

The Dynamics of Internally Generated Risks in Organisations

(author's name)

Ph.D. Candidate
University of NSW
Australian Defence Force Academy
barberb@bigpond.net.au

Abstract

Organisations create many of their risks through their own policies, systems, structures, behaviours and culture. Such risks are by nature especially difficult to identify, document, report and manage. As a result, they play a critical and yet almost unseen role in the dynamics of organisational design improvement. Their impact can be perverse, leading to inappropriate and ineffective improvement programs. On the other hand, the analysis of internally generated risks can provide unique systemic insight into complex underlying organisational issues, thus supporting continuous improvement in organisation design.

Keywords Internally generated risk, organisation design improvement, maturity, risk analysis, continuous systemic improvement

Introduction

A key role of management is to be aware of and to understand the risks to success, and to manage those risks. Typically, one response is to implement risk management processes to identify, assess, treat and report risks throughout the organisation. In Australia, these processes are likely to reflect the principles and processes described in the Australian and New Zealand Risk Management Standard (AS/NZS 4360).

Despite the use of risk management processes, organisational failures still occur on both a small and a large scale. At the lower end of impact, outputs and outcomes may be routinely sub-optimised in what is otherwise a successful organisation. At the high end there can be total organisational collapse such as happened to HIH Insurance in 2001 or major loss of life such as occurred in the Blackhawk disaster in 1996. Whether major disasters or not, all failures mean that that risks were either not recognised, or not successfully managed.

According to McLucas (2003), disasters are often brought about by a '*complex dynamic and systemic web of interrelationships*' both within and external to the organisation involved. The issues can be pervasive and yet subtle and we are hampered in our attempts to manage them by finite limits to our cognitive capabilities and by the nature of complexity and uncertainty in a constantly changing world (McLucas, 2003).

These conclusions are consistent with the author's experience as the manager of very large, complex projects. Anecdotally, it appeared that significant risks to project

success very often arose within the project organisation itself, or its host organisation. To make matters worse, many of these risks were not identified, analysed or managed using the AS/NZS 4360 based risk management system that was in operation. Some were difficult even to speak about, perhaps (it seemed) because they might reflect badly on the performance of individuals.

The author is now engaged in Ph.D. research, in order to test several hypotheses arising from those experiences. The purpose of the research is to '*Investigate the impact of internally generated risks upon project management performance*'. Among other things, it seeks to establish whether significant internally generated risks are common, whether such risks are well managed and whether the overall level of internally generated risk is related to the maturity (efficacy) of the design of the organisation for its role.

The first section of this paper defines 'internally generated risk' and then briefly discusses the nature of the research and the results so far. This is followed by a discussion of the dynamics internally generated risks can create in organisations, and the impact of these dynamics upon the ability of managers to design and implement improvements. One conclusion is that it is possible to improve the design of an organisation by identifying and treating internally generated risks with a long term systemic view. The final section of the paper proposes a model of continuous systemic improvement based upon this concept.

Defining "Internally Generated Risk"

For the purpose of the author's research '*internally generated risks*' are defined as those risks not primarily caused by external influences, nor by issues intrinsic to the nature of the task. They arise from how the organisation is set up and operates, from the behaviour of people in the organisation and from the decisions they make. In effect, they are those risks the organisation creates for itself. This is illustrated in Figure 1

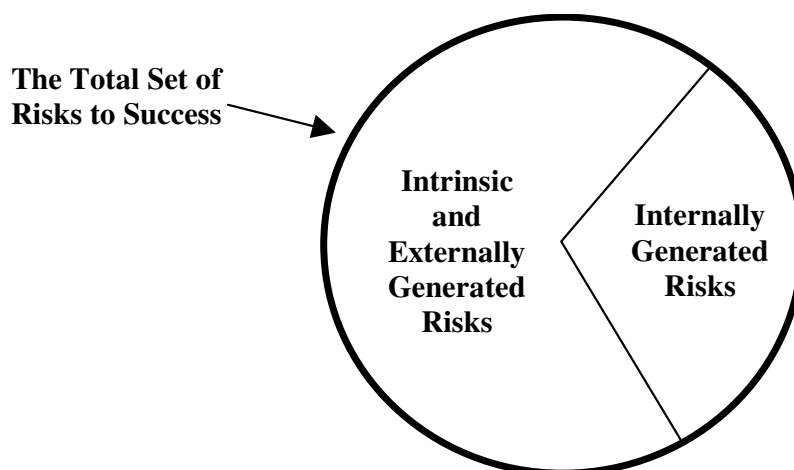


Figure 1. Internally Generated Risks arise within the organisation from internal systems, policies, decisions, behaviour and culture. By definition, risks arising externally and risks that are intrinsic to the nature of the work done are excluded.

below.

For example, when two similar organisations perform differently in what seems to be an otherwise identical environment, then the differences in performance must be due to internal differences in how they are set up and operate. Through those differences, each organisation creates for itself different internal capabilities (strengths and opportunities) and they also create different risks. These risks must by definition be internally generated risks because they are neither externally generated nor do they arise from the nature of the task itself.

An Overview of the Research to Date

Literature reviews and other searches have not identified previous research into the nature and impact of internally generated risks. For this reason, this research is directed at testing basic hypotheses including whether internally generated risks in projects:

- are common
- are significant
- are well managed
- arise from the design of the project organisation or its host

An additional hypothesis to be tested is that greater total internally generated risk indicates lower project management maturity of the project management organisation (the project team and its host). Maturity in this case has the meaning usually applied by professional project managers (Cleland et al, 2002).

The hypotheses being tested are independent of the type of project, its size, or its current stage of the project life-cycle. However to ensure that appropriate data is available, all the projects involved must have a full-time project management team currently in place and must be using formal risk management. This means that very small projects will not be included, since they are unlikely to have a full time team and may not be using formal risk management processes. Projects very early or very late in their life-cycle are therefore also likely not to be included because their project team may not be in place. Otherwise, the projects selected for the research are unconstrained.

The five projects completed so far include one software development project, one technical publication writing project, a capital acquisition project, and two projects acquiring and installing high technology capital equipment. They vary considerably in their current status – from early concept development to near completion. The projects' costs range from a total of about \$1m to over \$400m and their duration from 1 year to about 15 years.

The experimental method is not the subject of this paper and will be described only in outline. For each of multiple projects in multiple host organisations, risks are identified and mapped using data gained through knowledge elicitation workshops and interviews. Each risk is mapped using modified concept mapping techniques, is classified, and potential treatment actions are identified. Additional analysis is then carried out using systemic risk analysis tools (Barber, 2003(b)), seeking to identify interrelationships between risks and whether each risk arises from the organisation's design.

The research does not seek to compare the relative numbers or importance of internally generated risks and other risks. It also does not seek to identify every existing risk (of any type). This is appropriate for two reasons. First, it is arguable that it is not possible

to identify all risks, or even to be sure of identifying all non-trivial risks. Second, this is not necessary in order to test the hypotheses.

From the risk analysis of the first five projects, a total of 125 risks were classified as both internally generated and non-trivial. It is stressed that the results shown in Table 1 below are the outcomes of preliminary analysis and are illustrative only. The columns are not intended to be mutually exclusive.

Project	Non-trivial Internally Generated Risks (IGR)	IGR assessed as significant or severe in impact	IGR already registered or reported	IGR already being managed (treated)
1	46	6	14 (30%)	16 (35%)
2	8	0	6 (75%)	7 (88%)
3	30	20	2 (7%)	7 (23%)
4	20	7	7 (35%)	12 (60%)
5	21	18	2 (10%)	3 (14%)
TOTALS	125	51 (41%)	31 (25%)	45 (36%)

Table 1: Preliminary Internally Generated Risk data from five projects

The large number of non-trivial internally generated risks (IGR) identified is significant and is spread over all of the projects involved. The large variation across the projects is not of concern because this might be expected given the large variation in the size and status of the projects. Each of the projects had multiple non-trivial IGR, and four of the five projects had multiple IGR that were classified as significant or severe (applying a risk rating system similar to that described in AS/NZS 4360). On this basis, the research to date indicates that internally generated risks are both common and significant.

The data also indicates that IGR may not be well managed. Table 1 shows that about 36% of the internally generated risks identified were being treated in a managed way, but that even less (25%) were registered or reported. Regardless of anything else, this result indicates that at least some IGR are managed without being registered or reported in formal systems, despite such systems existing. This implies that managers find it difficult to report or document internally generated risks, but nonetheless are sometimes able to take management action on those same risks.

Many of the risks that were assessed as very significant or severe were not listed in project risks registers or in risk reports. In fact in three of the five projects, there were as many or more such risks identified during the risk analysis than the total number of internally generated risks that previously registered or reported. Although not conclusive, this indicates that in projects, significant internally generated risks are often neither identified nor managed.

The research involves projects, rather than organisations in general. However it serves to show that managers can face internally generated risks and that they are often poorly documented and managed using formal risk management systems. In order to understand why this is the case, we need to consider the nature and impacts of internally

generated risks. When we do so, we find that there are two key characteristics that make them special in management terms.

Internally Generated Risks are Often Sensitive to Deal With

The first of these special characteristics is that many internally generated risks tend to be sensitive to talk about and difficult to resolve. This makes them difficult to manage. For example, if a manager is not good at their job or micromanages subordinates, this will create line-management performance problems and will hence create risks to the organisation's success (Jacques, 1998). From experience we also know that in such cases it is likely that people will simply put up with the problems created, rather than face the sensitive task of seeking management action. It is even less likely that such risks will be openly documented in formal risk management systems. To do so would be to cause affront not only to the manager in question, but also to their manager - who is accountable to identify and resolve the performance issues.

Risks do not have to be directly related to personal performance to be sensitive. If a project is under-resourced, staff are being overworked or an internal process is creating unintended problems then risks to success will be created. Although not directly about people, such sources of risk are often linked to a decision or policy that is "owned" by someone – the person who approved the project despite a lack of resources, the person who is demanding more work than is possible, or the owner of the ineffective process or rule. Such risks might be discussed relatively openly, but they are still unlikely to be documented in a risk register. To do so might be seen as insensitive or provocative, or simply as politically inappropriate.

Internal risks are also often seen as a *fait accompli* – such as when people are told to "just do it" despite having inadequate resources to do the job properly. If there is no real possibility of the problem being resolved, then there is little incentive to document it as a risk to success when reporting. Reporting such risks may also be seen as being provocative or recalcitrant – as making a political point at the cost of the manager involved.

Finally, internally generated risks are often soft or unquantifiable in nature, and do not lend themselves to being managed in documented systems. Managers may feel uncomfortable trying to describe, assess and classify risks that are about human relationships, culture or behaviour. It may also be seen as a waste of time to bother documenting issues that are intangible and that are unlikely (or thought to be unlikely) to be managed. Figure 2 illustrates the problems that arise when risks are difficult to document or to talk about. Ultimately, it means that such risks are less likely to be managed properly.

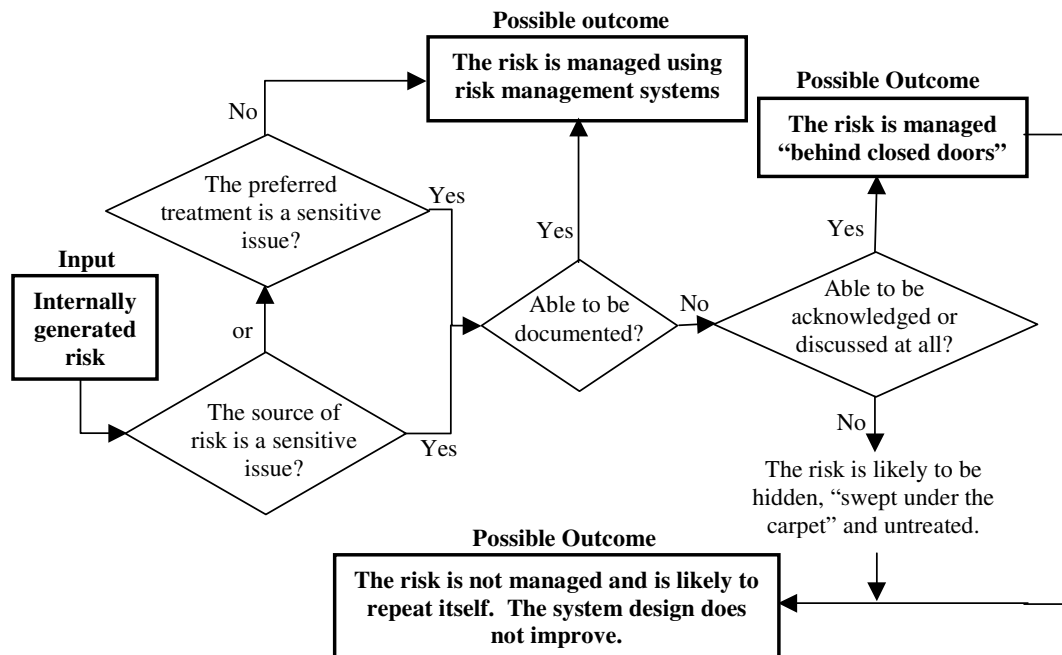


Figure 2: Internally generated risks are more likely than external or intrinsic risks to be sensitive to talk about or to document. When this is the case, standard document based risk management systems do not work, and ad hoc social processes take over. If the risk is difficult to even talk about with stakeholders and decision makers, it is not likely to be managed at all.

Finally, internally generated risks are often soft or unquantifiable in nature, and do not lend themselves to being managed in documented systems. Managers may feel uncomfortable trying to describe, assess and classify risks that are about human relationships, culture or behaviour. It may also be seen as a waste of time to bother documenting issues that are intangible and that are unlikely (or thought to be unlikely) to be managed. Figure 2 illustrates the problems that arise when risks are difficult to document or to talk about. Ultimately, it means that such risks are less likely to be managed properly.

The possible outcomes shown in Figure 2 do not include all possible variations. For example, it is possible for a risk not to be sensitive and yet not be managed, for a variety of reasons not discussed here. Although the preferred outcome is that risk is managed using risk management systems, at times the only appropriate approach is for risk management to occur behind closed doors simply because the issue is too sensitive to do otherwise.

Although this limits open discussion and therefore debate on those particular risks, it is also possible that maintaining confidentiality in such situations builds trust with those directly involved and has benefits for teamwork and morale. The key is not how or why risk management occurs, but that it does occur. When risk management of a risk does not occur the risk status quo is maintained, implying a lost opportunity to reduce the risk of failure.

Internally Generated Risks Originate in the Design of Organisation

The second key characteristic that makes internally generated risks special in management terms is that ultimately the source of such risks can almost always be traced to flaws in the design of the organisation. In this case “design” means all deliberate or managed aspects of the organisation, and includes structures, systems, processes, policies, rules and so on. Even cultures and behaviours may be part of system design if they are deliberately managed or supported within the system of organisation. These ideas match the McKinsey 7S model of organisation design first used by McKinsey and Co in the 1970s.

If internally generated risks often arise from weaknesses in organisation design, then working to reduce such risks will have a positive impact upon the design. Consider for example an organisation where the roles and accountabilities of managers overlap, have gaps or are simply not well understood or applied. Experience indicates that in such cases, work may be done twice, it may not be done at all, or it may be done ineffectively. This will reduce management performance and increase the risks to success. In this case, the source of risk is the inadequate system of assigned roles and tasks. The appropriate long term risk treatment is to improve that aspect of the organisation’s design.

As another example, consider the risks created when a manager is working in a role for which they are not suited. This calls into question the recruitment process and also the performance management system. Why was the wrong person given the job in the first place, and why has the performance management system not identified this and caused it to be corrected? Again, internally generated risks are being created because the organisation’s systems are not adequate, and design changes are likely to be the appropriate management response.

Based upon those examples, it seems that design efficacy is inversely related to the amount of internally generated risk created. That is, the better the organisation’s design is at ensuring success, the less the overall internally generated risk experienced by the organisation. Such a relationship is intuitively correct, and should not be surprising given that both design efficacy and risk are closely related to the organisation’s future success. This will be discussed further in the last part of this paper.

Internally Generated Risks can Drive Perverse Design Improvement Dynamics

In order to understand the impact of internally generated risks upon the dynamics of organisational design, we need first to consider those dynamics more generally. Design improvement dynamics in an organisation are a complex interaction of management understanding of the current status of the organisation, the change and learning culture present, and the actual (or perceived) performance of the organisation (Sterman, 2000)

If current performance is considered by managers, staff and other stakeholders to be good, there is less drive for change than if performance is thought to be low. Pressure for change may be localised to a single rule, process or system that is not performing or where improvement is desired. However pressure to make major broader systemic changes across an organisation may become intense if its overall performance has

become unacceptable or if a high-profile failure occurs (Senge, 2000). This is illustrated in Figure 3 below.

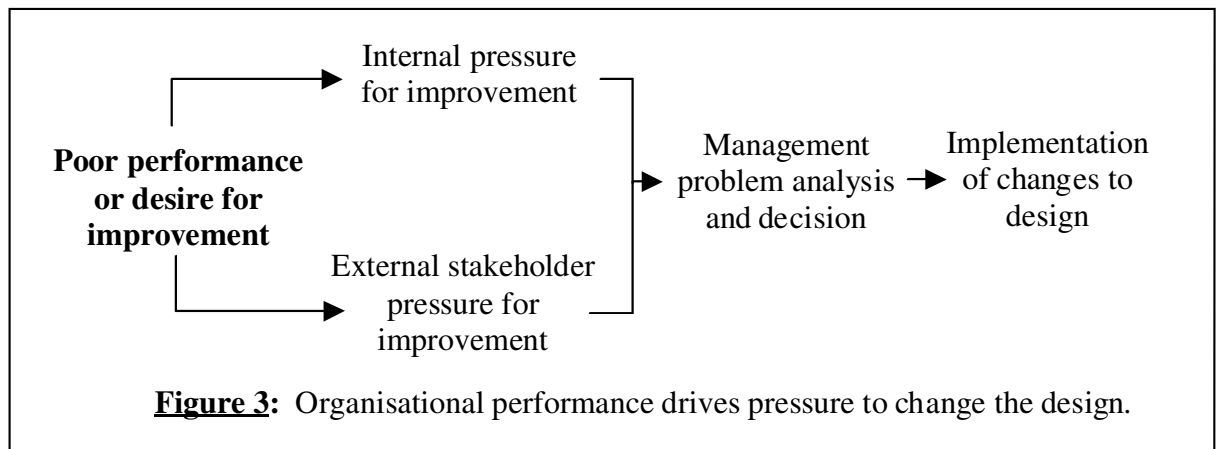
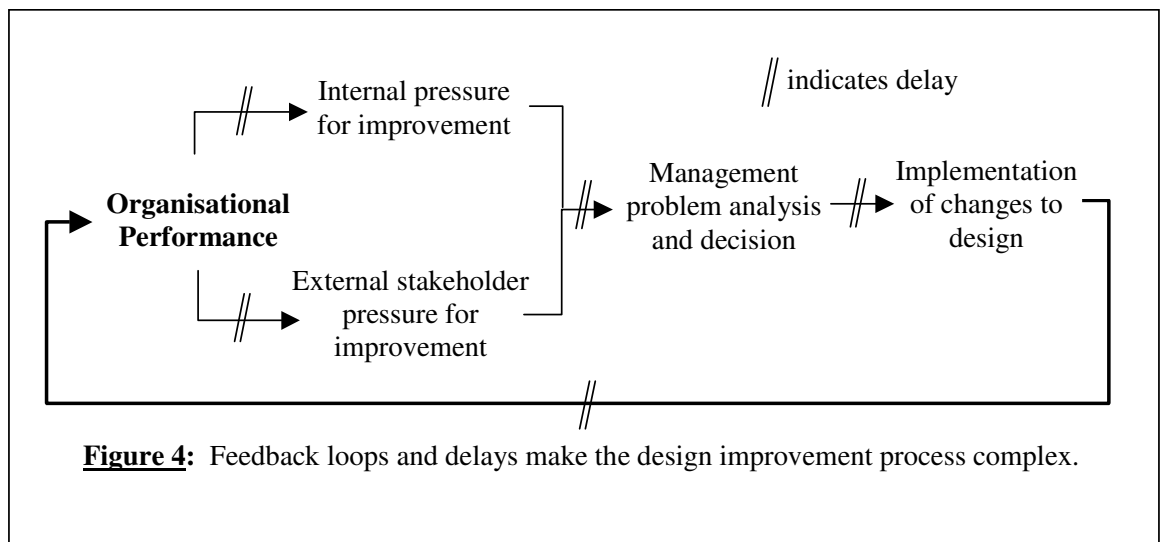


Figure 3 shows a linear process, but the reality is more complex because of the continual feedback of performance into the felt need and into the pressure to change. Delays are involved in the feedback not only because changes take time to determine and to implement, but also because even when changes are fully in place performance takes time to reflect this. Where culture change is involved (arguably almost always, when the change is significant) the feedback and implementation times may involve months or even years (Sterman, 2000). This more general situation is shown in Figure 4.



Unless both the leaders of the organisation and the key stakeholders are able to understand and accept long term strategies, organisational change is likely to be subject to further changes even before the previous change is in place or tested. We therefore have changes interacting with changes, whether designed to do so or not.

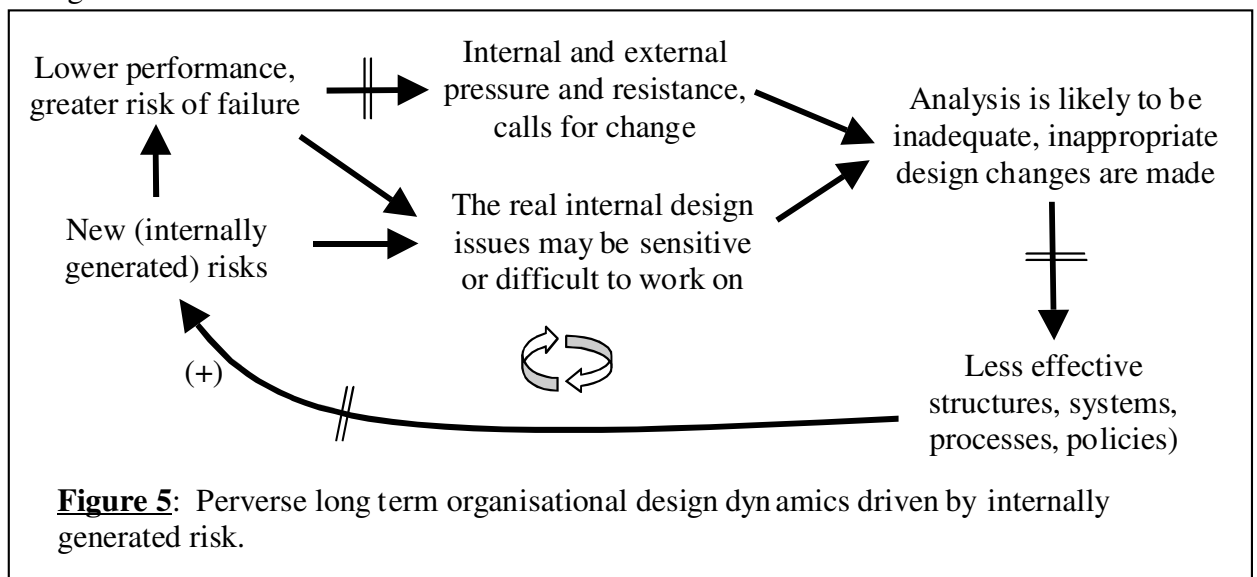
In an ideal situation changes are well designed and implemented and the potential exists for improved performance and for the pressure for change to reduce. However this relies heavily upon whether managers really understand the dynamics of the underlying design problems and can design the appropriate interventions. Regardless of time

delays and other factors, if managers do not understand the root causes of poor performance or are unable to design or implement effective long term treatments, the performance problem will not be resolved.

At best, the problem will be superficially removed but will recur. At worst, overall organisational performance may become worse despite the time and effort invested. As indicated by Figure 4, organisational improvement is inherently about working on the design of organisation. Since internally generated risks arise from design issues, we should not be surprised to find that design improvement and the management of internally generated risks interact. To see this interaction, consider the case of an imperfect organisation – one that has significant design flaws in its structures, systems, processes or policies.

Those internal design flaws will lead to increased (internally generated) risk of lower performance and failure, making the organisation less effective and less likely to succeed. In turn, this will tend to drive the pressure for change as indicated in Figure 4. The pressure will come from internal management and staff, and also from external stakeholders.

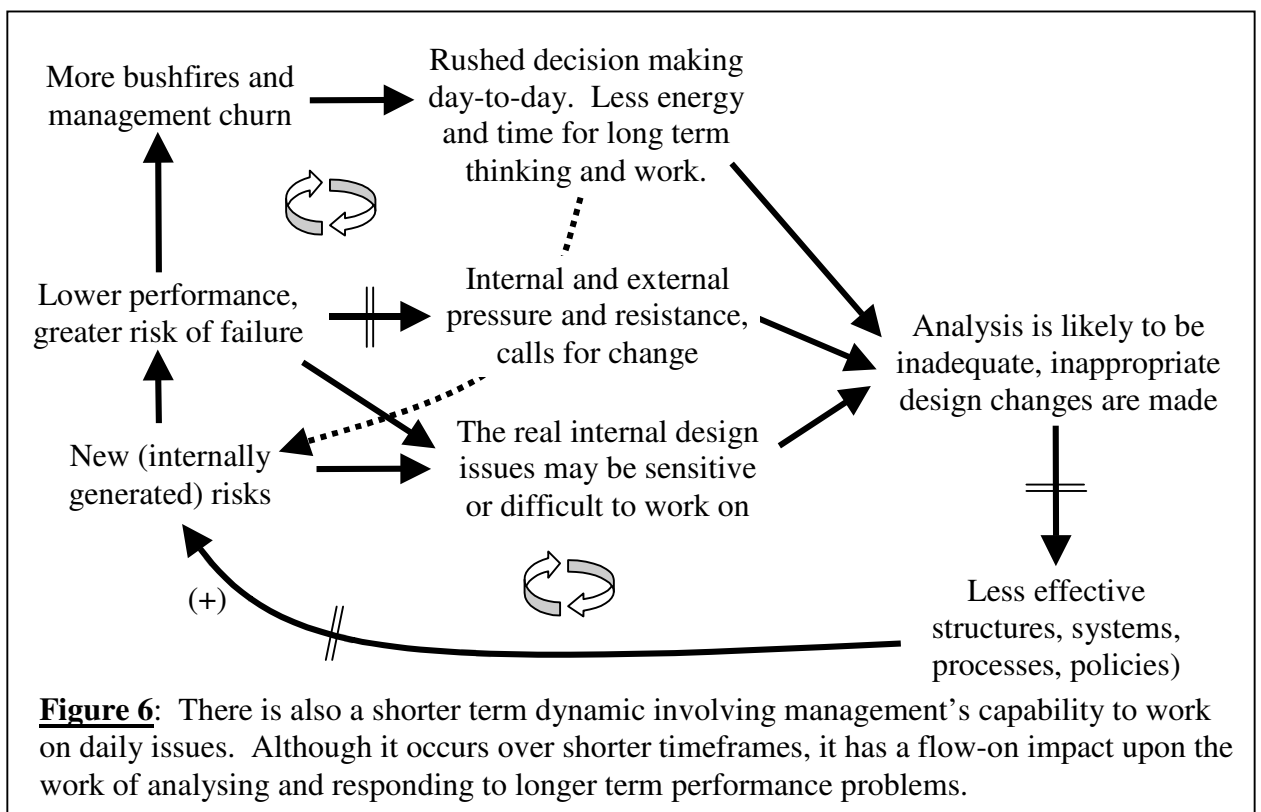
However a feature of internally generated risks is that they are by nature likely to be poorly acknowledged and poorly dealt with, as discussed in earlier sections. This means that managers are likely to have only part of the information they need in order to fully understand the underlying problems, and their decision on what and how to change is likely to be flawed. This is the case when organisations respond to “urgent pressure for change” by reorganising, without tackling the underlying belief systems and behaviours that are the root causes. Such organisations tend to go through cycles of change, with the appearance of progress generated by things looking and feeling different in the short term, but no real increase in overall maturity or performance in the long term (Sterman, 2000). The impact of internally generated risks is further illustrated in Figure 5.



In Figure 5, poor performance leads to pressure for change but rather than deal with sensitive issues management are likely to look for technical, externally driven or structural causes. If so, faulty conclusions will be drawn and inadequate or even

perverse corrective actions taken. In the extreme, the inappropriate changes and the pressures caused by the change process actually decrease performance. Over time, stakeholders become even more disenchanted and increase the pressure for change, but unless the cycle is broken it will continue to operate.

As well, there is a more immediate impact upon day-to-day management effectiveness. When an organisation is struggling, there tend to be almost continual bushfires for managers to deal with. Perversely, this reduces the time and attention that individual managers can give to longer term issues and the in-depth analysis of systemic problems. The continual bushfires tend to increase the pressure for change, but at the same time reduce management's ability to break the cycle (McLucas, 2003). This additional short-term cycle is included in Figure 6.



The cycles shown in Figure 6 link an organisation's design to its internally generated risk, on the assumption that if there is a need for organisational change, then internally generated risks are present and may lead to the perverse dynamics shown in the diagram. However we know from experience that some organisations do change and adapt successfully. If we assume that this is not just luck, then it is worth considering how this occurs.

Strong Leadership and Effective Analysis can Lead to Virtuous Dynamics

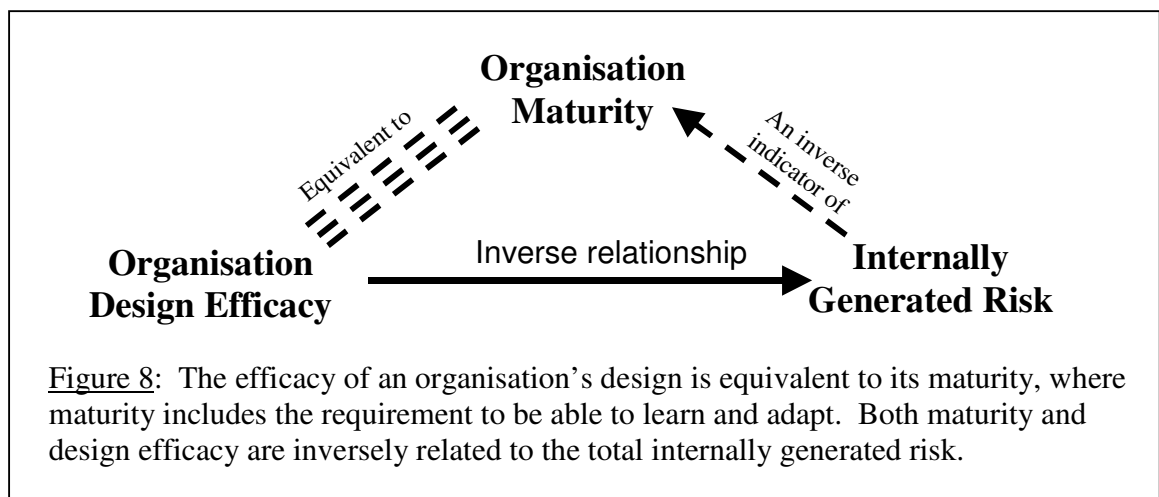
Since internally generated risks can be difficult to document or to talk about, they will often not be part of the accepted data for analysis. This means that within the dynamics shown in Figure 6, the nature of internally generated risks will tend to negatively impact upon the quality of analysis and understanding upon which design changes are based. Hence, there will be a reduction in the quality of the design improvements made (all else being equal).

When the identification and analysis of internally generated risks is greatly improved, the overall dynamic can become virtuous, as shown in Figure 7. Based upon greater openness and improved understanding, design improvements are likely to be more effective, creating a positive impact upon performance. This reduces pressure for change and also reduces the requirement to continually fight bushfires, thus providing more time for analysis, reflection and planning. This tends to support and perpetuate the improvement cycle.

A Cycle of Continuous Systemic Improvement is Possible

As discussed throughout this paper, examination of the concept of internally generated risk provides us with insight into important design improvement dynamics within organisations. If such risks are allowed to remain hidden and untreated, there will be powerful negative impacts upon the ability of the organisation to learn and to improve over time. However as alluded to in Figure 7, the flip side of this coin is that if we do seek out and analyse internally generated risks we can use this to identify and work on the design issues in our organisation.

Expressing this in another way, an organisation which has an effective design and which is working well, will have relatively fewer internally generated risks than an otherwise similar organisation that is less well designed and which is operating less effectively. Using the term “maturity” in the sense of fitness for purpose (including the ability to learn), this is the same as saying that a more mature organisation will by nature create less internally generated risk for itself, and that the converse is also true - an organisation that creates less internally generated risk for itself must be more mature. This relationship is illustrated in Figure 8.

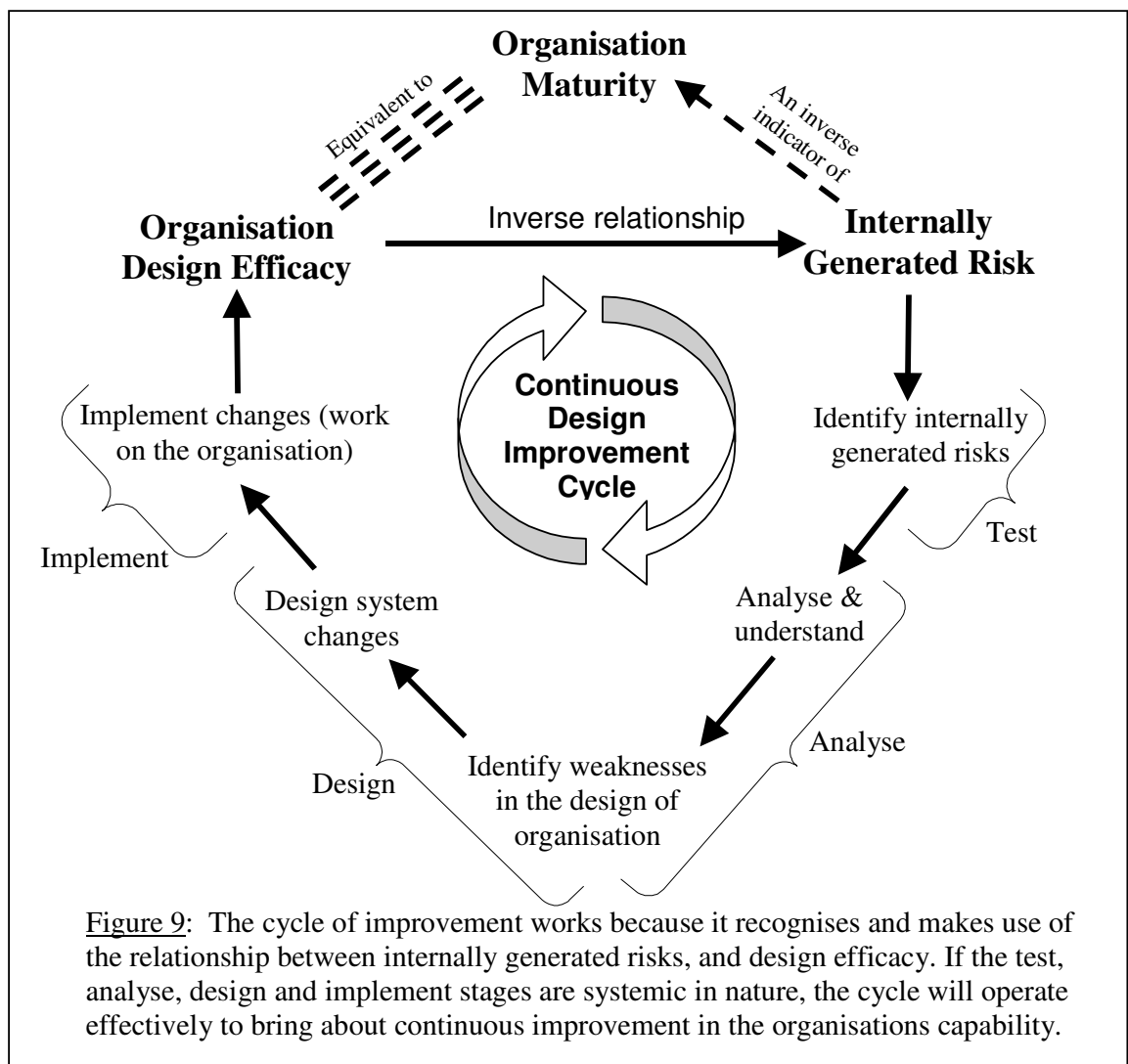


If we accept the relationships shown in Figure 8, then it follows that if we can identify, analyse and treat internally generated risks effectively, we will have a beneficial impact upon the design efficacy and maturity of the organisation. This is an inverse relationship – as the level of internally generated risk goes down, the maturity and design efficacy of the organisation rises. If we continue to work on internally generated risks over time, we have a systemic approach to organisational design improvement.

This continuous design improvement cycle can be applied generically – it can be applied to any environment, including those that are changing. The reason for this is

that it uses risk analysis as its mechanism for discovery, analysis and understanding. Risk analysis is always context sensitive, so the local environment is brought into the analysis itself, as are any changes to that environment.

For instance, if an organisation's future vision changes significantly it might be expected that there will need to be design changes to adapt the organisation's capabilities to its new needs. Using the new vision and new success criteria as context, analysis of internally generated risks will show new risks to success arising from the existing (old) design – and indicate where changes are needed. In the same way, if the external environment of an organisation changes this will become the context for future risk analysis, which may indicate new internally generated risks to success. A continuous design improvement cycle based upon the analysis of internally generated risks is shown in Figure 9.



This approach to driving organisational improvement overcomes the inherent problems with maturity models, benchmarks and balanced scorecard – each of which requires careful tailoring to business circumstances and which do not automatically respond to change. In part, the weakness of those approaches arises from their dependence upon the outputs paradigm – the belief that monitoring and working on outputs will lead to desired outcomes (Barber et al, 2001).

The trouble is that output measures are generally single point indicators within a complex system. They can at best indicate undesirable variation – they cannot provide sufficient information on how and why those variations are occurring. Without further analysis, a response to variations in output measures is likely to be short term and non-systemic. Management systems based upon the outputs paradigm reward managers who respond in the same way – thus inhibiting systemic improvement based upon long term thinking and systemic analysis.

Even with the most effective of indicators, benchmarks or models, it is still necessary to carry out a systems analysis if we wish to understand the true nature of the underlying reasons for the performance of our organisation. However systems analysis of human interactions, behaviours, cultures and relationships is challenging - it requires that difficult issues be worked on. In many circumstances managers find it easier to go directly from the symptoms to a decision on what to do. If they do so, then at best their decisions are based upon superficial or intuitive reasoning, and long term systemic improvement is unlikely.

The cycle shown in Figure 9 is different – the whole approach is focused directly on the difficult issues and upon understanding them. It requires thorough systemic analysis of the risks faced by the organisation, especially those that are internally generated. Although not an easy approach, it offers a robust and repeatable way for truly capable leaders to drive continuous learning and improvement, even in a complex and constantly changing business environment.

Summary and Conclusions

Internally generated risks exist, are common and significant and are difficult to manage. This is intuitively correct based upon management experience and the author's early research results tend to support this.

Understanding the nature and impact of internally generated risks is valuable in its own right if this leads to improved management of risks. It requires both courageous leadership to overcome the natural tendency to avoid sensitive and difficult issues, and systemic risk analysis tools and techniques so that complex soft risks can be better understood and therefore treated.

However the greatest potential benefit arising from the analysis and treatment of internally generated risks is that it can lead to systemic design improvement in a way that is not possible directly from the current suite of performance management tools such as balanced scorecard. It offers leaders of organisations a new paradigm for performance improvement. Instead of using linear measures and benchmarks as a basis for decisions, improvement can be pursued systemically and continually by finding and fixing the internally generated risks to success.

References

Barber, R., 2003(a), Systemic Issues in Risk Management in Projects – Why the AS/NZS 4360 Approach is Not Enough, *Australian Institute of Project Management National Conference Proceedings*, Alice Springs

Barber, R., 2003(b), A Systems Toolbox for Risk Management, *Proceedings of the 9th Australian and New Zealand Systems Conference 2003*, Monash

Barber, R. and Burns, M., 2002, A Systems Approach to Risk Management, *Proceedings of the 8th Australian and New Zealand Systems Conference 2002*, pp 41-47

Barber, R. and Cooper P. and Dyball, S. and Yoon, J., 2001, Overcoming Perverse Outcomes of Measurement: Using a Paradigm of “Work to Role”, *Proceedings of the Australian Evaluation Society 19th International Conference 2001*, Canberra, ACT.

Cleland, D. and Ireland, L., 2002, *Project Management Strategic Design and Implementation*, McGraw-Hill, New York

Jacques, E., 1998, *Requisite Organisation*, Cason Hall & Co, Arlington

McLucas, A., 2003, *DECISION MAKING: Risk Management, Systems Thinking and Situation Awareness*, Argos Press, Canberra

Senge, P., 2000, *The Fifth Discipline. The Art and Practice of the Learning Organisation*, Random House, Sydney

Standards Australia, 1999, *Risk Management AS/NZS 4360:1999*, Standards Association of Australia, Strathfield

Sterman, J., 2000, *Systems Thinking and Modeling for a Complex World*, McGraw-Hill, New York