"ESTABLISHMENT OF NATIONAL FRAMEWORK OF KEY PERFORMANCE INDICATORS FOR GOOD GOVERNANCE AND QUALITY TOWARDS INCLUSIVE, DIGITAL AND GREEN ORIENTED HIGHER EDUCATION IN ARMENIA" (KPI4HE)

ERASMUS + PROJECT#101128552

TRAINING KIT

2024

WORK PACKAGE WP1 –
CAPACITY BUILDING ON IR FOR SP

"D1.2. Training Kit presenting EU practices in the field of IR for improvement of higher education governance, university strategic planning, management and quality within the context of digitalization and green transition."

" INSTITUTIONAL REASEARCH FOR IMPROVEMENT OF HIGHER EDUCATION GOVERNANCE, UNIVERSITY STRATEGIC PLANNING, MANAGEMENT AND QUALITY WITHIN THE CONTEXT OF DIGITALIZATION AND GREEN TRANSITION"

TRAINING KIT

Funded by
the European Union

This project has been funded with support from the European Commission.
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Content

I. INFORMATION ABOUT THE PROJECT

"ESTABLISHMENT OF NATIONAL FRAMEWORK OF KEY PERFORMANCE INDICATORS FOR GOOD GOVERNANCE AND QUALITY TOWARDS INCLUSIVE, DIGITAL AND GREEN ORIENTED HIGHER EDUCATION IN ARMENIA" (KPI4HE) (ERASMUS + PROJECT #101128552) project aims at improving higher education system governance, university strategic planning and management contributing to quality and inclusive, digital and green oriented higher education in Armenia through development and implementation of National framework of Key Performance Indicators (KPIs) for higher education (NF-KPI), operationalization of Institutional Research and Planning Services (IRPS) and revision of State Institutional Accreditation Standards in line with NF-KPI.

The following project outcomes are expected to be sustainable after the end of the Erasmus+ programme funding:

1. Training Kit on European experience of Institutional Research (IR) for improvement of higher education governance, university strategic planning, management and quality within the context of digitalization and green transition
2. Trained staff from involved institution in charge of strategic planning, management of information system, quality assurance, educational and administrative management,
3. **National framework of KPIs for higher education** (NF-KPI) and its digital platform based on context and supporting transition to inclusive, digital and green higher education in Armenia
4. **Operations Manuals of IR** (OMIR) in application of NF-KPI fitting the size, mission and objectives of the involved HEIs,
5. Functional **Institutional Research and Planning Services** (IRPS) with necessary infrastructures and regulatory framework in involved higher education institutions
6. Reports on pilot Institutional Research (IR) and strategic planning activities in involved HEIs,
7. **Revised and adopted State Institutional Accreditation Standards** in line with NF-KPI.

The project expected impact is foreseen on:

Institutional level: Teaching and administrative staff with increased and reinforced competences on IR for digitalization and green transition, functional IRPS and set of KPIs for collection, analysis and utilization of relevant institutional data in support of daily management and strategic planning, monitoring and control, quality evaluation and decision making for the sake of university efficient and green functioning and development.

National level: Implementation of National framework of Key Performance Indicators (KPIs) for higher education (NF-KPI) and revised State Institutional Accreditation Standards in line with NF-KP as tools for effective steering of higher education system towards inclusive, digital and green oriented higher education in Armenia.

European level: sparked experience sharing, networking and promotion of long-term cooperation between the involved partners leading to convergence in line with EU developments and standards and towards fostering the integration of the HEIs from Armenia into the EHEA.

II. ABSTRACT OF THE T-KIT

In the context of globalising higher education policies, there is an increasing interest among scholars in detecting patterns of policy change, including the rate and magnitude of policy change and the direction of change (converging or diverging).

European higher education (HE) policies, which were perceived as matters of national sovereignty for centuries, have been undergoing significant change since the Bologna Process (Capano & Piattoni, 2011). On the way towards establishing the European Higher Education Area (EHEA), signatory countries have been working together to make their HE systems more compatible and comparable with each other. Domestic policymakers therefore became (more) aware of the policy initiatives launched in other countries. Also, opportunities for domestic HE polices being affected by the foreign factors emitted from the regional context loomed largely. That may explain why some studies on the impact of Bologna Process have confirmed increasing policy similarity across nations.

Driven by globalization and pressing need to cope with knowledge and research based economic development, universities[1] need to maintain and enhance their competitiveness and academic reputations to be engaged in internal quality control while facing an external array of public and private demands for accountability, quality assurance, accreditation, and certification of their graduates. In such a competitive environment, HEIs are in an urgent need to strengthen their respective institutional capacity for analysis of their own performances. This analytical capacity should link Strategic Planning (SP), Quality Assurance (QA) and high quality and relevant learning outcomes, staff development and management information systems.

At the same time, universities are coming under increasing pressure to demonstrate accountability in operations that affect student enrollment and that contribute to the increased cost of higher education. The implementation of Bologna reforms in terms of strategic planning and quality assurance is one of the key imperatives of the Yerevan communiqué (2015), where the Ministers highlighted the need for a more precise measurement of performance as a basis for reporting from member countries.

Throughout the history of higher education, some kind of evidence has been required to validate decisions or make them credible. Over time, the provision of evidence to support decision making in higher education institutions has fallen to institutional researchers as their roles and functions have evolved. The roles of institutional research offices and of institutional

[1] In this paper the term “universities” design all type of Higher Education Institutions (HEIs).

researchers differ between institutions. According to Calderon & Webber (2015:1): “Many of the functions attributed to IR have evolved in parallel to the evolution and transformation of institutions of higher learning across centuries. Every turn of the decision-making process at any institution, has required some kind of evidence or an argument that brings validity or legitimacy for any proposal under consideration”.

In this T-Kit, we consider the skills and competencies needed by institutional researchers to enable them to conduct effective and cutting-edge institutional research that will meet the requirements for institutional intelligence, in particular, technical/analytical intelligence, issues intelligence and contextual intelligence for development higher education governance, university strategic planning, management and quality within the context of digitalization and green transition.

The current Training Kit targets capacity building of administrative and managerial staff responsible for different aspects of HEI and programme management and administration for the systems in transition. It is a result of a series of trainings and workshops developed for the specific purpose. It is the aim of the project to make this training kit available for broader use beyond the project consortium and after its lifetime.

This Training Kit demonstrates how this problem can be addressed by involving relevant personnel in identifying mission-based success factors, indicators and learning assessments within key decision domains.

III. INSTITUTIONAL RESEARCH: WHAT IT IS, ACTIVITIES & EFFECTIVENESS

a. What is Institutional Research?

Institutional research is like the detective work of the academic world. It involves collecting, analyzing, and interpreting data to help educational institutions make informed decisions. Think of it as the behind-the-scenes investigator that helps schools and organizations understand themselves better.
It is one kind of tool that empowers educational institutions to understand their strengths, address their weaknesses, and continually strive for improvement. It’s like having a trustworthy compass, ensuring institutions are on the right path to success.

Any discussion of the historical evolution and future direction of institutional research inevitably reflects the unique perspective each author brings to the task. The authors of the previous chapters have each provided theirs. In this chapter, I incorporate three perspectives: professional self-reflection, institutional adaptation, and higher education as an industry.

First, professional self-reflection, examining the role and function of institutional research (IR), has been a major preoccupation of this field ever since the first national forum in 1961. What is IR? What is its institutional role? How is it defined? What are its primary functions and activities? How is it organized? What skills and expertise does it require? Is it a profession? These have all been the focus of continual debate in our forums, our workshops, and our publications. Our literature reflects the endless debate over the nature and role of institutional research.

Second, the Association for Institutional Research (AIR) officially defines institutional research as "research leading to improved understanding, planning and operating of institutions of postsecondary education." But in my view, institutional research has been more than a servant of institutional improvement and management. From my perspective, institutional research has flourished as an institutional function and a profession because it has contributed to institutions' adaptive function and has played a major role in fostering and assisting institutional change.

Institutional researchers are responding by working to provide strategic data-driven decision support that enables managers to evaluate the benefit of dollars spent on both instructional activities and non-classroom activities. Using Key Performance Indicators (KPIs) as essential metrics that help institutions evaluate their effectiveness in achieving strategic goals, enhancing student success, and optimizing operational performance, the IR provides a data-driven framework for decision-making, allowing institutions to track progress and identify areas for improvement.

b. What are the Activities of Institutional Research?

Activities for institutional research serve as the essential gears that maintain the seamless operation of the educational machinery. Let's delve into the details of the activities conducted by the association for institutional research:

- **Data Collection and Data Analysis**

At the heart of institutional research lies the collection and analysis of institutional data. Think of it as detectives gathering clues to solve a case. IR professionals meticulously collect

information on everything from student enrollment numbers to faculty performance. This data helps institutions make informed decisions about their policies, programs, and overall strategy.

- **Success and Retention of Students**

IR plays a key role in ensuring students have the support they need to succeed. By tracking institutional performance, attendance, and engagement, IR teams can identify areas where additional resources or interventions might be needed. This helps institutions create a nurturing environment that boosts student retention and success.

- **Accreditation and Compliance**

Imagine an educational institution sailing through the sea of academia as a well-regulated ship. IR is the compass that ensures the ship follows the right course. It helps institutions maintain accreditation standards and ensures compliance with regulations.
It ensures that the education provided meets the required quality benchmarks. It could also involve program review, particularly for accreditation reasons.

- **Institutional Planning**

Institutional researchers are like architects who design for an institution's future. They assist in long-term strategic planning by analyzing trends and forecasting future needs. This could involve predicting changes in enrollment, assessing the impact of new programs, or identifying areas for improvement to stay ahead of the curve.

- **Program Evaluation**

Ever wondered if a particular course is making a significant impact on students? IR is there to find out. Through program evaluations, IR assesses the effectiveness of academic programs and identifies opportunities for enhancement. This ensures that institutions offer courses that attract students and provide valuable skills and knowledge.

- **Budgeting and Resource Allocation**

Money matters and IR helps institutions make wise financial decisions. By analyzing budgetary data and resource allocation, IR ensures that funds are distributed efficiently to support the institution's mission and goals. This might involve recommending investments in specific programs or reallocating resources based on changing needs.

- **Benchmarking**

In the world of higher education, institutions are like athletes striving to be the best. IR engages in benchmarking – comparing an institution's performance to that of its peers. This process helps identify areas where an institution excels and areas that may need improvement to create healthy competition and continuous growth.

c. The Effectiveness of Institutional Research

Here, we are talking about academic research. But what exactly is institutional effectiveness, and how does it impact the educational landscape? Let's explore:

Inform Decision-Making

IR's effectiveness is at the core of its ability to provide data on various institutions. This data isn't just numbers on a spreadsheet; it's the key to data-informed decision-making. From enrollment trends to faculty performance, IR equips institutions with the knowledge they need to make strategic decisions that benefit everyone involved.

Continuous Improvement

Imagine a school or college as a living, breathing entity. Just like any living thing, it needs to grow and improve. IR acts as the gardener, nurturing the institution to bloom into its full potential. IR identifies areas that need attention by analyzing data on student outcomes, program effectiveness, and more. It creates a culture of continuous improvement.

Student Success

At the heart of every educational institution are the students. IR plays a vital role in ensuring their success. By tracking student performance, attendance, and engagement, IR helps institutions tailor their support systems. This not only boosts student success but also enhances the overall learning experience.

Table 3.1. The Evolution of Institutional Research: Adapting to Institutional Challenges

	External Conditions	*Management Press*	*Organization and Governance*	*Performance Focus*	*Primary Role of IR*
1960-1970	Growth and expansion	Direction and accountability	Formal and collegial	Resources	Descriptive, developmental
1980-1990	Disruption and demands	Order, control and access,	Political and open systems	Reputation	Analytical, comparative
2000	Economic recession	Efficiency and market orientation	Managerial and market	Results Productivity and efficiency	Evaluative, quantitative

2010	Constraint and quality	Reduction Reallocation and retrenchment Effectiveness and quality	Organized anarchy Cultural and conglomerate	Results: Goal achievement Student performance Structure and reengineer	Analytical, and quality Planning and policy analysis
2020	Educational challenges and new constituents	Redesigning Institutions	Entrepreneurial networks Alliances and joint ventures Virtual organizations	Redefine industry and university role Redirect mission and relationships Reorganize process and structure Reform workplace culture	Knowledge Industry analyst Anticipatory proactive KPI's

IV. GOVERNANCE OF HIGHER EDUCATION INSTITUTIONS

Governance includes the issues of autonomy and accountability. In most countries, including developing countries, autonomy is being extended to higher education institutions (HEIs) in order to increase the flexibility which these institutions require to meet the needs of the society and the economy. Autonomy is the prerogative and the ability of an institution to act by its own choices in pursuit of its mission and goals. This ensures optimum allocation of resources for achieving the stated goals and missions of HEIs which are knowledge creation and dissemination. These institutions are mission- oriented and although they have a significant impact on the economy and the society, their action and results are not directly measurable in financial terms. Autonomy encompasses three areas - academic, institutional, and financial. Academic autonomy is the freedom for faculty members to operate freely which would lead to intellectual wealth of great quality. Institutional autonomy includes operational freedom and freedom of decision-making by the institute's constituents. Financial autonomy means the freedom to raise and use funds according to its priorities and internal rules. An institution cannot have full institutional autonomy without financial autonomy. Allowing financial

autonomy with accountability would assess the effectiveness of the institution in disseminating knowledge to its students.

Autonomy of publicly funded institutions also implies societal accountability. Institutions operate in a given environment. Therefore, their actions and outcomes must be consistent with the demands of the external environment. Societal concern assumes great significance as governance in HEIs cannot be devoid of environment and social responsibility. Every organization's actions influence the members of the society, directly or indirectly. Therefore, HEIs should strive to strike a balance between needs of their stakeholders, demands of the society, and autonomy. A socially responsible HEI should perform the following duties:

- Be a resource and supporter for public policies and issues.
- Ensure admission to all qualified students from all sections of the society.
- Facilitate quality education and research.
- Assist in professionalizing management practice of socially desirable but under-managed sectors.
- Help business and industry through training, research, and consultancy.
- Research on the issues that are significant for the government, the industry, and other sectors and disseminate the research findings.
- Collaborate with other academic institutions to help them improve their academic standards.

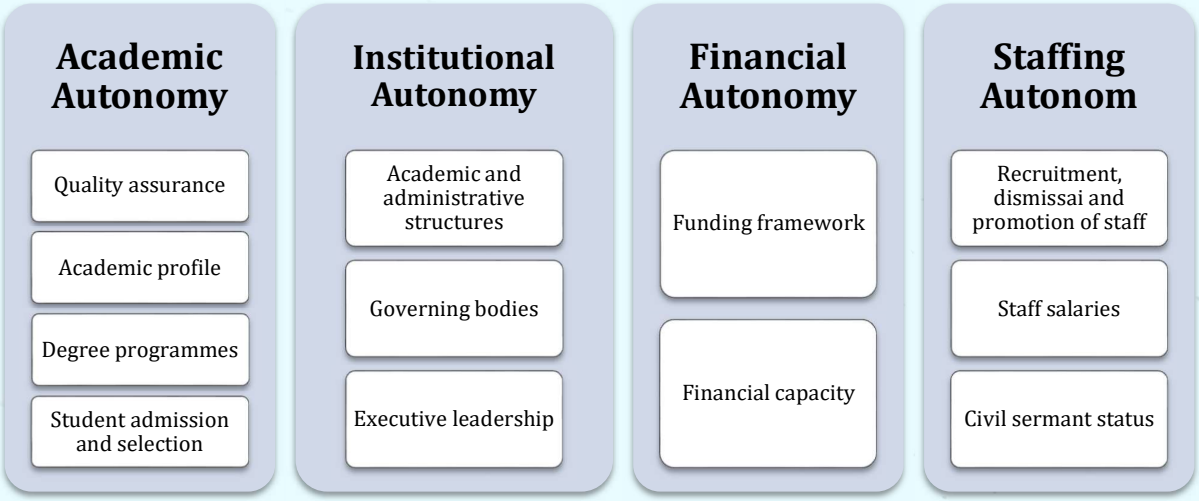
Organizations take a lot from the society and hence should also give back to the society. This attitude will sustain them over a long period of time the issues of autonomy and accountability, in fact, relate to the governance of higher education institutions (HEIs). Historically, there has never been a doubt about the academic freedom of HEIs in the civilized world though it might have differed in scope and content. It is a norm now to extend autonomy to HEIs in most countries including developing countries and even those operating under closed political systems. HEIs in various countries evolved in response to the needs of business, economy, and society. The raison d'être for the extension of autonomy is the fundamental belief that it will increase the flexibility and speed that the institutions require to address the needs of the society and the economy. Autonomy ensures optimum allocation of resources for achieving HEIs' stated goals and missions. The decision cannot be optimum if they cannot be made by the people who are directly responsible for supplying services. To respond to the stakeholders and the society's changing needs quickly, HEIs must be innovative, creative, and enterprising. It is doubtful that a state-controlled and financially dependent institution, devoid of autonomy, is likely to be enterprising, innovative, and creative; it will be over-bureaucratic and wasteful in utilizing the scarce resources (human capital and money).

a. What Is Autonomy?

Autonomy is the privilege and the capacity of an institution to act by its own choices in pursuit of its mission and goals. The degree of autonomy depends on the extent an institution can decide its own actions and the extent it is directed to follow directions and actions not of its choice. Hence, autonomy means unconstrained freedom of action and capacity of action within the established norms, goals, mission, structure, systems, and processes of the institution. As I argue later, unconstrained autonomy bags more accountability (Figure 1.).

Autonomy in the case of HEIs encompasses operational or institutional autonomy, academic freedom, and financial autonomy. I will explain each of them. Without financial autonomy, no institution can have effective institutional and academic autonomy unless the funding agencies grant financial autonomy by a contract that is either legally or socially enforceable. The past traditions, based on mutual trust and respect between the institutions and fund providers (may be read as government), may also ensure financial autonomy, if not absolutely, but to a great extent, functionally useful and viable.

Figure 1.



Academic Autonomy:

From ancient times, the civilized world has developed and practiced models of academic freedom; a student is free to learn what he or she chooses to learn; a teacher is free to teach and research what he or she chooses to teach and research. This freedom is recognized everywhere, legally or by tradition and practice, irrespective of financial dependence or independence of an academic institution. This has resulted in intellectual wealth of great quality.

Whenever this privilege is violated, it creates uproar, anger, and anguish. In democratically functioning societies, everyone including the state takes academic freedom for granted. An operational definition of academic freedom is: "It is the unfettered choice of an individual teacher to teach and write and pursue research, irrespective of what it leads to, without any fear from anywhere."

Institutional Autonomy:

Institutional autonomy goes beyond academic freedom and includes operational freedom and the freedom of deciding the framework and structure of the decision- making process. Institutional autonomy guarantees that the institution is entitled to determine its structure, systems, mission, goals, and priorities consistent with the societal needs and take decisions independently.

Generally, in case of the state-funded HEIs, the state, through policy deliberations with various segments of the society, provides for an organizational structure that will ensure the autonomous decision-making and functioning of HEIs. In a fair and transparent manner, it will also put a governing board in place that will comprise eminent people from different sectors - education, business, government, social organizations, etc.

The institutional autonomy will be diluted if the governing board is constituted on political considerations rather than based on the demands of competent governance. The role of the governing board will be to provide broad policy guidelines, strategic directions, and help the head (say, the director) of the institution to raise funds. The board will also ensure academic autonomy and freedom of decision-making to the faculty and protect it. It is perhaps desirable that the governing board and the faculty, rather than the government, should have a greater say in appointing the director to ensure autonomy. The real autonomy will lie with the authority and freedom of academic staff ensuring the efficient and effective functioning of the institution. Knowledge is the core of an academic institution. It is the faculty members who create and disseminate knowledge. Hence, they should be at the center stage of decision-making. The most critical ingredients of institutional autonomy include the freedom of the faculty members to:

- select students
- develop processes to recruit academic and non- academic staff
- set standards of teaching, research, and faculty and student performance
- decide to whom to award degrees
- design its curriculum and offer new courses as demanded by changing needs of the economy and the society
- innovate in teaching methodology
- allocate funds received from any source.

Financial Autonomy:

Financial autonomy means the freedom to raise and use funds. Any institution that raises its own funds can decide to use it according to its internal rules, systems, processes etc.; it should

not be constrained by the external influences and control to use funds. Hence, it will enjoy financial autonomy. An institution, dependent on the government funds, may enjoy financial autonomy in different degrees. It will have financial autonomy if it has independent decision-making power to use its own and the government funds. The state may behave differently. It may interfere with certain areas of deci- sion-making and spending; or it may play the role of a facilitator and counsellor and actively or passively guide the utilization of funds; or it may ask the financially supported institution to be subservient to its diktat; or it may provide financial support without any intervention. The resource dependence of HEIs on the government funding (and other funding sources) necessitates them to depend on their environment. At times, they may find it difficult to maintain autonomy and will be confronted with outside interference and control - quite a dysfunctional situation for discharging their stated goals and missions. Notwithstanding the financial de- pendency and diluted autonomy, there are HEIs that have maintained high academic standards since these institutions do enjoy academic freedom.

A multiple-source and self-generated funding is central to an institution's financial autonomy. Through should be understood that an institution imparting quality education should decide on the number of students and the fees. The government can then decide what percentage of fees it will like to reimburse to the institution. This process will ensure the autonomy of HEIs.

b. Accountability

Autonomy or no autonomy, all organizations, including institutions of higher education, are accountable to its stakeholders in particular and to the society in general. Autonomy of publicly funded institutions also implies societal accountability. Greater autonomy to these institutions means greater accountability to the society. Normally, accountability means measuring the efficiency and effectiveness of what an institution does. If an institution does well (in terms of quality) what it is intended to do, it is efficient. If it utilizes resources economically and judiciously, it is effective. Accountability pre-supposes clearly defined mission, goals, initiatives, etc. and performance measurement indicators.

Excellent institutions clearly state where and how they seek to excel and accomplish objectives. For highly acclaimed HEIs, it is sufficient to submit the audited financial statement to the government and other providers of funds. Their performance and achievements should be so visible that they should not be subjected to bureaucratic controls and reporting and auditing. How- ever, I would suggest that such institutions should also prepare periodically a 'social report' listing their contributions to the society. For example, IITs and IIMs are known for the quality of their students and research, but they have also made tremendous impact and

contribution in many socially desirable sectors purely due to the self-motivated initiatives of individuals and groups of faculty members.

Accountability will be wanting from HEIs if the society loses trust in them. If that is the case, the challenge is to regain the society's trust. The institutions should strive to strike a balance between stakeholders' needs, societal demands, and institutional autonomy. A socially responsible HEI will do the following to discharge its societal accountability:

- Serve as a resource and champion for public policy and issues.
- Ensure admission to all qualified students from all sections of the society.
- Ensure quality education and research.
- Help in professionalizing management practice of socially desirable, but under-managed sectors.
- Assist business and industry through training, research, and consultancy.
- Research on the issues that are significant for the government, the industry, and other sectors and disseminate the research findings.
- Collaborate with other academic institutions to help them improve their academic standards.
- Sensitize the participants in various education programmes to the concerns and needs of the society.

We must understand that accountability can restrain the institutional and academic autonomy. The idea that those who fund higher education should have the right to determine how funds are spent might erode autonomy and would be dysfunctional to the efficient and effective functioning of HEIs. It is not only the government but also the industry and other agencies that fund higher education which demand accountability. Corporate or non-corporate organizations funding the research of faculty members may demand specific results. This will erode their intellectual freedom and capacity. In the name of accountability and efficiency, corporate sector practices and bureaucracy may be imposed on the HEIs. Both 'managerism' and 'bureau-cratization' will prove fatal to the very survival of institutional autonomy- an essential condition for achieving excellence. HEIs are mission-oriented organizations. Their accountability lies in achieving their missions.

c. Governance

Governance assumes a decision-making structure and performance evaluation. The issues of governance become more complex in the case of HEIs as there are no directly identifiable owners and they have multiple sources of funds in the form of grants and donations. They are also coalitions of different groups and their actions are not measurable in financial terms,

though they have tremendous impact on the society. What is the governance model that can be applied to such organizations?

The governance model for HEIs will have to be a normative model - consciously created with specific mission and well-defined goals. In this model, the real decision-making should be with the faculty members who will develop a culture of excellence. The government's role should be to put an eminent board in place which will act as a sounding board for the decisions of the institutes. If the HEIs achieve excellence as determined by the users of teaching, research, consulting, etc., they would have made a tremendous contribution to the society and served their purpose.

V. INSTITUTIONAL RESEARCH'S ROLE IN STRATEGIC PLANNING

Higher education literature is replete with articles and book chapters urging institutions to plan strategically. Escalating demands from higher education boards of trustees and state boards of higher education for institutions to demonstrate their effectiveness are an impetus for institutions to carry out strategic planning. One need not be particularly well informed to have heard calls from state legislatures, the Departments of Education, and regional and professional accreditation bodies for data-driven evidence to demonstrate that institutions and programs are assessing their outcomes. Still another, and perhaps more compelling, reason for institutions to engage in strategic planning is its promise to help predict and manage the future. A strategic plan that does not make use of data verges on propaganda. Although customarily appealing in a visual sense, a data-free plan seldom offers a useful framework for gauging an institution's future. In contrast, a strategic plan that focuses on data and uses those data to pose realistic goals and strategies to meet goals portends a significant return for the institution creating it. This pathway is more challenging but infinitely easier to navigate for institutions that have created and maintain an institutional research office.

Institutions that have organized and centralized their data enjoy an obvious advantage in grappling with strategic planning and other issues. As the drumbeat for accountability, planning, and demonstrating effectiveness to internal and external stakeholders intensifies, the stature and importance of institutional research offices on most campuses have grown substantially. The institutional research office is often the first point of contact for faculty and administrators who need data and information to meet internal and external demands. Skillful institutional research personnel enjoy a pivotal role in accessing an institution's data and converting those data into "action- able" information needed for planning.

Developing actionable information intersects with the need that all institutions have to be strategic in their thinking. This chapter seeks to inform campus communities, including faculty and staff, and perhaps also institutional research offices themselves, about the elements of strategic planning that can be combined to create a strategic plan. Together, the techniques that are highlighted here form the basic foundation from which institutions can make rational choices about the future. Most of these techniques emanate from the institutional research office, although they can be executed by other offices or units whose expertise matches the nature of the work.

On many campuses, institutional research exists to generate routine reports required by state, federal, and accreditation agencies. This is a valuable function, especially given the access to institutional data that the institutional research office typically possesses, but if it remains the only function then the institution misses out on significant opportunities. Institutional research offices that spend the majority of their time pursuing excellence in reporting typically have little energy or motivation to look across organizational boundaries to identify new opportunities where their unique skills can benefit the total institution. Examples of extended involve- ment with the campus can be helpful:

- Basic student outcome research, including retention rate, transfer rate, and graduate employment rate;
- More sophisticated student outcome research, including assisting faculty and staff in their efforts to formulate and measure student learning outcomes;
- Studies that correlate the institution's curriculum and service offerings with student and employer demands;
- Enrollment management research that documents the institution's penetration within key demographic segments;
- Focus group research with students and faculty that compare perceptions about the adequacy of institutional services and the teaching-learning equation;
- Analysis of competitor institutions located nearby as well as other institutions that compete with the home institution program by program;
- Internal program review that informs the institution about why a given program grows, declines, or remains stable.

Among these potential projects for institutional research offices can be seen the foundation of a strategic plan. Offices that respond to these challenges are likely to have already pushed themselves beyond a routine reporting function, toward creation of actionable information on behalf of the institution. Such offices are also likely able to assist faculty and staff in under- standing actionable information and the complexities raised by seemingly simple questions. Clarifying those questions in ways that can be addressed by an institution's data systems or by new data generated through primary research is a key element in advancing the institution. Not

surprisingly, these functions go a long way in creating a nimble institution that responds well to strategic planning.

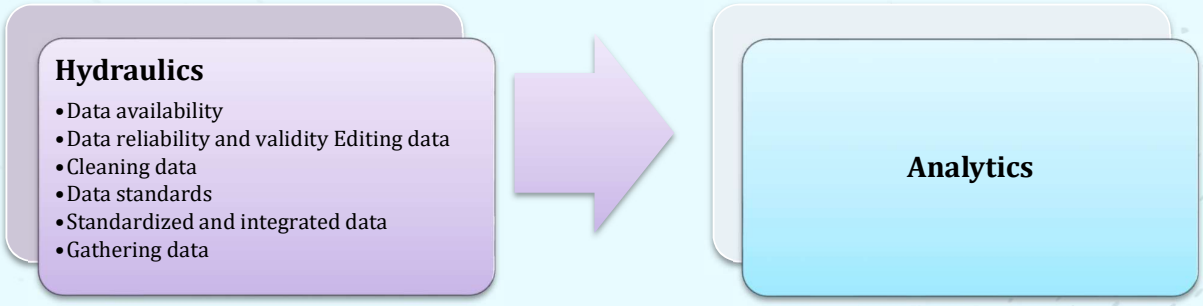
There exists a persistent myth among many that institutional data are, or should be, "computerized" and therefore instantly available to those who simply know the right keys to press or the correct click of a mouse. In reality, considerable effort must be expended by the institutional research office to gather, clean, edit, and organize data so as to produce correct results. My experience in analyzing these issues for higher education organizations is that unless considerable time and effort have been expended in basic data gathering functions, the amount of work that is purely analytical in nature is proportionally smaller than the "hydraulics" necessary to ensure data quality (Figure 2. depicts this relationship).

a. Elements of Strategic Planning

Stated simply, strategic planning is a process of anticipating change, identifying new opportunities, and executing strategy. Strategic planning can also be described as idea management in which new ideas are developed (or brainstormed), categorized, processed, and implemented. It is a journey that begins best when appropriate data, drawn from multiple sources and using multiple techniques, are transformed into actionable information.

Contrasted to "pedestrian information," actionable information makes obvious the next steps an institution should consider. For example, on most campuses understanding that an institution's enrollment is increasing or decreasing is usually conventional wisdom. Understanding which market segments within the overall enrollment are growing and the institution's penetration rate of those segments helps with understanding what actions may be needed to manage growth and should create an appetite for more actionable information.

Figure 2.



A successful model for strategic planning incorporates both quantitative and qualitative data collection symbiotically. Tashakkori and Teddlie (2003) suggest three temporal sequences for combining quantitative and qualitative data:
(1) concurrently, where two types of data are collected and analyzed in parallel;
(2) sequentially, in which one type constitutes a basis for collection of another type; and
(3) conversion, where the data are "qualitized" or "quantitized" and analyzed again.
Involving faculty and staff in this process is very important if the goal is to ensure that information is valid and translatable to those who will use it. Here we illustrate the blending of qualitative and quantitative techniques in the basic elements of most strategic plans.
In addition to traditional elements commonly found in a strategic plan, I draw on my experiences as a strategic planning facilitator for institutions of higher education to highlight several unique elements that can influence institutional strategy.

Environmental Scan. Virtually every strategic plan features an environmental scan of those external factors and trends that influence an institution's future. An environmental scan requires a volume of information but is helpful only if one knows what within the volume is critical to the development of strategy for that institution. Data for environmental scanning are abundant and grow more so every day on the Internet. Much of these data, however, fall short of criteria for an environmental scan because they lack an actionable connection to the institution. Knowledge of the institution's current operations is required and is most frequently generated by the institutional research office's continuous dialog with key faculty and staff.

Interviewing Key Stakeholders. The need for careful information gathering is illustrated further by skill in interviewing key informants. These interviews can yield helpful qualitative information. A necessary first ingredient is to establish rapport with the interviewee. In general, the more the interviewer prepares for these interviews and the deeper she or he understands basic institutional data, the better the information yielded. Although quantitative data indicate the extent to which outcomes are being met, qualitative interviews speak more to how participants feel about what is happening within an institution. Because mobilizing participants is critical to future actions, deep understanding of their perceptions advances the strategic planning agenda.

Focus Groups. The term focus group has taken on multiple meanings as a technique such that it is frequently maligned. The term has been used variously to describe casual conversation with more than several people in a random setting a clear misuse of the concept (Fern, 2001). More appropriately, a focus group is a deliberate event planned to gather specific information. It has a structure that is understood by the facilitator and the participants. Well-planned and executed, focus groups are a qualitative exercise involving a protocol of questions designed to elicit communication while simultaneously not circumscribing meaningful dialog.

Large Group Strategy Sessions. Among the most effective strategic planning techniques in my experience are large group meetings designed to promote an interchange of ideas about strategic issues facing an institution. These sessions are divided between presentation of institutional data, ideally formulated as actionable data, and subsequent discussion by participants. In this way, they differ from focus groups because a strategy session seeks to give everyone a common framework for discussion of institutional strategy. Properly executed strategy sessions can be an opportunity for key faculty and staff to lend support for the changes that can result from strategic planning. Although the temptation is to label these sessions as focus groups, they are intended to produce two-way learning. In my experience, few stakeholders have been exposed to the concept of actionable data to make meaningful contributions to strategic planning; strategy sessions are a way of educating stakeholders about actionable information and what issues are critical to their institution. Strategy sessions are also a way for the facilitator to learn about what stakeholders see as critical and to capture nuance through deep listening to students, faculty, and administrators and their range of perspectives and opinions.

Geographic Information System (GIS) Maps. Most audiences do not react quickly to presentations of textual or tabular data, especially if the rows and columns are numerous or the font on a PowerPoint presentation obscures easy reading. In these instances, visual information becomes an attractive vehicle for conveying large amounts of data. For example, data drawn from census tracts small statistical subdivisions of a given county can illustrate where a given institution should target marketing and recruitment efforts. Geographic information system (GIS) maps offer a quick, visual overview of population changes, including shifts in income, minority subpopulations, age, and housing values, for a strategy session or dissemination across the institution in other ways. Constructing these maps is a quantitative activity, driven by software and technology. Interpreting these maps, on the other hand, is a qualitative activity in which interviewees and strategy session participants offer insight about population shifts that effect the institution.

Competitor Analysis. Few institutions are aware of the range of instructional programs with which they compete for students. The entire institution likely competes for students, but program-by-program competition is increasingly as important to strategy as overall institutional competition. Knowledge generated from this exercise can be the basis for creating new programs or modifying existing ones. It can also point to programs that might be eliminated. Gathering Web information on the programs offered by competitors within proximity to the institution, or from a wider range of institutions that compete regionally or nationally for given instructional pro- grams, is an exercise in tabulating data. The nomenclature needed to describe programs so that they can be categorized accurately is learned best from interviewing academic staff and faculty. Titles of programs may not match

their content; astute institutional planners will want to ensure that programs appearing on the surface to compete with their institution's programs are in fact comparable.

Enrollment Forecasting and Scenario Building. Many institutions create enrollment projections, based on a variety of techniques (see, for example, Brinkman and McIntyre, 1997). I have a preference for projecting future institutional enrollments from two key pieces of information:
(1) current enrollments at the institution, and
(2) actual and projected population counts for the institution's catchment area.
Unduplicated headcount data are obtained for the most recently concluded academic year.

Population counts and projections are gathered from the U.S. Census Bureau, or ideally from a state or local agency that predicts disaggregated population growth by race, gender, and age. The more disaggregated these data, the more precisely market shares can be established. Second, an increase in precision is also gained if an institution such as a community college or regional state university draws students from a narrow catchment.

Calculating market shares from external data and summing those shares to account for an institution's current enrollment produces a projection that operates in concert with predicted population growth and shifts within those growth patterns. The maximum number of years that an enrollment projection can be expected to be accurate is perhaps no more than twenty.

Though a baseline projection is fundamental to strategic planning, it is premised on two assumptions:
(1) the institution's current enrollment management techniques, including recruitment and retention activities, will not change during the projection period; and
(2) the population projections on which the enrollment projections are based are accurate and remain the same during the projection period.
The first assumption does not require the institution to do anything new and for this reason is termed a "status quo" projection.

Use of market segments allows the effect of deliberate institutional decisions to be modeled. These scenarios are developed to demonstrate the effect of increasing a particular segment by a preselected proportion, most often 2 percent over a five-year period. Other, higher thresholds can be set to match the institution's aspirations and capabilities, but 2 percent presents a goal that is widely perceived as within the range of possibility for most institutions. Decision makers are frequently most interested in modeling these scenarios to include increasing shares of minority students, working-age students (most typically, those potential students aged twenty-five to forty-four), and younger students in general.

Instructional Program Vitality. Yet another strategic exercise that cannot be based on numbers alone is analysis of program enrollment data. Upward and downward trends in individual programs are a first place to look when analyzing an institution's instructional menu, but the whole story needs to be researched before conclusions are drawn. For example, it may be that enrollments have declined in response to decisions to limit course availability, combining courses across disciplines, faculty retirements, or lack of program marketing. Each potential reason, and perhaps other considerations, should be balanced against other criteria such as shifts in labor markets, expired curriculum that doesn't match current realities, and actions taken (mostly inadvertently) that discourage enrollment. Without knowledge of these factors, gained qualitatively by listening to stakeholders internal and external to the institution, an incomplete picture of program vitality is more than probable.

Internal and External Surveys. One-on-one interviewing and strategy sessions may not substitute for gathering opinions and insights by way of survey research. Data gathered from existing questionnaires and those developed specifically for planning can furnish multiple perspectives about a college and its environment. A survey can be a traditional paper-and-pencil version or, increasingly, Web-based. Interpreting survey responses is usually regarded as a quantitative activity. Crafting responses that lend themselves to unambiguous interpretation is also a quantitative task; creation of individual survey items, however, draws most often on questions developed during the course of qualitative research.

Analyses of Labor Market Information. The Internet has made labor market information more accessible than ever; it is now easy for colleges to map the connection between the outputs of their career and professional programs and the world of work. Ten-year forecasts are available for new jobs that will be created and for jobs that will grow most rapidly by county, region, state, and nationally. At the national level, these forecasts are connected to the most significant source of postsecondary education or training required for entry in each occupation forecast.

Even though employment forecast data are helpful, strategic planners do not expect a perfect fit between job titles and program labels. The best prediction of academic programs requires knowledge not found in external databases. Insights required to accurately estimate the need for programs match closely those insights necessary to gauge program vitality. Qualitative skill in interviewing techniques (including the aforementioned) entails establishing rapport with interviewees as well as guiding the interview, asking appropriate questions about processes, engaging in empathy for the interviewee, and tabulating interview results. These skills are beyond the scope of this chapter, but they are touchstones for ensuring that qualitative techniques can effectively guide strategic planning.

b. Moving to Operational Planning

A common shortcoming of strategic planning is the failure to connect the dreams and aspirations that arise in strategic planning to specific actions required of operational planning. Many college and university Websites contain visually appealing strategic planning documents, but most do not feature specific actions to support strategy, assignment of responsibility for carrying out those actions, or even more rarely commitment of dollars and human resources to make strategic dreams a reality. There is also a tendency to assign responsibility for action to committees, rather than individuals. Plans of this variety are little more than public relations pieces designed to persuade readers that an institution is carrying out strategy. Mapping the intersection between strategic planning and operational planning requires considerable finesse in blending mixed methodologies.

Action Strategies and Success Factors. As hinted earlier, most strategic plans fall apart because they aren't specific about the actions required to reach goals; nor do they specify a method by which their accomplishment can be measured. To close this gap, faculty and staff should be required to develop specific "action strategies" to support the strategic goals developed during the course of the strategic planning process. This process should be iterative and require both a sense of the possible strategies and success factors that an institution might pursue as well as an estimation of whether they can reasonably be expected to be successful. This is especially the case when the focus is to unite the strategic plan with accountability within the institution for specific results.

Online Planning. Engagement of faculty and staff in strategic planning is related to the transparency of the planning process. To this end, when collecting potential action strategies and success factors across the entire organization an institution should create an online planning Web page. This site can lay out a comprehensive overview of the planning process while seeking new quantitative and qualitative data from all layers of the college to inform and potentially to collaboratively improve action strategies and success factors.

This chapter seeks to give an overview of strategic planning and how institutional research can add value to strategic planning processes for institutions of higher education. It also seeks to enumerate those specific techniques that can be combined to create a meaningful strategic plan. Data and information harvested through these techniques can promote a vision of the institution's future. Certainly, there are other analyses that can be as strategically potent as those suggested here, notably calculating instructional program enrollment trends, matching program outcomes to labor market trends, and understanding one's own institution's instructional productivity.

What has been portrayed here are those techniques that institutions should consider as the basic foundation for strategic planning.

VI. EFFECTIVE MANAGEMENT OF HEI

Management is all about improving the organizational performance and involves the management functions of planning, organizing, staffing, leading and controlling. Management practices ensure the best possible educational outcomes through the integration of different resources of universities. However, to facilitate education managers to best apply management techniques or principles, there is very limited literature in place specific to universities and colleges.

a. The Key Concept and Functions of Management

Management knowledge comes from the field of management itself as well as many other fields. Most of the early writers were practicing managers who developed broad principles of management. Many psychologists, sociologists and anthropologists substantially contributed to the field of management and they considered management as a very important social phenomenon and managers used to be an important social resource. Other professionals such as mathematicians, accountants, economists, lawyers, political scientists, engineers, philosophers, and so on also have contributed to the discipline of management.

Management functions are key to any organization. Five basic functions of management are planning, organizing, staffing, leading, and controlling. These functions are briefly described below.

- **Planning**: The planning function involves in defining an organization's goals, establishing an overall strategy for achieving these goals, and developing a comprehensive hierarchy of plans to integrate and coordinate activities (Robbins & Coulter, 1998). It also involves in selecting mission and objectives as well as the actions to achieve them, which requires decision making, that is, choosing a course of action from among alternatives (Weihrich & Koontz, 2005).

- **Organizing:** Organizing function includes determining what tasks are to be done, who is to do them, how the tasks are grouped, who reports to whom, and at what level

decisions are made (Robbins & Coulter, 1998). In other words, organizing is to decide how best to group organizational activities and resources (Griffin, 1998).

- **Staffing**: Weihrich and Koontz (2005) define the managerial function of staffing as "Filling, and keeping filled, positions in the organization structure". It involves in choosing qualified and right persons from among the prospective candidates, orienting newly appointed staff, regularly analyzing employees' developmental needs, and providing training to staff to cope with the job.

- **Leading**: Robbins and Coulter (1998) define leading function of management as "Every organization includes people, and management's job is to direct and coordinate these people. This is the function of leading". According to Weihrich and Koontz (2005), leading is "The process of influencing people so that hey will contribute to organizational and group goals".

- **Controlling**: The final function managers perform is controlling. After the goals are set and the plans formulated (planning functions), the structural arrangement delineated (organizing function), the people hired and trained (staffing function), and directed and motivated (leading function), something may still go wrong. In order to ensure that things are going as they should, management must monitor the organization's performance (Robbins & Coulter, 1998). According to Weihrich and Koontz (2005), controlling can be defined as "The measurement and correction of performance in order to make sure that enterprise objectives and the plans devised to attain them are being accomplished".

b. Modern Management Models of Higher Education Institutions

The management of a modern university is incomparably developed in comparison with the management of universities of past centuries. But the modern concept and management principles of any university are based on the features of the model of the country's higher education system.

The university's ability to train qualified specialists, to form a socio-economic and cultural space in the city and region, and the ability of the university's management to make current and strategic decisions, including in crises, (for example decisions regarding the relocation of the university in case of force majeure), the degree of freedom of teachers in choosing techniques and tools in the educational process, the place and role of students in the life of the university, etc. depend of the current model of higher education.

The current state of higher education systems development in the world indicates the use of two main models: liberal and post-administrative type. The liberal model is widespread in

developed European countries and the USA. It is based on the application of democratic principles in the management of universities, in which traditional European approaches to autonomy and academic freedom have been formed. This type of model is focused on the independence of universities in the selection and implementation of educational programs, the introduction of which does not require permission from the controlling or state authorities.

The principles of state regulation are rarely applied when forming a liberal model of the higher education system. However, their quality is guaranteed by independent state institutions for accreditation of educational programs. Universities have the right to accredit their programs in independent non-governmental institutions, international accreditation agencies, and professional national associations.

The use of this type of model of higher education guarantees the maximum freedom of universities in choosing and modernizing educational programs, without coordination from the state. The formation of statistical indicators in countries with a liberal model of education is carried out according to their codes in the system of national qualifications. Educational institutions provide statistical bodies with quantitative indicators of activity according to the relevant codes of educational programs to the national bodies of educational statistics. Generalized data are published according to the grouping of the national system of classification of educational programs.

Another feature of the liberal model of education is the lack of planning for the training of specialists in the country as a whole. These indicators are calculated by each university separately, based on market information about the needs of specialists of a given profile and the characteristics of demand for certain professions. This approach guarantees the flexibility of this model to the real needs of the professional markets and changes in the demand for certain specialists in the labor market, considering the factors influencing the change in the market situation. The introduction of this type of model into the work practice of universities is a guarantee of constant updating and improvement of educational programs based on the results of interaction with stakeholders in the labor market. This mechanism ensures that the interests of all participants are considered, starting with consumers of educational services and ending with employers. In addition, the interests of all stakeholders in the educational process are ensured by their participation in the financing of universities and other educational institutions.

The formation of an individual learning trajectory has great importance in the liberal model, which guarantees a greater degree of freedom for the student and opportunities for academic mobility. This type of organization of the educational process allows for the formation of students educational plans by their capabilities and financial status. The university liberal type

pay regard to the following principles when building a system for evaluating individual student achievements:

- objectivity of the student evaluation system and compliance with the principles of academic integrity;
- respectful attitude of the teacher to the student and ensuring maximum impartiality when assessing knowledge;
- a clear evaluation system for the student, which is based on the current indicators of his educational activity during the semester;
- providing the teaching distribution and evaluation functions through the mechanism of the professor's responsibility for the lecture material quality and the assistant's responsibility for the student's grade;
- presenting a direct connection between the indicators of the success of students' assimilation of educational programs and the possibilities of continuing their studies and obtaining academic and scientific degrees and titles.

It's understandable that a liberal type of educational model formed in specific historical conditions and reflects the kind of socio-political processes. However, the given characteristics of the liberal model indicate a high level of adaptation to the needs of the modern worldview and ensure a successful combination of traditional approaches and modern trends. This model has confirmed its viability and successful implementation during the long history of the development of European university science.

State regulation and management in the functioning of the liberal type of higher education system are based on monitoring the education system and labor markets, planning corrective influence levers on the education system purely in the context of national strategic priorities implementation and regional development programs.

The main problems of post-administrative educational systems, which significantly distinguish them from the more modern liberal model of higher education, are the following:

- affordable education on a budget does not motivate students to successfully acquire knowledge;
- significant deductions from budget funds for education and losses, as a result of the deduction of a large number of unsuccessful students, when the state has already spent significant funds on the education of each of them;
- significant problems with determining the demand for certain specialists on the labor market and the inconsistency of the number of funds allocated for training in the state budget with the real needs for specialists of this profile;

- the impossibility to take into account the individual learning trajectory and ensuring the academic mobility of students due to the standardization of curricula and the lack of free choice of the student;
- imperfection and subjectivity of the system of knowledge assessment and quality control of the educational process;
- the complete dependence of the student on the teacher assigned to him and the indeterminacy of his future evaluation of the subject being studied;
- characteristic of the traditional organization of the educational process in universities is the problem of rescheduling exams and assessments, which puts teachers in a position devoid of sound logic, for which the price of being principled in the exam is endless additional meetings with careless students;
- a fundamental opportunity to obtain a bachelor's, specialist's, and master's degree, mostly having an average level of knowledge. Thus, the existing two main models of higher education

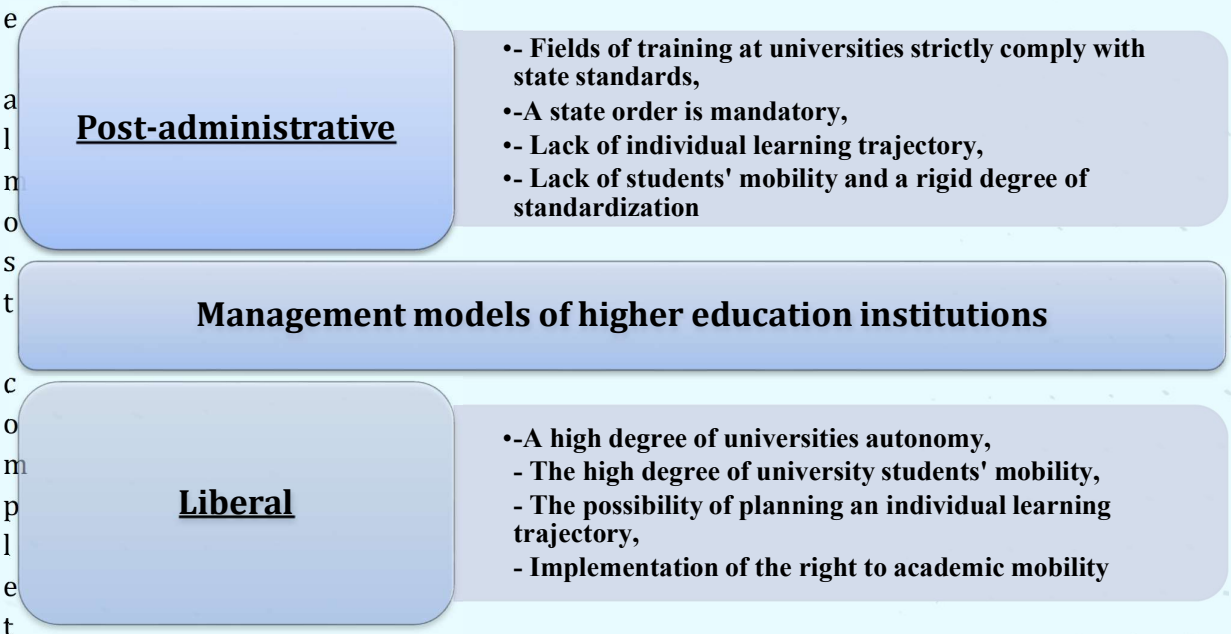


Figure 3. The main differences between the models in the higher education system

Thus, it can be argued that the liberal model of the higher education system has a strong tradition of commitment to democratic principles and autonomy. Reforming the management of institutions of higher education takes place through the increasingly active implementation of the principles of the liberal model, which is adopted in the countries of the European Union, and through the rejection of the principles of the administrative model.

VII. Quality Assurance and Institutional Research

Higher Education is facing ever-growing pressures concerning effectiveness, accountability and responsiveness to continuously changing national and institutional environments. Institutions are also faced with challenges related to budget allocation, staffing and improving quality delivery within constrained infrastructural environments. These challenges are supplemented by external factors such political unrest, which impact on the student experience. In these complex times, Institutional Research (IR) plays an integral role in the ways in which the university responds to these challenging times and makes decisions.

Knight and Leimer (2010:110) consider IR as an important function that is essential to the accreditation process. It helps with decisions about programme offerings, and the support for teaching and learning. It can contribute to the institution's sound governance arrangements and raise its accountability standards. It can provide the information for conducting programme reviews and thus improve the quality of decisions made on the basis of evidence, leading, amongst other advantages, to sound initiatives for quality improvement. All these functions illustrate the close links between IR and quality assurance leading to quality assurance (QA) functions becoming integral to IR functions only in recent years.

The need for a relationship between QA and IR is accepted as a point of departure for this chapter, but the nature and scope of the collaboration and/or integration require further exploration. The purpose of this chapter is to explore the drivers, purpose, functions and maturity of QA activities in public higher education; to describe the status of organisational structure and the location of QA units in public higher education institutions; and to explore the role and collaboration of QA and IR supporting decision making.

The establishment and development of IR is linked to the significant expansion of education after World War II, which resulted in the concerted effort to plan and manage resources efficiently, particularly in education and higher education. Globally, the practice of IR has risen out of the mandate for institutions to report statistical information to governments and has evolved further as the reporting and accountability requirements increased.

Compared to IR, formal QA systems in higher education are a fairly new phenomenon, despite older systems in the United Kingdom and the United States dating back more than a century. Widespread adoption of the current system in the United States, however, only occurred in the 1950s and 1960s.

a. Driving forces for the expansion of QA

Firstly, the diversification of HE systems introduced a variety of institutional types. Governments are increasingly holding institutions accountable, especially with reference to broader political and economic demands, to offer a variety of programmes to meet employability demands.

A second driving force was the emergence of a private higher education sector that was diversified, small and had a single purpose. This raised awareness about quality. These private institutions, in some instances, lacked academic credibility because they could not claim a historic reputation and had no record of research accomplishments. QA activities were instituted to determine the legitimacy of these private institutions.

Thirdly, increasing demand for higher education forced institutions to provide evidence of quality to students and policymakers to define institutional values and ensure relevant offerings. The danger of these demands is that they can warp the mission of HE. QA provides a counterweight to these market pressures.

A fourth trend that necessitated QA is internationalisation. Countries determine which educational products will be offered within their own borders, but increased movement of universities into foreign regulatory environments presented new quality challenges.

Limitations of the study: The literature review underpinning this chapter focussed on principles and historical practice pertaining to QA and IR in different international contexts. The empirical study we conducted covered only the public higher education sector. The findings are therefore mainly applicable to this particular context and preclude generalisation. In this chapter, references to IR exclude QA unless otherwise stated. References to QA units include related organisational units such as planning and IR. The use of the designations QA manager or director is interchangeable with any other designations referring to heads of QA units.

Research aim and methodology: The key element explored during the research for this chapter was QA as it is manifested in different institutional contexts with regard to its functions, staffing, reporting lines, maturity and, specifically, its collaboration with IR. A further element is the roles both QA and IR units play in supporting decision making. The literature review of QA and IR provides a theoretical framework for the chapter, while the empirical study elaborates further on the key elements in QA units in public higher education institutions. Empirical data were collected by means of two pilot interviews with QA managers at two different institutional types.

b. QA functions and competences

Institutions and programme offerings obtain public legitimacy and academic credibility by means of explicit and visible QA policies and procedures. This also relates to organisational support, resources and infrastructure taking into account the institutional purpose and strategic direction. It is therefore inappropriate to compare QA practices across different institutional types.

Programme quality can be determined internally (by the institution) or externally (by the government or a professional body), based on peer evaluations. It involves evaluating the programme against the standards and outcomes set by professional bodies, governments, or industry. Programme quality is to some extent more comparable between institutions. The first aspect to be highlighted is the insight gained from the research regarding the naming conventions of QA units. This is deemed important as it does provide some insight into the emphasis of quality in the institution, as well as the prominence of combining it with other functions.

c. Integration of QA and IR

IR and other support units, such as QA, may provide data, but this is not always immediately usable or user-friendly nor is the application of the data self-explanatory. Data must be converted into information and institutional knowledge through analysis and interpretation. We recommend that responsibility should be allocated for applying it in the context of the institutional goals. To make it useable and understandable, data should be disseminated in multiple formats appropriate to the particular stakeholders and audiences, to help inform recommendations and planning. The expectations of institutional executive managers are that IR units (including QA) should be pro-active.

IR and QA staff, in an unintegrated structure, often experience their roles in a narrow way and as too junior to be involved in and inform strategic discussions. She sees the integrated model as a solution to a need for change in the HE sector that exceeds the current, more conventional capabilities. Integrated IR and QA units take on progressive leadership roles, educate staff and advocate the use of evidence in decision-making. They bring knowledge of, and provide HE expertise in, trends affecting their institutions through presentations, reports and discussions. Likewise, Calderon and Mathies (2013) talk of the importance of IR and QA, as integrated entities, being actively involved in the strategic positioning of the institution. The contents of

the reports produced by these practitioners inform the goals, vision and mission, and help to ensure alignment.

Integrated functions do not necessarily mean that QA and conventional IR units are integrated into one office or organisational unit. This arrangement can also be achieved in a more decentralized manner, but with focused collaboration. Collaboration can be achieved in various ways, e.g. an integrated approach to governance or unique institution-specific mechanisms to strengthen these connections across separate units.

In some institutions, both IR and QA related matters serve as items on the agenda, but in other cases a specific committee or working group is created to connect the two functions and to enhance integration between them.

If an underpinning principle of QA, namely that it is developmental (i.e. improving quality), is taken into consideration, the collaboration/interaction between QA and IR becomes multidimensional. Both IR and QA should inform decision making, but their contributions differ; their approaches to data collection differ, the kinds of data/intelligence that they produce differ. QA staff are more visibly active in the academic domain and also in the service and support domain. They work closely with academic staff (not only with top or with middle management) and are involved in the development of the QA-related skills and knowledge of staff members across the institution. There should, first of all, be a good understanding and appreciation of the different kinds of contributions to institutional information. The best ways to collaborate and to integrate data to support the institution in achieving its strategic goals should be explored – again, not only institutionally, but also nationally

VIII. THE ROLE OF INSTITUTIONAL RESEARCH IN SUPPORTING INTERNATIONALIZATION OF HIGHER EDUCATION

The internationalization of higher education institutions is complex and constantly mutating. Research on its many components is essential, but the questions to be asked and the range of issues to be covered may be new to some institutional researchers. The internationalization process includes strategic planning; recruitment, admissions, and support of international students; study abroad and student exchanges; curricular initiatives; the role of faculty; research and research centers on campus; international collaboration; overseas campuses and dual degrees; and organizational support and funding. Questions researchers may ask and data sources they may use as they meet new institutional needs are discussed.

In the last decade, international education in the World has expanded dramatically offering extraordinary new opportunities for students and faculty. For institutional researchers, the bad news is that international education in the 21st century is diverse, complex, rapidly expanding, and constantly mutating. The good news is that IR staff are not the only ones collecting data on events and trends in the field. Throughout this part of T-KIT, the authors will reference sources and data to help orient IR practitioners to the issues, key questions, and tools so that they can avoid re-inventing the wheel.

To begin, although "international education" is used as a catch-all title, in actuality, six different terms with six different meanings are recognized in the field. The term global describes a field or issue in which national borders are not relevant, such as global warming. The term international means between nations, such as an educational exchange between a university in the Armenia and one in Germany. The term comparative addresses similarities and differences, for example, in political systems. The term international education means adding the study of other nations into any academic field and experiencing another nation through various forms of student and scholar mobility. Intercultural education provides students with the tools to understand other cultures using concepts such as individualism and collectivism.

Multicultural education addresses the diversity of ethnic and cultural groups within a particular nation, perhaps focusing on majority/ minority status or power relationships. If administrators, faculty, and students use these terms interchangeably as they describe curricula and activities, it hampers the work of those leading and assessing institutional change.

a. A Systematic Plan for Internationalization

Strategic planning in higher education aims to bring about change and reposition an institution within its environment so that it can address emerging challenges and take advantage of opportunities. Typically a plan includes statements of mission, values, and vision for the future; priorities, goals, and initiatives to be accomplished in a set period of time; and indicators of how progress will be measured. It is only in the last decade that international issues have been reflected in planning in order to be systematically addressed. Despite growing interest, one survey indicated that less than 40% of institutions make specific reference to international education in their mission statements, require a course with an international focus, or have a full-time person to coordinate internationalization (Green, Luu, & Burris, 2018).
Even on campuses with a clear international focus and a well-developed strategic plan for internationalization, that plan is often a separate document from the strategic plan for the institution.

This part of T-KIT focuses on many elements that make up an internationalized campus, for example, enrollment of international students, study abroad, course requirements, international faculty, international research, and formal agreements with international partners. Too often these elements are based on individual initiative and are stand-alone efforts. Effective change—the goal of strategic planning—requires not only a listing of goals and initiatives, but also a reorienting of attitudes, policies, relationships, resources, and rewards to be aligned with the new vision and supported by continuous feedback on progress. IR staff can play a central role in the intentional transformation of their institutions by using appropriate assessment tools, tracking indicators of progress, making information readily accessible to faculty and administrators, and taking the initiative to put the micro level data into a macro institutional framework through well written reports (Sanders & Filkins, 2009).

An overall audit of the institution will show IR staff where to focus their work. Has the mission statement been updated to say "civic and social responsibility in a global context?" Does the strategic plan include international initiatives across all divisions with a clear indication of who is responsible and how the initiatives are connected? Are the goals measured, not just in numbers such as the percentage of students who have studied abroad, but also in learning outcomes at the individual, program, and institutional level? Are there symbolic indicators of a commitment to internationalization such as campus wide events? Is internationalization promoted in institutional communication such as press releases and the president's speeches to donors, alumni, or new students? Finally, at what stage is the campus in the change process—is internationalization an add-on, infused in activities, or transforming campus understanding and attitudes? To meet the needs of students and faculty in a rapidly changing world, internationalization efforts must be both comprehensive and systematic (Brustein, 2009).

b. Organizational Support and Funding for Internationalization

Effective internationalization requires a systematic strategy for the future of the university and sufficient staff to coordinate and energize the efforts. Several truisms are pertinent: "If it is the responsibility of all, it is the responsibility of none." and "What is measured will get done." The IR role in supporting planning and decision making in this increasingly complex arena will vary depending upon institutional size, administrative structure, and funding arrangement on a given campus or in a system.

Because international activities have no single home or boundary, the management structure and locus of decision-making are often unclear. The more diverse and dispersed the activities, the greater the need for coordination, cooperation, and shared information. Many large campuses solve the problem of diffused authority by creating a new administrative position supported by a staff to manage a wide variety of tasks ranging from visits of international dignitaries to defining policies for international partnerships.

Centralizing functions benefits the faculty who can focus their energies on teaching and research, and benefits other administrators who are assured there is a repository of experience for facilitating international activities consistent with university policies and legal requirements. The IR office plays a key role in sharing the inventory of activities and assessment data with those responsible for results.

This centralized administrative role requires both managerial skill and collaborative leadership to bring coherence to international activities without stepping on the toes of other administrators, faculty, and staff. The individual in this role may accept the authority of others on a variety of matters such as admissions or faculty hiring, but direct this energy toward shared goals. Absent this collaborative leadership ability, those in the role risk being criticized by faculty as one more unnecessary administrator who is a barrier rather than a facilitator of their ideas and goals. In short, effective shared governance recognizes that the impetus for internationalization must come from both the top and the bottom and be sustained through communication and action.

As noted earlier, expertise in cost-benefit analysis is increasingly important as international activities have both financial and opportunity costs. What may have been a good idea at the initial stage may not be sustainable when time and resources are limited. Research centers once could be started at “no cost” by faculty with enthusiasm and specialized interests, but as campuses adopt more defined budget models, the centers need to cover all their costs including graduate fellowships, faculty reassigned time, and facilities.

IR studies can not only support financial decisions but also analyze alternative approaches to achieving institutional goals. For example, if choices must be made about international experiences for students, it helps to know the efficacy and costs of various models. How should the budget committee decide between an investment in student and faculty travel or an investment in videoconferencing to allow students and faculty to interact with colleagues at an international site?

The support role of IR staff in internationalization is invaluable as they are called on to help ask the right questions, identify appropriate measures of progress, design studies to answer real questions,

analyze data for improvement, and report data to aid in decision making. However, this cannot be a passive role. The IR staff must be proactive, change oriented, and advocates for their findings—including, stating when initiatives are not successful. Their effectiveness will be further enhanced by keeping up with the literature and following research in this dramatically changing field.

IX. Digital Skills, education and training

Digital technologies present enormous growth potential for Europe. **The European Commission is committed to deliver a** Europe fit for the digital age**, by empowering people, businesses and administrations with a new generation of technologies, where the digital transformation that will benefit everyone**.

Digital solutions that put people first will open up new opportunities for businesses, encourage the development of trustworthy technology, foster an open and democratic society, enable a vibrant and sustainable economy, help fight climate change and achieve the green transition.

The European Commission, via the Technical Support Instrument, helps Member States carry out reforms **to unlock digital growth potential and deploy innovative solutions for businesses and citizens, and to improve the accessibility and efficiency of public services**.

To shape Europe's digital future, the European Commission is determined to tackle the digital skills gap and promote projects and strategies to improve the level of digital skills in Europe.

All Europeans need digital skills to study, work, communicate, access online public services and find trustworthy information. **Digital skills** are a crucial driver of the EU's competitiveness and innovation capacity. They are also a key determinant of social cohesion and personal well-being. Ongoing digital and green transformations bring fast economic restructuring, which requires people to engage in **lifelong learning**. Moreover, these transitions require Member States to unlock their full skills and innovation potential. This includes reforms to improve the quality of **education and training systems**.

The European Commission supports EU Member States by providing expertise and exchange of good practices in the field of skills, education and training.

Examples of Support

- Improving the upskilling and reskilling systems in adult education.

- Fostering digital education and skills.
- Improving higher education, research and innovation.
- Improving vocational education and training.

X. Green transition

Climate change and environmental degradation are an existential threat to the European Union and to the world. **To overcome these challenges, the** European Green Deal **is Europe's new growth strategy, which will transform the Union into a modern, resource-efficient and competitive economy.** The European Green Deal aims to make Europe climate neutral by 2050, boost the economy through green technology, create sustainable industry and transport, and cut pollution. Turning climate and environmental challenges into opportunities will make the transition just and inclusive for all.

The European Commission helps EU Member States design and implement reforms that support the green transition and that contribute to achieving the goals of the European Green Deal. It also helps to design the necessary procedures in central and local administrations and establish the coordination structures that are needed for implementing green policies.

The Green Deal helps you make energy-saving improvements to your home and to find the best way to pay for them. The improvements that could save you the most energy depend on your home, but typical examples include: insulation, such as solid wall, cavity wall or loft insulation.

XI. KEY PERFORMANCE INDICATORS (KPIS) IN HIGHER EDUCATION

Key Performance Indicators (KPIs) in higher education are essential metrics that help institutions evaluate their effectiveness in achieving strategic goals, enhancing student success, and optimizing operational performance. KPIs provide a data-driven framework for decision-making, allowing institutions to track progress and identify areas for improvement. Thus, importance of KPIs in Higher Education KPIs serve multiple purposes:

- Tracking Progress: They allow institutions to monitor the achievement of strategic objectives.

- Identifying Issues: KPIs help detect performance gaps that require attention.
- Informed Decision-Making: Data-driven insights enable management to make strategic adjustments.
- Motivating Stakeholders: Clear targets can motivate faculty and staff to align with institutional goals.

While KPIs are valuable, there are challenges in their implementation:
- Contextual Relevance: Not all KPIs are equally applicable across different institutions or programs. Each institution must select KPIs that align with its unique strategic goals.
- Data Quality: The effectiveness of KPIs relies on the quality and accuracy of the data collected.
- Over-Reliance on Metrics: Institutions must balance KPI usage with qualitative assessments to avoid a narrow focus on numbers at the expense of broader educational objectives.

In conclusion, KPIs are critical tools for higher education institutions, providing a structured approach to measuring performance and guiding strategic initiatives. By focusing on relevant metrics across various domains, institutions can enhance their effectiveness and better serve their students and communities.

KPIs in higher education can be categorized into several key areas:

1. Financial Performance

Financial Key Performance Indicators (KPIs) in higher education are crucial for assessing the financial health and sustainability of institutions. These financial KPIs provide higher education institutions with essential insights into their financial performance, enabling them to make informed decisions regarding budgeting, resource allocation, and long-term planning.

1. Gross Tuition Revenue	This metric reflects the total income generated from tuition fees before any discounts or financial aid are applied. It is essential for understanding the primary source of revenue for most institutions and helps in setting tuition rates accordingly
2. Tuition Discount Rate	This KPI measures the total financial aid awarded to students as a percentage of gross tuition revenue. A high discount rate can indicate a reliance on financial aid to attract students, which can impact net revenue
3. Net Margin	The net margin is the ratio of net income to total expenses, indicating how much of each dollar of revenue translates into profit. This metric is vital for ensuring the institution remains financially viable
4. Funding, Grants, and Donations	Tracking the revenue from government funding, grants, and donations is crucial, as these sources can significantly impact the overall budget. This

	KPI helps institutions plan for future financial needs based on historical funding patterns
5. Student Fees	In addition to tuition, student fees contribute to revenue. This includes costs for services such as room and board, transportation, and specialty programs. Monitoring these fees is important for financial planning
6. Staff Cost as a Percent of Total Cost	This KPI assesses the proportion of the budget allocated to staff salaries and benefits. Understanding this ratio can help institutions manage their workforce effectively and ensure competitive compensation
7. Administrative Costs per Student	This metric evaluates how much is spent on administrative services for each student. It helps institutions understand their operational efficiency and cost management
8. Days Cash on Hand	This indicator measures the number of days an institution can operate using its available cash and liquid investments without additional revenue. It is crucial for assessing short-term financial health and liquidity
9. Program and Department Budgets	Analyzing the budgets of individual programs or departments helps institutions identify which areas are financially viable and which may need reevaluation or adjustment
10. Debt Coverage Ratio	This KPI assesses an institution's ability to cover its debt obligations with its net operating income. A higher ratio indicates better financial stability and capacity to manage debt

2. Student Success

Student Success Key Performance Indicators (KPIs) are essential metrics used by higher education institutions to evaluate their effectiveness in supporting students through their academic journey. These KPIs focus on various aspects of student achievement, including retention, graduation rates, and post-graduation outcomes. These KPIs help to set realistic goals, benchmark against peers, and continuously improve their services to enhance student success.

By regularly analyzing these metrics, HEIs can make informed decisions that support student achievement and institutional effectiveness.

Here are some key categories and examples of Student Success KPIs:

1. Retention Rates	This measures the percentage of students who continue their studies from one year to the next. High retention rates suggest effective support services and a positive campus environment.
2. Course Completion Rates	Measure the percentage of students who successfully complete their enrolled courses each term
3. Graduation Rates	Monitor the percentage of students who graduate within a specified time frame, reflecting overall learning and achievement
3. Transfer Rates	The percentage of students who transfer to another institution after completing a certain number of credits.

4. Employment Rates	The percentage of graduates who secure employment in their field of study shortly after graduation
5. Completion Rates by Demographics	Analyzing graduation and retention rates across different demographic groups to identify and address disparities.

3. Admissions and Enrollment

To effectively measure admissions and enrollment performance in higher education, several key performance indicators (KPIs) can be utilized. These KPIs help institutions assess their effectiveness in attracting and retaining students.

By monitoring these KPIs, higher education institutions can gain valuable insights into their admissions and enrollment processes, enabling them to make informed decisions to enhance their strategies and improve overall performance.

Here are some of the best KPIs for admissions and enrollment:

1. Application Completion Rate	The percentage of applicants who complete and submit their applications.
2. New Student Enrollment	The total number of new students enrolled in a given term.
3. Year-Over-Year Enrollment Growth	Comparison of enrollment numbers across different academic years to identify trends.
4. Student Acceptance by Zip Code	Analyzing the geographic distribution of accepted students to tailor recruitment strategies effectively.
5. Cost per Enrollment	The average cost incurred by the institution to enroll a new student, which can help assess the efficiency of recruitment efforts.
6. Lead Generation	The number of potential students identified through marketing efforts.
7. Conversion Rate	The percentage of leads that result in actual enrollments, indicating the effectiveness of marketing campaigns.
8. Inquiry-to-Visit Ratio	The ratio of inquiries received to campus visits, indicating the effectiveness of outreach efforts in engaging prospective students.

4. Faculty and Staff

Key performance indicators (KPIs) for university faculty and staff are essential for assessing performance, enhancing accountability, and driving institutional improvement.

By regularly monitoring and analyzing these KPIs, higher education institutions can gain valuable insights into the performance and effectiveness of their faculty and staff, and make data-driven decisions to support their professional growth and development.

Here are several important KPIs categorized for faculty and staff:

1. Student Satisfaction with Faculty	Measures student satisfaction with faculty performance, teaching effectiveness, and engagement. This can be assessed through student surveys
2. Student Learning Outcomes	Evaluates the achievement of intended learning outcomes by students in courses taught by faculty. This can be measured through direct assessment of student work and performance
3. Research Output	Tracks the quantity and quality of research publications, grants, and other scholarly activities by faculty. This can include metrics such as number of publications, citation impact, and research funding secured
4. Teaching Load	Measures the number of courses taught by each faculty member per academic year. This can help assess faculty workload and ensure equitable distribution of teaching responsibilities
5. Faculty Retention	Tracks the retention rate of faculty members over time. This can help identify factors contributing to faculty turnover and inform strategies for improving job satisfaction and retention
6. Staff Satisfaction	Measures the overall satisfaction of staff with their work environment, job responsibilities, and professional development opportunities. This can be assessed through staff surveys
7. Staff Turnover Rate	Tracks the percentage of staff who leave the institution within a given time period. This can help identify areas for improvement in staff recruitment, training, and retention
8. Staff Productivity	Measures the efficiency and effectiveness of staff in completing their assigned tasks and responsibilities. This can include metrics such as task completion rates, response times, and customer satisfaction
9. Professional Development Participation	Tracks the participation of staff in professional development activities, such as training workshops, conferences, and certification programs. This can help assess the institution's commitment to staff development and growth
10. Staff Diversity	Measures the diversity of the staff in terms of gender, race, ethnicity, and other demographic characteristics. This can help ensure that the institution is promoting inclusivity and equal opportunity in its hiring and promotion practices

5. Student Engagement and Learning Outcomes

Key performance indicators (KPIs) for student engagement and learning outcomes are essential for assessing the effectiveness of educational programs and enhancing student experiences.
By regularly monitoring and analyzing these KPIs, higher education institutions can gain valuable insights into student engagement and learning, identify areas for improvement, and make data-driven decisions to enhance the educational experience and student success.
Here are some key performance indicators (KPIs) that can be used to measure student engagement and learning outcomes in higher education:

1. Attendance Rates	Track student attendance in classes to measure engagement and identify potential issues
2. Participation Metrics	Measure student involvement, understanding, and collaboration in courses through participation in discussions, group work, etc.
3. Student Satisfaction Surveys	Metrics derived from surveys assessing student satisfaction with their educational experience, including support services and academic advising.
4. Engagement in Extracurricular Activities	Tracking student participation in clubs, organizations, and other campus activities that contribute to personal and professional development.
5. Student-Faculty Interaction	Assess the frequency and quality of interactions between students and faculty, which can enhance engagement
6. Student Learning Portfolios	Evaluate student work samples and projects to directly assess achievement of learning outcomes
7. Employer Satisfaction	Gather feedback from employers on the knowledge, skills, and abilities of graduates to gauge the effectiveness of learning outcomes

6. Diversity, Equity, and Inclusion

Key Performance Indicators (KPIs) for Diversity, Equity, and Inclusion (DEI) in higher education institutions are essential metrics that help track progress and identify areas for improvement in creating a more inclusive and equitable environment for students, faculty, and staff.

By regularly monitoring these KPIs and taking action to address any disparities or shortcomings, higher education institutions can work towards creating a more equitable, diverse, and inclusive environment for all members of the campus community. However, it's important to note that DEI efforts cannot be reduced to numbers alone and require ongoing commitment, engagement, and collaboration from all stakeholders.

Here are some key KPIs that institutions can use to measure DEI efforts:

1. Student Diversity	Student admission and graduation rates by race, ethnicity, gender, and socioeconomic status
2. Diversity of Incoming Class	The percentage of students from underrepresented groups, which can indicate the institution's commitment to inclusivity.
3. Student Inclusion	Student satisfaction with the campus climate and sense of belonging
4. Faculty and Staff Diversity	- Diversity of faculty and staff by race, ethnicity, gender, and sexual orientation - Representation of underrepresented groups in leadership positions - Retention and promotion rates for underrepresented faculty and staff - Participation in DEI training and professional development opportunities.

5. Curriculum and Pedagogy	- Number of inclusive and diverse curriculum offerings - Incorporation of DEI concepts and perspectives across disciplines - Faculty and student engagement in DEI-related research and scholarship
6. Support Services and Resources	- Availability and utilization of support services for underrepresented student groups - Funding and resources allocated to DEI initiatives and programs - Accessibility of campus facilities and resources for individuals with disabilities
7. Institutional Commitment and Accountability	- Presence of a comprehensive DEI strategic plan with clear goals and metrics - Allocation of dedicated staff and resources to DEI efforts - Regular assessment and reporting of DEI progress and outcomes - Accountability measures for addressing DEI-related issues and concerns.

7. Operational Efficiency

Key Performance Indicators (KPIs) for operational efficiency in higher education are essential metrics that help institutions assess how effectively they utilize resources, streamline processes, and improve overall performance.

By tracking these KPIs, higher education institutions can identify inefficiencies, improve resource allocation, and enhance overall operational effectiveness, leading to better educational outcomes and institutional sustainability.

Here are some critical KPIs that can be used to measure operational efficiency:

1. Cost per Student	This metric calculates the total expenditure on education divided by the number of students enrolled. It helps institutions understand the financial efficiency of their operations and identify areas for cost reduction.
2. Operational Cost Savings	This KPI tracks reductions in operational expenses without compromising quality. It can be measured by comparing budgeted costs to actual spending over a specific period.
3. Faculty-to-Student Ratio	A lower faculty-to-student ratio often indicates better educational support and resource allocation. This KPI helps assess whether the institution is providing adequate attention to students.
4. Time-to-Degree Completion	This KPI tracks the average time it takes for students to complete their degree programs. Reducing this time can enhance institutional efficiency and improve student satisfaction.
5. Administrative Efficiency	This KPI assesses the effectiveness of administrative processes, often measured through metrics such as the time taken to process applications or the responsiveness of student services.

6. Utilization Rates of Facilities	This measures how effectively campus facilities (classrooms, labs, etc.) are used. High utilization rates can indicate efficient scheduling and resource management.
7. Return on Investment (ROI) for Programs	This KPI evaluates the financial return generated from investments in specific programs or initiatives, helping institutions determine which areas yield the best results.

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Project: 101128552 — KPI4HE — ERASMUS-EDU-2023-CBHE

Participating Institutions:

1) YSU - YEREVAN STATE UNIVERSITY FOUNDATION AM, Coordinator
2) IIAP - NAS RA INSTITUTE FOR INFORMATICS AND AUTOMATION PROBLEMS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF ARMENIA -AM
3) ASPU - ARMENIAN STATE PEDAGOGICAL UNIVERSITY AFTER KHACHATUR ABOVYAN FOUNDATION -AM
4) EIU - EURASIA INTERNATIONAL UNIVERSITY -AM
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8) MESCS - MINISTRY OF EDUCATION, SCIENCE, CULTURE AND SPORT OF THE REPUBLIC OF ARMENIA - AM
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11) TUD - TECHNISCHE UNIVERSITAET DRESDEN - DE
12) UNIGE - UNIVERSITA DEGLI STUDI DI GENOVA - IT

Thank you

"ESTABLISHMENT OF NATIONAL FRAMEWORK OF KEY PERFORMANCE INDICATORS FOR GOOD GOVERNANCE AND QUALITY TOWARDS INCLUSIVE, DIGITAL AND GREEN ORIENTED HIGHER EDUCATION IN ARMENIA" (KPI4HE)

ERASMUS + PROJECT#101128552

Funded by the European Union