Towards Convergence of Higher Education Indicators - A System Perspective

Maree Pather (Tshwane University of Technology, Pretoria, South Africa)

Categorise the HEI indicators below:

Are these performance indicators, risk indicators or quality indicators?

- Graduation-rate
- Drop-Out rate
- Staff-Turnover rate
- ICT-Cost per Student-FTE
- Student FTE: Student Headcount ratio

[DOES IT MATTER?.... CALL THEM
STATUS INDICATORS, OR M&E I's, IF YOU LIKE!]

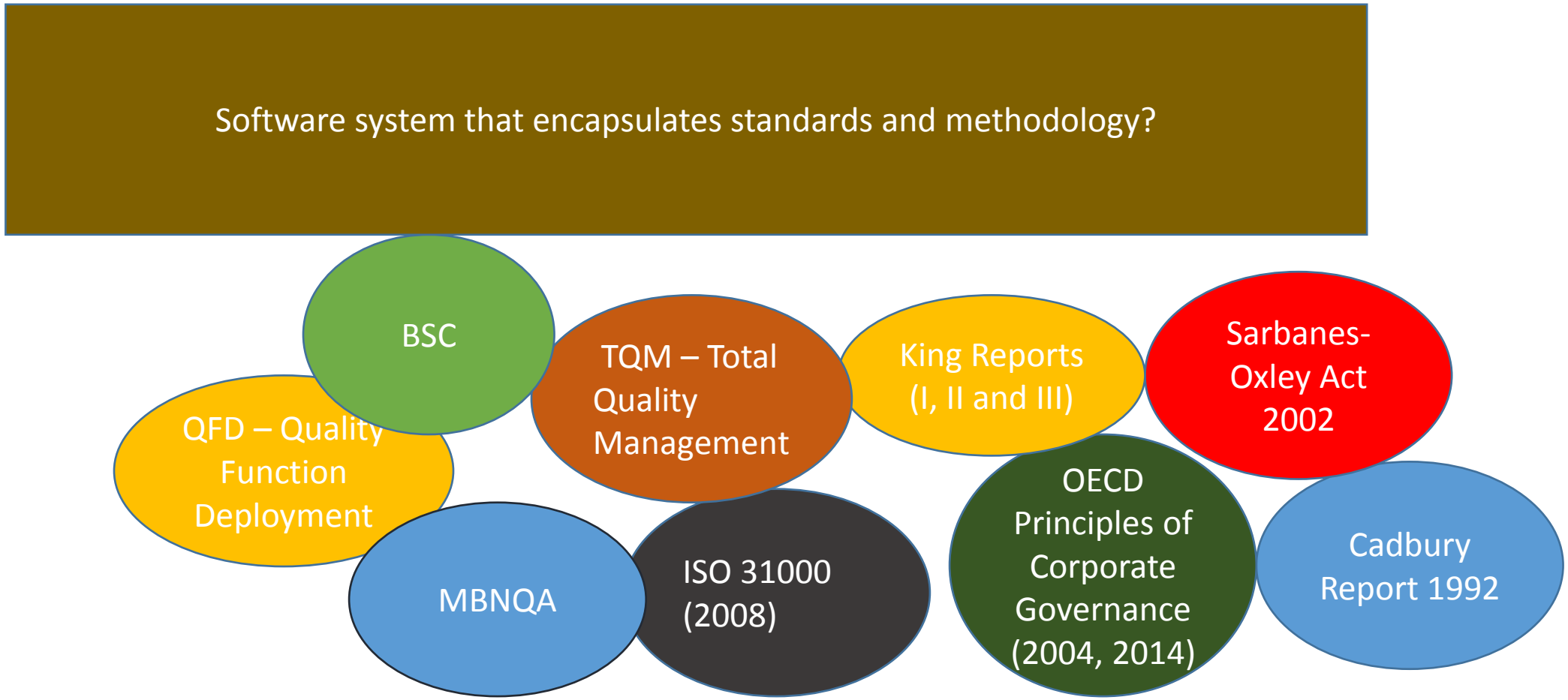
Are they worth monitoring?

…It is ‘ALL RELATIVE’ to what information is required, why it is required, when it is required and by whom it is required…

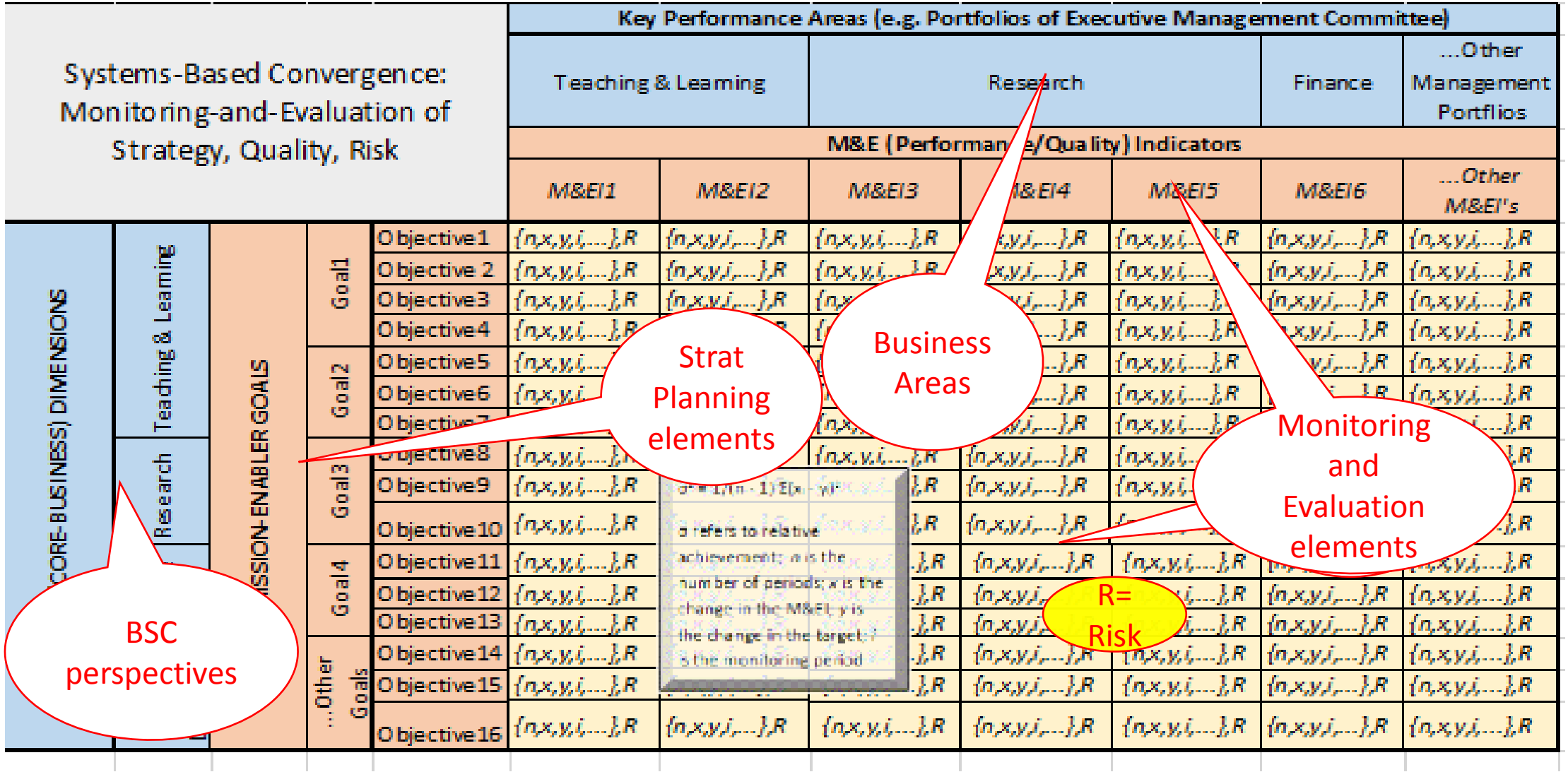
- Is a pulse beat worth monitoring?

- Are ϒ-waves in an ECG worth monitoring?

Avoiding information overload…How?



Reducing complexity…



Essential points to keep in mind…

- Using the worksheet per se would not be very practical unless the number of planning elements is small.
- The framework is intended to be implemented as a software system with
  - data-capture interfaces,
  - analysis-and-reporting capability and
  - M&E I-dashboards.
- Some of the function-cells could be vacant, depending on whether indicators are used are not.

Converged schema…

- As with Balanced Scorecard strategic maps (Kaplan and Norton, 1996), the converged-planning schema *can be cascaded* from corporate governance and executive management planning down to tactical and operational planning.
- The software system could be implemented to aggregate M&EI's hierarchically upwards, consistent with the top-down cascade of goals and objectives.

Quality Function Deployment (QFD) (Mitsubishi)

STRATEGY

- Mission dimensions, similar to the Balanced Scorecard perspectives [Kaplan and Norton (1996)];
- Mission–enabler Goals (for each dimension); and
- Objectives (derived from Critical Success Factors) for each Goal

BU M&E

- Could, optionally, include the Baldrige Education Criteria For Performance Excellence (NIST, 2013); Institutional Key Performance Areas (KPAs), which could be: the Corporate Governance Portfolios, Executive-Management Portfolios, Line-Management Functions (depending on for which level the planning is intended) The Monitoring-and-Evaluation Indicators (M&EI's) for each KPA;
- Tracking Indicators (TI's) that for each M&EI

TI → f (n, x, y, i…), for each TI.

- Risk Indicators (RI's) for each Objective.

RI → f (TI)

Risk Tracking & Performance Tracking

Values for TI's can be obtained using various methods, e.g. calculating the standard deviation of changes in the TI-value and the benchmark over the monitoring-interval.

$\sigma^2 = 1/(n - 1)\ \Sigma(x_i - y_i)^2$

Where σ is the relative performance in period i; n is the number of periods over which it is measured; x is the change in the TI; y is the change in the benchmark; i is the monitoring period.

If the benchmark is a variable such as CPIX, the benchmark would change periodically.

Quality/Performance Criteria

- QFD allows a QPS (Quality Performance Score) by using the criteria (hierarchical measurable indicator systems) in a self-assessment.
- Similar to quality awards criteria, e.g. :
  - the Deming Quality Awards (Japan),
  - the Malcom Baldrige National Quality Award (MBNQA) and
  - the European Quality Award (EQA) awarded by the European Foundation for Quality Management (EFQM).

- [Actual M&E I's should be presented as metrics - metrics should be derived where M&E I's are qualitative - such as Net Present Value (NPV), Benefit-Cost Ratio, Graduation-Rate, etc.]

Framework Focus

- The methods and processes used (e.g. SWOT analyses, TQM, QFD, BSC, MBNQA-criteria) and risk management are incidental to this proposed framework;
- For example, prior risk-classification and risk-assessment are presupposed here;
- the focus is on capturing and tracking the indicators that emerge from such processes.

Choosing actual HEI indicators

- A useful guide is the UNESCO International Institute for Educational Planning publication (Michaela Martin, Claude Sauvageot, 2011): "Constructing an indicator system or scorecard for higher education - A practical guide".
- Other useful sources for indicators include:
  - Ruben B.D. (1999). "Toward a Balanced Scorecard for Higher Education: Rethinking the College and University Excellence Indicators Framework". State University of New Jersey, White Paper
  - NIST (2013). Baldrige Performance Excellence Programme, http://www.nist.gov/baldrige.