The Paradox of Quality and the Design of Quality Management Systems in Higher Education

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Abstract

Researchers into quality management in commercial firms have identified a 'paradox of quality'. They have found that: many initially successful quality improvement programs fail to maintain their success; some successful quality improvement programs have unexpected and unwanted 'side effects' that reduce overall profitability of the company; implementation of successful quality improvement programs does not automatically translate into improvement in sales growth or profitability. This paper addresses the question of what, if anything, those responsible for designing quality management systems in Australian higher education can learn from research that seeks to explain the reasons for the quality paradox. This question is important because since the 1990's Australian higher education has adopted commercial derived quality management techniques, and much time and effort may be saved if quality improvement programs in higher education can learn from quality management failures in the commercial sector. This paper is in four sections. The first section introduces the problem. The second section summarises and discusses the findings and analyses of the 'paradox of quality' as presented by Repenning and Sterman. The third section assesses their applicability to higher education and draws together the implications for higher education. The final section makes summarises the main findings, draws conclusions, makes recommendations about possible responses to these findings and makes recommendations about future research, suggesting that meanwhile those involved in Australian higher education should respond to these findings by applying the precautionary principle.

Introduction

Successful design of any system depends upon the development of an appropriate 'model' of reality. A useful model is one that retains the most salient relationships, avoids erroneous assumptions and disregards information that genuinely has no relevance (Sterman, 1991). The current approaches to the design of quality management systems in Australian universities fall short of these requirements in a number of ways. Firstly, those responsible for designing quality management systems in higher education in Australia have accepted assumptions about the indicators of low quality in higher education, that are not supported by

well established educational research, (Cooper, 2002c, 2003a). Secondly those developing quality management policy and those designing quality management systems have failed to take a systemic perspective when devising quality management strategies (Cooper, 2002b). Thirdly many quality management practices have been applied without sufficient regard for differences in context between business and education (Cooper, 2003a). Finally existing research into the reasons for the failure of quality management systems in industry seems to have been ignored by those designing quality management systems.

A review of sample plans shows that universities have embraced a range of commercially derived quality practices (Cooper, 2003a, 2003c; DETYA, 2001). In view of their willingness to embrace the practices of commerce, with little scrutiny of their application to the context of higher education, it is perhaps surprising to find that studies offering explanations of how and why quality management fails in commercial contexts, for example (Keating, Oliva, Repenning, Rockart, & Sterman, 1999; Sterman & Repenning, 1997), have not been closely scrutinised.

This paper examines the extent to which the research findings of Sterman, Repenning et al about the 'quality paradox' are applicable to the context of higher education, and analyses the implications of this body of work for policy makers and managers designing quality management processes in higher education. The first section of this paper provides background information about quality management in Australian universities, and outlines briefly the differences between commercial contexts and the educational context, and the reasons for believing that it is necessary to consider the extent to which commercially derived practices and research are applicable to higher education. The second section presents the findings of Sterman et al. The third section discusses similarities and differences between industry and higher education for each stage of Sterman and Repenning's analysis. The final section draws out the overall implications this body of work for policy makers and managers designing quality management programs in Australian higher education and the conclusion summarises the implications and makes suggestions about possible ways forward and future research.

Background

The contention of this paper is that appropriate design of quality management systems in higher education must not only determine the applicability of commercially derived quality management methods to non-commercial contexts, but must also take account of research that discusses reasons for failure of quality management in some commercial contexts and assess its relevance. This paper takes one body of such research and examines the applicability of its findings to the context of Australian higher education.

Most commercially derived quality management methods depend upon tacit assumptions that normal commercial purposes, roles or relationships apply; that is, that the main purpose of the enterprise is to make a profit by selling products (including services), to customers. It has been argued elsewhere that the application of these methods to education has ignored important differences in purpose, roles and relationships between the commercial context and the educational context (Cooper, 2002a, 2003a). Problems arise from: difficulties in the applicability of the concept of customer relationship in the context of education; problems in determining the identity and nature of the product; and the impossibility of subsuming the diversity of purposes of universities, within the commercial profit motive. It has been argued elsewhere that it is not a tenable to assume that students have a customer relationship to universities (Cooper, 2002a; Dunkin, 2002; Scrabec, 2000). It is interesting to note that the concept of student as customer dominated Australian government higher education policy in

the period 1999-2001, for example, (DETYA, 1999), but has disappeared since 2002 to be replaced by concepts of stakeholder relationship, see for example, (Nelson, 2002). It has been argued elsewhere that most quality management methods cannot accommodate stakeholder relationships in place of customer relationships (Cooper, 2003b).

The paradox of quality

Sterman and others set out to explain why a high proportion of quality improvement projects in industry have been less than completely successful and why, even when projects have been apparently initially successful, they have not been able to maintain success (Sterman & Repenning, 1997). Their research took a systemic perspective on quality management and their intention was to use this to integrate the insights of two different types of approach to quality management: those that focus on changes to the physical structure of work processes; and those that focus upon the behavioural component of those working in organisations. Their intention was to produce a representation of the interdependencies between human behaviour and the physical structure of work processes. Causal loop diagrams were used as a means of representing the inter-relationships between process factors and human factors (Sterman & Repenning, 1997). The diagrams are intended to be qualitative representations of interdependencies and the authors did not claim to mathematical specify the nature of the relationships between variables, which may be linear, non-linear, or include time delays. Using these diagrams, they identified four factors militating against fundamental quality improvement. They further identified how time delays between actions and outcomes can mislead manager in their understanding of the causes of low productivity or quality and lead them to make decisions and develop strategy that aggravates the very situation they are attempting to rectify.

The original research project collected detailed data from several large commercial firms in the USA. Repenning and Sterman (1997, p 22) summarise their findings in the following way:

> "Three methods of improving the throughput of a process were identified: increasing work pressure and control structure, defect control and defect prevention. The key failure mode we identified starts with managers erroneously attributing the cause of low process capability to worker 'laziness' or 'lack of discipline' rather than to fundamental problems within the process. The cognitive and social psychology literature suggests such misattributions are likely and indeed they are observed in numerous organisations. Given this misattribution managers react by choosing the first option, increasing control and production pressure. Improvement programs in such settings fail because increasing production pressure and control limit the effectiveness of process improvement activities, thus creating the situation, low process capability, that manager set out to correct. Soon these beliefs become embedded in the culture, routines and even the physical structure of the organisation perpetuating the cycle."

The next section of the paper summarises the main points of Repenning and Sterman's analyses. For brevity, this summary omits many details of their original argument and several of their diagrams. The interested reader should consult their original work.

Meeting targets: the pressure to increase throughput

Repenning and Sterman begin by diagrammatically representing the relationships between gross throughput, net throughput, defects, and rework of defects. They identify two main strategies for increasing throughput, either to expand capacity through capital investment or to persuade the workforce to become more productive by working harder. Repenning and Sterman found that when people are under pressure to meet targets, in the short term, they

respond by 'working harder' that is, they focus their efforts on throughput and defer tasks that do not immediately increase production, see diagram 1.
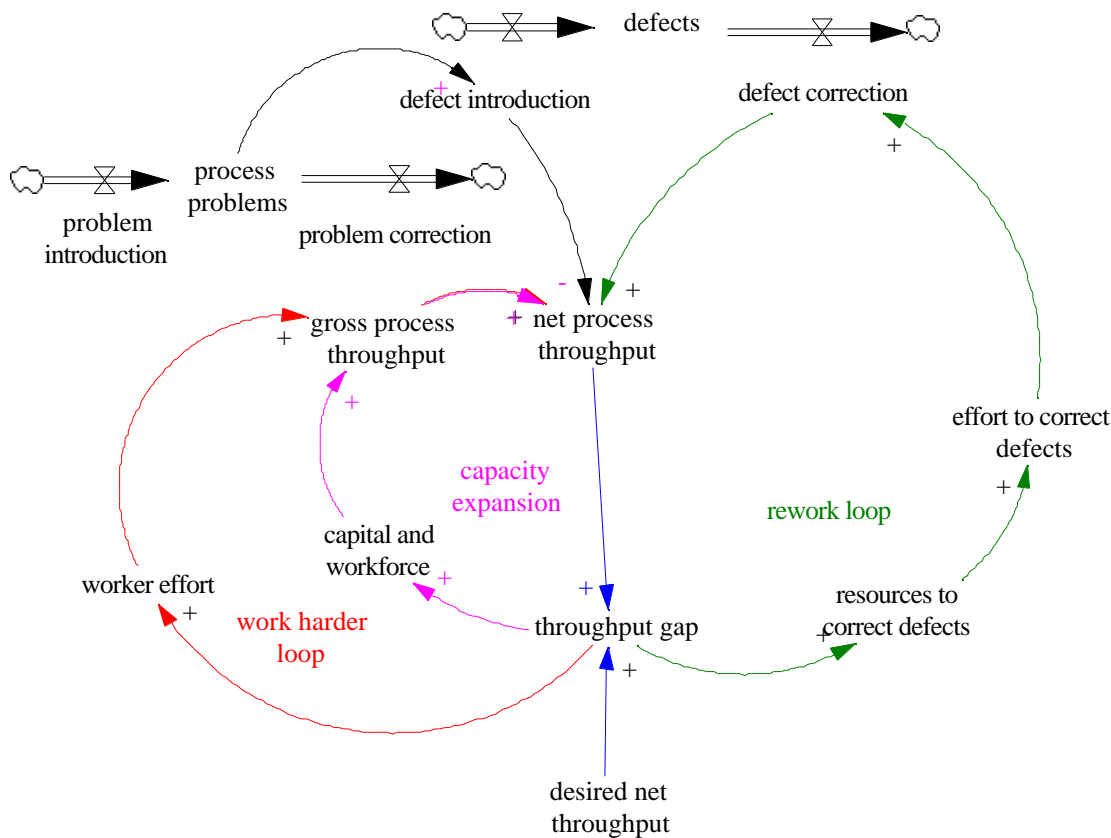

Diagram 1: Two responses to requirement to increase throughput, adapted from Repenning and Sterman, 1997, figure 3

The virtuous cycle of improvement

Repenning and Sterman show what has sometimes been referred to as the 'virtuous cycle' of improvement. Time spent on process improvement obviates the future need for defect correction and ultimately frees up this time to be spent on further improvements. However, in the short term a choice must be made. People only have limited time available. If they spend time on improvement, they have less time to spend on re-work or tasks that will immediately improve their current throughput. Time spent on improving processes may ultimately repay itself when it leads to a reduction in defect introduction, by reducing rework effort required, but there is a time lag before this effect will be apparent and it will not improve short- term throughput results, see diagram 2.
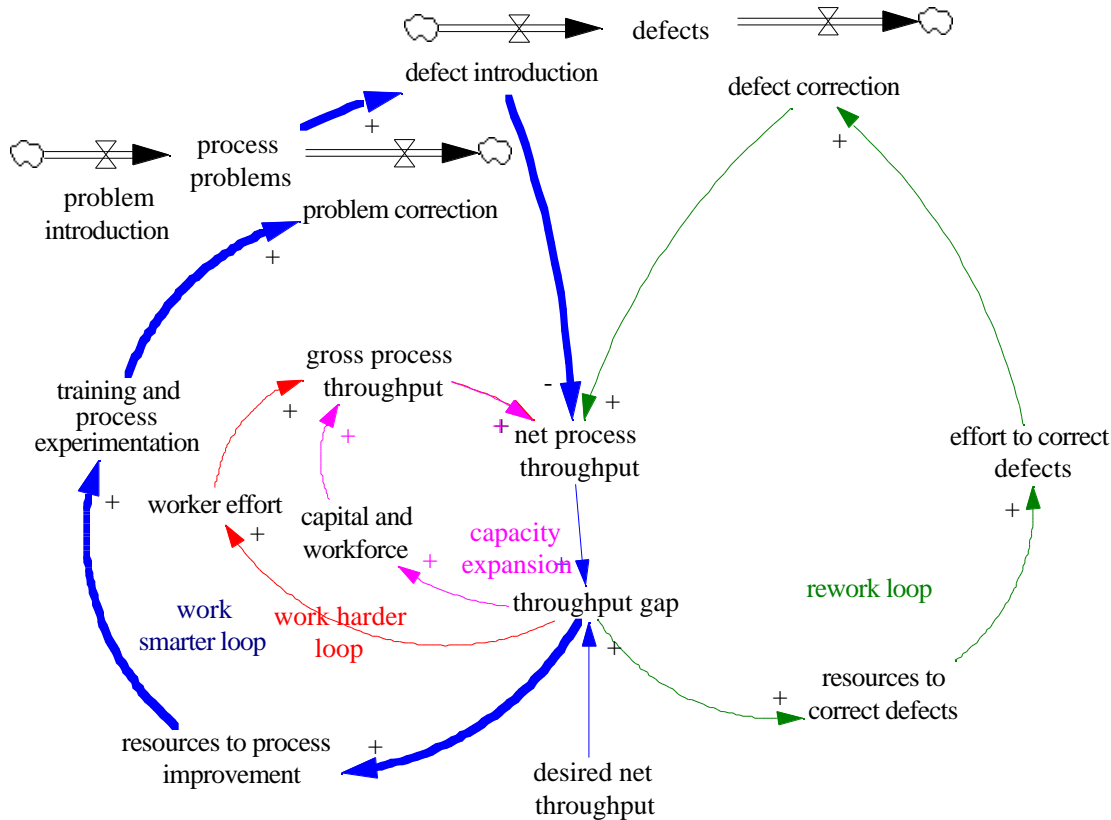
Diagram 2: Three responses to requirement to increase throughput,
adapted from Repenning and Sterman, 1997, Figures2 &4

Behavioural biases against fundamental improvement

In the third diagram Repenning and Sterman represent schematically the interplay between
the physical structure of the organisation and behavioural decision-making. In a situation of
finite resources, they claim there are four behavioural biases against fundamental
improvement. Firstly, defects are more tangible that process problems. It is easy to see that
something is wrong, but it is often difficult to accurately determine with certainty the
underlying process contributions to the cause of the problem. Secondly, defect correction and
process improvement work at different speeds. It is usually a time consuming process to
identify improvements, retrain people to make the improvements and to alter organisational
systems, whilst it is generally (individually) fairly quick to fix problems. In a situation of
pressure, it is quicker to improve throughput just by spending time on defect correction.
Thirdly the outcomes of 'defect correction' are more certain, known and immediate than the
outcomes of process improvement to reduce problems. There is immediate feedback when a
defect has been corrected, the results of process improvement are uncertain and may
ultimately fail. It is suggested that there is a bias towards choosing the certain and immediate
over the uncertain and long term. Fourthly, future process improvement does nothing to
diminish the current stock of 'defects'. The benefit of correction can be easily accounted. The
benefit of prevention even when realised cannot be tangible counted with certainty, see
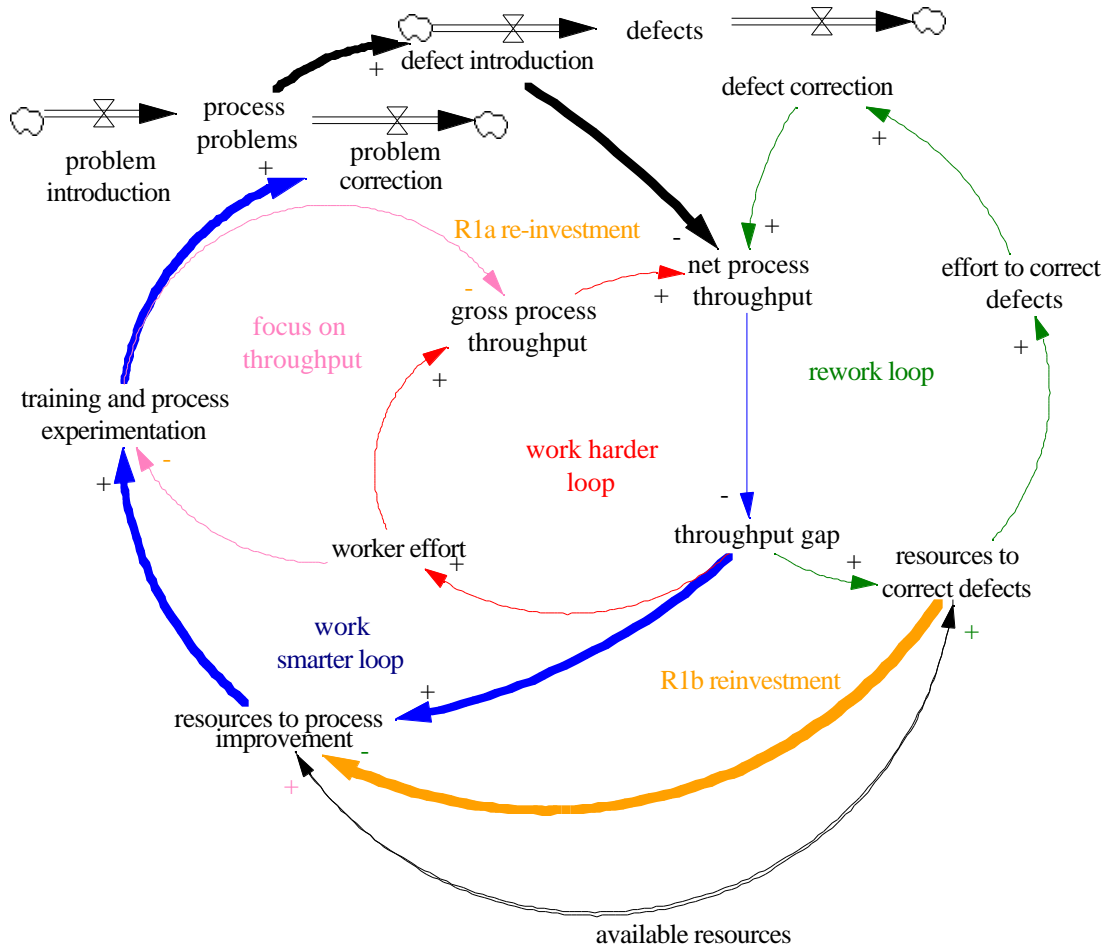diagram 3.

Diagram 3: Behavioural biases, finite resources and focus on throughput, adapted from Repenni ng and Sterman, 1997, figure 5

Misattribution of causes of low throughput

Repenning and Sterman claim that managerial judgement was not only affected by a bias against fundamental improvement but also by misattribution of the causes of low throughput. Differences in the salience and availability of information, and the disparate effects of time delays on outcomes, lead managers to make mistakes in their judgement about the causes of low throughput. Because judgements about causality are based upon covariance and contiguity in space and time, managers see that they get greater throughput from the workforce when they put pressure on them to work harder. Because of this, it is tempting for managers to believe that the workforce is under-utilised and the rational response is to 'squeeze out the slack'. As they put pressure on the workforce, the workers focus on production and defer any tasks that do not immediately increase output. Process improvement activities, as they don't contribute to immediate throughput, are deferred. To management it appears that pressure has successfully encouraged the workforce to expend more effort and appears to affirm the assumption that the workforce was slacking, see diagram 4.
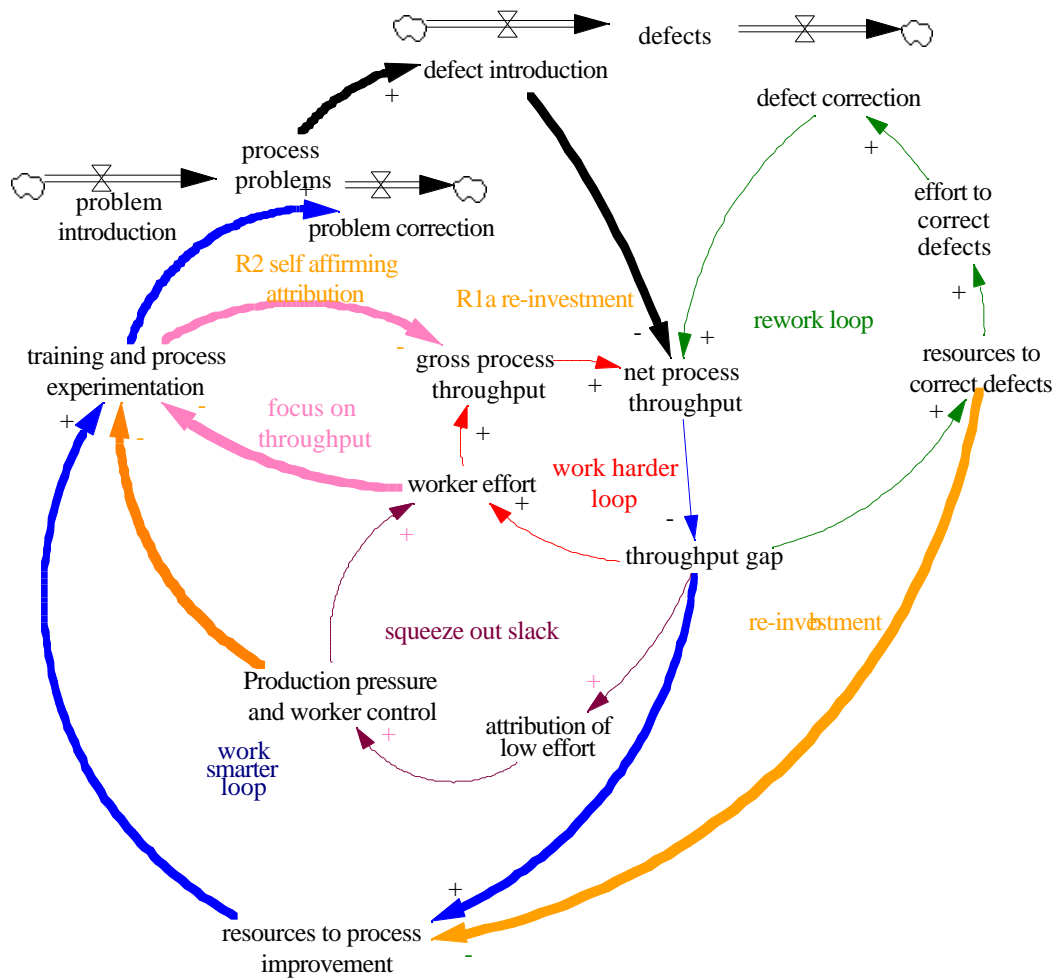
Diagram 4: Origins of misattribution, adapted from Reppening &
Sterman, 1997, figure 5

Increasing production control, conflicting goals and eroding standards

According to Repenning and Sterman, once management have decided that the
problem of low output rests with lack of effort, it appears at first as if increasing the
pressure on the workforce, is a successful strategy to increase output. Management are
therefore encouraged to maintain or increase pressure and surveillance. If the pressure
on the workforce is prolonged or increased further, the workforce is caught between
conflicting goals of demands to increase throughput, and demands to complete tasks
necessary for long term quality maintenance and improvement that reduce their ability
to maintain output in the short term. People look for 'work arounds' that will enable
them to appear to meet the metrics that are intended to measure output and quality.
Tasks that are not monitored or measured are left undone, even though the longer-
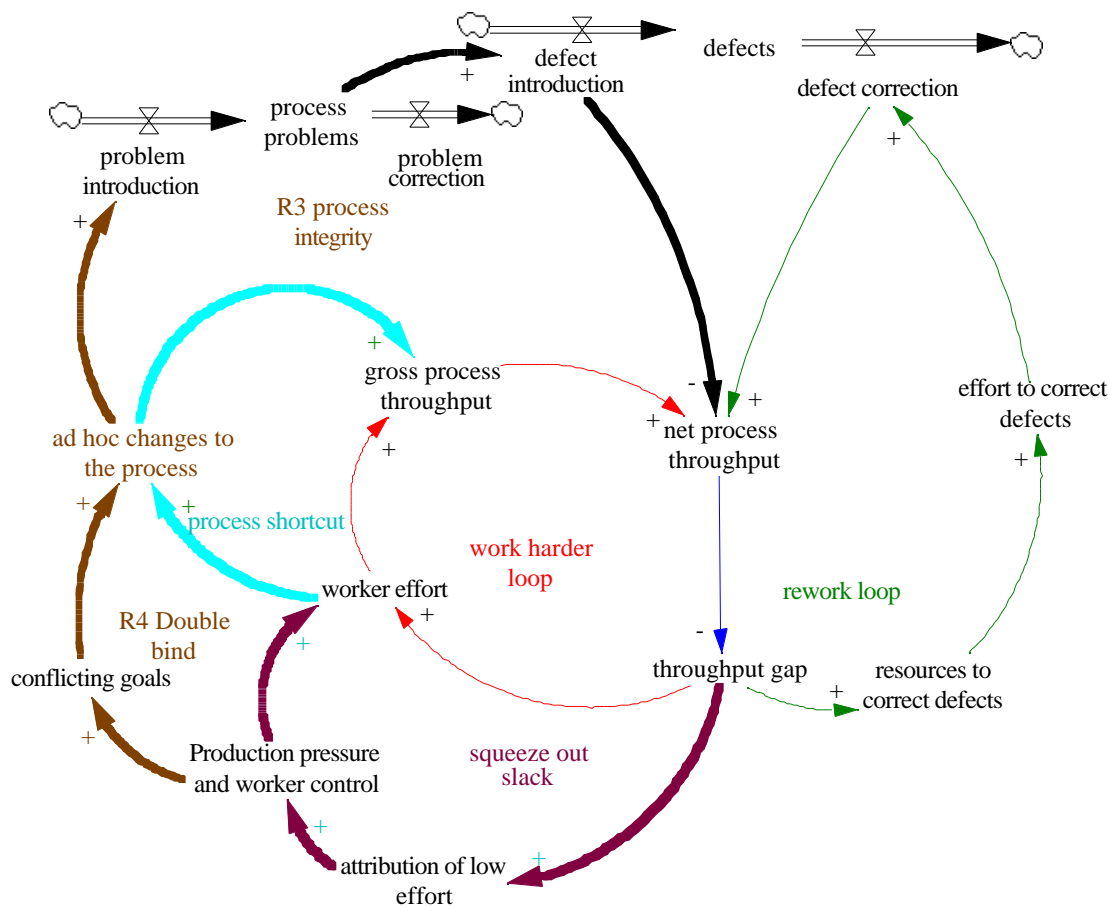term effects of these omissions may be severe, see diagram 5.

Diagram 5: Production pressure, short cuts and process
integrity, adapted from Repenning and Sterman, 1997, Figure 7,
p18

According to Repenning and Sterman, (1997, p22), their research found:

"Under time pressure and faced with multiple, incompatible objectives, workers will erode standards, cut corners, fail to follow up and resolve problems, and fail to document their work. They will keep the work arounds secret from management and manipulate metrics to appear to be in compliance with objectives when they in fact are not. In one firm we studied, product development managers improved the reported product development time not by making any fundamental improvements in the product development process, but by shifting away from risky and time-consuming breakthrough products to emphasise faster and easier line extension products. The reported product development time fell, but at a cost of reducing the rate of innovation, threatening the competitiveness of the firm. In another firm, manufacturing engineers facing an imminent launch of a new product made ad hoc changes to parts and tooling to resolve problems, but were too busy to report the changes to the design engineers. The design engineers then developed new parts based on the erroneous drawings, leading to still more problems in the next generation of products. These links create two additional positive feedbacks, the *Process Integrity* and *Double Bind* loops which inadvertently erode production capacity by introducing new process problems as a side effect of management's attempt to boost production."

Applicability of these findings

The implications of this research are potentially highly significant for the design of university quality management systems, if they apply to the educational context. The next section of this paper will examine whether the processes identified by Sterman and Repenning in a commercial context, apply within the context of Australian higher education.

Universities and pressure to increase throughput

It is possible to draw some parallels between the demands for industry to increase throughout and the pressures for universities to increase the numbers of students graduated from courses. The Australian government has been expanding the capacity of higher education (as measured by the number of student places at Australian universities) steadily since 1987 (Candy & Maconachie, 1997). This has been achieved partially by expansion of numbers of university academic staff and buildings, but the rate of capacity expansion has been far less than the rate at which the throughput of students has increased. A significant amount of the increase in throughput of students has been achieved by increases in the number of students taught per full time equivalent academic member of staff. The ratios have increased from around 12:1 to 18:1, over a ten year period, (Australian Vice-Chancellors' Committee, 2001), and some measures have been taken to increase space utilisation (for example, the three semester year, the use of distance education, increased use of weekend teaching, the lengthening of the working day).

Universities have also expanded their student support services and become more responsive to the needs and expectations of students, see for example, (Poole, Harman, Snell, Deden, & Murray, 2002). Course structures are more flexible (modularisation, facilitating part time and off campus study, opportunities for re-assessment, deferral and repeating failed units). More student support services (mainstream academic support and remedial help, academic advice enrolment and course transfer, counselling, disability support, specialised indigenous academic and cultural support, international student support, careers advice,) are provided. These interventions are primarily intended to help students who might not otherwise graduate to complete their courses and to improve their rates of subsequent employment. The university provides these services (at least partially) in order to increase the net throughput of (employable) students, (the rate of student graduate employment is used as one of the proxies for measuring the 'quality' of graduating students). Within this analogy these forms of student support might be classified as 'rework' to improve the throughput of 'quality' students. The overall outcome is that the numbers of students graduating have increased, the net throughput of students nearly doubled in the period 1988-1997 (Candy & Maconachie, 1997) and has grown much faster than the rate of increase in employment of academic staff.

What are the limitations of the application of this model to higher education? The first and most obvious limitation is that students are not passive objects to be 'worked upon' and 'reworked' by the organisation, in the same way as product parts on an assembly line. They are actors who by their own choices can affect the rate of 'net throughput' independently of the efficacy of the education processes or the support (rework) they receive. They can 'hang in' and pass despite ineffective teaching and poor support or fail or leave despite good teaching and high levels of support. (McInnis, Hartley, Polesel, & Teese, 2000) suggest that the quality of teaching is a relatively insignificant factor in student retention at university. Several studies on student retention confirm that student decision-making about whether to complete university courses or leave before completion, is highly both complex and individually variable. Many major determinants of university student retention and attrition lie in factors outside the direct control of universities, and even those variables within the control of university staff have disputed significance in their mechanisms and relative importance (Braxton & Lien, 2000; McInnis et al., 2000; Tinto, 1993; Yorke, 1999). Finally, it is important to remember that sustaining 'graduate throughput' is only one of the purposes of universities. If universities are to retain academic credibility, the throughput of graduates should also reflect appropriate academic achievement by students. Expansion of student throughput must be balanced against the other purposes of universities, about which there is

still some debate, see for example (Barnett, 1990; Claes, 2002; Levine, 2000; Preston, 2002; Sutherland, n.d.; Tierney, 2002).

Universities and the virtuous cycle of improvement

The assumption that improvement of processes reduces the rate at which problems are introduced ought in principle, to apply without problem to higher education. It is vitally important that the concept of 'improvement' be related to the primary purposes of university education, which, it is contended, are more complex than simply ensuring a throughput of graduates. If a university improves its processes for providing high quality in teaching and learning and in all aspects of support to students, then it might be reasonably assumed that more students would successfully graduate than if the quality of teaching were poor, student support were poor and administrative systems were inflexible. However, the research on student retention, as discussed in the previous section, requires reconsideration of this assumption. It cannot be assumed that fundamental quality improvement in teaching and learning will necessarily show up as increased throughput of graduates, or conversely that a lack of quality automatically be reflected in attrition, for more discussion of this point, see (Cooper, 2002c).

Universities and behavioural bias against fundamental improvement

The observations about the behavioural biases against improvement seem to apply in education. In some ways the context of Australian higher education may tend to accentuate the biases against fundamental improvement. The issue of time and quality improvement is a salient one for higher education in two respects. Firstly, time taken for the design and development of quality improvement processes has, for most academics, been additional to normal working tasks. In industrial, commercial and public service contexts, people are frequently relieved of their normal duties to take part in quality improvement activities. There has been no widespread suggestion of employing other staff to relieve academics of their normal duties whilst they spend time identifying how they could improve their work. Their other work just piles up. This potentially acts as a powerful psychological disincentive to participation in quality improvement processes, especially where the potential improvements do not offer immediate benefits of easing work tasks or saving time. Since changes to the education processes for students typically take a long time to implement and even longer before graduation rates are affected (if they are at all), changes leading ultimately to improvement (or deterioration) bring no immediate change to daily work pressure facing an individual academic.

Academia has long time scales for implementing change compared with many industrial contexts and this lengthens the time delays by extending the time period to elapse before the benefits of improvement processes can be seen. High uncertainty and subjectivity in judgement what constitutes improvement, unclear linkages between actions and outcomes and only limited ability to affect the 'throughput of graduates' without obviously jeopardising academic standards, all increase uncertainty about the outcomes of process improvements. The political pressures to demonstrate immediate high throughput exacerbates the bias against solutions that do not produce immediate tangible benefit. Any one of these attributes would tend to increase the bias against fundamental quality improvement in university processes. The quickest, simplest and cheapest way to improve throughput is to lower expectations of student work and award passes to students who would otherwise fail.

Universities and misattribution of causes of low throughput

Universities are themselves in a bind. Government policy makers are simultaneously cutting the cost per student place and requiring universities to prove that they are maintaining or increasing quality as a prerequisite to maintaining their reputation, which is necessary for ensuring continued student application, and hence funding. What evidence is there that university managers attribute low throughput of graduates to low effort on the part of academic staff? The formal position of university management is ambivalent on this issue. Although few university managers openly criticise the effort and skills of academic staff, (any public admission of inadequacy of staff would reflect poorly on their reputation) most universities have increased the control they exercise over academics and have made attempts to formally measure and compare both the research output of academic staff and more recently, the 'quality' of their teaching. These actions are indicative of beliefs that academic staff need to be subject to greater coercion and control, and that such control will have beneficial outcomes for productivity and quality.

Universities, increasing control, conflicting goals and eroding standards

As university management has increased the monitoring of academic staff, goal conflicts have increased. For academics there has always been some tension between competing time demands from teaching, research and administration. The advent of formal monitoring proliferates demands by adding the demand of satisfying the metrics that purport to relate to each of these activities. If the activities being measured were amenable to easy, accurate quantitative measurement, the effects of such proliferations would perhaps be minor. Teaching, research and administration are, however, all complex tasks. 'Good teaching', for example, is multifaceted and neither simple nor easy to measure as subjective judgements about the 'goodness' of teaching place weight on differing values. Proxy measures of teaching effectiveness, such as student satisfaction, are not reliable indicators (Chun, 2002; Emery, Kramer, & Tian, 2003). If unreliable indicators are used as metrics purporting to indicate performance, and if there are adverse consequences for alleged 'poor performance', this establishes additional conflicting goals for academic staff to satisfy. Does the staff member prioritise the achievement of student satisfaction ratings or do they focus on providing a well-grounded educational experience for students? In some circumstances there may be little conflict, in others a choice will be required. Similar arguments could be made for research and for administration. Thus, in the context of higher education, increasing control leads to a proliferation of conflicting goals.

Is there any evidence that this has led to 'work-arounds' or eroding standards? This is something about which it would be difficult to gather reliable evidence. Work-arounds are by definition practices that workers keep secret from management. It is suggested that that academics within universities are not unlike other people, and when the pressure gets too great, 'workarounds' should be expected to develop. Academics may be able to identify examples either from their own experiences or from their observations of colleagues: the adoption of practices, contrary to good practice, probably not sanctioned by the institution and perhaps not openly acknowledged, because of pressure to improve apparent performance as measured by metrics. Examples might include: reduced attention to important aspects of their work that are not valued on performance metrics; a neglect of formal systems of documentation; lack of priority given to staff meetings or staff development; lack of availability to offer support to colleagues; adoption of assessment processes that are least time consuming for staff; reluctance to fail students whose work is unsatisfactory if the student is likely to formally appeal. Workarounds are more likely to occur if staff are too

staff, especially if they believe that metrics are unfair. In the current political environment, there is systemic pressure too for management to collude with processes that inflate performance as measured by metrics irrespective of the underlying reality, (or at least to turn a blind eye). This has occurred because management needs the appearance of success on the metrics, to protect the reputation of the university, to ensure future student enrolments and hence maintain the future funding base of the university.

Summary

To recap, the paper has demonstrated that design of quality management processes for universities in Australia need to be radically rethought, and suggests current methods of quality management should be abandoned. The current methods have been devised without adequate attention to:

- The effects on management decision-making of the potential for misattribution of causation when cause and effects are either spatially or temporally dislocated;

- The capacity of performance metrics to establish conflicting goals, which erode standards and undermine the capability of the organisation as a whole;

- The effects of differential time delays between short term measures that apparently improve the student throughput and measures that result in fundamental improvement of the capacity for a university to efficiently provide quality education to students;

- The interconnectedness of multiple higher education policy interventions;

Insufficient attention to the first three of the above factors has resulted in erroneous decision-making, poor policy, self-defeating strategy and counter-productive intervention in industrial contexts. Evidence is presented in this paper shows that similar mistakes are being replicated in Australian higher education and this implies a poor prognosis for current quality policy, strategy and management interventions. Ideally, to remedy the current situation requires well-researched redesign of higher education policy, strategy and intervention planning from government departments, university management and from academic staff.

Conclusions

Systems Thinking offers powerful insights into understanding quality management in Australian higher education. Reppenning and Sterman's analyses, when applied to universities, suggest that *not managing quality at all* is preferable to continuing self-defeating policies and interventions that create or reinforce environments conducive to erosion of integrity of process capacity. By *not managing quality*, resources currently allocated to spurious monitoring and reporting are liberated and could potentially be re-directed towards locally devised interventions and innovations for long term process improvement.

In the absence of government policy change, university managers have only a limited ability to reduce the harm caused by current policy. Without government policy change, the analyses presented in this paper suggest that damage cannot be completely avoided. Some of the means of limiting damage include:

- The Australian Vice-Chancellor's Committee (AVCC) could limit damage to Australian universities by forcefully raising concerns about the dangers and limitations of both the present metrics and the current inappropriate use of commercial quality management methods in higher education;

- University senior managers could limit damage within their own organisations by decoupling data gathering for required by government metrics from internal individual performance assessment and rewards, thereby reducing the incentive for academics to distort their work priorities in order to satisfy ill-founded performance rewards.

Academics have very few options to ameliorate the present situation if university senior management and policy makers do not change their current approach to quality management. Academics could make their own professional assessments of their work independently of official quality measures. It is difficult to see, however, why they would choose to do this unless they had an over-riding commitment to professional values that was stronger than all considerations of self-interest. Choosing this option would certainly risk loss in terms of career advancement, pay and job security in the current environment.

Future research and action

Future research is required to enable the design of appropriate quality management methods that account fully for the differences between commerce and education and also take account of the complex interplay between process improvement and human behaviour in organisations, as described by Sterman and Repenning. A systemic approach to the design of quality management systems in Australian higher education would combine with a philosophically careful examination of the limitations of all underlying models and assumptions about quality in higher education with: attention to the interconnectedness of higher education policies; the effects of differential time delays on improvement; awareness of the potential for managerial misattribution of cause and effect; and awareness of the dangers of entrenching conflicting goals.

Until this occurs, application of the precautionary principle suggests it is preferable for both higher education policy makers and university managers to immediately abandon the present approaches to quality management rather than risk continuing to weaken higher education process integrity and capacity. Where abandonment of current policy is not politically possible, policy makers and managers should exercise extreme caution in their adoption of any commercial quality management strategies, and be mindful of the *strong likelihood* of erroneous management decision-making arising from misattribution of cause and effect.

References:

Australian Vice-Chancellors' Committee. (2001). *The worsening student:teacher ratio*. Available: http:/www.avcc.edu.au/.

Barnett, R. (1990). *The idea of higher education*. Milton Keynes [England] ; Philadelphia: Society for Research into Higher Education : Open University Press.

Braxton, J. M., & Lien, L. A. (2000). The viability of academic integration as the central construct in Tinto's interactionanalist theory of college student departure. In J. M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 11-28). Nashville: Vanderbilt University Press.

Candy, P. C., & Maconachie, D. (1997). *Quality Assurance in Australian Higher Education: A recent history and commentary*. Available:

www.avcc.edu.au/policies_activities/quality_assurance/policy/quality_assurance_in_a
ustra.doc [2003, 11/04/2003].

Chun, M. (2002). Looking Where the Light Is Better: A Review of the Literature on
Assessing Higher Education Quality. *Peer Review, 4*(2/3), 14-17.

Claes, T. (2002). *"It was not a bad idea...": Defining 'the university'*. Available:
http://www.inter-disciplinary.net/ioe1s2.htm [2003, 4th May 2003].

Cooper, T. (2002a). Concepts of 'Quality': and the problem of 'customers', 'products', and
purpose in higher education. In A. Goody & J. Herrington & M. Northcote (Eds.),
*Quality Conversations: 2002 Annual International Conference of the Higher
Education Research and Development Society of Australasia* (Vol. 25, pp. 144-151).
Canberra: Higher Education Research and Development Society of Australasia.

Cooper, T. (2002b). Quality Interventions: Examining the Unintended Effects of Quality
Policies on Academic Standards and Staff Stress. In A. Goody & J. Herrington & M.
Northcote (Eds.), *Quality Conversations, Proceedings of the 2002 HERDSA
Conference, July 7th -10th 2002, Joondalup, Western Australia* (pp. 159-167).
Canberra: Higher Education Research Development Society of Australia.

Cooper, T. (2002c). Why Student Retention Fails to Assure Quality. In A. Goody & J.
Herrington & M. Northcote (Eds.), *Quality Conversations: 2002 Annual International
Conference of the Higher Education Research and Development Society of
Australasia* (Vol. 25, pp. 152-158). Canberra: Higher Education Research and
Development Society of Australasia.

Cooper, T. (2003a). *Edu-Business: the Hidden Presumptions of Commercially Derived
Quality Management in Higher Education*. Oxford.

Cooper, T. (2003b). Quality in Higher Education: what next?, *Proceedings of the 17th
ANZAM Conference, Fremantle, December 3rd-5th 2003*.: Australian and New
Zealand Academy of Management.

Cooper, T. (2003c). *The spectacle of quality in everyday university life: why the emperors
have no quality clothes.* Paper presented at the The Third International Conference of
Critical Management Studies Critique and Inclusivity: Opening the Agenda,
Lancaster, UK, 7th -9th July 2003.

DETYA. (1999). *Higher Education: Report for the 1999 to 2001 triennium*. DETYA.
Available: http://www.detya.gov.au/highered/he_report/1999_2001/loverview.htm
[2001, 19th March].

DETYA. (2001). *Quality of Australian Higher Education- Institutional quality assurance and
improvement plans for the 2001-2003 triennium*. Available:
http://www.detya.gov.au/archive/highered/pubs/quality01_03/overview.htm [2001,
05/09/01].

Dunkin, R. (2002). Higher education, students and society:multi-lateral relationships. In P.
Coldrake (Ed.) (pp. 19-36). Paris: OECD.

Emery, C. R., Kramer, T. R., & Tian, R. G. (2003). Return to Academic Standards: a critique
of student evaluations of teaching effectiveness. *Quality Assurance in Education,
11*(1), 37-46.

Keating, E. K., Oliva, R., Repenning, N., Rockart, S., & Sterman, J. D. (1999). *Overcoming
the Improvement Paradox*. Available:
http://web.mit.edu/jsterman/www/EMJPaper.html.

Levine, D. N. (2000). *The Idea of University, Take One: On the Genius of this Place*. The Idea of the University Colloquium, November 8, 2000. Available: http://iotu.uchicago.edu/levine.html [2003, 20/04/2003].

McInnis, C., Hartley, R., Polesel, J., & Teese, R. (2000). *Non-completion in vocational education and training and higher education* (REB report 4/00). Melbourne: Centre for the Study of Higher Education, The University of Melbourne & Department of Education, Training and Youth Affairs.

Nelson, B. (2002). *Higher Education at the Crossroads*. Canberra, Australia: Department of Education, Science and Training, Commonwealth of Australia.

Poole, M., Harman, E., Snell, W., Deden, A., & Murray, S. (2002). *ECU Service 2000: A Client-centred Transformation of Corporate Services*. Canberra: DETYA.

Preston, D. S. (2002). *The Evolution of the English University Mission*. Available: http://www.inter-disciplinary.net/ioe1s2.htm [2003, 4th May 2003].

Scrabec, Q., Jr. (2000). A quality education is not customer driven. *Journal of Education for Business, 75*(5), 298 -300.

Sterman, J. D. (1991). A Skeptic's Guide to Computer Models. In G. O. Barney (Ed.), *Managing the Nation: The Microcomputer Software Catalog* (pp. 201-229). Boulder, Colorado: Westview Press.

Sterman, J. D., & Repenning, N. P. (1997). *Getting Quality the Old-Fashioned Way: Self Confirming Attributes in the Dynamics of Process Improvement*. Available: http://web.mit.edu/jsterman/www/SDG/Attrib.pdf [2002, 28 June 2002].

Sutherland, S. (n.d.). *The Purpose of Higher Education*. Available: http://www.cpa.ed.ac.uk/trans/soed/04.html [2003, 20/04/2003].

Tierney, W. G. (2002). *Remembrance of Things Past: Trust and the Obligations of the Intellectual*. Available: http://www.ashe.missouri.edu/pdf/2002_ASHE_Presidential_Address.doc [2003, 19/04/2003].

Tinto, V. (1993). *Leaving College* (2nd ed.). Chicago: The University of Chicago Press.

Yorke, M. (1999). *Leaving Early, Undergraduate Non Completion in Higher Education*. London: Falmer Press.