



聖若瑟大學  
UNIVERSITY OF  
SAINT JOSEPH

## KEY PERFORMANCE INDICATORS

QUALITY ASSURANCE OFFICE

### WHAT IS AN INDICATOR?

- An indicator is a statement of the area of achievement of a goal or intended outcome. *Evidence* is required for the indicator, to show that the goal has been achieved.
- 'An indicator can be a proxy measure when the outcomes cannot be directly measured'. **For example, students' attendance at extra-curricular activities and meetings could be used as an indicator of student involvement with the University.** 'Sometimes one indicator may be all that is necessary for clear explanation. Sometimes several indicators may be needed' (Scottish Community Development Centre (2007) *Learning, Evaluation and Planning*).
- 'An indicator is a qualitative or quantitative factor or variable that provides a simple and reliable mean to express achievement, the attainment of a goal, or the results stemming from a specific change. It often aggregates or combines multiple measures.' (Carebot, 2016: <https://thecarebot.github.io/metrics-measures-and-indicators/>).

### WHAT ARE KEY PERFORMANCE INDICATORS (KPIs)?

- KPIs are indicators (often measures) which are used to evaluate the effectiveness of an institution, its elements and its units in meeting objectives for performance.
- A KPI 'is a metric that embeds performance targets so organizations can chart progress toward goals'.<sup>1</sup>
- 'A KPI is a composite metric that is tied to targets and that indicates how an organization is performing relative to a specific objective'.<sup>2</sup>
- Quantitative indicators are those which are 'associated with the measurement of quantity or amount, and are expressed as numerical values; something to which meaning or value is given by assigning it a number'.<sup>3</sup>
- Some people comment that KPIs are quantifiable measure/metrics. Others suggest that KPIs are not necessarily stated in terms of *measurable* outcomes and that they can be addressed in other terms (e.g. qualitative).

1. Sahaj, P. and Sahnj, R. (2016) Strategies for Defining Key Performance Indicators in Research. *Clinical Researcher*. August 2016, pp. 16-19. DOI: 10.14524/CR-16-0010, p. 16.  
2. *Ibid*, p. 16.  
3. Chalmers, D. (2008) Teaching and Learning Quality Indicators in Australian Universities. Paper presented at the OECD Conference 'Outcomes of higher education: Quality relevance and impact', p. 4. Paris, 8-10 September. Paris: OECD.

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### WHY DO WE NEED KEY PERFORMANCE INDICATORS?

- They can indicate how well something is working.
- They can support evidence-informed evaluation, decision-making, strategic direction, policy formation and management of the University/ unit: navigational and decision-making tools.
- They can provide data on overall performance.
- They can contribute to the *overall* picture of what the University is doing.
- They identify areas for improvement and development.
- They can indicate where to intervene.
- They contribute to promoting continuous improvement.
- They contribute to promoting an organizational learning environment.
- They can chart/measure progress.
- They can indicate where to address developments and improvements with students.

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### WHY DO WE NEED KEY PERFORMANCE INDICATORS?

- They give focus.
- They can contribute to keeping the University/unit(s) on track and goal-focused: monitoring and direction.
- They can identify and recognize achievement.
- They can inform judgements about the consequences of interventions.
- They can 'ring an alarm bell' if matters are not working effectively.
- They can identify trends over time.
- They can provide (comparative) evidence of performance.
- They can support performance management.
- They can acknowledge improvements made → morale.
- They contribute to transparency.
- They can be used for accountability.

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### BEING REALISTIC ABOUT KEY PERFORMANCE INDICATORS

- KPIs *indicate* (only); they do not tell the whole story.
- KPIs *inform*; humans decide.
- KPIs provide an incomplete, partial and selective coverage of work and activities: not everything is covered in a KPI or a series of KPIs.
- KPIs are tools, not ends in themselves.
- KPIs must be taken within the context of the overall University/unit; using them in isolation risks distorting the overall work, focus and goals of the University/unit.
- They may focus on *what* rather than *why*.
- Numbers are useful but not everything is susceptible to/suitable for metrics.
- Numbers can contribute to and complement qualitative data, judgements, evaluation and policy.
- KPIs should not be misused: *consequential validity* is important; there are dangers in using them punitively rather than for improvement and development.
- KPIs risk focusing on short-term and narrow achievements: only *performance*.

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**KPIs AT USJ**  
(Some USJ KPIs might harmonise with those of UCP)

LEVEL	ACTION	WHO HEADS UP	TARGET COMPLETION DATE
<b>UNIVERSITY:</b> Overall KPIs to be developed at University level	Overall KPIs to be developed at University level	Vice-rector Prof. Barbosa	End of December, 2018
<b>ACADEMIC UNIT:</b> The same single set of KPIs to be developed for all academic units.	KPIs to be discussed with, developed with and agreed with Deans.	Vice-rector Prof. Barbosa; Vice-rector for QA; Deans	End of January 2019
<b>ADMINISTRATIVE, SUPPORT AND SERVICE UNITS:</b> Each administrative/service/ support unit to have its own KPIs	Facilitated discussion with each unit.	Vice-rector Prof. Barbosa; Vice-rector for QA; Unit heads	End of January 2019

TERMINOLOGY

- GOALS: Targets; intended outcomes.**  
Example: To raise student attainment through collaborative learning in the University.
- SUCCESS CRITERIA: How will you know if the goals/intended outcomes have been achieved? What standards/criteria will you use to judge whether or not it has been successful (i.e. what defines the success of the project)**  
Example: Collaborative learning has raised student attainment in the University. 90% of our students have GPAs of 18/20 or above.
- KEY PERFORMANCE INDICATORS: Statements of the area of achievement of a goal, i.e. operationalizing the goal and success criteria, and the metrics used to track the success towards a goal (outcome measures of/in the success criteria).**  
Examples: (a) Rise in student attainment in comparison to the previous year.  
(b) Increase in collaborative learning in all modules.
- EVIDENCE: Data required to inform the indicator.**  
Examples: (a) Students' semester grades over two years.  
(b) Classroom observation data over two years.

CLARIFYING TERMINOLOGY

**QUESTION:** What is the difference between **success criteria** and **indicators**?

**ANSWER:** Success criteria are what define the **success** of the project. Indicators are statements of areas focused on in order to **inform** the success criteria: the tools and /or metrics to measure or judge the achievement of the success criteria.

**EXAMPLE** } **Success criterion:** Every session in every module uses collaborative learning.  
**Indicator:** Collaborative learning by groups of students.

**QUESTION:** What is the difference between **indicators** and **evidence**?

**ANSWER:** **Indicators** are statements or measures being used in relation to a field. **Evidence** is the data used to inform the indicator.

**EXAMPLE** } **Indicator:** Student involvement in the University.  
**Evidence:** Number of students attending a University meeting.

WHAT IS BEING INDICATED?

(A) The work, operations, achievements, outcomes, achievable measures/steps of the University/unit.

(B) The achievement of:

- the goals of the Action Plan
- the content areas of the Action Plan
- the intended outcomes of the Action Plan

Indicators must fairly cover and represent the Action Plan's goals and contents; they must be *sufficiently comprehensive and fair: valid and reliable.*

Indicators of:

- Input
- Process
- Outcome

**KEY PERFORMANCE INDICATORS (KPIs):  
TEACHING AND LEARNING**

- Input indicators:** 'Input indicators reflect the human, financial and physical resources involved in supporting institutional programmes, activities and services. Limitations concerning input indicators surround their inability to determine the quality of teaching and learning without extensive interpretation.' (Chalmers, 2008, p. 4).
- Process indicators:** 'Process indicators are those which include the means used to deliver educational programmes, activities and services within the institutional environment. . . . Process indicators allow the collection of qualitative information on aspects of teaching and learning quality; such as policies and practices related to learning and teaching, performance management and professional development of staff, quality of curriculum and the assessment of student learning, and quality of facilities, services and technology. Process indicators have been identified by empirical research to be the most practical, useful and appropriate measures of quality teaching and learning within higher education institutions' (*ibid.*, p. 5).

**KEY PERFORMANCE INDICATORS (KPIs):  
TEACHING AND LEARNING**

- Outcome indicators:** can be quantitative and/or qualitative: 'Outcome measures focus on the quality of educational program, activity and service benefits for all stakeholders. Outcome performance indicators typically do not involve generating the quantity of outcomes in the form of numerical data (as do output performance indicators), but instead measure complex processes and results in terms of their quality and impact. This is the difference between output and outcome measures. While they both measure the effects of higher education, output performance indicators measure this quantitatively, and outcome measures do this qualitatively' (*ibid.*, p. 5).

**SOME RUDIMENTARY KPIS ARE CATEGORICAL, E.G. YES/NO**

- USJ has Strategic Plans, Action Plans, Policies at University and unit levels.
- USJ has a Quality Assurance Framework at University level.
- USJ has Guidelines on assessment of students.

**SOME KPIS ARE NUMBERS ONLY**

- Dropout rates.
- Number of students enrolled onto a programme.

**SOME KPIS ARE QUALITATIVE**

- Clarity and organization of instructor’s presentation of content, concepts, skills, and techniques.
- Clarity and suitability of instructor’s expectations, requirements, guidance and directions for student performance.
- Instructor’s helpfulness and availability during and outside class.

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**EXAMPLE OF KPIS FOR MISSION STATEMENT**

- USJ has an appropriate mission to cultivate talent in and for Macau.
- USJ’s mission enables students to reach international standards, both academically and professionally.
- USJ’s mission is understood and supported by all stakeholders.
- USJ’s mission underpins and directs the work and development of the University.
- USJ has QAE for ensuring the achievement of its mission and vision.

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**EXAMPLE OF KPIS FOR ADMISSIONS**

- Low admission criteria to encourage diversity and widen participation.
- High expenditure on library as indicator of commitment to research.
- High expenditure on journals in library (as indicator of commitment to research).
- Low staff-student ratios (as indicator of commitment to the student experience).
- High income levels from international student recruitment (as indicator of commitment to global diversity).
- Low staff turnover (as indicator of commitment to the staff experience).

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**EXAMPLE OF KPIS FOR OPERATIONAL EFFICIENCY**

- Number of applicants for each programme in the Faculty
- Student admission number by programme
- Student grade distribution (by Programme/Study year)
- Student number of ‘normal’ graduation, attrition/dropout rate and graduation delay, by programme
- Number of programmes reviewed/revised
- Number of new programmes offered
- Teacher-student ratios
- Number of research seminars, workshops, visiting speakers and academic presentations (inside and outside the Faculty)
- Awards/honours relating to research received by academic staff
- Student achievement for extra-curricular activities
- External academic exchange activities (outbound and inbound visiting teachers/students)
- International academic exchanges (number of visiting and visited HEIs outside Macau and collaboration agreements signed at Faculty level)
- International professional accreditation of programmes

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**PUBLISHED EXAMPLES OF KPIS**

Standard/Broad Area	Key Performance Indicator
Management of Quality Assurance and Improvement	1. Students overall evaluation on the quality of their learning experiences at the institution. (Average rating of the overall quality of their program on a five point scale in an annual survey final year students.)
	2. Proportion of programs in which there was independent verification within the institution of standards of student achievement during the year.
	3. Proportion of programs in which there was independent verification of standards of student achievement by people external to the institution during the year.

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**PUBLISHED EXAMPLES OF KPIS**

Standard/Broad Area	Key Performance Indicator
Learning and Teaching	4. Ratio of students to teaching staff. (Based on full time equivalents)
	5. Students overall rating on the quality of their courses. (Average rating of students on a five point scale on overall evaluation of courses.)
	6. Proportion of teaching staff with verified doctoral qualifications.
	7. Percentage of students entering programs who successfully complete first year.
	8. Proportion of students entering undergraduate programs who complete those programs in minimum time.
	9. Proportion of students entering post graduate programs who complete those programs in specified time.
	10. Proportion of graduates from undergraduate programs who within six months of graduation are: (a) employed (b) enrolled in further study (c) not seeking employment or further study

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PUBLISHED EXAMPLES OF KPIS

Standard/Broad Area	Key Performance Indicator
Student Administration and Support Services	11. Ratio of students to administrative staff
	12. Proportion of total operating funds (other than accommodation and student allowances) allocated to provision of student services.
	13. Student evaluation of academic and career counselling. (Average rating on the adequacy of academic and career counselling on a five point scale in an annual survey of final year students.)

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PUBLISHED EXAMPLES OF KPIS

Standard/Broad Area	Key Performance Indicator
Learning Resources	14. Number of book titles held in the library as a proportion of the number of students.
	15. Number of web site subscriptions as a proportion of the number of programs offered.
	16. Number of periodical subscriptions as a proportion of the number of programs offered.
	17. Student evaluation of library services. (Average rating on adequacy of library services on a five point scale in an annual survey of final year students.)

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PUBLISHED EXAMPLES OF KPIS

Standard/Broad Area	Key Performance Indicator
Facilities and Equipment	18. Annual expenditure on IT as a proportion of the number of students.
	19. Number of accessible computer terminals per student.
	20. Average overall rating of adequacy of facilities and equipment in a survey of teaching staff.
	21. Internet bandwidth per user

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PUBLISHED EXAMPLES OF KPIS

Standard/Broad Area	Key Performance Indicator
Financial Planning and Management	22. Total operating expenditure (other than accommodation and student allowances) per student.
Faculty and Staff Employment Processes	23. Proportion of teaching staff leaving the institution in the past year for reasons other than age retirement.
	24. Proportion of teaching staff participating in professional development activities during the past year.

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PUBLISHED EXAMPLES OF KPIS

Standard/Broad Area	Key Performance Indicator
Research	25. Number of refereed publications in the previous year per full time equivalent member of teaching staff.
	26. Number of citations in refereed journals in the previous year per full time equivalent teaching staff.
	27. Proportion of full time member of teaching staff with at least one refereed publication during the previous year.
	28. Number of papers or reports presented at academic conferences during the past year per full time equivalent members of teaching staff.
	29. Research income from external sources in the past year as a proportion of the number of full time teaching staff members.
	30. Proportion of total operating funds spent on research.

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PUBLISHED EXAMPLES OF KPIS

Standard/Broad Area	Key Performance Indicator
Community Service	31. Proportion of full time teaching and other staff actively engaged in community service activities.
	32. Number of community education programs provided as a proportion of the number of departments.

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## EXAMPLE OF KPIS FOR ACHIEVEMENT OF STRATEGIC PLAN

### Teaching and Learning

- Time-to-graduate
- Outcome-based assessment results
- Postgraduate research
- High enrolment at all levels
- Student awards and internships

### Research and Scholarship

- Increased international profile of research programmes
- Funded research
- High quality publications
- International patents and awards
- Niche research areas to benefit social and economic development in the region

### Internationalization

- Collaboration with regional and international collaborators
- International students at all levels
- Hosting international conferences, workshops, symposia
- Students' participation in regional and international competitions
- Accreditation of programmes by regional and international accreditation agencies

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## EXAMPLE OF KPIS FOR ACHIEVEMENT OF STRATEGIC PLAN

### Institutional Development

- Strengthened External Advisory Committee roles
- Faculty development programs
- Joint research labs with companies, research institutes, academic institutes
- Staff development and training

### Societal Engagement

- New degree and non-degree programmes
- Alumni outreach
- Participation in professional societies' activities
- Support of spin-off companies

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## EXAMPLE OF KPIS FOR RESEARCH

Overall and in each academic unit:

- The number of 'research active' staff.
- The number of main research areas.
- The number of research projects funded by external sources, e.g. Macau Foundation, FDCT, EU, government agencies, NGOs, other external sources.
- The amount of external research funding.
- The amount of internal research funding.
- The number of papers in high impact journals.
- The number of papers in blind peer-reviewed journals.
- The number of peer-reviewed conference papers.
- The number of books published.
- The number of chapters in edited volumes.
- The number of citations of published work.
- The number of academic research outputs and rewards/prizes/awards.
- The number and types of international patents.
- The number of partnership projects with other institutions.

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## EXAMPLE OF **FACULTY** KPIS

Each Faculty has KPIS which the University uses for setting management objectives, monitoring Faculty performance, and informing decisions on resource allocation and budgeting:

- Research grants
- Consultancy income
- Number of academics producing high quality research outputs (% with average of 3 high impact publications)
- Student-staff ratios
- Quality of undergraduate entry (entry characteristics, e.g. grades awarded)
- Undergraduate student achievement (% of high degrees gained by graduates)
- Employability (% of graduates who seek employment, gaining employment within 3 months of graduation)
- Employability (% of graduates proceeding to graduate level employment or study)
- Number of postgraduate research students (% of faculty student population)
- Student satisfaction (% of students in the faculty scoring more than 80% in the Student Satisfaction Survey).

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## EXAMPLE OF KPIS FOR TEACHING

- Clarity and organization of instructor's presentation of content, concepts, skills, and techniques.
- Clarity and suitability of instructor's expectations, requirements, guidance and directions for student performance.
- Instructor's helpfulness and availability during and outside class.
- Usefulness, clarity and constructiveness of instructor's preparation for and formative feedback on student assignments and performance.
- Instructor's promotion of class participation and collaborative, interactive learning and discussion.
- Instructor's overall teaching effectiveness.
- Appropriateness, relevance and suitability of course content.
- Organization of course content.
- Effectiveness of teaching strategies.
- Effectiveness of application and skill development from course content.
- Links between theory and practice.

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## EXAMPLE OF KPIS FOR TEACHING AND LEARNING

- USJ has policy statements, guidelines and support materials for promoting effective teaching and learning.
- USJ provides appropriate funding for learning and teaching activities.
- USJ ensures adequate and readily accessible teaching and learning resources.
- USJ ensures that student support for learning is provided and continuously enhanced.
- USJ collects and uses feedback from staff and students for the effective management, quality, development and continuous enhancement of teaching and learning.
- USJ ensures that its programs are delivered in ways that encourages active and interactive learning between students, and that assessment reflects this approach.
- USJ ensures that its teachers are competent to teach in the area required.
- USJ ensures that its staff-student ratios are sufficient to promote high quality teaching and learning.
- USJ uses outcomes-based approaches (OBA) in its programs, teaching, learning and assessment.
- USJ provides faculty development in teaching and learning for all its academic staff.

### WHAT DO YOUR KPIS REALLY INDICATE?

- Number of students
  - Popularity; quality; program attractiveness; ease of entry; ease of completion; student support; effectiveness of publicity; resources; business plan; reputation ... ?
- Gender
  - Equal opportunities; diversity; application; uptake; programmes offered ... ?
- Number of staff
  - Recruitment; staffing policies; financial situation; pay and conditions; size of Faculty; workload; reputation; business plan ... ?
- Number of staff at promoted levels
  - Management structure; financial situation; attractiveness of Faculty/work; pay and conditions; opportunities for promotion; promotion policy; opportunities elsewhere; reputation. ... ?
- Staff-student ratios
  - Student support; low enrolment; few applications; student dropout; class size policy; staffing problems; staffing benefits; business plan ... ?

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### WHAT DO YOUR KPIS REALLY INDICATE?

- Student dropout/retention rates
  - Low dropout: lax demand/high demand; attractiveness of institution; quality of instruction; reputation; opportunities elsewhere; costs; friendships ... ?
- Staff turnover
  - Loyalty; job opportunities elsewhere; pay and conditions; career development and opportunities; workload; institutional culture and ethos ... ?
- Nationalities of staff
  - Internationalism: discrimination/non-discrimination; language issues; recruitment policy; effective recruitment/poor recruitment; mission statement; pay and conditions; reputation ... ?
- Nationalities of students
  - Internationalism: discrimination/non-discrimination; popularity; language issues; opportunities elsewhere; attractiveness (e.g. scholarships); family matters; types of programme; friendships, reputation ... ?

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### ADVICE FOR KPIS

- Make sure that your indicators are valid and reliable – that they indicate what they are intended to indicate, and do so reliably and credibly.
- Make sure your indicators are realistic.
- Make sure your indicators are easy to understand.
- Make sure your indicators are connected to goals.
- Do not have too many indicators: as few as necessary but no fewer.
- Make sure that your indicators are not too easy but not so demanding as to be unachievable in terms of success.
- Keep the wording of your KPI as brief as possible, but no briefer.
- Make sure that the KPIS fairly cover and represent the Action Plan's goals and contents, i.e. they must be valid and reliable.
- Be **VERY** careful what you infer from KPIS; don't over-interpret!

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### RESPONSIBLE METRICS

Responsible metrics can be understood in terms of number of dimensions:

- **Robustness:** basing metrics on the best possible data in terms of accuracy and scope;
- **Humility:** recognising that quantitative evaluation should support – but not supplant – qualitative, expert assessment;
- **Transparency:** keeping data collection and analytical processes open and transparent, so that those being evaluated can test and verify the results;
- **Diversity:** accounting for variation by field, and using a range of indicators to reflect and support a plurality of research ... across the system;
- **Reflexivity:** recognising and anticipating the systemic and potential effects of indicators, and updating them in response.

(Wilsdon, J., (2016) *The Metric Tide*. London: Sage, p. 138)

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### STRATEGIC OBJECTIVE 2:

To provide the highest international academic standards

Write two Key Performance Indicators for this Strategic Objective.

### FOLLOWING UP KEY PERFORMANCE INDICATORS AND EVIDENCE

Three questions:

1. What do the **KPIs** and **evidence** *really* tell you about the achievement of the goals, contents, intended outcomes and procedures set out in the Action Plan, i.e. what do you want to do with the KPIs and evidence/data?
2. Evidence of what, i.e. what does the evidence show and tell you?
3. What will you do now, as a consequence of (1) and (2)?

### WHAT DOES IT MEAN FOR ME?

1. You must know the KPIs *very well*.
2. You must be prepared to create and write KPIs, and to participate constructively in discussions on the creation and feedback on KPIs and draft documents.
3. You must be prepared to collect, collate, provide, analyse and report evidence of using KPIs for improvement and development.
4. You must be prepared to respond to QAE-related requests from the QA Office.
5. You must be prepared to defend the KPIs and to know their limitations.

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