

OVERCOMING PERVERSE OUTCOMES OF MEASUREMENT: *Using a Paradigm of “Work to Role”*

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ABSTRACT

Performance measurement systems based on the principle that “if you can’t measure it, you can’t manage it” reinforce a short-term culture by focussing on tangible outputs. Instead, the focus of organisations should be on sustainable long-term performance through continuous systemic improvement. To establish and reinforce behaviours that drive systemic improvement, measurement and reporting systems need to be designed to re-enforce work to role behaviour by managers. This paper discusses this concept and how it is being applied in practice through an ongoing action research project.

Keywords: performance management system; performance measurement; stratified systems theory; system dynamics; performance indicators; work to role

INTRODUCTION

Other than unforeseeable “Acts of God”, it seems that whenever major disasters occur and are investigated with hindsight, the causes of each disaster are systemic. Repeatedly, this is the conclusion drawn by Royal Commissions, Boards of Inquiry and Coroners.¹

Part of the scenario is invariably a long series of seemingly unrelated decisions and events over a period of time, each usually innocuous by themselves but eventually coming together to permit an outcome otherwise considered unthinkable or even impossible². The tragic outcome from the Canberra Hospital implosion was judged by the Coroner to be caused by multiple systemic problems which were both visible and manageable prior to the event.³ The inquiry into the Cave Creek tragedy, which killed 14 people, revealed that the underlying cause was the systemic failure of

¹ McLucas A, The worst failure: repeated failure to learn. 1st International Conference on Systems Thinking in Management 2000. p. 426.

² Ibid., p. 426.

³ Canberra Times Newspaper, “Implosion: inquiry need to prevent future debacles”, Monday 8 November 1999.

the organisation to prevent the tragedy⁴. Other examples of systems failures in this category include the Black Hawk helicopter crash in 1996 and the fire aboard HMAS Westralia in 1998.⁵

It is reasonable to ask why seemingly competent and professional organisations find themselves in this position. Why did managers not see the many indicators and the potentially perverse outcomes, and act to achieve systemic improvement? According to McLucas

“... although the accidents differed in the final tragic outcomes, their pre-cursors were frighteningly similar to the complexity we see around us every day People failed to understand what was happening around them, they failed to learn from more minor incidents ... along the way.”⁶

One key to prevention is to learn how to recognise systemic problems when all that is visible are patterns of information and behaviour which represent the tip of the iceberg.⁷ However this first requires an organisation designed to be capable of systemic understanding and improvement. Individual managers must not only be capable of interpreting trends and patterns, they must also be in an environment where systemic improvement is expected of all managers, and is rewarded.

THE OUTPUT FOCUSED PERFORMANCE MANAGEMENT PARADIGM

Most organisations are not designed to focus on systemic issues and improvement. Their performance management systems tend to be driven by short-term imperatives, in response to pressure from external stakeholders with short term vested interests - such as politicians, lobby groups or fund managers responding to short term market gyrations.

In such organisations, measurements and decisions are at best based upon an outcome paradigm (get the outcomes right and success is assured), and are often based upon the even more constraining output paradigm (get the outputs right and the outcomes will follow). In such models it is assumed that outcomes can be broken down into outputs and that these in turn can be further broken down, often to the extent of deriving task based performance measures for individuals. This inherently assumes that the sum of the parts equals the whole - that if all performance measures at one level indicate success, then it follows that success at higher levels is also likely.

Although existing performance measurement approaches such as Balanced Scorecard vary in their complexity, they rarely recognise the non-linear effects that result from feedback loops and delays⁸. It is these non-linear effects that result in apparent disconnects between cause and effect⁹. For instance, at any point in time the outcomes achieved may not match expectations even though outputs have been satisfactory, due to delays in the process. Thus it is simplistic to assume that at any given

⁴ Isaac A, “The Cave Creek Incident: A REASONed Explanation”, *The Australasian Journal of Disaster and Trauma Studies*, Vol 3, 1997.

⁵ McLucas A, “Rectifying Failure to Learn in Complex Environments”, *Journal of Battlefield Technology*, Vol 3, No 3, November 2000. p. 1.

⁶ Ibid., p. 1.

⁷ Ibid., p. 1.

⁸ Linard KT, A Dynamic Balanced Scorecard Template for Public Sector Agencies. Australian Evaluation Society Conference 2001.

⁹ Norreklit H, “The balance on the balanced scorecard – a critical analysis of some of its assumptions”, *Management Accounting Research*, Vol 11, 2000. p. 6.

time every outcome can be directly linked to outputs, and sub-outputs. These relationships are often time dependant - so time must be considered as a factor in all cause and effect relationships.

The outputs oriented approach is illustrated in Figure 1 by the framework for performance measures in the Department of Finance and Administration (DOFA) Framework Guidance Document (2000)¹⁰.

Basic Outcome and Output Structure

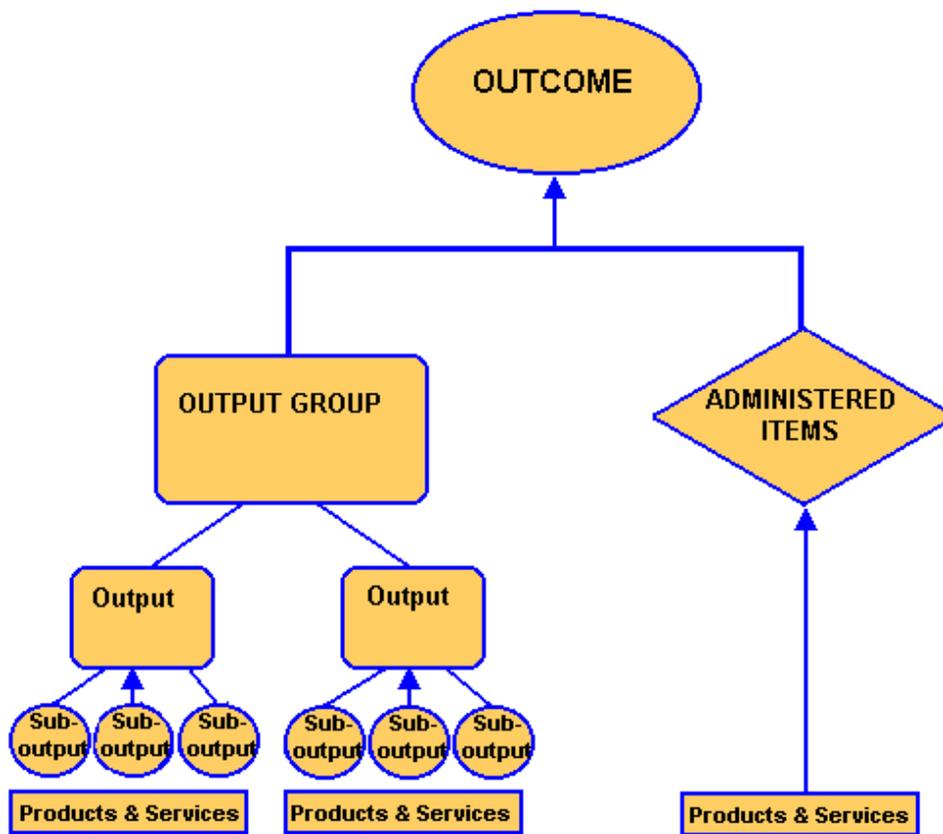


Figure 1: DOFA Outcomes and Outputs Framework (2000)

The output-focussed measurement paradigm supports management behaviour that ignores delays and subtle feedback loops, since it permits relatively convenient and rapid corrective action directly upon outputs. Increasingly, management systems also reward this behaviour by linking quantitative measures of output to remuneration. This further drives rapid short term solutions.

Consider an experienced, intelligent and careful middle manager who has noted a problem with a relevant output indicator. Under this paradigm, she will focus on correcting the output, since she believes that this in turn will contribute towards achieving higher level outcomes. This behaviour will be rewarded, especially if the short or medium term output-based response to her corrective actions is positive. In addition, the more quickly the correction occurs the more she will be rewarded.

¹⁰ Department of Finance and Administration. The Outcomes & Outputs Framework Guidance Document. Nov 2000.

The type of behaviour described arises from a management paradigm which is independent of the type of measurement system being used – *the belief that achievement of outputs leads to success for the organisation in a direct, linear cause and effect manner.*

So what is the problem with this paradigm and the behaviour it drives? Superficially, it seems to produce results. The answer lies not so much in what it does do, but in what it does not do. The paradigm does not drive, support or reward systemic improvements since these are more complex to understand, take longer and require more effort to implement. Not only does it not drive those behaviours, it tends to reinforce a can-do culture where those who try to take the time to improve systems are seen as impediments, but those who focus on outputs and outcomes are seen as achievers and are rewarded.

Consider again the middle manager who has noted a problem with a relevant indicator. Suppose that she has two options – one which restores the expected performance quickly but which does not change the system dynamics, and another option, which will take much longer to implement, but which will improve the system for the long term. If she is under pressure, wants to save time and effort and wants to be seen as successful, then she will take the first (non-systemic) option. Even if she decides to implement the second option, she may not be provided with the time, resources or higher management support to do so.

In short, under this paradigm the odds are stacked against systemic improvement, even assuming the manager understands the dynamics involved and how to implement an effective systemic correction. This said, the paradigm also makes it unlikely that any non-linear dynamics will be understood in the first instance.

AN IMPROVED PARADIGM

All measurement systems are designed to drive decisions and ultimately to drive human behaviour – it is their purpose. Given this, what assumptions should be used to underpin the measurement system design? The research currently being conducted by Advanced Dynamics uses systems theory as its underpinnings. Applying systems theory, the measurement system should be designed to re-enforce the way we want people to work together in the organisation. This means that the design of the measurement system cannot be done in isolation from the design of the organisation structure.

The Concept of Value Delivery

Taking this further, the purpose of an organisation can be considered to be to deliver value to stakeholders¹¹. This might be expressed in terms of dividends for shareholders, or (for a Government Department) as improved social outcomes. In either case, it is the role of the Chief Executive to manage the organisation so that value to the various stakeholders is appropriately balanced. For instance, in the case of the Canberra Hospital disaster it is clear that the systems of the organisation did not properly balance the requirements of political stakeholders, against the duty of care to the public.

In order to deliver value over time, choices must be made about what value should be delivered to which stakeholders, and when. The familiar concepts of vision, goals and strategy all imply this value delivery concept. It is the role of the Chief Executive of an organisation to *develop a strategy to*

¹¹ Walters D & Lancaster G, “Implementing value strategy through the value chain”, *Management Design*, Vol 38 No 3, 2000, p. 160-178.

maximise the overall value delivered. For example, within a Branch of Government, the Director General would have this role, with a time horizon of 5-10 years.¹²

One level down, the role of each Director or General Manager should be to *develop systems to ensure that the overall value creation strategy succeeds.* Their time horizon should be 2-5 years, and their focus should be on what systems are required and how they can be fine-tuned. They contribute to the organisation’s delivered value by ensuring that the systems are in place to deliver that value.

Each level in the organisation should do work that is qualitatively different from the level above, but which supports the achievement of the work of that level. In this way, the work of each level should add value to the work of the next level. This is the essence of “servant leadership”. Figure 2 shows how this concept can be applied in a government agency.

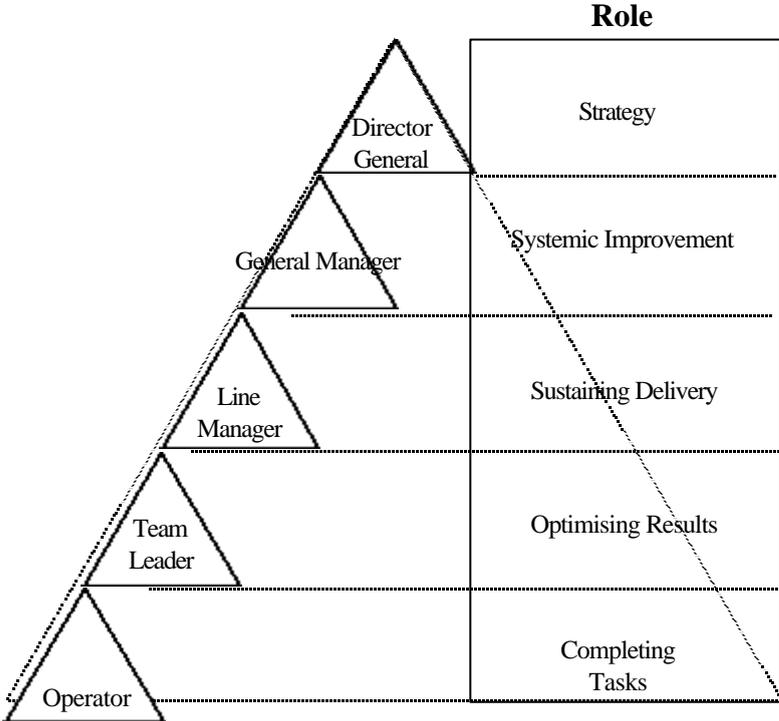


Figure 2: A Branch organisational model showing role expectations

For example, Stratified Systems Theory (SST) is based upon this approach¹³. SST is not a quick fix, but it has been applied to many commercial and government organisation’s world-wide. Of these, there are a growing number of success stories based upon achieving a learning culture and continuous systemic improvement¹⁴. One of these was CRA Ltd in Australia¹⁵ (now merged into Rio Tinto Ltd).

¹² Jaques E, *Requisite Organisation*, Cason Hall, Arlington, 1998. p. 136.
¹³ Ibid.
¹⁴ Ross A, “The Long View of Leadership”, *Canadian Business Magazine*, May 1992. <http://www.canadiancentre.com/canbross.htm>, accessed Aug 2001.

The Importance of Work to Role

We have all experienced the frustration of having senior managers working “in the detail” or not providing the necessary resources or authority for us to do assigned tasks, or to meet assigned accountabilities. When this happens many negative dynamics occur, ranging from a reduction in mutual trust to simple inefficiencies such as duplication of effort. Perhaps less obvious but equally important, it means that the senior manager is not concentrating on their own role.

In a well designed organisation each manager has a unique role. This is critical - roles at each level must be distinct from each other in order to reduce ambiguity and confusion between the responsibilities and roles at adjacent management levels. However once such a structure is adopted, if any specific manager does not carry out their role a gap is created which causes errors, risks or stresses as adjacent levels compensate. Discipline in organisation design and implementation is therefore critical to create the basic conditions for performance.

To see that this is so, consider a manager who is simply incapable of their role. In the best case, the next manager up and the next managers down will have to compensate or take risks as a result. It is likely to be even worse than this, since incapable managers usually start interfering in the detail below, causing the frustration and problems described earlier. Interestingly, due to the operation of the outputs paradigm it is quite possible that neither the manager themselves nor those around them will recognise that this is what is happening.

Thus within any successful hierarchical organisation:

- the Chief Executive needs to be accountable to ensure that an overall strategy is continually developed and refined to maximise the value that the organisation delivers to stakeholders.
- each business unit head should be designing systemic improvements to optimise long term outcomes that maximise stakeholder value.
- the manager of each functional area should be ensuring that the key processes are under control to sustain delivery of outputs which contribute to the achievement of outcomes over time.
- the leader of each section or work area must manage the trends in input consumption and control processes to achieve those outputs consistently.
- and everyone at the service or work delivery level must complete assigned tasks, adhere to defined procedures, monitor processes and report on anomalies.

These roles form a cooperative hierarchical system of organisation that enables the potential of the organisation to be realised. For the whole system to work effectively, incumbents at each level must perform their “Work of Role”.¹⁶ The underlying concepts make intuitive sense and reflect the practical experience of well functioning organisations, noting that in each case the number of levels and their accountabilities must be tailored to the specific needs of the organisation.

¹⁵ Ibid. ¹⁵ Ross A, “The Long View of Leadership”, *Canadian Business Magazine*, May 1992. <http://www.canadiancentre.com/canbross.htm>, accessed Aug 2001.

¹⁶ Jaques E, *Requisite Organisation*, Cason Hall, Arlington, 1998. Part 3 Section 6.

Only Senior Managers can be expected to deal with the complexity of organisational system design

Considering the importance of working to role provides insight into systemic improvement in organisations and why it is often not achieved. In any organisation, system improvement should be focussed at the right level. The appropriate level is the one at which the individual can work across all related processes within the system, with the authority and experience to identify and implement necessary changes. It requires an ability to understand and integrate all of the feedback loops and time delayed effects within the system.

This being so, there is no point in making a manager *within* a system accountable to improve it – they cannot have the authority or breadth of vision to comply. This is why systemic improvement can only be successfully managed at about the fourth level in an organisation where both systems authority and systems understanding can come together. Systemic failures often occur when systems are designed and implemented by managers below this level, or by individuals who are not capable of performing their role fully.

DESIGNING MEASUREMENT AND PERFORMANCE SYSTEMS WITH A SYSTEMS FOCUS

Once working to role is recognised as fundamental, it follows that we should be very interested to know whether managers actually are working to role. If we could establish that all managers in an organisation are working to role then we would have some confidence that the levels (roles) of management noted earlier are happening - i.e. that strategy is being developed and implemented, systems are being designed and improved, output capabilities are being fine tuned, and so on.

We therefore need to measure whether managers are actually working to role, as part of the performance measurement system. In order to do this, we need to consider the dynamics involved and how it might work.

At any level, each manager requires performance data:

- in order to work to role. The type of business data needed will vary with the role – for example a Director General needs to monitor external feedback and the organisation's environment, in order to develop strategies to maximise value for stakeholders.
- to know whether managers at lower levels are carrying out their role. This is not the same business data as is needed by those lower managers. It is performance information designed specifically to indicate whether lower managers are carrying out the full scope of their role.
- to support any role specific internal improvement projects for which they are personally accountable.

This suite of measures is illustrated in Figure 3.

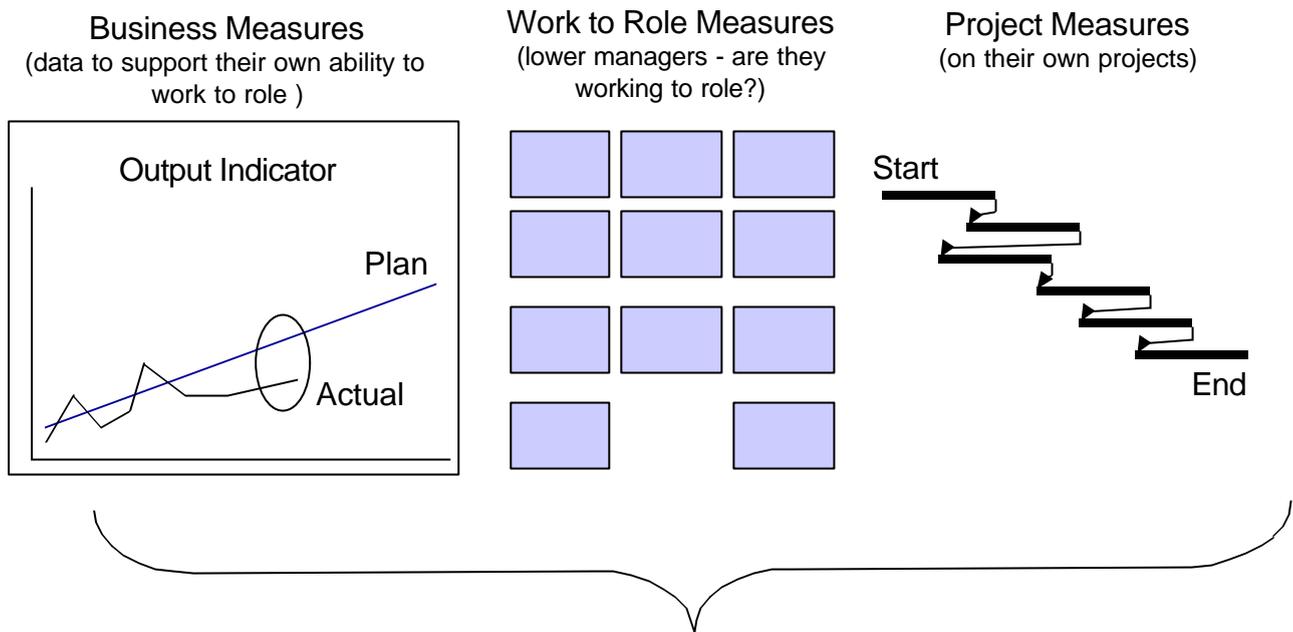


Figure 3: Performance measures required by each level of management

As noted above, the measures to support work of role vary according to the role. Figure 4 below shows a conceptual framework for measures, where the focus of measurement at each level reflects the qualitatively different work of role.

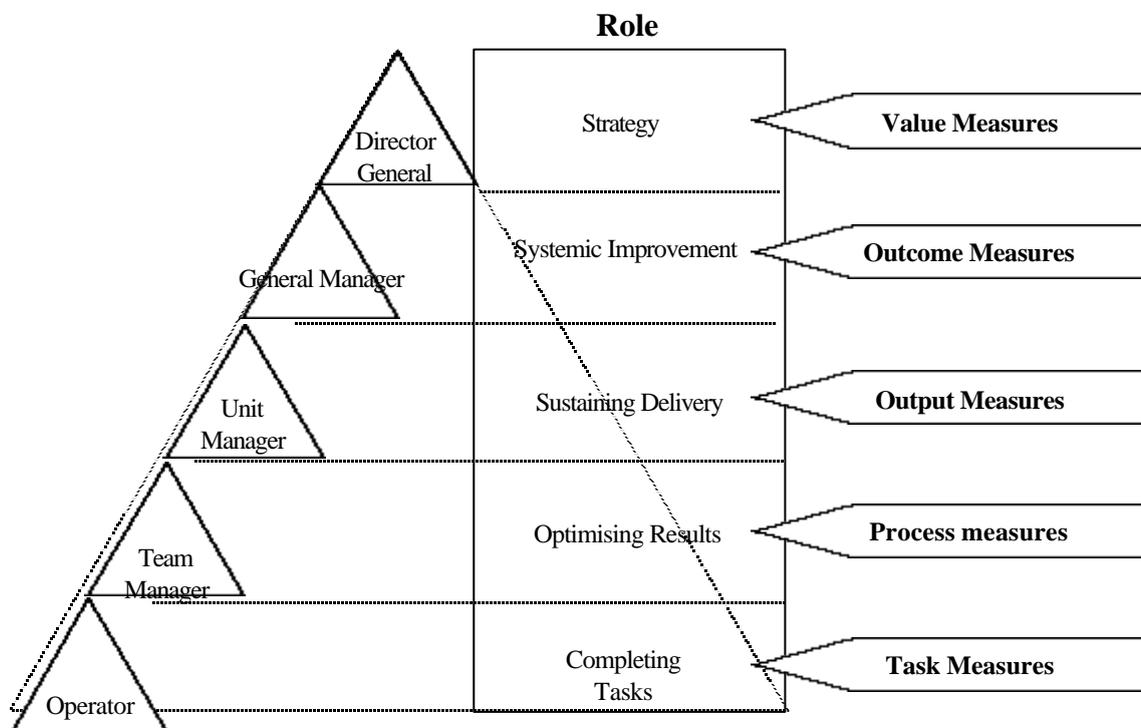


Figure 4: The performance measurement framework focuses people at each level on their role and particular aspects of their work that will, with improved focus, lead to improved system performance.

Now let us consider the experienced, intelligent and careful middle manager again, under these new performance management arrangements. Her performance measures have been designed specifically to support her work of role. This means that the data available should help her to understand how any problem relates to her role in the organisation, as well as its more direct impact upon results, outputs, systems, or value delivery (depending upon her level).

She has the necessary data to perform her role, and since her performance will be judged on whether she actually does it, there is incentive to fulfil her role (or to at least try to do so). There is still also a general desire to act quickly in order to minimise the negative impacts of the problem. However this is now seen in the context of the manager's role, not with a focus to simply "fix up" an output. Speed of response becomes a less perverse driver of decisions, and rewards will flow from implementing clever, innovative, long term improvements.

For a Unit Manager for example, the performance data should relate to the achievement of outputs and the operation of the processes that support those outputs. Corrective action should aim for both short and long term benefits to outputs. However if a problem is best corrected by systemic improvement, the problem should be referred to the General Manager for resolution.

The new paradigm focuses performance measures on ensuring that managers work to role at each level. In turn, this ensures that each manager adds appropriate value to the organisation. Over time this will lead to continuing systemic improvement, since such behaviour is rewarded and reinforced. At each level in the organisation, managers have both the incentive and the data necessary to work to role - and this in turn drives systemic performance improvement.

AN ONGOING ACTION-RESEARCH CASE STUDY

Background

Advanced Dynamics has been working collaboratively over a number of years with a government agency, to introduce an integrated approach to organisational design and performance.

The Process to Date

Work commenced with a diagnostic review to assess the fitness of the organisation to implement effective systems to improve performance. As a result of problems identified, the organisation was then restructured to meet requisite design principles using Stratified Systems Theory¹⁷. Although as part of this the agency developed and implemented appropriate roles and accountabilities, several years later many managers still find it difficult to perform to role.

Recent analysis revealed that the primary underlying dynamics now preventing systemic improvement were:

- a strong focus on technical outputs, driving management behaviour towards shorter term decisions and away from systemic improvement,
- lack of work to role performance by managers, whether due to a lack of individual capability or as a secondary affect of a focus on outputs, and

¹⁷ Jaques E, *Requisite Organisation*, Cason Hall, Arlington, 1998.

- the lack of performance measures to support work to role and systemic improvement.

The Scope of Current Work

The aim of the current project is to improve the value delivered by the agency to the community, by implementing a performance measurement system focussed on “work to role” behaviour. This is a further development and integration of existing performance management systems, introduced after the restructuring. The main steps in the project have been:

- A systems analysis of the current performance management system (PMS), to identify underlying issues and assumptions and to document its dynamics.
- A dialogue with senior management, to gain their understanding and acceptance of the key concepts of value and of work to role accountability.
- Development by a multifunctional management team of an agreed process to identify and implement the new value based performance measures.
- Implementation by management of the new process.

The Measurement Model Applied

For this project, Advanced Dynamics developed a new measurement model based on SST (see Figure 5). The complementary nature of the work at adjacent levels was used to guide measurement development and to focus discussions between managers and their direct subordinates.

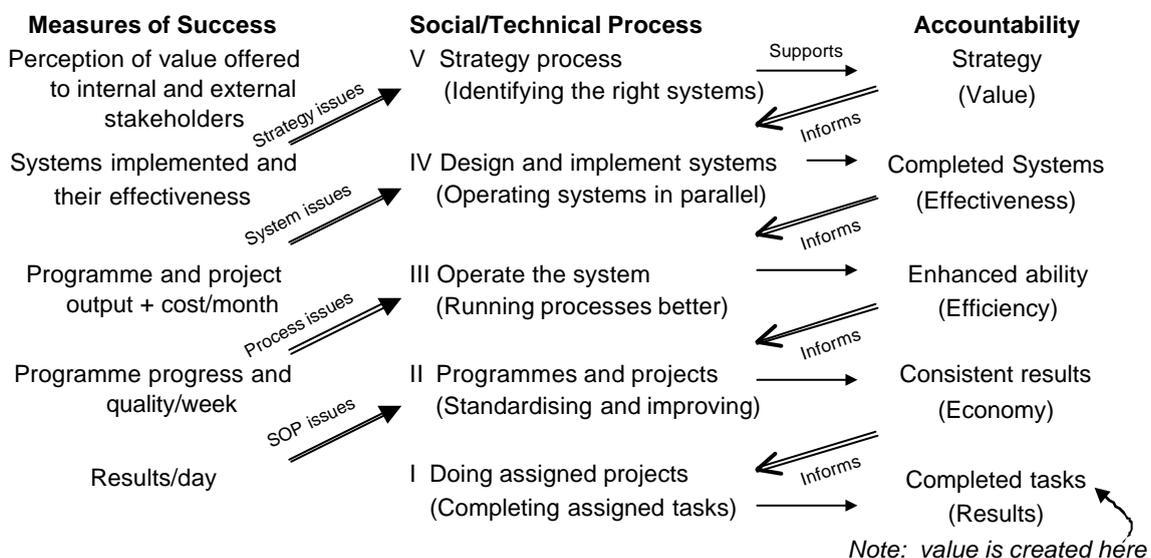


Figure 5: The Measurement System Model

In Figure 5, the five levels match the management structure of the agency with level five being the chief executive. There is a continuing upwards dialogue dealing with issues which need to be escalated, and a downwards information process to provide feedback. The whole arrangement requires that managers work to their role accountabilities.

Moving from the previously dysfunctional measures has taken time and effort. The agency currently has performance measures which are detailed and technical and do not relate to the levels at all. As noted earlier, one impact of this is to drive “output focussed” behaviour, so that role accountabilities (the right hand side) are also not effective. Most managers are thinking and operating in the lowest two levels, since this is where the performance measurement system drives them.

Status

The action research project is at the commencement of the final phase – the process of identifying the new measures and their implementation. This will involve a top down dialogue, where (in turn) each manager will have a conversation with their higher manager to establish a clear understanding of the higher manager’s role, accountabilities and performance measures. An agreement will be negotiated on the set of performance measures for the lower level, in three key parts as shown earlier in Figure 3.

This top down SST based approach must not be confused with the more traditional approach currently taken, which is also top down but which is outputs based. In the SST case there is a new dialogue at each level. The *nature* of the measures at different levels are different, and only at the third level will there be a focus on outputs – *since this is appropriate to the management role at that level.*

Other Challenges and Lessons So Far

This is a systemic improvement project intended to drive significant shifts in organisational culture. The success of the project is dependent on major behavioural changes from the most senior management, and despite being an evolutionary change, requires strong leadership.

There will be a 2 – 3 year settling in period before testing in action results in really useful measures being developed. The agency will learn by doing during that time and will improve both the measurement framework and the measures used to improve business performance.

Now that the system is being implemented, managers must face the cultural issues involved in the shift from an outputs paradigm to one of work to role. At each level, this requires managers to articulate these concepts, to argue them, and to implement them. It tests the capability and leadership of individual managers and places them in a vulnerable position, where their subordinates will be able to see whether they really understand their role.

CONCLUSION

Organisations that are able to establish a culture and practice of systemic improvement can expect to optimise the value they create for stakeholders. At the same time they will minimise their risk of major disasters or other perverse outcomes. The fact remains however, that for the vast majority of organisations this goal remains far off and elusive.

Moving to a work to role management paradigm offers a way ahead for such organisations, provided that they are willing to make the effort to design their organisation accordingly and to implement business rules which reward appropriate management behaviour. To achieve this, the performance measurement system must be integrated with the organisational design. It must also provide the specific data required to ensure that work to role occurs.

The research work being carried out by Advanced Dynamics is an example of how this can be implemented in practice. Although not yet complete, and facing significant hurdles because of the

leadership required to make it happen, it offers the prospect of creating a learning organisation that can offer greatly improved value to stakeholders over the long term.

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