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**PERFORMANCE MEASUREMENT AND
PERFORMANCE MANAGEMENT**

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INTRODUCTION

This view of performance measurement and its role in performance management is told from the practitioner's perspective. I make no apology for that, or for the fact that this presentation does not adopt a theoretical point of view. Whatever theory one looks at, however, monitoring and data analysis are components of the management cycle. Performance ultimately depends on the implementation step in that cycle. To that extent, performance monitoring constitutes an important component of, but not a sufficient condition for, good performance.

In this talk, I will be:

- putting performance monitoring in higher education in New Zealand into its statutory and historical context;
- giving an account of what we mean by performance indicators and a performance management framework;
- giving some warnings and limitations; and
- outlining something of the approach we use at Lincoln University.

THE STATUTORY CONTEXT

What follows is a short and idiosyncratic view of the development over the last decade of the external requirements for performance monitoring in higher education in New Zealand. It is a personal history. This is the story of Fisher versus Spassky, as told by the pawn.

Before the public sector reforms of the 1980's, public sector organisations were organised according to functional groups (ie by input). Reporting (at least by higher education institutions) adopted a kind of 'stewardship approach'. In their relationships with their customers, public sector organisations were paternalistic. There was persistent criticism of public sector financial performance, despite the fact that spending protocols were rigid and bureaucratic. The objective of financial management was financial control, rather than accountability.

In the UK, the Jarratt Committee's (1985) emphasis on the performance indicators saw a shift away from the tradition of peer review as the primary method of performance evaluation in higher education, adding an explicitly quantitative dimension to performance assessment.¹ It marked a shift away from **trust** and towards '**accountability**'.

The same trend hit the US somewhat later, with the passage of the 1992 Reauthorisation of the Higher Education Act which fundamentally changed oversight of the quality of higher education, largely in response to declining public confidence in higher education institutions.² The implicit trust of the funders – and the public – in the integrity and reliability of higher education providers – like other publicly funded entities and like other professions – was wearing thin.

Accountability is, in effect, the alternative to trust. The requirement to account is designed to:

- act as a constraint on the exercise of power;
- strengthen the legitimacy of the entity;
- enhance performance;
- regulate institutional behaviour; and, above all
- ensure that money is spent in accordance with the purpose for which it was provided.³

¹ Refer to Cave, Hanney and Kogan (1991). Chapter 1, in particular summarises the trends.

² Refer to Johnson and Rush (1995). Part Five describes the US regulatory environment. Trow (1996) adopts a somewhat different perspective.

Further, formal accountability through reporting and monitoring mechanisms was to be complemented by market mechanisms – accountability to the customer – that would also force better performance.

In New Zealand, the reform of the public sector that occurred with the State Sector Act and Public Finance Act was designed to effect a fundamental cultural change in the sector. The business of the public sector was to be expressed using the metaphor of the contract, and in the language the purchaser and seller, between whom there would be appropriate tension and contestability. To have a contract of course, one needs something to buy. This need shifts the organisational emphasis from inputs to outputs. Delivery agencies therefore, identified their outputs and organised themselves by output group. PSAC (Public Sector Accounting Concepts) introduced the notions of reporting by output group and accounting for service performance, not simply for expenditure. This entailed setting service performance objectives against which performance could be audited in terms of quality, quantity, timing, location and cost.⁴

The approach requires a negotiation, between the purchaser and provider, of objectives (and as a consequence, the indicators of performance) appropriate to the mission of the provider. The approach was not confined to higher education. Rather, it was seen as the price of increased autonomy for publicly funded entities with complex and/or multiple outputs.

It follows that the negotiations of PIs is not altogether a straight-forward exercise. Unlike the UK and Australia, where the funding agencies have defined a uniform set of key performance indicators for the sector, we, in New Zealand, have ended up with considerable discretion in our choice of funder-level indicators, provided those indicators can be seen as reporting, however broadly on the outputs agreed with our funder.

While we did not end up with a centrally mandated set of PIs, that had not been the Ministry's intention. Mervyn Probine and a small working party of officials produced a model set of performance indicators in 1989 for the Ministry of Education which was nothing if not naive. Certainly, at the time, it appeared mechanistic and ill-judged, (although, with the benefit of hindsight and experience, the Probine Report was probably less problematic than we thought at the time). The lack of institutional experience on that working party was an error of judgement if the Ministry was serious about mandating KPIs.

As time has gone on of course, the Ministry has become progressively more interested in taking a 360 degree view of institutional performance. That is, they wish to consider, not only the purchase relationship between the TEI and the Crown, but also indicators of the extent to which the Crown is exposed to risk and in particular, financial risk. Indeed, the Ministry created a new agency, the Tertiary Ownership Monitoring Unit to deal with just this dimension. This is not to get into the question of what rights, if any, the Crown has as 'owner'. As this shift evolves, there will be a new spin of our performance reporting. The TOMU risk profile template gives an indication of the sorts of financial indicators that will be requested as that relationship evolves. Among the indicators are:

- return on assets;
- interest cover;
- return on public equity;
- fixed assets per EFTS;
- cost per EFTS; and
- current assets to current liabilities.

The kinds of non-financial indicators that TOMU will require us to propose annually in our Statements of Intent can be grouped under the following headings:

³ Refer to Trow (1996).

⁴ See, for instance, Anderson (1995) and Scott (1995).

- reputation
- assessment
- productivity
- business volume

Reputation includes such indicators as progress to employment, publications per FTE. Assessment is concerned with pass rates, academic progress rates and graduation rates. Productivity includes such measures as EFTS to FTE, asset productivity, ratio of EFTS to students. Business volume includes such indicators as number of EFTS.⁵

(I note in passing that it is significant that the Ministry has ceased to use the term ‘owner’ in relation to the institutions. The Crown no longer explicitly asserts ownership. Rather, it asserts the right to behave and seek assurance in ways that are characteristic of shareholders).

PERFORMANCE INDICATORS

Much of the impetus and the rationale for the development of performance indicators in higher education was, historically, external. The purpose was to provide means for funders to evaluate the performance of institutions and of groups of institutions, largely with a view to assessing the effectiveness of the funders’ spending on those institutions. In the private sector, however, the principal value of performance monitoring through PIs has been internal. As I mentioned before, monitoring is an element in the performance management cycle and to that extent, is as much intended to meet the requirements of managers as the needs of the funder. So I will now talk about the nature and use of performance indicators internally.

Performance indicators are measures that give some idea of output, productivity or performance. The word ‘indicator’ means a recording instrument that gives information on the current situation. It carries the connotation of an information source that gives a view, (but not necessarily a complete picture) of processes and transactions. PI tend to focus on particular, measurable points in complex processes. Key Performance Indicators (KPI) are those that focus on the critical process points and hence, give a view on the value of the process itself.

Indicators can be simple, in which case, they express volume (such as student numbers, numbers of graduates, income) or composite, in which case, they are derived from combining several simple data elements – for instance, ratios of EFTS to FTE staff or research contract income to FTE.

While I talked earlier about the requirements of our funders and external stake holders, performance needs to be measurable at all levels in an organisation.

In order to discharge its governance functions, a Council needs to monitor institutional performance as a whole by monitoring a small number of macro-level composite KPIs that identify the critical components of institutional performance. These KPI need to be focussed clearly on institutional strategy and critical success factors.

As CEOs, our Vice-Chancellors need a disaggregation of those governance level KPI to the level of the principal organisational units of the institution, as well as to the key business outputs. In other words, the CEO needs to have a view of the performance of the programmes, divisions, departments and subsidiaries.

Managers at the next level down need to be able to trace the performance of the units for which they are responsible and to measure the health of the components of those units.

Thus, we have a tiered system of PI:

⁵ Refer to the TOMU website: <http://www.minedu.govt.nz/tertiary/tomu/>

- funders and external stakeholders;
- governing body;
- CEO;
- manager;

with each level constituting a refinement and/or an aggregation of measures at the succeeding level.

This, in its turn requires an organisation:

- to propose what aggregate indicators might be put to external stakeholders
- to develop a short list of the really critical indicators that serve the needs of the governing body and that give a window on the achievement of strategy, as well as of objectives;
- to develop a categorisation of the performance indicators that will enable aggregation by:
 - unit (division, department, programme etc);
 - type (quality, viability, research, business development); and
- to identify a set of robust base data elements from which the indicators can be constructed.

The literature abounds with good advice on the construction of PIs.⁶ A balanced set of KPIs will:

- include key non-financial measures, as well as financial;
- be derived from the organisational mission and strategy and from the objectives that flow from them;
- be detailed, relevant, reliable, understandable, valid, readily updated;
- be focussed on critical success factors;
- be within the power of the unit concerned to influence;
- be results-oriented and able to guide improvements;
- be few enough to be manageable; and
- be many enough to embrace the diversity of the organisational critical success factors.⁷

There is a balance to be struck between complexity and simplicity.

The Probine indicators of 1989 may have appeared mechanistic and facile. Among the reasons we distrusted the Probine report when it came out, however, was that we misread what PI are and what they mean. I suspect Probine and his collaborators would have seemed smarter had we been more ready to consider carefully just what PI can and cannot tell us. Performance indicators cannot tell the whole story. Certainly, an indicator will rarely tell you WHY a trend is occurring. Rather, it will tell you THAT the trend is occurring. To find out why requires an altogether different type of process.

Here is a (non-exhaustive) list of aids to interpretation:

- An indicator, however well constructed, can tell you only so much. Do not mistake the performance indicator for the performance itself. An indicator is just that; a window to a slice of a process. In most cases, performance in the process as a whole is best assessed by reading the whole basket of related indicators.
- Valid comparisons can be made laterally – between institutions or between units – only provided the definition of the underlying data elements is consistent. But be wary of facile comparisons; there will be drivers of performance that qualify simple comparatives and these need to be explored and articulated if comparison is to be meaningful. Comparisons are much more robust if they are longitudinal, rather than lateral.
- Someone involved in PI analysis and interpretation needs to understand the processes used to collect the data elements so as to be aware of the extent to which (for instance) process changes subtly alter data, so as to contribute cognisance of the robustness of the data elements and so as to ensure that comparisons are made with due care.
- Remember that PI will not tell the whole story. It is conceivable that good PI measures could mask weakness. There is a danger that managers could manage to PI, not for performance.

⁶ Refer, for instance, to Kaplan and Norton (1996).

⁷ See, for instance, Anderson (1996), Beechey (1996).

PERFORMANCE MANAGEMENT AT LINCOLN UNIVERSITY

Performance management involves linking the institutional mission and strategy to operational performance. That in its turn involves setting output targets as part of the planning process. That requires accurate and valid reporting on our business and on its outputs.

Like many higher education institutions, we at Lincoln had initially responded to the increased emphasis of academic quality, performance and accountability by moving to an even greater use of peer review. We instituted a rolling cycle of department and programme reviews. These certainly have their value and did yield results.

But:

- a cycle of reviews takes a long time to work through – it took us five years to do a department review cycle and we never finished a full programme cycle;
- this approach treats the weak and the strong, the high and low performer, indifferently;
- the methodology, while robust enough and although underpinned by relevant data, allows for politicisation of the process and of the outcome;
- the costs of peer review are high, especially in institutional effort but also in dollars; and
- the results were sometimes uncertain.

This led us, at Lincoln to reconsider our approach to review.

Further, in 1996, we put together a small think tank to conduct a comprehensive business review. That review was to analyse all aspects of the business and suggest ways of enhancing effectiveness, as well as efficiency. As such, it had to be data driven. And that required the development of a more comprehensive and balanced set of KPIs. That set of KPIs used the performance measures we had used for several years, added some new data and invented some new configurations of data. The aim was to meet the kind of principles underlying good KPI described earlier.

As a result of that exercise, we now have a set of KPI at programme and divisional level that:

- has been collected for several years on a consistent basis;
- covers the main success factors (quality, viability, teaching, research etc);
- is reasonably robust in definition; and
- has acquired the legitimacy of longevity.

We collate these KPI on an annual basis and we analyse performance both across business units and, within business units, over time.

The sorts of indicators we use are:

Programme Level

Viability/Productivity

- EFTS demand, total and first year. Retention

Quality

- Demographics: Student intake quality. Geographic origin
- Academic Performance: Clearance rates/progress rates and completion
- Programme income and costs
- Progress to employment and further study
- Student satisfaction/course experience

Division Level

Viability/Productivity

- EFTS
- Income and expenditure
- \$ Resource use
- Productivity of space
- Academic FTE
- Number of classes taught and class size

Research

- Publications and premium publications
- Research contract income
- Thesis supervisions

Quality

- Subject evaluations
- Pass rates

To these, we add some institutional indicators – such as assets per EFTS and market share – together with some benchmark data derived from annual reports and Ministry of Education statistics. We also look at indicators of performance in support units.

We have added to the list of indicators since 1996 and, as we get to know our business better and as the Ministry refines its thinking, I suspect we will refine our list some more.

This annual review provides us with a solid, hard-hitting snapshot view of institutional and unit level performance. The review provides an agenda for action for the key managers, with areas for improvement clearly identified. And if the analysis of KPI identifies the need for a more detailed analysis to determine why a trend is occurring, we do that. Where the KPI show things are working and flourishing, then we can afford not to review in that more forensic way. This annual review has now replaced our former cyclical review cycle.⁸

Process

Our process involves central data collection, configuration and analysis, followed by publication of the draft to directors for their comment and feedback. Directors establish new targets that can find their way into the annual performance agreement with the Vice-Chancellor. They share good practice. They implement. Later, as we compile the annual report, we finalise the review, including final year end data and removing any glitches.

The process is not without its weaknesses. For instance:

- there are time lags in data collection;
- the analysis of support units is less well-developed; and
- better benchmarking data would help.

But on our experience, it has proved a powerful tool.

CONCLUSION

Defined well and used properly, performance indicators give a good view on institutional and unit performance. They will not necessarily say why things are going wrong (or right) – simply that they

⁸ There is an interesting discussion in Stanley and Reynolds (1995) of the relationship between composite KPI and the outcome of traditional qualitative peer review in universities.

are going wrong (or right) – and hence, can prompt further deeper analysis and review. They are mandated externally, but have genuine value internally.

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