure 1).

The majority of strategic decision evaluation is informal and results from daily data acquisition or

simple observation of results that we suppose resulted from certain strategic decisions. In cases when the evaluation process is planned, we speak about formal evaluation.

Formal evaluation includes the determination of the data set, tools and activities and clearly determined strategic decision which impact is being evaluated.

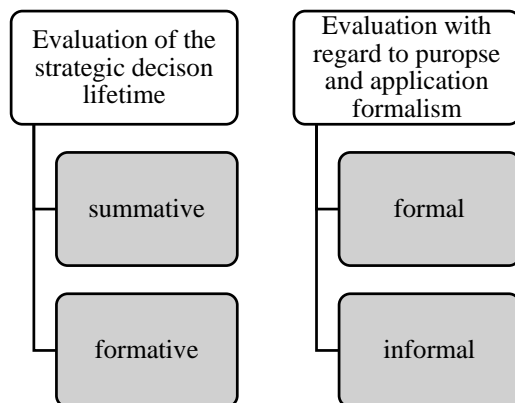


Figure 1. Evaluation types according to (Stake et al, 2012)

Especially, it is important to determine the purpose of the evaluation.

When the primary goal of the evaluation is the determination of the decision quality in certain point we speak about summative evaluation. However, if we monitor and evaluate the development and impact of a certain strategic decision we speak about the formative evaluation.

Within the evaluation, it is important to use both, quantitate and qualitative perspectives: criterion and critical incidents. According to (Sadler, 2005) a criterion is a feature according to which the quality can be assessed, the decision can be made or a classification implemented. A critical incident is a distinguished event or state according to which the quality of the decision or a process is assessed.

According to the DEG approach, the most important evaluation in the digital era is the one based on the unique online evaluation resulting with the reputation of a certain public service enabling all users and citizens to influence this reputation. For HEIs the reputation is essential since the recruitment of best students, teachers and researchers is based on the reputation rather than on real success indicators. In digital era, the online formal and informal evaluations are publicly available and can have a significant impact on the institutional reputation.

5 Strategic challenges within Croatian HE and the corresponding impact evaluation

As an illustration for identification of strategic challenges/problems and possible strategic decisions within higher education system, we use Croatian HE. Some of the most important challenges recognised within Croatian HE system described below in Appendix Table 1 shall foster reaction of HEIs to bring strategic decisions. The third column describes the research questions or in other words the mode of impact evaluation for certain strategic decisions. Problems/challenges resulted from the analysis of the strategic documents and new approaches within Croatia and the EU. The strategic decisions are considered on the level of HEIs. The impact evaluation regarding the strategic decisions is highly underdeveloped in Croatia from both, the methodological and application point of view and more targeted research in this area is needed. Therefore the results of the project *Development of a methodological framework for strategic decision-making in higher education – a case of open and distance learning (ODL) implementation (HigherDecision)* funded by the HRZZ that is currently running and within this research has been performed can contribute significantly. The HigherDecision project is being conducted with two basic aims:

- to develop the methodological framework for strategic decision making and to monitor its implementation
- to apply, adjust and evaluate the methodology on the case of decision implementation on e-learning and distance learning.

6 Conclusion

Governance within the HE system and HEI becomes more and more complex and demanding. HE institutions are responsible to ensure the resources what significantly exceeds academic potentials. Therefore, it is important to analyse the approaches to strategic decision-making on the institutional level as well as the impact evaluation of such decisions. In fact, the digital era has completely changed the existing education paradigms and education governance. In this context, next to the *New Public Management the Digital Era Governance* shall be taken into account as well as the experiences and the development existing in some HE systems. The NPM approach promoted programme funding agreements between state and

university resulting in the developed western countries with positive outcomes regarding the efficiency of the educational system and the responsibility of the HE institution for their results. Furthermore, it obliged the state to a certain level of funding and support. However, the HE institutions cannot prosper long-term only according to the planned strategy and without the deliberate strategy being continuously created on the base of the external impacts and new ideas from the system. One of the main change accelerator that demands action is the information and communication technology that drastically changed the existing forms of learning and teaching as well as the settled balance of power within the education market. The monitoring processes of the strategy implementation and continuing adaptation by the implementation of new deliberate strategies are the obligations of HE institutions. Due to the development of ICT there are numerous possibilities to implement the monitoring without administrative workload (learning analytics, educational data mining), and new approaches to the strategic planning (DEG) enable new view to the traditional constructs (i.e. online reputation). All that is useful to raise awareness of the institutional position but also of the relations between the environment and/or educational trends.

However, no encompassing efforts of strategic planning will result with significant shift in the development of HE institutions within their three-valued mission if the incentive environment for creative research and innovative education is not developed supporting the development of human potential within HE institution. Therefore, the strategic decisions and their implementation shall enable enough flexibility, continuous monitoring of changes within HEI as well as in its environment and the space for creative solutions and innovation.

Croatian HE lags behind major global trends in HE development regarding strategic-decision making and evaluation of impacts of decisions. Recognized strategic problems and proposed evaluation approaches given in this paper contribute to new perspectives and development. Specifics and challenges of strategic decision making in Croatian HE should be further researched and concrete policy recommendations proposed.

Acknowledgement

This work has been supported by the Croatian Science Foundation under the project IP-2014-09-7854.

References

- Buč, S., Divjak, B. Innovation diffusion model in higher education: case study of e-learning diffusion. (poster). Proceeding of the International Conference on E-learning 2015. Las Palmas de Gran Canaria, Spain July 21 - 24, 2015.
- Brennan, John, Broek, Simon, Durazzi, Niccolo, Kamphuis, Bregtje, Ranga, Marina and Ryan, Steve (2014) Study on innovation in higher education: final report. European Commission Directorate for Education and Training Study on Innovation in Higher Education, Publications Office of the European Union, Luxembourg.
- Buller, J. (2014) Change Leadership in Higher Education: A Practical Guide to Academic Transformation. Jossey-Bass Higher and Adult Education. San Francisco.
- Clark, B.R. (1998) Creating Entrepreneurial Universities: Organizational Pathways of Transformations. Oxford: IAU/Pergamon.
- Dunleavy, P.(2007) 'Governance and state organization in the digital era. in Robin Mansell, Chrisanthi Avgerou, Danny Quah and Roger Silverstone (eds.) Oxford handbook on information and communication technologies. Oxford: Oxford University Press, 404-426.
- Dunleavy, P., Margetts, H. (2010) The second wave of digital era governance. In: American Political Science Association Conference. Sep 2010, Washington D.C. Available at <http://eprints.lse.ac.uk/27684/>
- De Bour, H., Enders, J., Schimank, U. (2007). On the way towards a new public management? The governments of education system in England, the Nederland's, Austria and Germany. In D. Jansedn (ed) New forms of governments in research organizations. Dordrecht: Springer.
- Divjak, B. Preduvjeti za osnivanje, autonomija i odgovornost suvremenih sveučilišta – globalna i Hrvatska perspektiva. Strategija visokog obrazovanja u Sjeverozapadnoj Hrvatskoj. Hrvatska akademija znanosti i umjetnosti. FOI. Zagreb-Varaždin. 2014. St.31-39.
- K. M. Eisenhardt and M.J. Zbaracki. Strategic decision making. Strategic Management Journal, 13:17–37, 1992
- George D. Kuh and Stanley O. Ikenberry Natasha A. Jankowski Timothy Reese Cain, Peter Ewell, Pat Hutchings, Jillian Kinzie. (2015). Using Evidence of Student Learning to Improve Higher Education. Jossey-Bass Higher and Adult Education. San Francisco.
- HigherDecison project; www.higherdecison.hr
- Ho Mok, et al. Higher education governance in crisis: a critical reflection on the massification

- of higher education, graduate employment and social mobility. *Journal of Education and Work*. 2015.
- G. Johnson, K. Scholes, and R. Whittington. *Exploring Corporate Strategy: Text and Cases*. Prentice Hall, London, 7th edition, 2005. Chapter 2 Multi-Criteria Decision Analysis for Strategic Decision Making Gilberto Montibeller and Alberto Franco
- H. Mintzberg, D. Raisinghani, and A. Thøer et. The structure of “unstructured” decision processes. *Administrative Science Quarterly*, 21(2):246–275, 1976.
- Mintzberg, H., (1994). *The Rise and Fall of Strategic Planning*. London. Prentice Hall.
- Mintzberg, H. (1999). *Strategy Safari: A guided tour through the wilds of strategic management*. New York: The Free Press
- Morril, R.L. (2010) *Strategic Leadership*. Plymouth. Rowman&Littlefield Publishers, INC.
- Rogers, E. (2003). *The Diffusion of Innovations* (5th ed.). New York: The Free Press.
- Stake, R.E., Contreras, G., Arbesu, I. (2012). *Assessing Quality of a University – Particularly a Teaching*. Published in: Secolsky, C., Denison, D. B. (Eds) (2012). *Handbook on Measurement, Assessment, and Evaluation in Higher Education*. Routledge, NY.
- Weick, K.E. (1976). *Educational Organizations as loosely coupled Systems*. *Administrative Sciences Quarterly* 21, 1-19.
- Lothar Zechlin (2008) *Strategic Planning in Higher Education*. Published in *International Encyclopedia of Education*, Elsevier.

Appendix

Table 1. Examples of strategic decisions within HE and the corresponding impact evaluation

	Challenge for HE institution	Possible strategic decision brought by the HEI	Research question or impact evaluation of strategic decision
1.	<ul style="list-style-type: none"> Achievement of the learning outcomes Substantial usage of ICT within lifelong learning Achievement of digital or e-competences Availability of HEI to underrepresented and disadvantaged groups 	New e-learning strategy: Systematic implementation of e-learning, distance learning or open education	<ul style="list-style-type: none"> Comparison of the outcome evaluation within virtual environment with f2f courses Assessment of generic outcomes and key competences Survey on accessibility of HE Learning analytics and educational data mining data Usage of the NPM approach
2.	<ul style="list-style-type: none"> Competitive research and participation in international (EU) projects Support innovation culture and creativity in HEI 	New research strategy: Recognising and supporting competitive research groups and raising level of research promotion criteria for scientists	<ul style="list-style-type: none"> Ratio between R&D competitive projects and professional projects External (EU) research funding Online reputation analysis (DEG)
3.	Coherence of the learning outcomes of a study programme and requirements within occupational and qualification standards; employability of graduates	New study programmes strategy: Development of the occupational and qualification standards and the corresponding study programme	<ul style="list-style-type: none"> Impact of the coherence with Croatian Qualification Framework (CQF) to the employment of graduates Learning analytics
4.	<ul style="list-style-type: none"> Maintain and recruit quality researchers and teachers Support innovation culture and creativity in HEI 	New Human Resources Management: strengthening criteria for research and teaching excellence and ensuring the funding (EU projects, cooperation with industry) for their salaries and research infrastructure	<ul style="list-style-type: none"> Relationship between quantity and quality indicators of researcher's and teacher's quality and withdrawal of research funds Usage of the NPM approach Online reputation analysis (DEG)
5.	Internationalisation of study programmes and the recruitment of international students	New internationalization strategy: Orientation to internationalization that includes investments in mobility of teachers, researchers and students; development of joint	<ul style="list-style-type: none"> Number of international and EU students and their impact on the budget and visibility of HEI Learning analytics and educational data mining data Usage of the NPM approach

		studies and conditions for international students	
6.	Improvement of the position of the faculty/university on relevant world rang lists	New strategic orientation: Identified relevant rang-lists important for the visibility of HEI and investment in achievement of the regarding indicators	<ul style="list-style-type: none"> • Identification of the success factors that influence the HEI ranking and improvement • Impact of the ranking improvement to the strategic goals of the HEI • Benchmarking/Comparable analysis with the chosen HEI • Online reputation analysis (DEG)
7.	Relevance of HE (Recruitment of students to new study programmes that correspond to the job market needs, future job market needs and develop of key competences; contribution to the national economic development)	New study programmes strategy: Implementation of new study programmes in line with CQF	<ul style="list-style-type: none"> • Results of graduate employments • Impact of new study programmes to research and teaching results • Number of new agreements and projects with industry • Number of research and teaching posts funded by the industry • Online reputation analysis (DEG)
8.	<ul style="list-style-type: none"> • Social dimension in HE • Contribution to the society development 	New inclusion strategy for students and employees: defining local underrepresented and unprivileged groups and their deeds for support	<ul style="list-style-type: none"> • Analysis of underrepresented groups access, retention and employment • Analysis of the impact of the diverse composition of students and employees to other strategic goals of HEI, but also on the satisfaction with work and feeling of belonging to HEI • Online reputation analysis (DEG)
9.	<ul style="list-style-type: none"> • Successful government and leadership for better results in line with strategic goals • Satisfaction with the governance and leadership 	New strategic orientation: Legislative change and quality culture development: Change of the system of governance and leadership development within HEI	<ul style="list-style-type: none"> • Research of the quality culture within HEI • Diffusion of innovations in research, teaching, cooperation with external partners • Satisfaction of the employers, students and partners • Usage of the NPM approach
10.	Support to industry growth and societal development	New lifelong learning strategy: Creation and implementation of the lifelong learning programme on different levels (6, 7 i 8 according to CQF) in the forms of short programmes, partial or complete qualifications	<ul style="list-style-type: none"> • Qualification recognition on the job market • New projects resulting from the life-long learning programme • Financial effects on HEI • Other effects on HEI and visibility • Usage of the NPM approach
11.	Regulation of the relationship with the state regarding the programme funding	New strategic orientation: Closing programme agreements with government/ministry and regulating relationships and funding of university units	<ul style="list-style-type: none"> • Indicators from programme agreements are in line with agreed goals • Indicator monitoring on all university units • Usage of the NPM approach
12.	Smart specialization of research and development	New smart specialization (research) strategy: Agreement with local community on mutual goals (technology & innovation incubator, centre of excellence and/or competences)	<ul style="list-style-type: none"> • Sector indicators analysis • Smart Specialization Strategy indicators analysis • Usage of the NPM approach