# A Theory of Constraints analysis of organisational budgeting processes: International research and New Zealand managers' perceptions.

**By**

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# ABSTRACT

The purpose of this research was to use the Theory of Constraints (TOC) Thinking Processes (TP) to examine the problems and issues associated with Traditional Budgeting in organisations. TOC gave a framework to look at the causality of the problems, identify missing entities, and test solutions.

The research was structured in two phases. Phase one sought to organise the problems identified in the literature review using the logic-based framework of the Theory of Constraints (TOC) Current Reality Tree (CRT) to better understand the interactions and causality between the various problems reported. During phase two, interviews were conducted in two Not-For-Profit organisations to test the existence of these problems, the interactions of the problems in the organisations and to see if the literature-informed Current Reality Tree reflected managers' perceptions, and to find any further causality.

The findings revealed that the managers of these New Zealand organisations perceive they face the same problems as those outlined in the literature. In particular, the budgeting process is felt to be a time-consuming exercise, that causes competition between budget holders for funds, disempowers staff, lowers strategic focus, and "wastes" money as budget holders build in contingency and then spend it.

These problems occur because costs are often unpredictable and there are often negative consequences for getting budget figures wrong. The findings indicate that organisation governors and upper management want certainty of costs, so they use planning and reforecasting to get it. The findings also indicate that the managers of the budgets want certainty on delivery of outputs and add contingency to their budgets to get it. The actions of Leadership use up time and the actions of managers use up money. There is therefore an increase in the internal competition for time and money, which causes siloing of departments, less focus on strategy, and disempowering of staff.

The findings indicate that managers add contingency to their budgets and can then use it because expenses vary in their level of predictability and in how discretionary they are. Unpredictable costs that cannot be deferred can be the most dangerous for budget holders and cause the most pressure to add contingency. Budget holders can then use this

contingency along with the deferral of some types of expenses to keep themselves within budget if expenses are higher than anticipated. Conversely, other expenses may be brought forward or inflated to use up any excess contingency.

Alternative budgeting methods like Activity Based Budgeting, Zero-Based Budgeting, Rolling Forecasting and Continuous Budgeting focus on planning and reforecasting to get certainty. The approach known as Beyond Budgeting may reduce the budgeting workload requirement, which then frees up time and therefore empowers managers. Strategic Budgeting overcomes unpredictability by aggregating the contingencies in the individual budgets into a central buffer so that not all funds are allocated before the financial year starts.

Phase two of the research was limited to a small sample size of 10 interviews across two Not-For-Profit organisations. Further research will be needed to see if it is applicable in other settings.

The practical implications for organisations relate to the effect that the Leadership demand for planning and reforecasting has on managers' time. In particular, Leadership also need to understand that the reason managers add contingency is not to disrupt the organisation but so they can deliver on their outputs.

The contribution from this research are both theoretical and methodological. The research provides a deeper understanding of the systemic complex of cause-effect relationships that link over-arching problems to core causes of the issues arising for the use of the Traditional Budgeting Process. The research also demonstrates the use and efficacy of the TOC TP's to bring clarity and organisation to the research, findings and insights.

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# CHAPTER 1: INTRODUCTION

*A Theory of Constraints analysis of organisational budgeting processes: International research and New Zealand managers' perceptions*.

The motivation for this study was born from the frustration of being part of a new organisation that got its funding from a local council and having to deal with the council accounting staff on matters of budgeting. Casual conversations with others who were subjected to organisational budgeting suggested widespread dissatisfaction with the process. This research was about deeply understanding the process, the downsides, and the reasons it persists, with the view to discovering the direction of a better solution. It was about finding out what was happening, why it was happening and how it was happening.

The Traditional Budgeting process is widely used by organisations to carry out their strategic objectives while simultaneously controlling costs (Hansen, Otley & van der Stede, 2003). However, many problems and issues caused by the process have been reported in the literature, including much evidence to suggest that the process has significant negative side effects. These flaws manifest as wasted organisational potential due to a loss of strategic focus, a disempowering of employees and the loss of the ability to react to changes in the environment (Hansen, et al, 2003). Gaming behaviours by managers also cause organisations to waste between 25% and 40% of their spending (Merchant, (1985); Taylor & Rafai, (2003); Kowalczyk, Rafai & Taylor, (2006); Taylor, Kowalczyk & Klein, (2006)).

The purpose of this research was to see whether the problems highlighted in international literature are present in New Zealand, understand what causes budget holders to act this way, and to find out how they are able do it. The objective is to understand how these problems interact with each other and test whether there is an underlying root cause that can be used to unlock a solution. To this end, a Theory of Constraints (TOC) logic-based Current Reality Tree (CRT) was used to identify, analyse, and represent the suspected causal interrelationships between problems surfaced in the literature. The base of the CRT incorporates the underlying core conflict suggested by Taylor and Steenpoorte (2007). The CRT was then used as a framework to test how this core conflict might cause the problems and explain how the low-level problems interact to cause high-level organisational problems.

Several alternative budgeting methods which have been proposed are briefly reviewed, but they do not seem to address all the problems from the literature, meaning the Traditional Budgeting model persists. The literature review includes a possible solution for dealing with uncertainty from the project management world. A Theory of Constraints derived approach to improving project management, Critical Chain Project Management (CCPM), has been applied to budgeting, and is called Strategic Budgeting (SB) or sometimes Global Buffered Budgeting (GBB) (Taylor & Steenpoorte, 2007). Rather than contingency being included in every departmental budget, the CCPM approach suggests it be stripped out and amalgamated into a central buffer. Budget holders may then negotiate with each other for extra funds as the need arises. This approach requires collaboration, keeping managers focussed on the organisation's objective, empowering them and discouraging waste. Strategic Budgeting appears to address most of the problems, but there are no reports of its sustained use overseas and none at all for New Zealand.

Phase two of this research aimed to determine whether New Zealand managers face the same problems with the Traditional Budgeting process the managers identified in the literature and whether they were caused by the same underlying core conflict. It was an opportunity to test the logic of the CRT model developed from the literature review and to see whether SB might be a suitable alternative to Traditional Budgeting in New Zealand. As SB is designed to break the core conflict for a particular set of problems, the same problems will need to be present for SB to be an effective alternative to Traditional Budgeting in New Zealand.

The overarching objective of the research was to enhance the understanding of the complex interaction of problems, symptoms and issues associated with the Traditional Budgeting process. This included uncovering any problems not mentioned in the literature, testing the core conflict from the literature, and testing the proposed causality. The research was therefore to answer the following questions:

1. What are New Zealand managers' perceptions of the specific issues associated with the budgeting process in their organisations?
2. Does the CRT constructed from the literature review accurately reflect the complex interaction arising from the budgeting process?
3. What are the underlying conditions that cause these issues?
4. How are managers able to cause these problems and issues?

An accurate understanding of the underlying causality will allow further research to develop a better solution for budgeting.

# CHAPTER 2: LITERATURE REVIEW

## 2.1 Traditional Budgeting

Sivabalan, Booth, Malmi and Brown (2009) identify three main reason budgets are used by organisations. Firstly, to evaluate the performance of individuals and business units. The second reason is for planning, which includes resource planning, costings and selling prices, and to provide information to external sources like auditors and investors. Lastly, a budget enables a governing board to monitor and keep control of costs during a specified period.

For organisations that need a way to carry out their strategies while controlling costs, the most commonly used method is the Traditional Budgeting process (Ekholm & Wallin, 2000), which is described as a "quantitative expression of a proposed plan of action by management for a specified period and an aid to coordinate what needs to be done to complement that plan" (Cardos, 2014). Traditional Budgeting occurs annually and is usually based on incremental changes to the previous year (Wildavsky, 1978). Changes can be driven from two directions. A top-down approach is where upper management set revenue targets and cost limits with department managers held accountable for results. A bottom-up approach has the department managers construct their budgets based on their perceived needs and requirements. Following initial drafts, both approaches have a period of negotiation before the final budget is approved (Kramer & Hartmann, 2014). The end result therefore has input from upper and lower management and sets an organisation's spending expectations for the year (Sivabalan et al, 2009). It also gives an organisation four main advantages:

- It compels planning by helping managers to set realistic goals and ask "what-if" questions.
- It promotes coordination and communication as the organisation aligns its objectives
- It aids evaluation of performance, giving a better comparative than simply relying on last year
- It motivates employees

  (De Waal, Hermkens-Jenkins & van de Ven, 2011)

The paradox is that Traditional Budgeting also seems to result in a number of problems, some of which directly contradict this list. These are identified and discussed below.

## 2.2 The problems identified with the Traditional Budgeting process

The problems associated with the Traditional Budgeting process have been extensively researched. Hansen, Otley and van der Stede (2003) have summarised these problems in the following way in Table 1:

| | |
|---|---|
| 1 | Budgets are time-consuming to put together |
| 2 | Budgets constrain responsiveness and are a barrier to change |
| 3 | Budgets are rarely strategically focussed |
| 4 | Budgets add little value, especially given the time required to prepare them |
| 5 | Budgets concentrate on cost reduction and not value creation |
| 6 | Budgets strengthen vertical command-and-control |
| 7 | Budgets do not reflect the emerging network structures that organisations are adopting |
| 8 | Budgets encourage gaming and perverse behaviours |
| 9 | Budgets are developed and updated too infrequently, usually annually |
| 10 | Budgets are based on unsupported assumptions and guesswork |
| 11 | Budgets reinforce departmental barriers rather than encourage knowledge sharing |
| 12 | Budgets make people feel undervalued |

**Table 1. Hansen et al - summary of problems**

Taylor and Steenpoorte (2007) took a different perspective, looking at the obstacles that block an organisation from achieving its goals within the specified budget, outlined in Table 2:

| | |
|---|---|
| 1 | Goal focus is muted during the year by the demands and “fires” that arise in each department |
| 2 | Little departmental coordination occurs |
| 3 | Managers are pitted against each other in order to secure funding |
| 4 | Managers are forced to play games in order to get/retain funding |

| | |
|---|---|
| 5 | Requests are often inflated to protect managers and their departments from uncertainty and anticipated budget negotiations |
| 6 | Budget requests frequently are cut by upper management, who is aware of the inflation in the requests |
| 7 | Surpluses frequently are spent at the end of the budget period to ensure future budget levels will be maintained |
| 8 | Departmental managers are unwilling to share funds with other departments for necessary expenditure |
| 9 | Managers/departments with budget overruns are punished |
| 10 | Budget surpluses are often hidden |
| 11 | Budget overruns are often detected (too) late |
| 12 | The total budget often is overrun |
| 13 | It is hard to get funding for new activities during the fiscal year |
| 14 | The approval process for new project/expenditures is time-consuming and frequently unsuccessful |
| 15 | Flexibility in responding to new developments is hampered by the tedious budgeting process |
| 16 | Budget owners complain that budgets are “unfair” or “unrealistic” |
| 17 | Funding of existing functions continues without thorough analysis of the benefit to the organisation |
| 18 | The entity’s overall goal is obscured by the budgeting process |

**Table 2. Taylor & Steenpoorte (2007) - summary of problems**

These two tables are included to give the reader a sense of some of the problems and frustrations outlined in the literature. Along with these, further problems found by other researchers have been incorporated into the CRT.

Any attempt to find a solution to all these problems needs to consider whether these problems exist in isolation or whether they are inter-linked and just the symptoms of an underlying core problem. The Theory of Constraints methodology was chosen to look at this.

## 2.3 Theory of Constraints

*The theory of constraints (TOC) is a multi-faceted systems methodology that has been developed to assist people and organisations to think about their problems, develop breakthrough solution and implement those solutions successfully.*

(Mabin & Balderstone, 2003)

Davies, Mabin and Balderstone (2005) argue that the suite of TOC methods is a way to examine Operational Research and Management Science, fitting well into the Mingers-Brocklesby framework. TOC offers a set of hard and soft tools and methods that includes using cause and effect logic across the whole organisation with the intent of discovering the constraint or core conflict that is holding the current system stable. The assumption is that the visible problems in an organisation are symptoms caused by an underlying core conflict and until the core conflict is identified and resolved, the problems will keep reappearing and constrain the organisation. Others also argue that TOC has now grown from being originally a manufacturing method to a stage where The Thinking Process used to uncover the constraint and develop a solution is now a fully-fledged management theory methodology (Şimşit, Günay & Vayvay, 2014; Naor, Bernardes & Coman, 2013).

Dettmer (1998) used TOC to examine the core conflict for a state roading department in the U.S.A. In order to get access to get federal government funding, states must use the lowest bidding contractor. However, in order to get long lasting highways, they must not use the lowest bidding contractor. The Current Reality Tree that grows from this core conflict includes more frequent road repairs causing more frequent lane closures, slowing traffic down, causing congestion and increased vehicle damage. The loss of worker productivity and extra fuel expense is estimated to cost America US$30b annually. Until this core conflict is solved, the Roading Department will struggle to make significant progress towards their strategic goals. Two possible solutions were outlined. Firstly, to require roading contractors to guarantee their work, meaning all tender prices were higher. The second solution was to interpret lowest cost as meaning over the lifetime of the road, so that the expected ongoing maintenance was added to the initial build cost when judging what the lowest bidding contractor was. Either option eliminates almost all the problems created by poorly constructed roads. The problems being just symptoms of the underlying core conflict.

The TOC process identifies the constraint in many organisations as being the conflict between focussing on local (departmental) optimisation and focussing on global (organisational) optimisation (Dettmer, 1998). This theme is also found in budgeting research.

## 2.4 Core conflict of budgeting

Several conflicts were found in the literature. Wildavsky (1978) states that the budgeting process must provide continuity and rigidity at a global level, while at the same time as providing for change and flexibility at a local level. Schiff and Lewin (1970) talk about the conflict between personal goals and organisational goals when a manager is getting reviewed based on departmental performance against budget. Taylor and Steenpoorte (2007) articulated the core problem of budgeting as needing to manage costs by keeping control in upper management, while simultaneously needing to react quickly to unforeseen changes by having control in the departments.

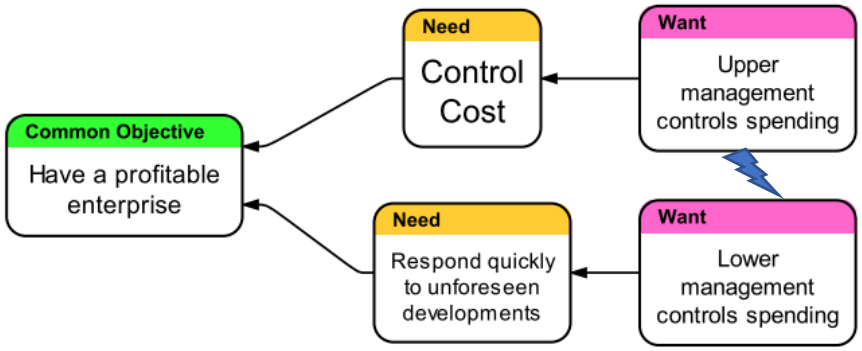


**Figure 1. Taylor and Steenpoorte (2007) Core Conflict of budgeting**

Figure 1 is formatted using the TOC Evaporating Cloud tool and reads according to the following convention:

- *In order to* **Have a profitable enterprise**, *we must* **Control Cost**
- *In order to* **Control Cost**, *we must have* **Upper management controls spending**
- *In order to* **Have a profitable enterprise**, *we must* **Respond quickly to unforeseen developments**
- *In order to* **Respond quickly to unforeseen developments**, *we must have* **Lower management controls spending**

This core conflict arises because you cannot simultaneously have control in both upper and lower management.

## 2.5 The Current Reality Tree

A Current Reality Tree represents the situation faced by an organisation. It has the core conflict as its base and each side of the conflict then links to cause and effect chains, which contain all the symptoms. These chains converge at the top of the tree into major organisational goal violations. The pressure to resolve the goal violation loops back to the other side of the core conflict so the situation becomes a self-reinforcing, figure-of-eight loop that needs to be broken before the problems can be solved.

Figure 3 shows the structure of the CRT, with a larger format contained in Appendix 1. This structure represents and links the issues found in the literature review. Causality logic is used to arrange the issues into chains that provide a logic-based explanation of the interconnections and causality between entities. These are often referred to as "pain chains". The convention is that "if", "and" and "then" are not written into the entities but are implied by the arrows and the connector. This means the entities can be written in such a way that a chain of cause and effects can be connected, with the effect of one entity becoming the cause of the next one.

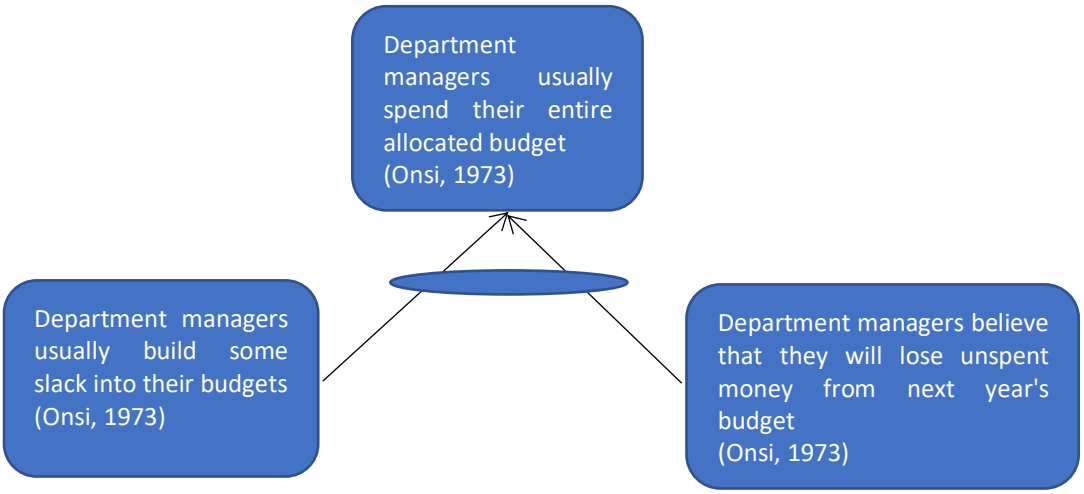


**Figure 2 Example of Causality Logic Diagram - extracted from CRT (Appendix 1)**

For example, the configuration in Figure 2 reads: "If Department managers usually build some slack into their budgets, and Department managers believe that they will lose unspent money from next year's budget, then Department managers usually spend their entire allocated budget."

The structure show in Figure 2 shows the basic building block of a CRT. This causality logic structure needs to be scrutinised using the Categories of Legitimate Reservations (CLR) TOC Tool to ensure it contains robust cause-and-effect logic (Dettmer (1997). Use of the CLR enabled the literature review to be organised and highlighted gaps in the logic that needed further research.


**Figure 3 The Current Reality Tree**

The CRT set out in Figure 3 (and in larger format in Appendix 1) is an attempt by the researcher to show the problems outlined in the literature review fitting together in a logical, causal way which is driven from the base by the Taylor and Steenpoorte (2007) core conflict. When the link between a cause and effect appeared reasonably obvious, then no working assumptions

were added. If there was any doubt about the strength of the causality, then an appropriate working assumption was added by the researcher, so it could be tested.

The CRT structure has the core conflict as its base. From there, it branches out to cause problems which interact with each other, before branches of causality finally converge at the top of the tree into high-level goal violations. In this case, these high-level goal violations are:

- The organisation's strategic objectives are not met (Taylor and Steenpoorte, 2007) or
- The organisation overspends (Taylor, 2009) then
- The organisation underperforms (Onsi, 1973)

If the organisation's underperformance is caused by overspending, this causes pressure to loop back to the core conflict and put control back with upper management. If the underperformance is from not reacting to meet strategic objectives, the pressure loops back to give control back to lower management. The loopbacks set up a figure-of-eight cycle which perpetuates the problems. Every time the organisation gravitates to one side of the CRT, policies designed to protect system goals send it back the other way.

### 2.5.1 Policies

Organisations use policies, both formal and informal, to protect their goals and to lower risk. However, in many cases a policy that prevents a negative outcome for one goal causes an unintended and undesirable outcome for a different goal. For example, to prevent waste there may be a policy that unspent money is returned at the end of the financial year. This causes managers to spend their entire budget, whether they need to or not, so they do not have next year's budget cut. Policies therefore need to be surfaced as part of the analysis so they can be changed or modified if necessary, to complete the solution.

Policies also provide the link from the Core Conflict to the CRT causal branches. The CRT process looks at how each side of the core conflict is protected by policies, how adherence to these policies is measured and the negative consequences if the measures are breached. To avoid negative consequences, managers often behave in ways that cause unintended undesirable effects. All the undesirable effects on the CRT should be traceable back to policies. Included in the CRT, but not as part of the tree structure, the following four policies

appear to give rise to all the undesirable effects on the CRT. As part of the research, the existence of these following policies needed to be tested:

P1. The organisation must stay within its budget

P2. Managers are required to meet their budgets

P3. Managers are responsible for delivering quality customer outputs

P4. Unspent budget cannot be carried forward and will be removed from next year's budget

The way these policies cause the undesired effects is explored below:

Policy 1 - The organisation must stay within its budget

To control costs, there is a policy that the organisation's overall budget must be within certain limits. This causes the organisation to plan, measure and reforecast its budgets. This in turn causes the large amounts of time to be spent on this process. When initial first-round departmental budgets are aggregated, the measure is often over the organisation's limit, so the managers face the negative consequence of having requests cut back. This can be anticipated by managers, who then to add even more contingency to their requested budget, so they still have enough funding to complete their work when budgets are trimmed.

Policy 2 - Managers are required to meet their budgets

To control costs, there is a policy that each manager is required to stay within their budgets, so actual vs budget spending is measured regularly. When managers are required to meet budget, they add contingency to remove the negative consequence of not meeting unpredictable or unexpected expenses. Cooperation between departments can be diminished as each one fears the money will come from their budget.

Policy 3 - Managers are responsible for delivering quality customer outputs

To keep customers happy, there is a policy to ensure outputs are delivered, and managers have KPI's to measure their delivery of these outputs. This can cause managers to focus less on finances and more on delivery so contingency is wasted. They also do not cooperate with other departments for fear of having to spend time and resources on outputs they are not measured on.

Policy 4

To control costs, there is a policy in place where managers who underspend their budget will have the unspent amount removed from next year's budget. Managers therefore spend all their allocated budget, so they are not underfunded next year.

These four policies, which focus on controlling costs and the delivery of outputs to the customers, appear to logically cause all the undesirable effects that appear on the Current Reality Tree.

### 2.5.2 Budgets cause managers to be disempowered

The need to control cost causes pressure to have control of the budgets in upper management, who set draft budgets with a view to limiting organisational spending (Kramer & Hartmann, 2014). This means budgets focus on cost reduction not value creation (Hansen et al, 2003), so the budgets are not strategically focussed (Taylor & Steenpoorte, 2007; Cardos, 2014; Hansen et al, 2003). Control of the budgets in upper management also reinforces vertical command and control, which disempowers managers (Hansen et al, 2003) and the organisation underperforms (Onsi, 1973).

### 2.5.3 Budgets are very time-consuming

When upper management sets budgets, those in lower management are involved less and sometimes add more contingency into their draft budget change requests (Merchant, 1985). Less involvement by department managers also means less peer monitoring which further increases the risk of added contingency (Taylor et al, 2006). Change requests to draft budgets are frequently cut by upper management, so department managers will often add extra in anticipation of cuts (Taylor & Steenpoorte, 2007). This process of negotiation is very time consuming, so budgets are not frequently updated and hence are often out of date (Hansen et al, 2003).

### 2.5.4 Budgets cause money to be wasted

The budget negotiations can be one-sided when some budget holders have more specialist knowledge than upper managers, creating information asymmetry. This makes it difficult for upper management to detect contingency and remove it (Dunk & Nouri, 1998). With so much undetectable contingency, the organisation has less unallocated funds for department

managers to apply for, which increases competition for funding (Taylor & Steenpoorte, 2007), so there are less unallocated funds and managers lose their flexibility to react to changes in the environment (de Waal et al, 2011) and feel disempowered (Hansen et al, 2003). When department managers lose flexibility or the organisation is operating with out-dated budgets, then the organisation's strategic objectives will be harder to meet (Taylor & Steenpoorte, 2007), causing the organisation to underperform (Onsi, 1973). However, handing control of the budgeting process to the department managers causes its own problems.

If the performance of department managers is measured against budget and each department has its own separate deliverables, then department budgets often contradict each other (Hansen et al, 2003). For instance, the marketing department has been told to increase sales and the finance department has been told that costs need to decrease. When budgets are contradictory and different departments have to compete against each other for funds (Taylor & Steenpoorte, 2007), this reinforces barriers and knowledge is not shared between departments (Hansen et al, 2003).

When budget holders operate in a changeable or unpredictable environment, adding extra contingency to the budget protects them against uncertainty (Taylor & Steenpoorte, 2007). Eighty percent of managers surveyed by Onsi (1973) admitted to adding contingency to their budgets. The difference between what is actually spent by an organisation compared with the optimal needed to run it is referred to as "slack" (Kren, 2003) and very difficult to detect (Schiff & Lewin, 1970). Managers are able to build even more slack into their budgets when it is difficult to detect (Merchant, 1985), such as under conditions of information asymmetry (Dunk & Nouri, 1998) or when budgets are aggregated (Onsi, 1973). Managers with a strong personality or good negotiating skills are also able to build in more slack (Onsi, 1973).

When there is known slack in their budget, some department managers do not monitor spending during the year (Taylor & Steenpoorte, 2007). The slack is wasted during the year and if the environment changes late in the financial year, then the department over-spends (Taylor & Steenpoorte, 2007). Even when managers monitor spending closely, they usually have no incentive to return any excess to the organisation and the slack in the budget it is usually spent (Onsi, 1973).

Managers use up the slack as an insurance against missing output targets, in the belief that unspent money will be lost from next year's budget or so that they are seen as reliable forecasters (Onsi, 1973). Often this spending is not long-term focussed (Taylor & Steenpoorte, 2007), so does not help the organisation meet its strategic objectives. Adding contingency to the budget, then wasting it or spending it unnecessarily is one form of "gaming" behaviour. Gaming behaviour is broadly defined as anything that an employee does to emphasise activities they are being evaluated on and/or to ignore activities they are not being evaluated on (Goebel & Weißenberger, 2016).

This consumed contingency, plus any over-spending then becomes part of the actual spending, which is often the basis for the next year's budget (Wildavsky, 1978). Budgetary contingency therefore compounds over time (Taylor, 2003) and Huang and Chen (2009) found that managers who have a positive attitude to slack or a negative attitude to the budgeting process will add even more slack to their budgets. This gaming behaviour by managers to protect themselves by inflating their budget and then spending it unnecessarily, often means the organisation over-spends (Taylor, 2009). The unnecessary, short-term focussed spending also means the organisations strategic objectives are not met (Taylor & Steenpoorte, 2007). Measuring the performance of department managers against budget often means this becomes their primary focus (Taylor, 2009), so they are not focussed on strategic objectives (Hansen et al, 2003). When strategic objectives are not met or managers feel disempowered or the organisation over-spends, then the organisation will under-perform (Onsi, 1973). (See Figure 2 and Appendix 1 for CRT representation)

The prior discussion may be summarised in terms of the high-level organisation goal violations that are linked to undesirable behaviours.

High-level organisation goal violations – a summary:

1) Not meeting strategic objectives is caused by:
    a. Budgets not being strategically focussed
    b. Out-of-date budgets
    c. Knowledge not shared between departments
    d. Departmental spending not being strategically focussed

2) The organisation overspends is caused by:
    a. Slack is added to budgets
    b. Slack is often wasted during the year
    c. Managers sometimes exceed their budgets
    d. Managers usually spend the leftover slack
    e. Spent slack becomes the basis for next year's budget
3) Organisational underperformance is caused by:
    a. Not meeting strategic objectives
    b. Overspending
    c. Disempowered staff
    d. Too much time spent on the budgeting process

## 2.6 The main causal chains of the CRT

Using the CLR as a logic check to place the problems found in the literature review into the CRT format revealed five main threads, with interconnections between them. These threads, or pain chains running through the tree threaten an organisation's ability to perform well and can be summarised as:

- Budgets are not strategically focussed
- Budgets make managers feel disempowered
- Budgets build barriers between departments
- Budgets are time consuming
- Budgets cause money to be wasted

Appendix 2 shows a Communications CRT, which is a simplified version of the CRT, with these causal chains ("pain chains") shown as causal flows, which lead into the three high-level goal violations. (Cox & Schleier, 2010, p. 634) These three goal violations feed back into the core conflict which created them. On the one side, over-spending will tend to force control back towards upper management to reduce costs. On the other side, not meeting strategic objectives and disempowering staff causes pressure to give control back to the department managers who can react better to changes in the environment. The situation becomes a self-reinforcing, figure-of-eight loop that needs to be broken before the problems can be solved, especially the waste that is built into budgets.

Taylor and Rafai (2003) explore the effect the effect on organisational waste when contingency is compounded over time and when each layer of the organisation adds its own contingency. An annual 10% spending increase in a four-layered organisation over a four-year period would theoretically cause costs to rise 112%. Exactly how much slack exists in real organisations is difficult for researchers to detect. Merchant (1985) quotes Leibenstein (1979) and Schiff and Lewin (1968), who estimated slack of between 30-40% of spending and 20-25% of spending respectively. Despite the intervening years, the problem persists, with Elmassri and Harris (2011) proposing that budgetary slack should just be accepted as a risk management strategy, rather than spend time and money eliminating it.

Eliminating contingency from budgets is difficult and the waste caused when it is spent is large, but hard to measure. However, the detrimental effect the problems the budgeting process has on the ability of an organisation to meet its strategic delivery objectives is probably even larger and more difficult to measure. Jensen (2003) believes the budgeting system rewards people for lying, and that solving the problems could give between 50-100% productivity improvements.

To overcome all the problems outlined, Taylor (2009) suggests that any improved budgeting method must have the following characteristics:

- Aligns spending with organisational strategy
- Empowers those who are accountable for meeting budgets
- Fosters communication
- Fosters cooperation
- Maintains and reinforces trust
- Makes time spent worthwhile
- Has fair and relevant budgets in rapidly changing environments
- Makes telling the truth beneficial

  (Taylor, 2009)

These conditions are not isolated, and Figure 4 is the researcher's attempt to show how Taylor's eight desired objectives link together as a Goal Tree.

## 2.7 A TOC Goal Tree Interpretation of Taylor's Findings

A Goal Tree is a TOC tool that uses necessity logic to show the necessary conditions and critical success factors that are a minimum requirement to reach a goal (Dettmer, 2011). Entities that feed into another entity are therefore "necessary but not sufficient" to cause the whole effect. Taylor's list of eight characteristics have been organised to feed towards an overall for where "The organisation has a budget that enables it to react to changes in its environment AND control its costs."

For the organisation to control costs and react to the changes in the environment, it must have a budget that aligns with its strategy. To align with its strategy, the organisation's budget must maintain the trust of its workforce and be relevant when the operating conditions change. Both these require an empowered workforce. The maintenance and reinforcement of trust will require the workforce to cooperate and not be punished for telling the truth. Truth and cooperation require increased communication and viewing the budgeting process as a worthwhile exercise. These conditions are necessary to prevent the negative side effects from occurring in the budgeting process and provide useful criteria for evaluating other methods of budgeting. The tree structure shown suggests that the conditions at the bottom of the tree's roots are the starting point for a successful budgeting process. Since they are currently not satisfied, according to the literature, any proposed solution should start by addressing these three root conditions.

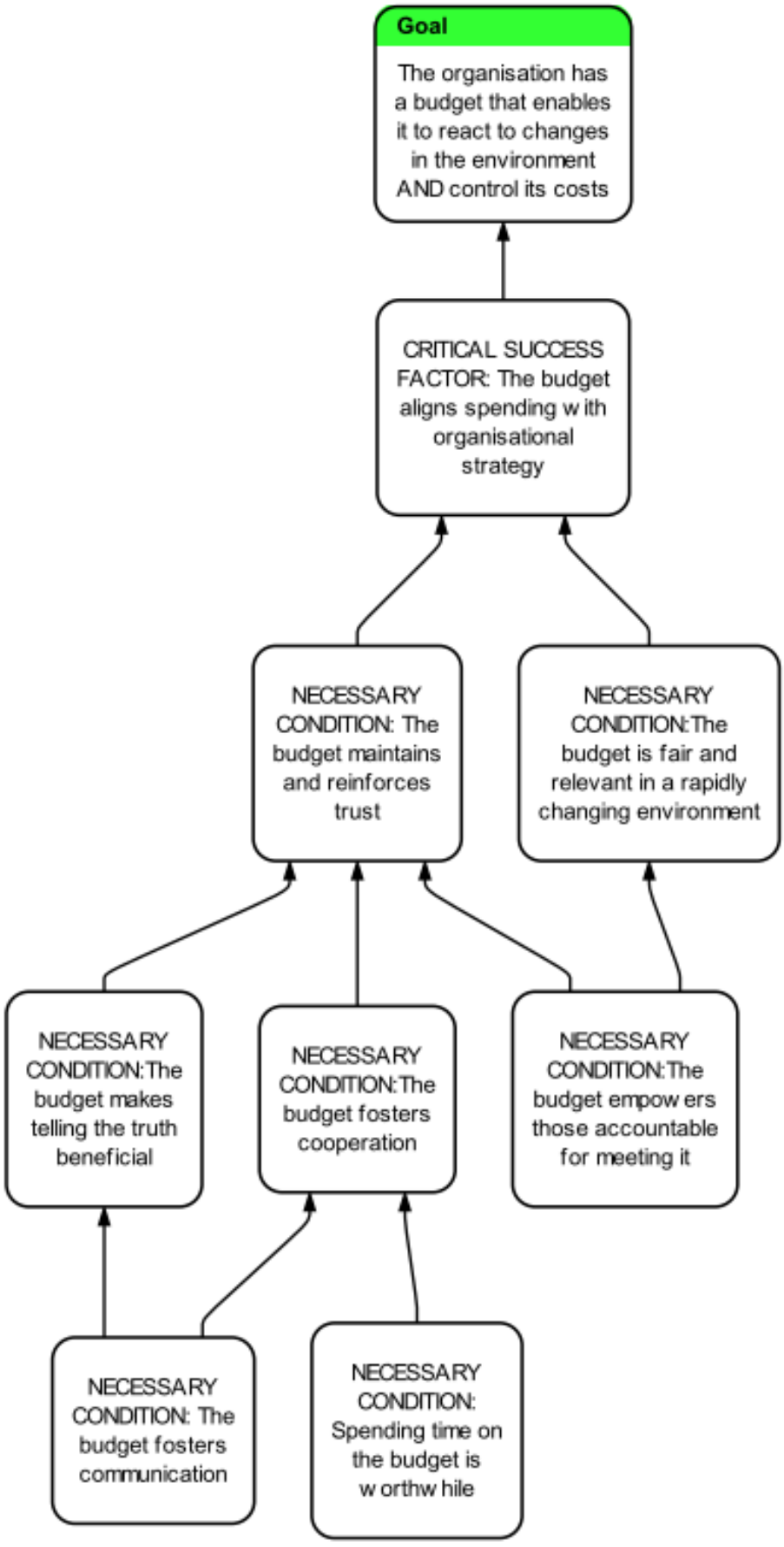


**Figure 4. Goal Tree based on Taylor's (2009) characteristics of an improved budgeting process**

## 2.8 Other budgeting methods

While an in-depth study of alternative budgeting methods is beyond the scope of this thesis, it is useful to look briefly at other ways used to address the shortcomings of Traditional Budgeting. Beyond Budgeting, Activity Based Budgeting, Rolling Forecasting, Continuous Budgeting and Zero-Based Budgeting are all examples of such attempts.

### 2.8.1 Beyond Budgeting

- Beyond Budgeting (BB) looks to replace the Traditional Budget as the primary way to control an organisation, allowing for more responsiveness and flexibility for organisations in a changing environment (O'Grady, Ackroyd & Scott, 2019). It is underpinned by 6 leadership principles and 6 process principles, which include Values/Vision, Trust and Coordination. A traditional high-level budget is often still used for financial control, but management control is decentralised, empowering managers to make tactical decisions that support the organisation's goals (Hope & Fraser, 2003). Instead of being held accountable for budgets when conditions are beyond their control, managers are judged against their peers or retrospectively against similar organisations. Beyond Budgeting is being used successfully by Swedish bank Handelbanken, which benchmarks branches against each other and central support services against alternative external sources (Neely et. al, 2003). New Zealand company Mainfreight has done away with budgets altogether and removed them from its acquisitions. Instead branches are benchmarked against similar ones and the strategy is simply to aim for 15% company profit growth (O'Grady & Ackroyd, 2016).
  The BB approach addresses the problems of disempowerment and lack of flexibility. Benchmarking should have an effect on budgetary waste, but unless there are internal units to benchmark against, neither the managers nor the organisation has any feedback until after the financial period is over. It requires a dramatic culture change in the organisation to overcome departmental barriers, making BB hard to implement (Cardos, 2014). From the examples given in the literature, it appears to be more appropriate to simpler organisations that can be decentralised into separate income generating sub-units. The challenge then becomes coordinating these sub-units towards the central strategy.

### 2.8.2 Activity Based Budgeting

- Activity Based Budgeting (ABB) uses a bottom-up approach, addressing the problems caused when operational departments are forced to fit within budgets compiled high up in the organisation. This method is based on Activity Based Costing. The operational departments build their budgets based on the costs of the activities required to generate the output goals of the organisation.

  ABB overcomes planning problems by creating an operationally feasible production budget before generating the financial budget. It focuses on using resources to achieve organisational goals, make better decisions, have better performance evaluation, as well as decreasing the scope for "gaming" by managers (Hansen et al, 2003).

  It provides focus and empowers managers but is complicated and time-consuming to assemble, meaning it is best used as a "one-off" rather than an annual approach (Neely et al, 2003). Cardos (2014) also identified the focus on product cost rather than capacity management as a weakness.

### 2.8.3 Rolling Forecasting

- Rolling Forecasting updates the budget forecast on a more regular basis than the traditional annual budget (Hansen, 2011). It speeds up the decision-making process and allows for value adding activities to be built in as opportunities arise. While it deals with the problem of budgets not being updated regularly and being out of date, it vastly increases the time and cost as well as requiring specialist knowledge (Cardos, 2014).

  Sivabalan et al (2009) found that 210 out of 331 Australian companies surveyed had not substituted Rolling Forecasts for the annual budget and were using them together for the same purpose of planning and control. The two different approaches were just focussed on different time horizons.

### 2.8.4 Continuous Budgeting

- Continuous Budgeting was developed as a way for organisations to match the conflicting objectives of agility to meet strategic objectives and control to reach

predetermined financial targets. It gives managers the freedom to use their budget in a flexible way to meet organisational goals.

Managers therefore need to have a good knowledge of the organisation's strategy and some slack in their budget to reallocate. Continuous budgeting addresses the problems associated with lack of strategic focus and lack of flexibility. It will help maintain cost control within a budget but does not address the build-up of budgetary slack. CB is an approach which many managers are doing informally with the slack they have built up in their departments (Frow, Marginson & Ogden, 2010).

### 2.8.5 Zero Based Budgeting

- Zero Based Budgeting (ZBB) requires managers to rank spending in order of priority. If finances become tight, then the lower priority spending is cut. ZBB does not assume that last year's activities should be continued. Instead they are examined in a way that enhances upper management's understanding of the organisation and decreases rigidity within it. When the environment changes and spending must be reduced, ZBB clearly signals where the reduction needs to take place.

  ZBB figures are prepared by the department manager and evaluated by the budget committee. This takes power away from the manager, increasing the vertical command and control aspect of an organisation. Interdepartmental competition for funding encourages gaming behaviour from managers to ensure their projects get priority. These projects are not always what is best for the organisation. ZBB also works best in departments or organisations which have a low degree of task uncertainty (Hayes & Cron, 1988). The time-consuming aspect of ZBB makes it less suitable as a regular annual method (Neely et al, 2003). White (1994) argues that ZBB fails because it ignores all previous knowledge and that budgeters must proceed incrementally.

### 2.8.6 Summary of Alternative Budgeting Methods

None of these or any other method of budgeting has taken over completely from Traditional Budgeting, which is still used extensively (Sivabalan et al, 2009). A survey by Neely, Bourne and Adams (2003) found that even though 80% of companies were dissatisfied with their

planning and budgeting processes, Traditional Budgeting persists. Libby and Lindsay (2010) found that 79% of the 346 Canadian and USA companies surveyed use budgets to control their organisations and 94% of them were not planning to abandon budgets. De Waal et. al. (2011) highlight the paradox between the high degree of criticism of Traditional Budgeting and the low number of organisations adopting any different practices. Their analysis concluded that perceived level of dissatisfaction with the Traditional Budgeting process had to be high enough to seek an alternative and to overcome the cost of change. In 1978, Wildavsky (1978) proposed that Traditional Budgeting is inferior for most purposes but is superior overall and this view still appears to be accepted.

A possible reason that the Traditional Budget has not been replaced is that none of the alternatives appear to address the core conflict. By not addressing the core conflict, alternative methods are dealing with only some symptoms and not addressing them all. (See Appendix 3 for Summary Table). The systems approach used by Theory of Constraint Thinking Processes addresses problems by finding and then breaking the core conflict, as it has done in the field of project management.

## 2.9 Project Management

When looking for an innovative solution to a stubborn problem, it is often effective to look for an outside reference environment. Project management is similar to budgeting in some crucial ways. In traditional project management, managers have to make time estimates for tasks that are highly variable and which may behave in a positively skewed manner. Task managers wish to be seen as reliable estimators (Goldratt, 2006) and when they are held accountable for delivering to their time estimates, they build in slack. There is usually no incentive to return any unused slack to the project by finishing ahead of a milestone date, so the unused slack is often wasted early in the task, used for checking and polishing at the end or as an insurance against not meeting specifications (Raz, Barnes & Dvir, 2003). The assumptions behind project management are compared in Table 3 with assumptions found in Traditional Budgeting:

| Project Management | Traditional Budgeting |
|---|---|
| Project task estimates contain a lot of time buffer (Raz et al, 2003) | Department budgets contain a lot of money buffer (Merchant, 1985) |
| Aggregated forecasts are more accurate than individual task forecasts (Otley, 1985) | Aggregated forecasts are more accurate than line items or departmental forecasts (Otley 1985) |
| Task managers will use up excess time buffer, knowing it is there. This means there is nothing left for genuine over-runs (Raz et al, 2003) | Managers will spend excess buffer, knowing it is there. This means there is nothing left for genuine over-runs (Onsi 1973) |
| Work grows to fill the time allotted (Parkinson's law) (Parkinson, 1957). (Taylor, et al, 2011) | In the same way that work grows to fill the time allotted (Parkinson's law) (Parkinson, 1957), spending expands to consume the budget allocation (Onsi, 1973) |

**Table 3. Comparison of project management and budgeting assumptions**

Furthermore, Traditional Project Management assumes focussing on optimising each individual task will lead to total project optimisation. This assumption means the opportunity to aggregate tasks and pass on any time gains is lost. This approach typically leads to projects running over budget, over time and under specifications. Reel (1999) quotes the Standish Group's "The Chaos Study" which found 26% of all software projects fail completely and 46% have time and cost overruns or significant loss of functionality. TOC regards a set of inter-related problems as the symptoms of an underlying core conflict.

TOC identifies the core conflict for project managers as the need for a rigid plan to maintain control, while having the flexibility to react to an uncertain environment (Goldratt, 1997). Challenging assumptions is the key to solving any core conflict. The TOC version of project management is called Critical Chain Project Management (CCPM) and CCPM uses the assumptions from Table 3 to break the core conflict between control and flexibility that causes projects to run over time, over budget and under specification. The project manager retains overall control by setting the total project time, which is divided into two portions. One portion is allocated to the task managers, usually based on an aggressive, 50% chance of achievement confidence level and the other portion becomes a shared total project buffer which the task managers can draw on as they need to react to change. There are no milestone dates, so tasks are completed as quickly as possible, then handed over immediately, as in a relay race. The effect of this is that the positively skewed variability of each task is aggregated,

decreasing overall variability. The gains from early finishing tasks are not lost from the whole project.

Managing the project focuses on the amount of buffer used compared with the progress through the project (i.e. percentage buffer consumption compared with percentage of project complete). If the buffer is being consumed too fast, then action is taken to get back on track (Leach, 1999). The CCPM method is highly effective and allowed Harris Semiconductors to build a new plant and have it running at 90% capacity within 14 months when the industry standard is 46 months. The same method was used by the Israeli aircraft industry to drop their turnaround time on Jumbo Jet maintenance from three months to two weeks using the same method (Leach, 1999) and by Warner Robins Air Logistics Center to reduce the programme depot maintenance on C5 Galaxy aircraft from 240 to 160 days (Srinivasan, Best & Chandrasekaran, 2007). When the assumptions in Table 3 are compared, it is easy to see how this thinking can also be applied to budgeting.

## 2.10 Strategic Budgeting

Strategic Budgeting (SB), sometimes called Global Buffered Budgeting (GBB), (Taylor & Steenpoorte, 2007) is based on applying this Critical Chain Project Management thinking to budgeting. The core conflict may then be broken by having upper management in control of the overall total budget. Buffer is stripped out of individual budgets so that lower managers control their area with limited funds, but they have access to a large aggregated buffer of money. This empowers managers to react when there are changes in the environment.

To access the buffer, the managers may negotiate with each other, forcing them to take a strategic approach and taking advantage of the slack reducing effect of peer monitoring and thus nullifying information asymmetry.

### 2.10.1 The Detroit Study

The method was first documented by Savya Rafai who was working in one of the big three car manufacturers in Detroit, U.S.A. (Taylor & Rafai, 2003). It is based on three assumptions:

1) Budgets are overestimated by managers to safeguard against unknowns, so contain considerable slack
2) Spending will grow to consume the slack and sometimes over-spending will occur

3) Aggregated forecasts are less uncertain and more accurate than individual forecasts

Implementation in the Detroit car company testing department was done in the following manner:

1) Budget estimates were gathered from function heads
2) These functional budgets were cut by 50%
3) The savings were grouped together in a Group Budget Buffer
4) Each function head applied for further funds from the buffer, with each request openly discussed with the other function heads
   (Taylor & Rafai, 2003)

Several effects were noted by Taylor and Rafai. Only 24.8% of the group buffer was spent meaning an overall saving of 37.6% or US$4.7m on the total budget. The money that was spent went primarily to one function when the other function heads agreed the spending was in the whole department's best interests. Spending was cut as different functions worked together on problems. Increased communication meant redundancies were removed when it was discovered that the same tasks were being done by two different functions. The testing department coped easily when a new division head was appointed and there were three successive years of 10% budget trims. However, the long-term outcomes are unknown as the whole department was finally down sized and eventually disbanded. (Taylor & Rafai, 2003)

### 2.10.2 The Netherlands Study

SB was also applied in a municipality in The Netherlands. Original budget estimates were halved and put into a group buffer. Managers requiring more funds applied to their peers who oversee the group buffer. Managers were told not to worry about exceeding their original budget targets because they were being given too little to start with. However, if they put together good proposals to their peers, they could end up with more than they originally asked for. Removing the focus on meeting budgetary targets resulted in better communication, an end to gaming behaviour, managers keeping each other focussed on the overall organisation goals and tight control of spending. It was also fast and simple to implement. It does require ongoing regular fortnightly meetings and a new set of skills to ensure negotiations are fair. Skills training were therefore made available for managers. (Taylor & Steenpoorte, 2007)

(Email communication with Hans Steenpoorte has since confirmed that the initiative did not last 12 months due to a change in mayor.)

### 2.10.3 Computer Simulations

Strategic Budgeting also been explored using computer simulations. Kowalczyk et al, (2006) used a group of 40 managers from a large international manufacturer and ran the experiment over four hypothetical years. Subjects were grouped into either SB or Traditional Budgeting group, with each group further divided depending on whether budget savings were lost or carried forward to the next year. Spending was 26.6% less among the SB group implying that better information flow causes less slack. If funds were lost in the next year, the traditional group spent even more. The SB group appeared to spend more when funds were lost in the next year, but the small sample size meant it was not statistically significant. Further research needs to be done to measure the effect on behaviour of removing unspent funds when SB is being used.

Taylor et al (2011) used another computer simulation over four hypothetical years to compare the behaviour of 46 public school administrators in a Traditional Budgeting situation with that of a strategic budgeting situation. The SB group spent 24.4% less than the TB group, especially when unspent funds were available for future spending. The reason given by more than 60% of SB participants for only spending part of the group buffer was; “I did not need it and it was good for the entire system”.

### 2.10.4 The Benefits of Strategic Budgeting

This focus on the whole system rather than departments, is a result of SB breaking the core conflict described by Taylor and Steenpoorte (2007). It challenges the assumption that upper management cannot control costs at the same time as giving department managers the ability to react to changes in the environment. Under SB, upper management sets the overall budget and department managers decide collaboratively how to spend it. Overall spending is therefore controlled but the department managers retain the ability to react to changes, with peer pressure ensuring they take a strategic view.

Breaking the core conflict has a ripple effect on all the other problems (symptoms) of budgeting. Budgets are not negotiated in detail and managers are not held accountable, so

they are fast to create. Communication and knowledge sharing between departments is increased. Department managers have access to a large pool of money so they can react to changes in the external environment. Since departmental budgets have been significantly reduced, there is no expectation of matching them so performance against budget ceases to be a driver of behaviour (Taylor & Steenpoorte, 2007).

Gaming behaviour and budgetary slack reduce because managers no longer need to budget to protect themselves from uncertainty. Steel and Albright (2004) believe peer pressure is one of the key methods to overcome the games people play with budgets and along with information symmetry further reduces the ability to add slack, keeps everyone strategically focussed and department managers empowered. These three effects of reducing waste, empowering managers, and keeping them strategically focussed is something the alternative budgeting methods appear unable to do.

### 2.10.5 Summary of Strategic Budgeting

SB solves the problems associated with the Traditional Budgeting process by breaking the core conflict. The alternative budgeting and management tools do not appear to address the core conflict, which may explain why they have not become the new standard. However, despite appearing to solve the core conflict and impressive results being published as far back as 2003, SB has not become the gold standard either.

## 2.11 Gaps in the literature

The literature review identifies the problems caused by Traditional Budgeting in a mostly functional, objective way. Surveys and statistics have been the main tools used to investigate the problems, with some underlying causality looked at, particularly with drivers of budgetary waste. Research shows that new methods of budgeting have failed to overcome these problems and behaviours, so no other budgeting method has universally superseded Traditional Budgeting. Indeed, 80% of organisations continue to be dissatisfied with their budgeting process (Neely et al, 2003).

Alternative budgeting methods appear to address some of the problems but do not take a systemwide view or address the core conflict as identified by Taylor and Steenpoorte (2007). Strategic Budgeting does address the core conflict and offers the direction of a possible

solution. However, there is no comprehensive evidence that it is sustainable in practice or will work in New Zealand.

It is noted that investigating the applicability of SB to New Zealand managers requires exploratory research to determine whether New Zealand managers faced the same problems with Traditional Budgeting, whether the core conflict suggested in the literature underpinned all the problems and whether the causality suggested in the CRT that was built from the literature review linked the core conflict with the problems. It is also noted to be necessary to check the assumptions and policies that were needed to construct the CRT.

The reason for understanding the problem is to work towards a solution. SB appeared to answer a significant number of the problems outlined in the literature. This investigation was therefore undertaken to test whether similar problems exist in a New Zealand context and whether the assumed underlying causality of the CRT developed from the literature was relevant to a New Zealand context. This is needed to decide whether SB looked like a solution that was worth pursuing in New Zealand.

# CHAPTER 3: METHODOLOGY

## 3.1 Theory perspective and chosen method

This chapter outlines the researcher's perspective and why the TOC framework was chosen. It continues by stating the research questions and the data collection analysis and testing methods. It concludes with information about the organisations that

When designing, conducting and interpreting research, every researcher has their own set of biases. Understanding their personal perspective and that of other researchers is therefore important. This means knowing the underlying beliefs on the nature of knowledge, the gathering of knowledge and human behaviour. These beliefs determine the approach to research, including the research question itself and how the data is collected and analysed.

Ontology refers to the nature of knowledge and what reality really is. At one extreme, realists take the objective viewpoint that reality exists outside of the brain. The world is not only measurable, but it must be measured to make any sense of it. At the other extreme, nominalists see the world as subjective and believe reality only exists in people's minds.

Epistemology is the theory of knowledge and how it is obtained. A researcher with a positivist view wants to measure hard facts and looks for universal laws. An anti-positivist will try to understand how people seek to make sense of their own personal world, especially the similarities and differences between individuals.

Beliefs around human nature must also be considered. Determinism maintains that the outside structure of our society determines human behaviour. Voluntarism believes it is the behaviour that produces the structure.

The research was inspired due to the frustrations the researcher had when dealing with a local council. The council appointed several local business people onto a trust board to ensure community assets were maintained and services delivered to local citizens following several years of the facilities being run by private business. As a chartered accountant on the trust board, the researcher was given the task of dealing with council accountants to create a suitable budget. When the literature review started to reveal some of the drawbacks of the Traditional Budgeting model, the behaviours of the council finance people began to make sense.

The researcher's experience means this research comes from an objective, positivist and deterministic view. This would usually result in numbers and measures from questionnaires, statistics, and experiments. Here, it is a search for the existence of behaviours and problems, and the underlying logical causality when organisations use the Traditional Budgeting model to plan, control and evaluate their performance.

For finding out why managers behave this way and how they do it, a case study is the preferred strategy (Yin, 2009). There are several reasons for using a case study and

> *"the most important is to explain the presumed causal links in real-life interventions that are too complex for the survey or experimental strategies."* (Yin, 2009)

As a teacher and user of Theory of Constraints methodology and methods, it seemed natural to apply the causal logic from the Thinking Process tools to examine the issues. Prior research has tended to view problems as isolated issues and did not appear to look for underlying causality or links between issues. Even Taylor and Steenpoorte's (2007) core conflict suggestion was not linked to any of the problems outlined in their paper. The TOC Thinking Processes gave a way to link related items, problems, and issues together so the causality could be identified, and assumptions could be tested. It also highlighted gaps in the literature where further investigation could be done. The Thinking Processes are founded on the idea that only by properly understanding the problem and its root cause, will we be able to find a possible solution.

Therefore, the framework chosen was based on the Theory of Constraints Thinking Processes (Dettmer, 2007: Scheinkopf, 2002). This allowed the information from the literature review to be organised as a system leading from the core conflict suggested by Taylor and Steenporte (2007) into a full Current Reality Tree. The objective was to understand the overall problem and how the individual issues tied together. Understanding the problems, the causality and the operating assumptions is a prerequisite to finding the direction of a possible solution that mitigates these issues.

It was necessary to find out if the issues highlighted in prior research also exist for New Zealand managers. Having experience in dealing with organisations that use Traditional Budgeting and rolling forecasting, it was anticipated that similar issues and behaviours would be present. However, the researcher's interests related to factors underpinning managerial

behaviours and how were they able to do it. Understanding what causes undesirable effects offers a means to predict similar behaviours in other organisations. It may also generate further insights into what the solution must fix. Since the problems associated with budgeting come from human behaviour, it was considered necessary to look at the motivation of the people involved in the organisation and the mechanisms they use to shift funds around. It is unlikely this information would be uncovered by survey or questionnaire.

## 3.2 The Study

The study was undertaken to gain a greater understanding of the interactions and underlying causes of the problems and issue associated with Traditional Budgeting. The desired outcome was a comprehensive picture of what managers are doing, why they are doing it and the effects their behaviours have on the whole organisation.

### 3.2.1 Research Question

*What are New Zealand managers' perceptions of the problems associated with the budgeting process in their organisations?*

Answering this question will require an understanding of the problems and an understanding of how they interact. The main research question is broken down into four sub-questions:

1. What are New Zealand managers' perceptions of the specific issues associated with the budgeting process in their organisations?
2. Does the CRT constructed from the literature review accurately reflect the complex interaction arising from the budgeting process?
3. What are the underlying conditions that cause these issues?
4. How are managers able to cause these problems and issues?

The research questions were being used to test the following propositions:

> Proposition 1: The problems with the Traditional Budgeting process cited in overseas literature are the same as those identified by New Zealand managers.
>
> Proposition 2: The Current Reality Tree (in Appendix 1) based on the literature review and Taylor and Steenpoorte's (2007) core conflict also reflects the perceptions of New Zealand managers.

Proposition 3: Strategic Budgeting offers a potential solution to most of the problems with Traditional Budgeting.

### 3.2.2 Research Design and Data Collection

Data collection was by way of field notes and voice recordings taken during semi-structured one-on-one interviews. The interviewer's challenges were listening rather than talking, not adding content, and probing to get them to expand on what they had said. As expected, this revealed some of the cause and effect. Words like "because", "since" and "then" are linguistic connectors that indicate causality. For example, "If I don't spend my budget, then it will get taken off me next year." A semi-formal interview allowed that to develop using questions like:

1. Why is that an issue?
2. What does that lead to?
3. And then what happens?
4. Is there anything else?

This approach allowed the problems and the causality to develop more naturally. It was important to listen carefully for cues that could be expanded and developed by further probing. Silence and non-verbal cues like nodding, helped to keep the interview flowing.

In cases where the interviewee stopped talking before a complete list of problems appeared to have been collected, a selection of questions was formulated based on the literature review problems and the desired effect of the question. They are attached in Appendix 4. Data from these questions and other parts of the interview were collected as field notes and recordings.

Once the interview appeared to have reached a stage where no new information was forthcoming, the Current Reality Tree was explained, using "If….and…….then……." language. The purpose of this was to see if this triggered any more problems and to check the causality that was assumed when the CRT was being built. One of the issues facing researchers is that behaviour is not always consistent, for instance participation in setting budgets has been shown to cause both an increase and a decrease in budgetary slack (Dunk and Nouri, 1998). It is reasonable to assume that participation sometimes causes a decrease in budgetary slack. So, the researcher was interested in whether participation causes the problems "occasionally", "sometimes", "often", "usually" or "mostly". Managers were free to comment

on where they agreed or disagreed with the existence, the causality and the magnitude of the statements in the CRT.

This process tested existence of the problems and the validity of the causality assumed by the researcher. When the CRT has been tested and adjusted, it will become a model to then test the effectiveness of any proposed solutions.

### 3.2.3 Data Analysis

Thematic analysis was done on the field notes and transcribed recordings to compare them against the themes from the literature review and the CRT that was built from that research. Repetition of themes and transitions from one theme to another were recorded. The use of linguistic connectors that indicated cause and effect was also noted.

The analysis process consisted of:

1. Reading and re-reading the notes to build familiarisation
2. Transcribing the recordings
3. Coding the recordings to highlight anything relevant to the Research question
4. Searching for themes within the codes
5. Reviewing the themes to make sure they reflect the data
6. Comparing and contrasting the themes with the Literature Review issues
7. Writing up the themes and tying it back to the literature

Once the themes were identified, they form basic building blocks, so they were compared with the Literature Review issues, and the causality of the Current Reality Tree checked.

### 3.2.4 Validity and Reliability

For the information gathered to be useful, it must be valid and reliable. Validity refers to the conclusions being drawn from interpreting the data. Valid conclusions also need to be reliable, which refers to the stability of the concept, and whether the study and conclusions are repeatable.

To ensure validity and reliability, researchers must remain unbiased in terms of research design and how data is collected, analysed and interpreted. Being immersed in the literature, it can be a challenge to listen for unexpected things and to use the interview process to compare with what is already known. Using multiple interviewees helps mitigate the risk of

bias. Sharing the Current Reality Tree with the managers afterwards was also be a strong back-check that the problems and causality it portrays match those of the managers.

### 3.2.5 Ethics

Managers needed to feel safe in the research environment. They had a right to know what information was being collected, how it was going to be used and what would happen to it afterwards.

This study was therefore completely confidential. No comments are attributed to any individual and all records of conversations will be destroyed two years after the final thesis has been examined. Human Ethics Committee approval 23576 and the other necessary paperwork can be found in Appendix 5.

Rapport was built with the interviewees. Interviews were conducted in private at their place of employment, where they felt comfortable. The interview began with an introduction of the researcher, including background employment and the reason for doing further study. It probably helped that the researcher is a Fellow Chartered Accountant. Chartered Accountants are known to be trusted advisors and operate under a strict code of ethics, with a heavy emphasis on confidentiality.

## 3.3 The semi-structured interview process

The interviews were with managers involved in the budgeting process in New Zealand Not-For-Profit organisations. Not-For-Profits were chosen for three reasons. Firstly, to get alignment between organisations which have some commonalities. Secondly, it was less complicated to deal with just expense budgets and not income budgets. Finally, the researcher had a network of suitable contacts within these organisations.

Ten managers involved with the budgeting process in several departments within two organisations were interviewed to ensure a cross-section of views within the organisations was gathered. The interviews were informal, semi-structured one-on-one interviews. The informal approach was used to gain rapport and create trust. Many of the problems associated with the budgeting process are created by behaviours, some that could reflect badly on managers. To get honesty about those behaviours, the managers needed to feel comfortable, relaxed, and safe. Their confidentiality was guaranteed. The interviews took place at the offices of the two organisations. Hand-written notes were made, and the

interviews digitally recorded. The transcribed recordings were then compared to the problems outlined in the literature review to check for similarities and differences.

The interviews began by asking for background information on the employee's position before asking them if they had any frustrations with the current budgeting process. The interview was concluded by sharing the researcher's CRT to see which parts of it applied and whether they accepted the causality or not.

The objective of the interviews was to find out:

- What underlying challenges and pressures exist with the budgeting process?
- What is being done to mitigate the challenges and pressures with the budgeting process?
- Which of the problems and behaviours of the budgeting process outlined in the literature were present?
- How are managers able to behave in this way?

The semi-formal structure of the interviews allowed the researcher to let natural cause and effect language develop. It was still important to have a back-up list of questions to prevent the conversation stalling and to make sure there was consistency between the interviews. It would be difficult to triangulate the data if not all interviewees were given a similar opportunity to talk about all the topics. The questions, the reason for asking each of them and the effect the question is trying to achieve are listed in Appendix 4.

### 3.3.1 Bonus Workshop

The interviews were generally between 60 and 90 minutes and generated sufficient interest in the problems and a possible Strategic Budgeting solution that it led to an invitation to present a workshop to all 19 of the budget holders in the Senior Leadership Team at SMC. While this was outside the original proposed scope of the research, it was an opportunity to:

- Discuss the budgeting process in a group situation with a larger sample size
- Develop a core conflict to compare with Taylor and Steenpoorte's (2007) core conflict
- See whether the concept of Strategic Budgeting made sense
- Test whether the level of dissatisfaction with the current budgeting system was high enough for them to want to further explore Strategic Budgeting

The points raised in the workshop and the post-workshop feedback have been incorporated into the findings.

## 3.4 Overview of the Case Study Organisations

### 3.4.1 Case 1: Small Medium Council (SMC)

The council has elected members and employees who are mainly responsible for the delivery of water, roading and waste management for two towns, along with the surrounding rural district. The population of the area is growing and according to the Council website, is expected to rise from its 2017 population of 29,100 to over 48,000 by 2050. This 34% projected growth is putting pressure on council staff to future proof the infrastructure as they transition from being a small council to medium sized. The council faces pressure from rate payers wanting more services and facilities without increases in rates.

The organisation is run by a Chief Executive with two main departments. Under "Planning and Community Relations" is the service delivery area. Business Support includes Information Technology and Human Resources. SMC turned over $105m and employed 277 staff in the year to 30/6/18.

Budgeting is a complicated affair, governed by statutory requirements and based around a ten-year Long-Term Plan (LTP). This is broken down further, with the first three years of operations and capital expenditure being calculated more precisely than the later years. Multi-year projects have to be broken down into the 12-month financial year budget, which is finalised well before the start of the July financial year. Further reforecasting is done in November and February with monthly actual vs budget reports also collated and distributed.

**Interviewees**

SMC1 – Department Manager

SMC2 – Department Manager

SMC3 – Senior Accountant

SMC4 – Department Manager

SMC5 – Department Manager

### 3.4.2 Case 2: National Research Organisation (NRO)

The National Research Organisation (NRO) is mandated by central government legislation to collect a production levy from primary producers. Strategy Investment Leaders (SIL's) in the organisation allocate money to projects according to industry objectives, such as increasing production, grower welfare, animal welfare and lowering the environmental impact of the activity. Key Indicators of Success (KIS's) are projects that link to these objectives. The conflict between increasing production and lowering environmental impact is one of the themes that emerges in the interview process.

Some 60-70% of NRO's funding goes to a fully owned subsidiary, where general managers and project leaders carry out the actual work. The subsidiary also gets direct funding from Government research funds as well as income from commercial companies for running independent trials and the testing and ranking of things like seed lines. The other 30-40% of NRO's funding goes to a national disease prevention initiative and to outside research organisations. For the year ending 31/5/18, Levy income was $66m and other income was $17m, for a total of $83m.

Long-term planning aligns with the strategy and the monetary budgeting is done annually, with 2 reforecasts during the financial year. It is expected that project managers are very close to March reforecast targets at year-end. Budgeting is made more complicated by the multi-year nature and the variable start dates of many projects, along with the influence of climate.

**Interviewees**

NRO1 – Senior Accountant

NRO2 – Senior Accountant

NRO3 – Project Manager

NRO4 – Project Manager

NRO5 – Junior Accountant

# CHAPTER 4: THE INTERVIEW FINDINGS

## 4.1 Introduction

In this chapter, data from the interviews is examined to determine whether the claims made in the literature that were used to construct the CRT, apply in the two case organisations in the NZ environment. First the high-level findings relating to the five main criticisms highlighted in the literature review are presented, followed by the evidence in depth that led to these findings. The examination of evidence is organised around the five main criticisms of budgeting found in the literature, before examining the causal relationships in the CRT and testing the core conflict. Finally, insights not found in the literature are highlighted, along with the challenges that cause some of the problems and the mitigation strategies used to overcome the problems.

### 4.1.1 High-level summary of findings:

The semi-structured interviews gave several insights into some of the behaviours described in the literature review. The research underpinning the literature review focussed on the undesirable effects that were present when a Traditional Budgeting process was used, without looking very deeply at the causes of these problems. What the interviews and workshop highlighted was the challenges that the organisation and its managers faced when trying to deliver on their objectives. The managers' challenges were primarily around the unpredictability of costs and the negative consequences of getting it wrong. Managers were looking for certainty that they could deliver their services and projects, whereas the organisations' Leadership, consisting of governance boards and senior management, were looking for certainty around budget and cost. They were aware of these challenges and were taking many steps to mitigate them. Often, the undesirable effects outlined in the literature emerged and unintended side effects of these mitigation steps. Table 4 provides a high-level summary of the findings with regard to the main criticisms of budgeting.

| Main Criticisms of Budgeting | SMC | NRO |
|---|---|---|
| Managers feel disempowered | A sense from managers that the process restricted their ability to deliver | Too much time taken away from research work |
| Budgets are not strategically focussed | Very clear that this was a problem, especially from the workshop feedback. | No indication from NRO interviewees that this was a problem |
| Budgets take too much time to build and reforecast | Strong agreement from all interviewees that this is an issue | Strong agreement from all interviewees that this is an issue |
| Barriers are built between departments | Very clear that this was a problem, especially from the workshop feedback | A sense that not everyone knew what other researchers were doing and how all the research projects fitted together |
| Budgeting causes waste | Strong evidence that contingency is built into budgets. Less clear on what proportion of this is spent compared with that returned to the organisation. | Strong evidence that contingency is built into budgets. Less clear on whether this is spent or returned to the organisation. CFO felt there was enough was to run another 5% research projects. |

**Table 4 Summary of findings regarding the main criticisms of budgeting**

The summary in Table 4 shows that overall, those interviewed in both organisations found budgets to be time consuming and wasteful. The feelings of disempowerment were less obvious. The council budgets were less strategically focussed and barriers between departments were present. These were less of a problem for NRO. Both organisations used re-forecasting as a mitigation strategy so that budgets were not out of date. These main criticisms of budgeting will now be examined by using evidence from the interviews to check the existence or otherwise of individual problems and issues from the literature and their causal interrelationships postulated by the researcher in the CRT (Figure 3 & Appendix 1).

## 4.2 The Current reality tree and Undesirable Effects

The CRT was used as a tool to organise the problems and issues described in the literature review in a logical way that sought to represent the causality and the interactions amongst them. It also highlighted gaps in the causality and pointed the way towards further review of the literature. The data analysis examined the interview notes and transcripts to see how many of the policies, assumptions and problems in the CRT were present. While the full CRT

is in Figure 3 (and a larger format in Appendix 1), Figure 5 shows a schematic labelling of entities to act as a road-map when discussing the findings in details. The problems and issues found in the research are numbered, with the lower numbers being closer to the core conflict and the higher numbers closer to the organisational goal violations. Policies are labelled “P”, working assumptions labelled “ASS.” and the Core Conflict entities labelled “CC”. The analysis of the data collected begins at the base and follows the causality up the tree, and discussion has been organised according to the five main causal chains of budgeting:

- Budgets can make managers feel disempowered
- Budgets are often not strategically focussed
- Budgets are slow and time-consuming to build
- Budgets build barriers between departments
- Budgeting causes waste

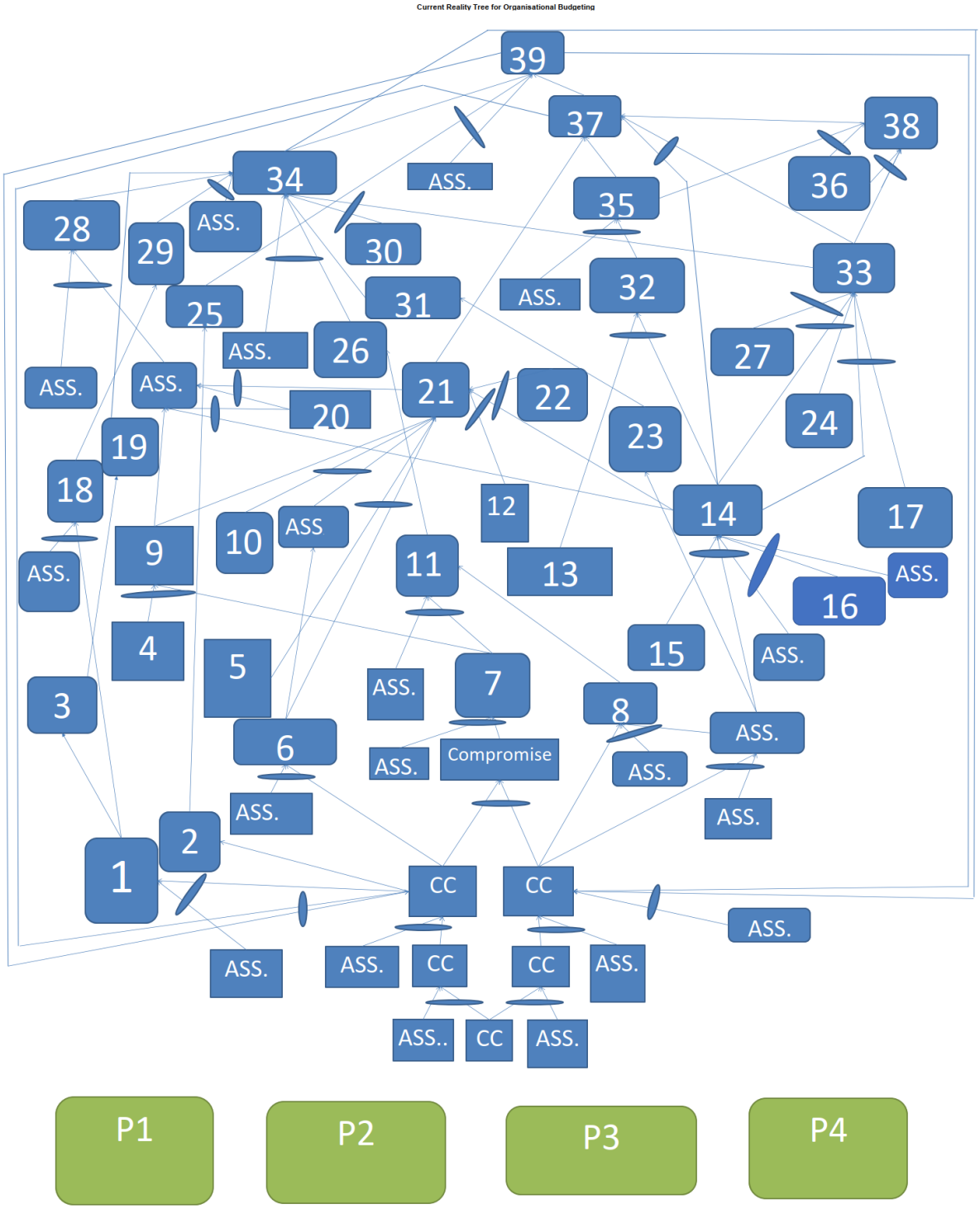


**Figure 5 CRT numbering guide**

### 4.2.1 Policies

Organisations use both official and unofficial policies to avoid risk. Often, a policy designed to fix one problem inadvertently causes undesirable behaviours resulting in a different problem. Any solution to these undesirable behaviours needs to address that policy to be effective,

hence the importance of understanding an organisation's policies. The problems reflected in the CRT could all be explained by 4 policies:

P1. The organisation must stay within its budget

P2. Managers are required to meet their budgets

P3. Managers are responsible for delivering outputs

P4. Managers who are under budget lose that money from next year's budget

Both organisations have limited ability to increase their income, so there is a real focus on keeping costs within budget, both at an overall organisation level and for each budget holder. Managers are also responsible for delivering outputs although it was less clear whether they were allocated less money from their next year's budget if they were under. When underspending was caused by delays in capital or research projects, funding is able to be carried forward in both organisations.

*"we can push funds into next year, hold them over." (NRO4)* – referring to research projects

In contrast, operational underspending is not able to be carried forward and the reforecasting process is designed to capture this. As both organisations use the previous year as a basis for creating budgets, it is likely that the underspending would reduce the next year's budget. This may be offset by the negotiation process and iterative nature of building budgets.

The policies themselves all seem reasonable when viewed in isolation, but the conflict between them goes a long way towards explaining the behaviours that cause the problems with Traditional Budgeting. Needing to deliver outputs and stay within budget causes pressure for managers to add contingency. Needing to deliver outputs next year and not wanting to lose budget causes pressure to spend all the contingency. One accountant interviewed at NRO believed that other policies in place prevented waste by stopping people from spending money just to use up contingency.

*"there are policies in place, so that can't happen." (NRO5)*

*"I can't just start paying more to the people because I've got extra funds. I can't just start travelling international….for the sake of it…..the polices are in place so that can't happen." (NRO5)*

An SMC accountant also noted policies that were believed to prevent waste.

*"no discretion is given to managers to reapply the funds (made) through savings." (SMC3)*

*"large operational savings, all that gets captured as part of the forecast process." (SMC3)*

In contrast, the Council CEO believes that there is clear evidence that budget holders are spending contingency they have built into their budgets. Likewise, another accountant at NRO was not confident that policies or reforecasting were preventing waste.

*"so right now, we're running between 120 and 130 projects. What happens if every project goes and puts contingency in the system? Well I could probably go and run another 5 projects with that contingency." (NRO1)*

*"we're running over 100 projects and if everyone has the same behaviour and the same petty cash (contingency) on the side, then you get some pretty big numbers." (NRO1)*

Having heard about the ways various staff are ensuring they can meet budget, the assertion from less senior accountants that policies prevent the manipulation of figures seemed naïve. Overall, it appears that the policies required to control cost and ensure deliverables are met were causing the wasting time and money, as well as disempowering staff, causing siloing and a disconnect with strategy.

### 4.2.2 Budgets can make managers feel disempowered

#### 2/ Vertical command and control is strengthened (Hansen et al, 2003)

There was no real evidence that the budgeting process was strengthening vertical command and control. Neither organisation uses the type of top-down approach where upper management are setting the budgets for individual managers. It would be expected that when vertical command and control is strengthened, it will cause lower-level managers to feel disempowered.

#### 25/ Managers feel disempowered (Hansen et al, 2003)

Yee and Wong, (2014) propose that disempowered employees will add more slack to their budgets and budget holders can be disempowered in several ways. When council managers submit their department's first draft for next year's proposed annual budget, these are

aggregated with all other departmental budgets. Usually the combined budget exceeds what upper management has targeted and this results in cuts. Having worked out how much funding they need to run their departments, managers are then allocated less but are still accountable for performing all their departmental functions within that budget. This can lead to a sense of disempowerment, which in turn can drive managers to deliberately inflate their initial draft in anticipation of being cut.

Allocating almost all the organisation's funding prior to the start of the financial year also causes problems for managers. If no further funds are available and opportunities or threats arise during the year, managers are powerless to react. This is the second main source of disempowerment.

A Top-Down approach to budgeting was used by NRO to broadly allocate how much is going to be spent in each area and then project managers have to work within their allocation.

> *"Strategy Investment Leaders… they allocate funds, how much they think it will cost to run a project. They do the allocation based on how much money we're going to get in….then the general managers and project leaders build up their budgets using that information that they've got to try and come within the margin that they think they should have." (NRO2)*

This approach can be disempowering for the project managers if they believe the funding levels are unrealistic to enable them to complete their work. Another way that budget holders can be disempowered is when changes are made during the year and they are on the receiving end of budget cuts. An example of this was when a new role was created during the financial year at the Council.

> *"the Council's also cut some money out, $120,000, to get some horsepower behind it (the new position)" (SMC4)*

While the conditions exist for budget holders to feel disempowered, none of the interviewees specifically mentioned the word "disempowered", although many shared their frustration with not being able to deliver their tasks in a timely manner. There are several possible explanations as to why this word was not mentioned:

- The managers have found ways to ensure they have enough funding

- The managers interviewed were senior, so it was not an issue for them. (A manager who was not interviewed used the workshop forum to vent frustration about being told of a budget cut via email.)
- The word "disempowered" is emotive and admitting to being disempowered implies you are not doing your job

### 4.2.3 Budgets are often not strategically focussed

CC/ Pressure to control costs (Taylor & Steenpoorte, 2007)

Both organisations have a fixed income and are under pressure to keep costs down. NRO's main source of income is dictated by farm production and is beyond their immediate control and the council is "*constantly being driven to reduce the rates" (SMC1).*

> *"the pie really doesn't get any bigger. It's all much the same and the Council would probably like to reduce the size of the pie." (SMC4)*
>
> Decisions on whether or not projects proceed need to *"look at the timing and potential rates impact" (SMC2)*

1/ Upper management sets the draft budgets with a view to limiting organisational spending (Kramer & Hartmann, 2014)

This approach was not used by either organisation. While the Strategy Investment Leaders at NRO controlled the allocation of money, it was done in consultation and the project managers were not just given an amount of money an expected to deliver specified outcomes. If the draft budgets were primarily focussed on limiting spending, then there would be less focus on value creation.

30/ Spending decisions made are often not long-term focussed (Taylor, 2009)

The time horizon on spending focus varies considerably, depending on whether the process is at the planning or reforecasting stage. The Council begins the budgeting process with a 10-year Long Term Plan. The first three years are planned in further detail. Both organisations begin to prepare budgets for the following financial year more than 6 months before it starts.

Managers are being asked to make judgements on final budget status more than 18 months in advance. Once the financial year has begun, there are two rounds of forecasting, both

aimed at refining the likely position at year end. The focus drops to 8 months ahead, then 4 months ahead.

The responses from the interviews did not make it clear whether spending decisions were long term focussed or not. The workshop shed more light on this with a strong feeling that budgets were not strategically focussed and therefore also not long term focussed. Particularly the comments that:

> *"business plan comes after budget"* and *"budget is not strategically focussed"* confirm Taylor's undesirable effect as being present in New Zealand.

3/ Budgets focus on cost control not value creation (Hansen et al, 2003)

There was no evidence from any interviewees that their budgets related back to the organisation's overall strategy. The emphasis was on keeping control on costs.

> *"a temporary solution rather than spending $30m on a future-proof, long term solution" (SMC1)*

This portfolio project manager also spoke about presenting a $24m project to the Council and being asked: "*What can you give us for $20m?" (SMC1)*

19/ Budgets are not strategically focussed (Taylor & Steenpoorte, 2007; Cardos, 2014; Hansen et al, 2003)

There was a big difference between the two organisations. Those interviewed at the Council did not specifically speak about a lack of strategic focus in the budgeting process. However, the one-day workshop conducted with council budget holders gave a different picture. Participants came up with the following issues:

- *Business plan comes after budget*
- *Budget is not strategically focused*
- *Decision making is in the wrong place*
- *Rationalisation of "winners"*
- *Statutory focus*
- *Focus on project not strategy*
- *Different perceptions about what a surplus means*
- *Different perceptions about how money should be spent*

These comments give a strong indication that the budgets are not seen as part of the organisation's strategy but more as a cost control measure.

NRO is very much a research project-based organisation. All projects are approved by Strategy Investment Leaders and so all budget decisions are based on how well the project fits into the current strategy before the project is approved.

> *"that's all linked to the industry strategy, but it's about making sure upfront we're being efficient with our funds and hitting the right projects with the right value." (NRO1)*

Hence, it would appear that the extent to which budgets are strategically focussed depends heavily on the organisation itself.

23/ Department managers are often focussed on meeting budget (Taylor, 2009)

Managers are usually required to keep within budget and both organisations measure actual vs budget monthly. The reforecast process means that managers have an opportunity adjust their budgets as the financial year progresses. The managers interviewed were certainly conscious of the need to keep an eye on their budgets.

> *"you don't want to be too far under, and you don't want to be too far over". (NRO3)*

31/ Department managers are often not focussed on strategic objectives (Hansen et al, 2003)

When the managers' performance is measured against budget, then there is pressure to focus less on meeting departmental and organisational targets. This was not mentioned by any of the interviewees as being an issue although it is certainly possible. The conflict is illustrated in Figure 5.

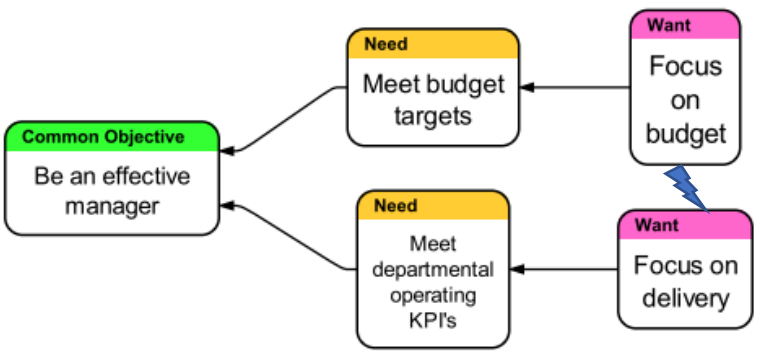


**Figure 5 Managers' delivery vs budget cloud**

The time taken with the budgeting process could also impact the ability of managers to deliver services and projects.

### 28/ Managers lose the flexibility to react to changes in the environment (de Waal et al, 2011)

The Traditional Budgeting process allocates almost all funds at the beginning of the financial year. The interviews confirmed that most allocated budget is spent, and any excess is only returned to the organisations at year end. This means that managers lose the ability to react if the environment changes during the year and they have not built in any contingency.

> "*it's pretty much once a year that we can apply for CAPEX (capital expenditure), which is pretty ridiculous." (NRO3)*

The workshop participants also commented on the lack of flexibility:

- *Changes are required as we go (too rigid currently)*
- *Things change (variability)*
- *No money for important things*

It is likely that managers feel pressure to add contingency, so they do not lose the flexibility to react to changes in the environment.

### 34/ The organisation's strategic objectives are not met (Taylor & Steenpoorte, 2007)

It was difficult to determine whether or not organisational strategic objectives were being met. This seemed to be partly because those interviewed were not privy to governance level strategic discussion so were not in a position to comment. It may also be that those interviewed were not very clear about what their organisational objectives were. The following comment was made:

> *"Council will release their annual report and say it had a surplus, but it (won't say it) hadn't done some of its projects" (SMC2)*

This seems to imply that strategic objectives are not being met but are being delayed.

### 8/ Budgets are often contradictory (Hansen et al, 2003)

Goldratt's Theory of Constraints at its core, acknowledges the ubiquity of conflict and tension. Departmental efficiency vs organisational efficiency, local optima vs global optima, and many of the examples given in this paper. Evidence of conflict between measures was found in

many of the interviews. Even getting clear on the overall strategy of an organisation and how that relates to your department can make it difficult to budget. There can even be tension between strategic objectives like economic outcomes vs environmental outcomes for example. NRO is an organisation with a mandate to levy farmers based on production and apply the funds to industry research. There has been pressure in the past to increase production, but now this must be balanced with concerns about the environment and farm sustainability. More research is therefore being directed to environmental work, as well as farmer and animal welfare. Increasing production puts these objectives at risk and has the potential to raise competition between various researchers for funding.

> *"you might have a mix between an economic and an environmental index to try and get the best of both worlds." (NRO3)*

This confusion is compounded when there is no clear policy on commercial responsibility.

> *"sometimes the board sort of says, we want to make profits to build a buffer and other years they sort of say, we can't be seen to be having too much of a buffer." (NRO2)*

Compromising between following rules and having flexibility to adapt to changes and uncertainty was evident.

> *"so, we need to be smart around meeting those obligations (we are bound by) but also around providing the best flexibility for the project manager" (NRO1)*
>
> *"we're also audited on our Asset Management Programmes so if we depart from them too much then we've got to have good justification for that." (SMC4)*

Projects within an organisation need to carry enough contingency to cover the uncertainty, but not so much that they get rejected as too expensive.

> *"but again, you can't preload it with a whole lot of contingency, otherwise they're going to go, nah, too expensive". (NRO1)*
>
> *"the risk is the project does not proceed because the costs seem too high and it's not affordable." (SMC2)*

One of the organisations employs a lot of scientists, which creates tensions between commercial outcomes and the science itself.

> *"pushing things out (findings) vs, I suppose, the credibility of the science" (NRO3)*
>
> *"some of these scientists have got their own pet projects and they are wanting to get papers published" (NRO2)*

Even the difficulty with getting budgets finalised by managers who also have their other duties to attend to, creates tensions.

> *"you can't say to project managers, well, I need you to sit down for a day and do your budget." (NRO1)*

The difficulty getting managers to complete budgets in a timely manner caused one of the finance team leaders to comment that:

> *"it creates quite a bit of internal tension within the finance team itself"* and it *"becomes quite a tense environment to work in." (SMC3)*

5/ Department managers who participate less in the budgeting process sometimes build in more slack (Merchant, 1985; Dunk & Perera, 1997)

All the people interviewed and at the workshop were heavily involved in creating their budgets. Therefore, it is not possible to comment on whether this effect is seen in New Zealand.

### 4.2.4 Budgets are slow and time-consuming to build

18/ Budgets are Time Consuming to Create (Hansen et al, 2003)

One of the criticisms found repeatedly in the literature is that budgeting process is a time-consuming process (Hansen et. al, 2003; Jensen, 2001; Taylor & Steenpoorte, 2007). Budget holders need to know they can deliver the services or projects they are responsible for and the governing bodies of organisations need to know what the final cost will be. Satisfying both these needs becomes a very time-consuming exercise.

Managers and accountants in both organisations compiled their budgets, which were then consolidated at a higher level. The individual budgets go backwards and forwards several times before being finalised. Accountants expressed frustration at the delay in getting information back from managers. Budget holders felt that preparing budgets was extra work when there is still pressure to complete their normal duties.

Once budgets are finalised, there is the ongoing reporting during the financial year. Both organisations also reforecast during the year, one quarterly and one 4-monthly. Managers therefore spent further time reassessing their ongoing spending and predicting their likely year-end result. During interview process, both the accounting teams and the budget holders said the budgeting process was time consuming and viewed this in a negative way.

From the accountants:

"*It's a time-consuming process and the benefits of it, the accuracy of it, is usually chucked out the door before year-end, so it's sort of hard to justify the big spend." (NRO2)*

*"even the time for my guys to compile a full consolidated budget is ridiculous. We should be spending that time, half that time, analysing it." (NRO1)*

*"this is to try and streamline the process because of the significant amount of time invested" (SMC3)*

and from the managers:

*"coming up with a 10-year plan is a time-consuming process" (SMC2)*

*"so, we reforecast the process all the time anyway" (SMC1)*

The Traditional Budgeting process has three main parts:

1) Compiling the forward plan.
2) Turning the plan into forecasts as the year progresses
3) Monitoring actual progress against the plan and the forecast

Both organisations plan their budget prior to the beginning of the new financial year. In the case of the Council, this may be up to 10 years ahead. The further out the plan is, the more uncertain it is. Attempts are made to get the most current figures/ more accurate, especially the next 12 months. Both organisations also have reforecast rounds during the year. The objective was to see where surpluses were likely and to allow potential deficits to be highlighted. In theory, this enables the reallocation of funds during the financial year.

Both organisations also track progress monthly. This consists of comparing "budget" spend with "actual" spend to enable the organisations to track spending, find out where the differences are and make changes in the way they manage the processes. It appears that all three parts of this process are time consuming. From the original compiling of both the long-term and 12-month plans:

*"what does take a long time is the LTP, the Long Term Plan, budget preparation process, especially if there are a lot of new projects that haven't previously been signalled, that requires a fairly significant investment in time." (SMC3)*

*"reviewing everything everyone's putting through and making sure that each one is budgeting where we want to see it" (NRO2)*

*"there are three levels of reviews that the budgets need to go through." (SMC3)*

through the reforecasting process:

"*we also have 2 four monthly forecasts, reforecasts that we do during the year, so the annual plan essentially kicks off the budget for the year, then in October we do a four monthly reforecast, essentially like a mini annual plan process. So, we go back, review the budgets, what's changed….and then we do another one in February and that's our final forecast for the year." (SMC3)*

*"reforecast it….one's in November and one's in February but we're moving towards a process where do more of, 2 months, 3 months, quarterly" (NRO5)*

and the regular reporting of progress:

*"for each board report, for each meeting, we're producing for the board the actuals vs budget and we have monthly meetings with the general managers, initially against budget, then we do against forecast." (NRO2)*

Attempts are made to minimise budgeting work where possible. Organisations generally have limited resources so not all projects can go ahead. Obviously, the work that goes into preparing a proposal and budget for a project that does not proceed is wasted. Efforts are therefore made to minimise the work done prior to projects being rejected.

*"so we do this ….very high level…. 'is this a good project and does it align with strategic direction. Yes or no?' And if it gets past that…then you do the business case to support it." (SMC1)*

Despite the huge amount of time that goes into the budget process, there was a feeling from the accounting staff that even more would be desirable.

*"you actually want to carve out quality time to assess your assumptions, review your forecasts, make sure you give due consideration to all the factors" (SMC3)*

The time-consuming nature of budgeting was emphasised during the workshop, was present in both organisations, and is a barrier to frequently updating budgets.

### 29/ Budgets are not updated frequently (Hansen et al, 2003)

Budgets need to be update frequently enough to allow the control costs and to prevent surprises. According to Hansen et al (2003), the time-consuming nature of budgets means they are not updated frequently. Whether or not this is true in the New Zealand organisations interviewed depends largely on the definition of "frequently". Both organisations reforecast the budgets during the financial year in order to better predict the likely end of year result.

NRO reforecasts quarterly (NRO3) and SMC *"have 2 four monthly reforecasts that we do during the year". (SMC3)*

Lack of up-to-date budgets is a problem for the organisation and managers if they do not know how much spare cash there is to react to environmental changes or opportunities. If four monthly reforecasts are sufficient to allow this, then the budgets are being updated frequently enough.

However, the impression from interviewing the managers is that they were reluctant to declare funds unused and return them to the organisation until they were absolutely sure the funds were not required. So, by the time funds are being returned, it is too late for many opportunities. So, if the need for frequently updated budgets is driven by the need to reallocate funds during the year, then it would appear that even with 2 reforecasts the process is flawed and surpluses are not returned to the organisation in a timely manner.

> *"we've got a culture where we just give it back, but only give it back at the end of the year" (NRO1)*
>
> *"excess dollars are usually (given) back (in the second-to-last month of the financial year) so too late to reallocate" (SMC3)*

If reforecasting was an effective process to accurately predict the end of year position, then this should mean that the budgets are relevant and not out of date. However, the fact that budgeting information goes out of date so quickly was cited as an excuse used by scientists to not spend time up front trying to accurately budget.

> *"oh, they'll be out of date before I've even started" NRO1*

It could certainly be argued that amount of re-forecasting done by both organisations is the best indication that they acknowledge that budgets get out of date very quickly. It highlights the tension between having accurate up-to-date budgets and the time it takes to rework them every three to four months. Time that could be used to actually deliver the outputs the budgets are funding.

There was certainly the perception that the time lag between initial budgets being done and capital or research projects beginning meant that figures were out of date. Once the project began and was part of the reforecasting process, then the figures were more up to date. The pressure on managers to balance their time between delivering other tasks and having accurate budgets that will save time explaining variations later, is illustrated in Figure 6.

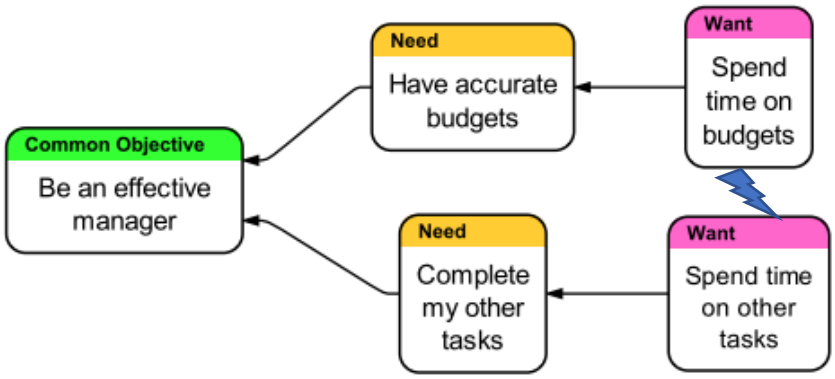


**Figure 6 Time conflict cloud for managers**

### 4.2.5 Budgets build barriers between departments

7/ Departments usually have to compete for budget allocation (Taylor & Steenpoorte, 2007)

Both organisations have limited potential to increase income and when demand for this money is greater than the supply, there will be competition. There was clear evidence from both organisations that this was the case.

> *"everyone wants a bigger chunk of the pie so obviously, the more money they have, the more manpower they can invest or accept proposals, the easier it would be to achieve the objective." (NRO5)*

This relatively fixed income means "*departments are contending for the same rate-payer dollar" (SMC5).*

> *"the competitive element is to provide the best business case and making sure that is in alignment with council objectives.' (SMC3)*
>
> *"you've got competing needs" (SMC2)*

Competition can be further enhanced by the nature of the work being done. Some budget holders work in areas which are seen to be relatively discretionary compared with others.

> *"it's very much discretionary money and… I guess my area of work has always been in that place, so we do have to fight quite hard to get resources around that" (SMC4)*

11/ Barriers between departments are reinforced (Hansen et al, 2003)

The competition between budget holders was a major theme in the workshop:

- Silo (budgeting and planning)

- Competition
- Competing with other teams
- Tension between support and service (hard to know the needs)
- Re-work
- No access to surplus in other areas
- "Stealing" from each other
- "Borrowing" from each other
- Tension between departments

Note: the terms "stealing" and "borrowing" referred to the practice of moving money between project budgets by a senior manager.

One manager commented that the departments were *"reasonably insular" (SMC2)* and another said:

> *"I think silos, they were very much silos, I think that's particularly in the service delivery area, so we've got roading, waters and community facilities sitting there together." (SMC4)*

The finance departments in both organisations commented on the difficulty of trying to finalise budgets when other departments were busy working on their own deliverables.

> *"you can't say to project managers, well, I need you to sit down for a day and do your budget." (NRO1)*
>
> *"(the finance team) can be a pretty tense place to be" (SMC3)*

Following the SMC workshop, participants gave further anonymous written feedback including:

> *"I believe there is a lot of tension between teams"*
>
> *"I have frequent complaints about the service currently being provided"*
>
> *"I think the session brought to the surface some simmering tensions between the service delivery areas and the support areas"*

### 26/ Knowledge is not shared between departments (Hansen et al, 2003)

It seemed that the competition for funding reinforces interdepartmental barriers, causing a reluctance to share resources and knowledge. In NRO, there seemed to be confusion over how all their projects fitted into the overall strategy.

*"there's a bit of a disconnect between where, how each one (project) fits in." (NRO2)*

*"it was kind of hard to know where all the projects fitted, and they were kind of siloed a bit" (NRO3)*

It was explained that there can be several similar research projects happening at the same time. This creates a need for collaboration to ensure that the same work is not being replicated, thus using up funding unnecessarily. It was apparent that there were barriers between departments that both organisations are trying to negate. SMC1 had recently been appointed to a newly created role, that of *"a group manager that's sitting there, that's forcing collaboration." (SMC4)*

The group manager heads up a department to coordinate major capital works between existing departments. This is to stop instances such as a resealed road being dug up two weeks later to have a new watermain laid.

*"certainly, there's a lot more work been done at (Council) recently to coordinate that and to make sure jobs, projects are lined up" (SMC2)*

NRO is developing a programme approach to break down the silos between different projects.

*"what we call a programme approach is supposed to break down those barriers a bit." (NRO3)*

*"there's quite a bit of work at the moment to try and get a sort of programme approach to lump projects together to sort of show them how they are meeting the strategy targets and things like that." (NRO2)*

How effective both these approaches will be remains to be seen. The fact that the organisations are taking steps to break down barriers between departments indicates that this problem, as outlined in the research, is found in these organisations. The explanation proposed here is that these barriers between departments are caused mainly by the competition for funds. A different explanation for why knowledge is not shared between departments was also offered:

*"people are so busy they tend to do things in isolation" (SMC2)*

By itself, being busy does not appear to be enough to cause the competition and barriers found.

### 4.2.6 Budgeting causes waste

ASS/ There is unpredictability of expenses when setting budgets (assumption)

The unpredictability of expenses is one assumption that helps explain the undesirable behaviours and problems with the Traditional Budgeting process. The board or Council, the CEO and upper management do not want surprises partway through the year, so they require certainty moving forward. This means no explanations required for ratepayers, levy payers, or in a commercial setting, the shareholders.

For a manager to give certainty, the obvious thing to do is to build in a buffer so that they are covered for a worst-case scenario and can give assurances that spending will not exceed a certain level. The managers interviewed all worked for organisations with a fixed levy-type income. Therefore, they do not have the option of increasing revenue by driving up sales. The only way for a manager to get more money is to reallocate within the organisation or to borrow from outside, which is not a preferred option.

The interviews confirmed that department managers and project managers are operating in an uncertain environment. Uncertainty comes from the scope of the task, the cost of the task and the timing of the task.

> *"there can be a lot of uncertainties, especially when you are developing a schedule, sometimes it's 18 months before it's actually going to happen and you have to be quite broad in what you are trying to do and you don't have proper quotes and you don't always have a decision on how things are going to be done so you can't say how much it's going to cost." (NRO3)*
>
> *"because communities change and some of them quite considerably, year by year, so it is hard to plan." (SMC4)*
>
> *"that's hard to budget, how much casual labour I would need. And it's always a tentative number." (NRO5)*
>
> *"the cost can increase a lot if you go beyond your first statement of work or quote." (NRO3)*

For projects that span more than one financial year, time is another variable. Both the scope of work and prices can change.

> *"they are set up a year in advance and all sorts of things could happen in the meantime" (NRO3)*

*"uncertainty of when it's going to start and when it does, you're like "I need it done now" because there's all these milestones to achieve" (NRO3)*

One budget holder (SMC2) who was responsible for capital projects used the example of building a bridge to illustrate the complexity and uncertainty of trying to put together a formal budget. So much is unknown including:

- How much it will cost to purchase the land?
- What the Geotech reports will say about the foundation requirements?
- What type of design is going to be suitable?
- Whether or not there are any historical features in the way that have to be bypassed?

This example also has the added problem of trying to predict costs 3 or more years into the future, which is necessary for large scale capital projects. Contractors are reluctant to give precise, fixed quotes and commitments when approval is months away and a start date even further away, because prices and assumptions can change significantly over that period. The same uncertainty is seen in database and website development.

*"they just love adding on, (features) beyond the original scope and that just adds up really quickly." (NRO3)*

The NRO needs some very specialised skills to carry out much of their research. Getting the capability into the organisation is often difficult. They run a scholarship programme for post-graduate students to try to build up capability in specialist areas. A difficulty arises in trying to predict where the shortfall in capability might be.

*"so, identifying, for instance, this might be a growing area, so in 5 to 10 years we are going to need scientists leading those teams for instance, or we literally just need more scientists in this area." (NRO4)*

Departmental managers are being held accountable for their performance against budget, so they feel pressure to add buffer to their budgets. It is safe to say that both organisations have to deal with a lot of unpredictability in both the capital projects and operating conditions, which in turn affects their budgets.

And despite all the unpredictability, the accountants still expect high levels of accuracy.

*"so, if a project spans 6 years of a 10 year plan, we would say we want a level of accuracy of 5% for the first 3 years and then we get a bit more generous in the latter years." (SMC3)*

With so much unpredictability, it is clear why there is pressure for managers to take action to protect themselves.

15/ Extra funds protect against uncertainty (Taylor & Steenpoorte, 2007)

Adding extra funds as a protection mechanism is implied by these quotes from interviewees:

> *"you've got to have contingency, there's always going to be something there" (NRO1)*
>
> *"we need to budget based on….the worst case scenario." (NRO4)*
>
> *"so you've got to be pretty conservative….you want to put in big buffers when you are doing that sort of project" (NRO3) (referring to IT projects)*
>
> *"there's a buffer in there – correct" (NRO5)*
>
> *"when you build a road, you always put in a contingency figure, it might be 5, 10% to allow for unknowns" (SMC2)*
>
> *"I think contingencies are a reality when you have projects" (SMC4)*

There is little doubt that adding contingency is perceived to be a way for managers to protect themselves against the uncertainty of having to predict costs in advance of work being done. Figure 7 illustrates the conflict that managers face when they are committed to delivering on KPI's, yet have to follow process.

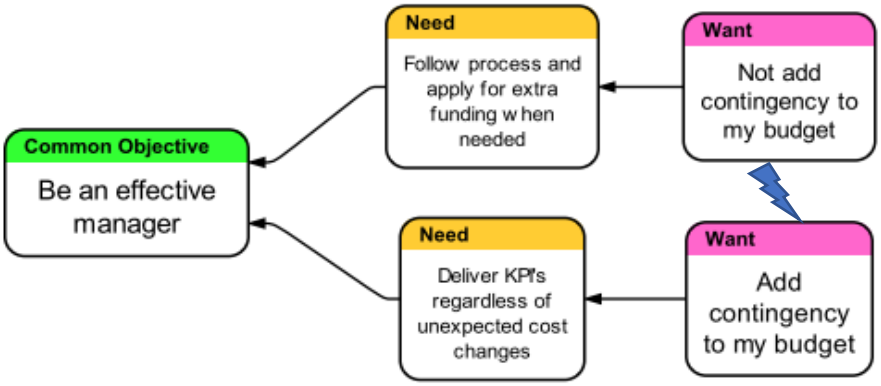


**Figure 7 Managers' conflict for dealing with changing costs**

16/ Getting approval for extra funding during the year is time consuming (Taylor & Steenpoorte, 2007)

When circumstances change during the year and all funds have already been allocated, then it becomes difficult to complete projects and deliver services. Applications for significant extra funding during the year will need to come from borrowing or the deferral of another project and usually require approval from the governance of the organisation, with no guarantee it will happen. When councils or boards meet monthly and matters are sometimes deferred

because of time constraints, this inhibits the ability of budget holders to react in a timely manner. Contingency is therefore added to avoid the slowness of upper management or boards to react to the need for more funding. Managers at both NRO and SMC have said the process of reapplying for more funding puts pressure on them to add contingency so they can react to changes as they occur.

*"there's a lot of time to get approval for more capital expenditure or operating expenditure". (NRO3)*

A council manager justified adding contingency in the following way:

> *"It's the impact of not having to go back to (the governing body) every step of the way, so we don't have to wait 2 months to get it on an agenda. Contracts and engineering doesn't live that way." (SMC1)*

The pressure to make sure sufficient funds were in the budget was further emphasised by the comment:

> *"this really is a planning exercise for two years, so we've got one and a half years to go before we get another bite of the long-term plan." (SMC4)*

### ASS/ Department managers' performance is measured against budget (assumption)

Being measured against budget performance was not specifically mentioned in the literature, but to the researcher, it appears to be a necessary assumption to cause other undesirable behaviours. People respond to performance measures (Otley, 2007) and when budget holders are accountable for their performance against budget, then they will feel pressure to act. However, the actions they take may cause unintended effects.

Both organisations prepare monthly actual vs budget reports.

> *"a monthly one happens every month" (NRO5)*

It seems reasonable to assume this puts pressure on the managers to meet budgets.

### 14/ Department managers usually build some buffer into their budgets (Onsi, 1973)

When managers are being judged on their performance and costs are unpredictable and extra funds protect against unpredictability, it is not surprising that 80% of managers interviewed by Onsi (1973), admitted to adding buffer to their budgets. When managers are being judged on their ability to deliver a budget, then this extra buffer protects managers when future conditions are uncertain. (Taylor & Steenpoorte, 2007).

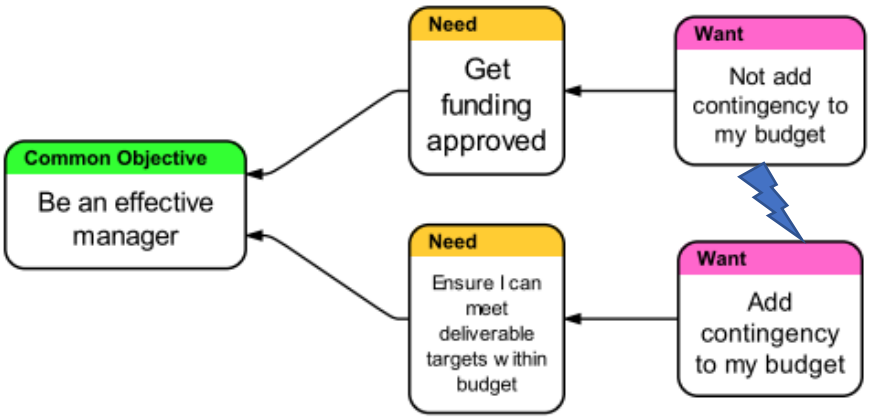


**Figure 8 Managers' contingency conflict**

The conflict is illustrated in Figure 8 and the interviewees talked about the need to add buffer to both operating and capital project budgets.

> *"you've got to have contingency, there's always going to be something there" (NRO1)*
>
> *"we need to budget based on….the worst case scenario." (NRO4)*
>
> *"so you've got to be pretty conservative….you want to put in big buffers when you are doing that sort of project" (NRO3) (referring to IT projects)*
>
> *"there's a buffer in there – correct" (NRO5)*
>
> *"when you build a road, you always put in a contingency figure, it might be 5, 10% to allow for unknowns" (SMC2)*
>
> *"I think contingencies are a reality when you have projects" (SMC4)*

The workshop also highlighted the building in of contingency with participants talking about:

- *Gaming budget process*
- *Waste*
- *Building in contingency*
- *Holding budget to manage risk*

Overall, the feeling was that managers were adding contingency to their budget requests. The literature review uncovered different ways managers are able to increase the amount of that contingency.

### 12/ Managers are not treated equally (Onsi, 1973; Merchant, 1986)

Some managers are treated differently to others and this inequality enables them to build in more contingency. In particular, there is evidence that more contingency is able to be built in by:

- Strong negotiators (Onsi, 1973)

- Top performers (Merchant, 1985)

The interviews and workshop showed that better negotiators are able to build in more contingency:

> *"your success depends so much on the upfront negotiations, negotiating more time than you think you'll need, more money than you think you'll need and I suppose less specs……what you do negotiating that schedule is what really sets you up." (NRO3)*

One of the accountants interviewed said:

> *"some managers are better negotiators, so they are better able to build more (buffer) in there" (NRO5)*

The Council workshop also drew the comment that "s*ome are better negotiators so they "win"".*

There was certainly a perception among the interviewees that budget holders are not treated equally, although whether it is due to them being top performers was difficult to establish.

> *"The general managers probably have an opinion on who can spend the money, so they'll probably let them do the budget and others they'll look at them a lot more closely." (NRO2)*

The inference was that some managers could not be trusted to build a tight budget and to responsibly redirect any surpluses they built. There was an implication that some budget holders may be at an advantage when making applications due them having a better knowledge of the process and who was approving requests.

> "*I'm a bit unsure who I'm trying to keep happy when I'm developing project plans….so there's a bit of uncertainty as to who I'm actually doing the budget for and who has the purse-strings." (NRO3)*

This adds further complexity to the already difficult task of predicting expenses.

### 20/ Information asymmetry makes it hard to detect slack (Dunk & Nouri, 1998)

Information asymmetry occurs when one side in the budgeting negotiation has specialist knowledge which the other side is unable to dispute. This makes it very difficult for an accountant to critique an engineer's or IT manager's budget.

The Corporate Accountant at NRO did not see information asymmetry as a problem. Many of the Senior Investment Leaders *"have worked as scientists for decades already, so they have*

*been through from that area, they know the things on the ground" (NRO5).* He felt that there would not be enough of a difference in knowledge for information asymmetry to be a factor. It was a different situation at the Council where councillors have to approve multi-million dollar projects.

> *"they have no idea how we have made up the budgets and that we're actually sitting with plus or minus 30%." (SMC1)*
>
> *"spending 15 minutes to approve $24m and 45 minutes arguing about $20k on super-loos" (SMC1)*

Neither the councillors nor the accountants advising them, have the technical knowledge to challenge the engineers who are submitting the budget. There was definitely no sense of fraud or dishonesty. The 30% contingency was just being added to large capital projects because of very high unpredictability and the difficulties with getting further funding once the project was underway.

4/ Budget change requests are frequently cut by upper management (Taylor & Steenpoorte, 2007)

The budgeting process in both organisations is done through a negotiation process, although it was noted that *"budget requests can be knocked back" (SMC5)* and getting extra funding once the financial year has begun is difficult. Those interviewed did not seem to regard upper management cuts as a problem. This may be because they were mainly at a senior level and at the workshop, one participant used it as a forum to vent about being notified of a budget cut via email.

9/ Many budget managers add extra slack in anticipation of cuts (Taylor & Steenpoorte, 2007)

There is less pressure to add contingency to budget requests in anticipation of cuts when this happens infrequently, which probably explains why there was no evidence of additional slack in either organisation.

22/ Managers build more when it's difficult to detect. (Merchant, 1985)

Merchant (1985) found that managers build in more contingency when it is difficult to detect. The assumption is that if it were detectable, then the managers would not be able to build in

as much contingency. Certainly, there was evidence that contingency could be built in by the budget holders.

> *"you can still have fat in the system and get away with it and nobody will actually know" (NRO1)*

On larger projects with a high level of uncertainty and limited technical knowledge within decision makers, it was clear that more contingency was being added when it was difficult to detect.

### 10/ Peer review lowers slack (Taylor et al, 2011)

SMC budgets were reviewed by the accountants rather than peers, so it was not possible to make an assessment of this. An accountant at NRO (NRO5) said that those approving the budgets were often experienced ex-scientists who had worked in that area and knew how things worked on the ground. The perception was this ensured that there was little chance of contingency being added and confirmed the finding of Taylor et. al (2011).

### 6/ Department managers often have low personal involvement in budgeting (Merchant, 1985)

Low personal involvement in the budgeting process has been shown to cause an increase in the amount of slack the manager adds to their budget. All the managers in both of the organisations interviewed had high involvement so this problem was not present.

### 21/ Some managers add even more slack to their budgets (Merchant, 1985)

This refers to budget-holders adding extra contingency for a number of reasons. These are having superior negotiating ability, being in anticipation of budget requests being cut, inability to have extra contingency detected, lack of peer review and lack of personal involvement, all of which have been discussed previously.

### 33/ Department managers usually spend their entire allocated budget (Onsi, 1973)

The interviews provided evidence that contingency is being added to both operating and capital project budgets. If contingency is being added to the budget and all the budget is spent, then the contingency must have been spent. This may occur during the year or show up as a rise in end of year spending to use up unspent contingency. Comments from

accountants in both organisations indicated there was evidence of this end of year spending to use up buffers.

> *"I have been noticing a trend where towards the end of (the financial year), we have a massive spike with capital and operating (expenses)" (SMC3)*

An NRO accountant confirmed there was a bulge in spending at year and said:

> *"there's probably a little bit of money used for the sake (of it)" (NRO2)*

This end of year spike may not always be using up just the excess contingency. One NRO project manager talked about being an "*autumn spender" (NRO3),* meaning that he held back spending on discretionary expenses, so he had the flexibility to spend where it was required. (Autumn being the end of the financial year.)

This explanation was echoed by an SMC accountant who felt that the end of year spike was caused by budget holders being conservative during the year, which somehow legitimised the spending.

> *"when they've gone through the majority of the year and realised we've covered all the basics…once the second forecast is out of the way, we are full steam ahead." (SMC3)*

These responses seem naïve when weighed up with other comments. It begs the question, that if the spending was not needed during the year, why was it suddenly needed at the end? Evidence from other interviewees indicates that contingency is definitely being spent where it should not. An accountant at NRO believed the organisation could be running another 5 research projects with the contingency that was being built into budgets and subsequently spent. At the SMC workshop, one manager talked about departments redirecting their own budget savings. For instance, unscheduled road resurfacing will be done to use up savings from a different roading project rather than being returned to the organisation. The workshop participants spoke about manipulating the budget to use contingency or defer spending in the following ways:

- *Transferring money to next year (deferring)*
- *Carrying forward expenses*
- *Spending surges*

- *Resistance to transparency (keeping targets vague)*

At the workshop, the Council CEO expressed his frustration that they have a $100m budget and every year they seem to come in between $250-400k under budget. This is within 0.4% of budget. Knowing how much guesswork and unpredictability goes into producing the budgets, he believes this is evidence that budget holders are both adding in contingency to their budgets and then spending up to their allocated limits.

Onsi (1973) identified 3 reasons why this unnecessary spending of buffers occurs:

1) To ensure that funding levels are maintained for the next financial year
2) To maintain credibility as a reliable forecaster
3) As an insurance to prepare to meet next year's targets

Another possible explanation is that managers feel entitled to use any savings they make or any contingency they have negotiated. Sivabalan et al (2009) comment that "budgets embed knowledge of spending expectations". While they refer to upper management's expectations, once budget holders have negotiated an annual or project budget there seems to be a sense that it is now "their money" to spend as they see fit. It is possible this sense of entitlement helps budget holders justify some of their negative behaviours.

An NRO accountant feels there is a certain sense of entitlement to spend the budgeted amount of money, whether it was absolutely needed or not. The feeling was that that if a certain amount of money is available for a project, people can find a way to build a budget to consume it all, even though it may be possible to get acceptable research results for less. He also noted a tendency for project managers to spend surpluses towards the end of the financial year as it becomes apparent that they are under budget.

17/ Department managers believe they will lose money from next year's budget (Onsi, 1973)

The interviews showed some evidence of spending to maintain funding levels:

> *"there probably are some people who try to spend right up to their limits to justify it for next year as well" (NRO3)*

An Accountant at the council said that operating budget surpluses were not able to be carried over.

*"so, the philosophy around operating budgets is if you don't spend it, you've lost it. It doesn't get carried over." (SMC3)*

It was unclear whether next year's budget was trimmed to reflect the underspending, but the budget holders appeared to believe that this was the case. At NRO, some of the Ministry of Primary Industry funding is *"use it or lose it" (NRO5)* which adds pressure to use it. On the other hand, it should be noted that for some other multi-year projects, there did not seem to be any problem in carrying forward funds.

*"we can push funds into next year, hold them over." (NRO4)*

*"so, they can bring it forward….and we call it income in advance or income in arrears." (NRO5)*

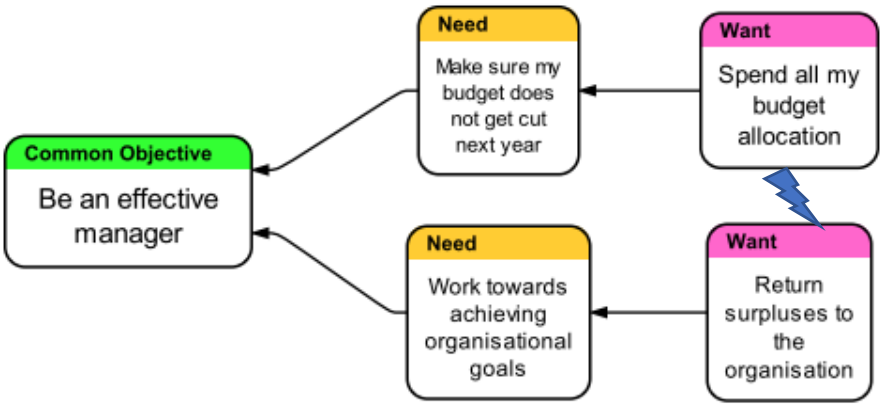


**Figure 9 Managers' budget retention conflict cloud**

Figure 9 shows one of the conflicts for managers facing a surplus.

27/ Department managers wish to be seen as reliable forecasters (Onsi, 1973)

The conflict around being seen as a reliable forecaster is shown in Figure 10 and was evidenced by the following comment:

*"if you are being judged, you don't want to be too far under and you don't want to be too far over, but if you are spending it all, then it means you are on target and achieving that goal" (NRO3)*

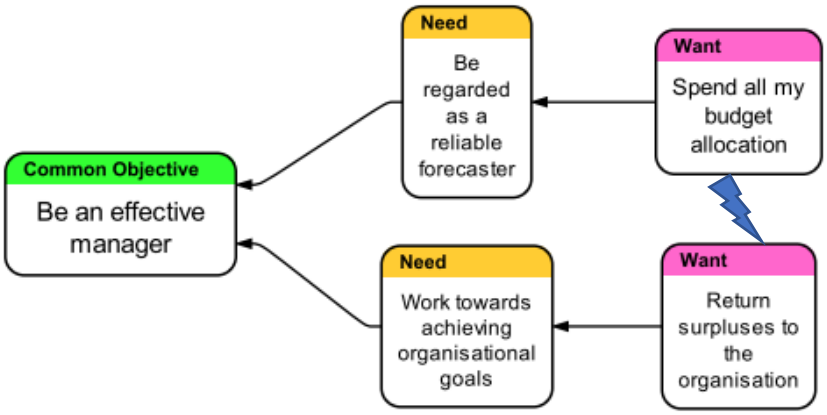


**Figure 10 Managers' reliable forecaster cloud**

The appraisal process in NRO included matching the final result with the March forecast.

> *"also, we are being appraised based on how well we assess our situation (in) February/March with what it is at the end of May" (NRO3)*

One manager was asked if people would ever deliberately pitch a project low to make sure it got accepted, the reply was:

> *"I've never seen that. I think you'd get burnt if you did that, you've got to try to get it right within the parameters that you've got" (SMC2)*

It appears from this statement that there are serious negative consequences for underestimating the cost of a project and being seen as an unreliable forecaster.

### 24/ Spending money is a way to ensure next year's targets are met (Onsi, 1073)

Onsi's third reason for spending is to make sure that next year's targets can be met, by pulling work forward:

> *"I have given back substantial amounts in the past and I think it's time to push more things to get done" (NRO3)*

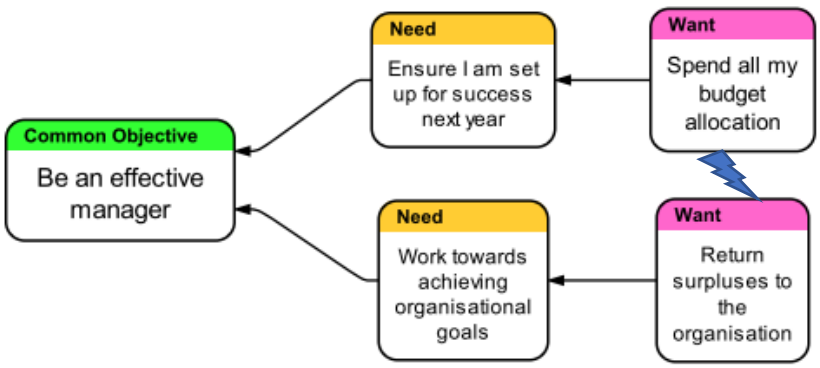


**Figure 11 Managers' success next year cloud**

Figure 11 shows the third conflict facing managers.

13/ When there is known slack in the budget, managers do not monitor spending during the year (Taylor & Steenpoorte, 2007).

When managers know they have built in contingency, they can become complacent with their financial management (Taylor & Steenpoorte, 2007). An accountant for the National Research Organisation admitted that once work starts on a project, there is less emphasis on the project budget: *"financial management of your project becomes less of a priority. That's all it does, it takes the focus off from the financial point of view." (NRO1)*

When the manager increases focus on delivering the scientific research rather than the financials, this job is often left to the finance team. With so many projects to oversee and monitor, some wastage is inevitable. It is certainly possible that having contingency causes even less focus on financial management.

32/ Budgetary slack is sometimes wasted during the year (Taylor & Steenpoorte, 2007)

If the focus comes off financial management and contingency gets used up early in the financial year, then it is not available when it is needed. So, despite there being contingency built in, a project or operational budget can still run over budget. The interviews gave no direct confirmation or denial that contingency was being wasted during the financial year.

36/ Budgets are often based on incremental changes to last year's budget (Wildavsky, 1978)

While some methods of budgeting like Zero-based budgeting and Activity Based Budgeting will start the budget with a blank page each year, Traditional Budgeting tends to use the previous year as a starting point. Both organisations used this approach for their operating budget and rely heavily on historic data as a starting point for capital and research project budgets.

> *"there's an assumption that budgets will remain the same" (SMC2)*
>
> *"because it's assumed that operating and maintenance budgets will be reasonably consistent and will carry on" (SMC2)*

38/ Budgetary slack often compounds exponentially over time (Taylor & Rafai, 2003)

If there is any contingency in operating budgets and an annual uplift is applied across the whole budget, then the contingency will receive the uplift too. Over time, the dollar value of

the contingency grows exponentially. Both organisations use last year's operating budget as their starting place for the new budget.

*"it (the budget) is inflated, inflation is applied by the finance team" (SMC2)*

If there was budget contingency in last year's figures and an uplift is applied, then any contingency would also receive the uplift.

35/ Some departments will overspend their budgets (Taylor & Steenpoorte, 2007)

There was no evidence of departmental overspending in either organisation due to the reforecasting process, which means the target changes during the year.

37/ The organisation overspends (Taylor, 2009)

Neither organisation reported overspending. The reforecasting process, together with shuffling of projects and other work during the year ensures this is unlikely to happen.

### 4.2.7 The CRT review

The first part of the data review was to establish which of the problems found in the literature review were present in the organisations. The next part was to test the relationships and especially the causality chains proposed in the CRT. During the interviews, in general, the CRT was greeted with head nodding and laughter and seen as reflecting the conditions in both organisations. The core conflict made sense to the interviewees and no-one picked out any of the suggested relationships as not being causal. As outlined in the previous section, due to reforecasting and high manager participation in the process, the following specific CRT entities were not substantiated in the organisations:

1. Vertical command and control is strengthened (Hansen et al, 2003)
2. Upper management sets draft budgets with a view to limiting organisational spending (Kramer & Hartmann, 2014)
3. Department managers who participate less in the budgeting process sometimes build in more slack (Merchant, 1985; Dunk & Perara, 1997)
4. Many budget managers add extra slack in anticipation of cuts (Taylor & Steenporte, 2007)
5. Budgets are not updated frequently (Hansen et al, 2003)
6. Peer review lowers slack (Taylor et al, 2011)
7. Departments overspend (Taylor & Steenporte, 2007)

8. The organisation overspends (Taylor, 2009)

As part of testing the CRT causality, the core conflict also needed to be examined.

### 4.2.8 Testing the Core Conflict - The Council Workshop

The workshop to explore Strategic Budgeting (SB) as a possible option for the council was an opportunity to test the core conflict proposed by Taylor and Steenpoorte (2007). Theory of Constraints derived solutions are based on breaking the core conflict rather than attempting to address individual symptoms. For SB to be successful, it needs to break the core conflict that was the originating cause of all the undesirable effects being experienced by the Council, so it was important to test the one proposed. After a brief introduction, the managers were invited to talk about the difficulties they experienced with the current budgeting system.

There was a real sense of frustration from many of the participants and this forum was an opportunity for them to vent. There was much more venom than in the one-on-one interviews. The lack of cooperation and the barriers between departments came through much more clearly, with a sense that some budget holders were guarding their own resources, both human and financial, so excess funds were released too late in the year to be useful to other departments, if they were even released at all.

Table 5 contains a list from the SMC workshop of the matters creating the frustration budget holders had with Traditional Budgeting (arranged into themes):

1. Competition between budget holders
    - Silos (budgeting and planning)
    - Competition
    - Competing with other teams
    - Tension between support and service (hard to know the needs)
    - Re-work
    - No access to surplus in other areas
    - “Stealing” (resources) from each other
    - “Borrowing” (resources) from each other
    - Tension between departments
2. Time consuming
    - Time consuming
    - Too hard
3. Uncertainty
    - (Budgets are prepared) Too much (far) in advance
    - Elongated predictions
    - New demands all year round
    - Funding is scarce
    - Cost is unpredictable
    - Limited information to support decision making

- Uncertainty of project approval

4. Budgets are not strategically focussed
    - Business plan comes after budget
    - Budget is not strategically focused
    - Decision making is in the wrong place
    - Rationalisation of "winners"??
    - Statutory focus (compliance focus, not strategic)
    - Focus on project not strategy
        - (referring to an individual project)
    - Different perceptions about what a surplus means
    - Different perceptions about how money should be spent
5. Problems with the budgeting process
    - Varying levels of engagement with financials
    - Artificial time frames
    - Historical budgeting (add %)
    - There is an overhead "ether"
    - Activity based costing
    - Some are better negotiators so they "win"
6. Lack of flexibility
    - Changes are required as we go (rigid)
    - Things change (variability)
    - No money for important things
7. Building in contingency
    - Gaming budget process
    - Waste
    - Building in contingency
    - Holding budget to manage risk
8. Manipulating the budget to use contingency or defer spending
    - Transferring money to next year (deferring)
    - Carrying forward expenses
    - Spending surges
    - Resistance to transparency
9. Problems specific to council
    - Community backlash
    - Political interference (Councillors)
    - Ring fencing (some income must be spent on certain areas, e.g. water rates)
    - Statutory requirements (pressure)
    - Changing rate payer demands
    - Public consultation process?
    - Dealing with legacy issues
    - Public perception
10. Negative consequences
    - Beatings (time and stress spent explaining variations)

**Table 5 Summary of budgeting issues from the workshop**

The next step was to test the Core Conflict surfaced from the literature by building a new one from this list of frustrations. In order to find a root cause for these frustrations, the Three-Cloud Method was used (Cox & Schleier, 2010, pp. 755-757). Participants were invited to choose 3 different issues that appeared to be unrelated. They chose:

- New demands all year round

- Silo (budgeting and planning)
- No access to surplus in other areas

We then used the Evaporating Cloud tool to construct three conflicts.

*Issue 1*

*Accept or not accept new demands during the year*

*Conflict:*

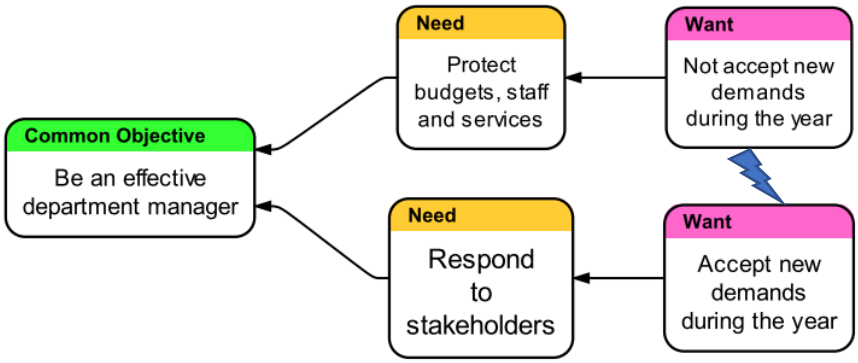


**Figure 12 Managers' conflict for new demands**

Note: By "Protect budget, staff and services", the budget holders are meaning deliver what was promised and agreed at the start of the financial year.

*Issue 2*

*Budget and work in silos or not budget and work in silos*

*Conflict:*

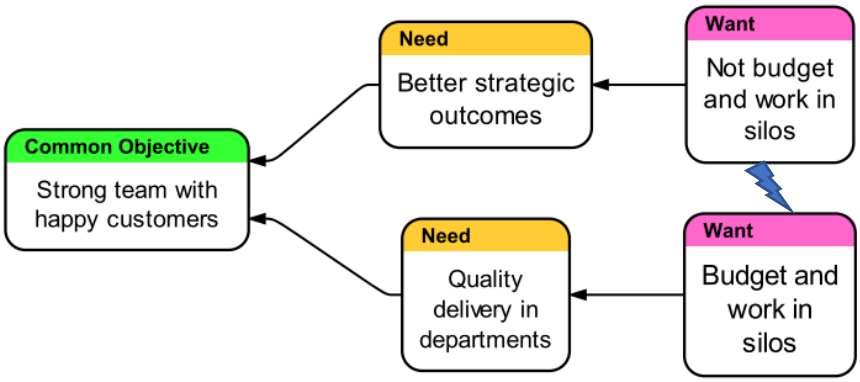


**Figure 13 Managers' conflict for working in silos**

*Issue 3*

*Distribute or don't distribute funds between departments*

*Conflict:*

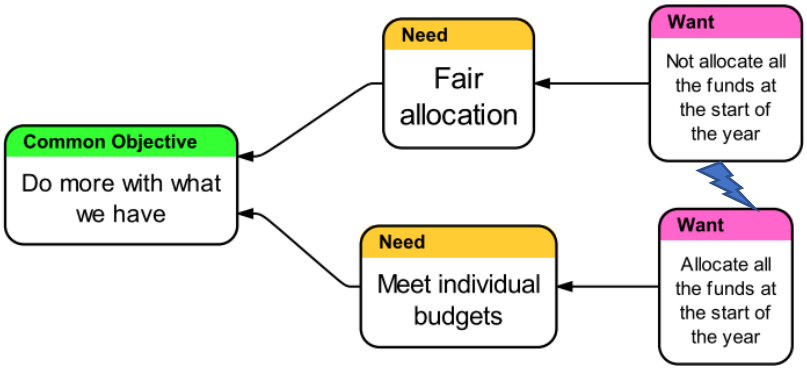


**Figure 14 Managers' conflict for fund allocation**

Table 6 shows the parts of the three conflict clouds being aggregated and given an agreed summary theme by workshop participants.

| Aggregation of themes | Summary |
|---|---|
| Common Objective<br>• Be an effective department manager<br>• Strong Team with happy customers<br>• Do more with what we have | Be a successful organisation |
| Need<br>• Respond to stakeholders<br>• Quality delivery in departments<br>• Meet individual budgets | Meet operational needs of every department |
| Need<br>• Protect budgets, staff and services<br>• Better strategic outcomes<br>• Fair allocation | Achieve an overall common strategy/goal |
| Want<br>• Accept new demands during the year<br>• Budget and work in silo's<br>• Not allocate all the funds at the start of the year | Prioritise individual department performance |
| Want<br>• Not accept new demands during the year<br>• Not budget and work in silo's<br>• Allocate all the funds at the start of the year | Use a collaborative team strategy |

**Table 6 Aggregation of clouds from the workshop**

This led to the core conflict cloud in Figure 15 below:

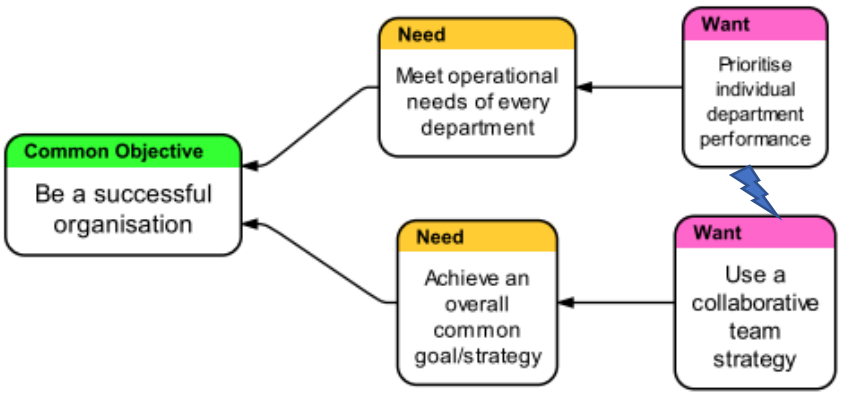


**Figure 15 SMC core conflict**

- *In order to* be a successful organisation, *we must* meet the operational needs of every department
- *In order to* meet the operational needs of every department, *we must* prioritise individual department performance
- *In order to* be a successful organisation, *we must* achieve an overall common goal/strategy
- *In order to* achieve an overall common goal/strategy, *we must* use a collaborative team strategy

The conflict arises when managers have to choose between their (local) departmental performance and the (global) strategic goals of the organisation.

This contrasts somewhat with Taylor and Steenpoorte's (2007) budgeting core conflict in Figure 1 and repeated here in Figure 16;

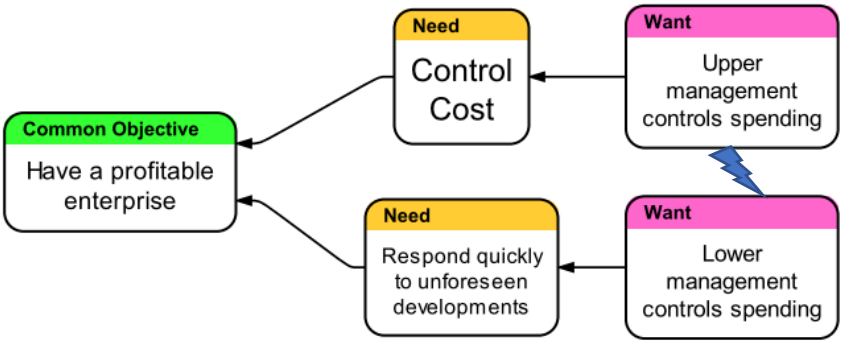


**Figure 16 Taylor and Steenpoorte (2007) core conflict**

The SMC budget holders identified a much broader core conflict than the one identified in the literature review. Taylor's conflict is based around the pressure to have control of spending in upper management vs lower management. The SMC conflict is between delivering on departmental KPI's and delivering on organisational strategy, of which cost is only a part.

Even though the core conflict was uncovered was at a broader organisational level than the budgeting conflict, it was possible to show how SB would break the core conflict. The participants were comfortable that at least 60% of the other frustrations would disappear. Overall, the concept of SB was well received by the audience although there were several obstacles that will need to be overcome before SMC can implement SB. For instance:

- Some funding is tagged to certain spending and cannot be reallocated, for instance Water Rates.
- Statutory requirements must still be met
- Councillors often interfere on spending matters, even after they have been approved in the annual budget.
- A fair way to set up the organisational buffer needs to be decided
- A fair way to allocate that buffer needs to be decided

Oral feedback from the managers at the end of the session was positive. Several were (pleasantly) surprised at the high level of participant engagement throughout the day, comments reinforced privately afterwards by the CEO. This appeared to be an indication of how the managers feel they are constrained from doing their jobs properly by the restrictions of the current system.

Written feedback received after the workshop confirmed this and has been included as part of the analysis. The result of this meeting is that the managers decided to go ahead with a further workshop to overcome the obstacles to implementation that they have raised and customise the solution for their particular needs.

The workshop added to the interview process in two important ways. Firstly, the way in which overhead (administrative) expenses were generated and allocated to the departments was identified as a further frustration not mentioned in the literature or the interviews. Secondly, the level of frustration and emotion was much higher than in the interviews. There are several possible reasons for this:

- The workshop had a broader cross section of budget holders than the interviews, especially at a lower organisational level
- The workshop offered a safer environment for budget holders to vent
- The interviewer was not skilled enough to uncover this in a one-on-one situation without appearing to steer or guide the answers

## 4.3 Other insights from the interviews and workshop

The interviews showed that many of the literature review's undesirable effects were present as well as revealing some information not found in the literature.

### 4.3.1 Problems with the reforecasting process

Both organisations were aware that money allocated in budgets are not always spent well. Both use a reforecasting process to try to capture and reallocate this money. However, this does not completely solve the problem of lack of available funds to react to changes in the environment.

> *"it's not efficient use of resources if we don't know until May (the second to last month of the financial year) what we're going to be doing." (NRO2)*

So, even if money is returned to the organisation, it is usually too late in the year to be useful.

> *"excess dollars are usually (given) back (in the second-to-last month of the financial year) so too late to reallocate" (SMC3)*
>
> *"so, we've got a culture where we just give it back, but only give it back at the end of the year." (NRO2)*

It seems reasonable to assume that having funds available earlier in the year would help an organisation to reach its strategic objectives.

### 4.3.2 Additional reasons to add contingency

As well as protecting managers from uncertainty, two further reasons for adding contingency were uncovered in the interviews. In both organisations, once the budgeting process is finished, almost all funds have been allocated for the year. The first reason was to avoid negative consequences over the coming financial year. It is easier to increase spending up to meet a budget with buffer than to meet delivery targets within a tough budget.

*"if you are being judged, you don't want to be too far under and you don't want to be too far over, but if you are spending it all, then it means you are on target and achieving that goal" (NRO3)*

The CFO of NRO said:

*"if you provide a crap budget, then you've got to keep reporting against it and explaining all the differences, whereas if you get a smart budget, then that's going to make your life easy for the next 18 months." (NRO1)*

The finance team at NRO oversees the monthly budget reporting and is responsible for talking to budget holders. The volume of projects they are looking after means they manage by exception and tend to leave project managers alone if they are within budget. The assumption being that if a manager is within budget, they must be doing a good job.

So, if a manager wanted to be left alone and the finance team was managing by exception, then adding contingency to ensure you were never over budget would be a way to achieve this. Managing by exception is an example of a policy (perhaps unofficial) that has the capacity to cause an undesirable behaviour.

The second reason for adding contingency was as a substitute for doing the necessary groundwork to really uncover all the likely costs and have a good budget. So, the budget holder tends to build in more contingency rather than spend the time and effort thoroughly investigating all the likely costs.

*"Whereas some project managers might say, "I don't actually know what I'm going to do for that last part of the year, what could happen, so I'll factor it in now." NRO1*

NRO1's preference in this case, was not for each budget holder to build in their own contingency for such things like weather and scope change, but to hold it centrally, rather like SB.

*"if there's a drought, things can change quite quickly, or if you're dealing with animals you can have all sorts of issues there…but what we're saying to the project manager, is don't try and factor that in. That's a forecast, that's a change of scope." NRO1*

NRO1's concern is if all project managers build in this type of contingency and not all of them will need it, then some projects will have money allocated that they don't really need. If this excess contingency is spent instead of being returned to the organisation, then extra projects are not possible.

### 4.3.3 Counter-pressure for not adding too much slack

This does not mean project managers can add as much contingency as they like. It was pointed out that there is counter-pressure to adding large amounts of buffer, especially to capital projects.

> *"the risk is the project doesn't proceed because costs seem to high and it's not affordable." (SMC2)*

NRO1 also said:

> *"but again, you can't preload it with a whole lot of contingency, otherwise they're going to go, nah, too expensive". (NRO1)*

This counter-pressure and the resulting conflict facing managers is illustrated in Figure 17.

Money is not always the only scarce resource. Further counter-pressure could be seen when it was mentioned *"that asking for more money than you need is pointless because you wouldn't have the internal staff to implement" (SMC5).*

The idea that contingency is added to counteract unpredictability was reinforced by the comment that *"variability in costs is low in IT so not much pressure to build in slack" (SMC5).*

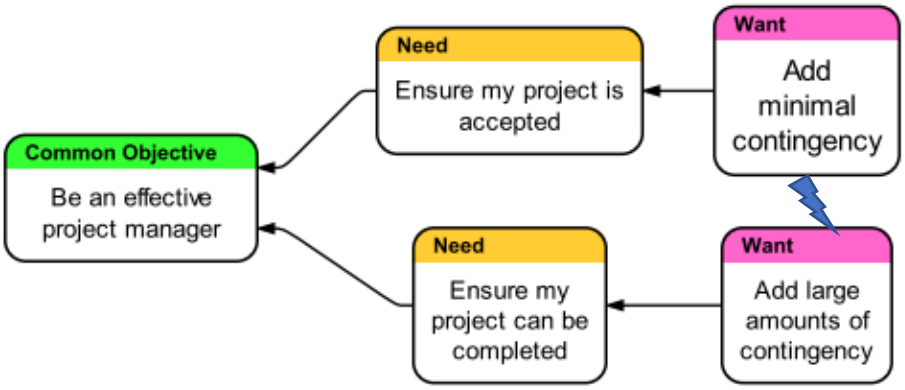


**Figure 17 Project manager's conflict**

### 4.3.4 Waste caused by the need to show progress

As well as Onsi's (1973) 3 reasons why there is pressure on managers to spend unnecessarily, the interviews uncovered a further pressure to spend unnecessarily. Money is sometimes spent to show progress on a project, even though it is going to be changed later and the spend is essentially wasted.

*"for instance developing our website, in order to get things done on time, I had to make some things happen, even though I knew things would change later on, because I was pushed from my Senior Investment Leader to get something done." (NRO3)*

Money has effectively been wasted on something that it is known will be changed. While there is no indication where this money has come from, it would encourage building in contingency next time.

## 4.4 What is causing managers to behave this way: Understanding the challenges

The purpose of the interviews was to test for the presence of undesirable effects arising from the budgeting process and to look for the reasons behind the underlying causality, i.e. what was happening and why? The reasons became clear as the undesirable behaviours were analysed in the context of the challenges that the interviewees face as they try to do their jobs. The challenges were categorised as either obstacles to planning and implementing the budget or the negative side-effects of getting it wrong. The obstacles have been summarised under "Uncertainty of Costs" and this refers to both choosing where to spend and how much to spend.

### 4.4.1 Challenges Summary

Table 7 summarises the challenges faced by the organisations, that will be discussed next:

| **Common themes from interviews** |
|---|
| **Challenges faced by staff in both organisations**<br><br>Uncertainty of costs<br><br>o Governance level decision makers wanting certainty<br>o Statutory reporting requirements<br>o Often limited understanding of technical projects by governance board and elected councillors, who are the final decision makers on large projects<br>o Limited income and no real ability to generate more<br>o Long-term projects even more difficult to price<br>o Managers having to spend time preparing budgets when they have other work to do<br>o Spending enough time to get reasonable accuracy without wasting too much if the proposal is rejected<br>o Getting the balance between costing projects so they are accepted, but also are realistic<br>o Accountants dealing with scientists and engineers who often lack financial literacy and budgeting skills<br>o Accounting within a 12-month financial year when long-term capital projects or research projects can run for several years |

| |
|---|
| • Negative consequences for being under or over budget<br>  ○ Unspent funding due to project delays appears as surpluses in the financials which sometimes causes pressure decrease levies or rates<br>  ○ Pressure from rate payers and levy payers to keep funding levels down<br>  ○ The process of getting extra funds during the financial year is time consuming so the ability to react to changes in a timely manner is severely restricted |
| **SMC specific challenges**<br>• Uncertainty of costs<br>  ○ It is difficult to tie the budget to the strategy of the council when there are so many different stakeholders with so many different interests.<br>  ○ Getting continuity in councillors long-term thinking<br>  ○ Political interference and changing political agendas, often influenced by the relatively short term between elections<br>  ○ Dealing with long-term infrastructure assets in a short-term environment<br>  ○ Ratepayer pressure to build specific projects<br>  ○ It is difficult to prioritise between very different project and asset types<br>  ○ A conservative view by council has meant that growth predictions were lower than reality which has put pressure on building more infrastructure<br>  ○ Dealing with an increasing population when it is difficult to predict growth<br>  ○ Old infrastructure (e.g. 100 year-old water pipes)<br>  ○ The assets need maintaining, replacing and future proofing<br>  ○ It is extremely difficult to predict costs in capital projects<br>  ○ Ratepayer pressure to keep costs down<br>• Negative consequences for being under or over budget<br>  ○ Community backlash |
| **NRO specific challenges**<br>• Uncertainty of costs<br>  ○ Levy income needs to be split between various strategic objectives. Funds cannot be diverted if the experts in a particular field are unavailable<br>  ○ The board seems to alternate between not wanting surpluses and wanting to build up funds<br>  ○ Building budgets so far in advance of doing any work<br>  ○ Spending money often requires advance notice so projects can start gearing up<br>  ○ The time delay between gearing up and getting budget approval, means progress is delayed further<br>  ○ Budget allocation and/or funding for multi-year projects often assumes identical spending per year, whereas actual spending over the project lifetime is often more like a bell curve |

**Table 7 Summary Table of the challenges faced by the organisations**

### 4.4.2 Challenges common to both organisations

The governance bodies of both organisations require accurate budgets, in part because both are legislated by government to collect revenue and this comes with Statutory requirements around budgeting. They do not like financial surprises, but do not have the technical understanding required to make informed decisions. SMC1 illustrated the elected councillors' lack of understanding of complex engineering projects by relating the story of the councillors signing off on a $24 million water treatment plant upgrade in 15 minutes and then arguing

for 45 minutes about the $20,000 annual cost for running public toilets. The councillors *"did not know enough about waste-water treatment plants to challenge the dollars."*

The budget-holding managers end up with responsibility for accuracy when there is pressure not to increase rate or levy income and predicting costs going forward, especially with large, multi-year projects, is extremely difficult. This was a strong theme from the council workshop, with the following statements made:

- *(Budgets are prepared) Too much (far) in advance*
- *Elongated predictions*
- *New demands all year round*
- *Funding is scarce*
- *Cost is unpredictable*
- *Limited information to support decision making*
- *Uncertainty of project approval*

This pressure can be made worse when large projects get deferred and it appears that the organisations are operating at a surplus. This highlights the difficulty of trying to fit multi-year projects into a 12-month accounting timeline.

Managers are under pressure to deliver their own outputs which requires both their time and money. They must decide how much time to spend on getting accurate figures, when the proposal may be rejected. High levels of contingency will increase the chance of rejection, but it takes so long to get additional funds once the financial year has started, that not adding contingency restricts the ability of managers to react to change. Often the proposals are being written so far in advance, with so many unknowns, that accuracy in budget estimates is virtually impossible anyway. One manager in SMC commented that there is no such thing as being over or under budget, it just means your assumptions were wrong.

Dealing with engineers and scientists who sometimes have limited financial literacy and/or little interest in the process is a challenge for the accountants within the organisations. The accountants also to try to fit multi-year projects into a 12-month accounting timeline when the uncertainty of timing adds further variability. At year end, what looks like a massive saving against budget is often just the late start to a project. This artificial surplus is a problem when both organisations are under pressure not to increase rates or levies.

Meanwhile, budget-holders know that if they do not have sufficient funds in their budget at the start of the year, it will be difficult and time consuming to get more during the year. At SMC for example, funding requests are added to the next council meeting agenda for approval. Often, they are deferred because the meeting runs out of time. The risk for the project manager is that contractors will move on to other jobs, which delays the project and increases the likelihood of rework, both of which add to the cost.

### 4.4.3 Challenges specific to SMC

Deciding where the money will be spent is the first level of uncertainty around cost. SMC serves a diverse range of stakeholders and the council has struggled to clearly define its strategy. The Long-Term-Plan has been a "wish-list" from the departments rather than part of a clear ongoing strategy. Defining a long-term strategy is further complicated by the political dimensions of council operations. Councillors, who are serving on a three-year term, are being asked to look long past when they might have stopped being a councillor. Electors are asking their representatives to make long-term decisions that are based on the future requirements of our district and then voting them in and out based on their short-term performance, which means councillors face the conflict in Figure 18.

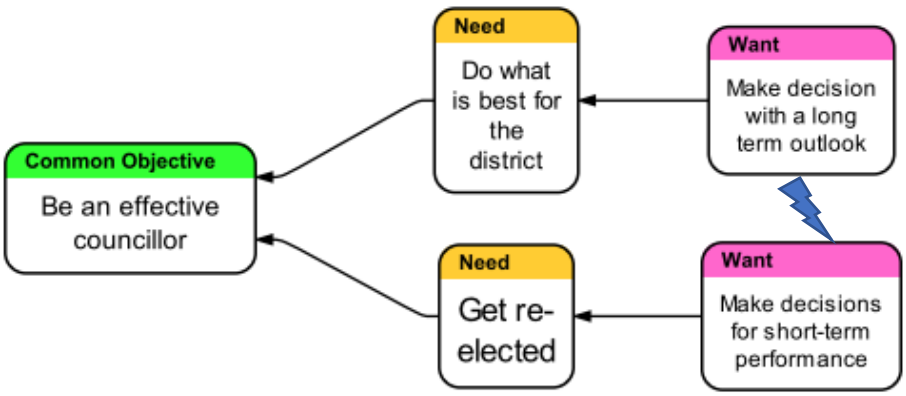


**Figure 18 Councillors' conflict cloud**

The three-year election cycle still requires having councillors with a long-term vision and getting continuity in the thinking of council can be a problem. An example of this conflict is the current battle between staff and councillors about spending $30 million to future-proof a water pipeline. SMC1 believes this is the best engineering solution. Councillors are wanting to delay this major spend and are looking for a short-term solution that will buy them some time. So, the councillors are not rejecting the project, just fighting to get it deferred.

The democratic process allows ratepayers to put pressure on councillors to over-ride plans and get something that they want instead. An example was given of a proposed subdivision development outside the district plans. Staff opposed it but council approved it, which meant a lot of unplanned infrastructure was needed for water, storm water, sewage, roading and parks with all the accompanying budget rework required. Political interference can also mean having to prioritise between having a playground in one part of town and a playground in another part of town.

> *"the priority is that this area hasn't got a park. But these people over here are making a lot of noise and they've got contacts and can stir things up and demand that their park is a higher priority than this one" (SMC2)*

The diverse nature of the capital projects also makes comparing and prioritising them difficult. Local citizens tend to be only interested in the basic services when they go wrong, but upgrade plans for drinking and waste-water needs to be in place. When funding is limited, comparisons need to be made between *"library vs. water treatment vs. a road." (SMC2)*

These decisions are further complicated because accurately predicting growth is difficult and even with the best statistical information, the district has grown faster than anticipated. Water pressure has not kept up for example and now the council is in catch-up mode. A billion dollars-worth of infrastructure assets, including underground pipework over 100 years old, needs to be maintained, upgraded and expanded to cope with future growth.

Once councillors have decided where to spend the money, they want certainty of cost before they approve the projects. However, budgeting projects is difficult due to unknowns, and large infrastructure projects are often multi-year, adding further variability. When a project is added to the LTP, high level costings are done, but until money is spent on concept design and preliminary design work is done, these are only educated guesses. Any building, bridge or road will require some serious Geotech work to be done on the soil profile before the engineers can even begin to cost it. Buying land is a hugely variable cost and the longer the project, the more likely that construction costs will increase significantly along the way. This is further affected by the normal economic construction cycle. As demand for materials and labour goes up, so too does the price.

The budget for these large capital projects gradually gets refined as more information is gathered. The idea that money can be spent scoping out a project, only to be "wasted"

because the project does not proceed, is a concept that councillors and wider community often struggle with. They want to know how much a project is going to cost and do not fully understand the uncertainty surrounding budgeting for large infrastructure projects. There is a constant tension between having a realistic budget that will not be exceeded and having the project not go ahead because it is too expensive.

Councillors also face political pressure to keep rates down from an aging population on a fixed income, the Ratepayers Association and from potential future councillors campaigning under the “low rates” slogan. Priorities often get changed by councillors who are wary of community backlash.

#### 4.4.4 Challenges Specific to NRO

Deciding where to spend money is relatively easy for NRO as it is mandated at board level, although the board seem to waver between wanting to build up funds and not wanting surpluses. This is a real dilemma in all not-for-profits. To be commercially responsible, they need to have surpluses and build up buffers. However, if the surpluses or buffer get too big, funders think they do not need more income. This is a challenge for the board to manage, along with deciding where to spend.

The main applications for Capital Expenditure (Capex) are done once a year. The approval process begins halfway through the preceding financial year. Quotes are needed then, but it takes another five to six months to know whether your project has been funded. This makes it difficult to plan and get contractors locked in to perform the work. There is another opportunity to reapply for capex or additional funding part-way through the year. This needs board approval which adds further time to the process.

Despite the scientists who build the budgets having a reasonable idea of costs, the projects do not always come in around budget. Projects often follow a pattern where initial costs are low as a trial is being set up. Costs ramp up as the field work is done and then towards the end there is the collation and reporting which has a lower cost. When projects are flat funded, there can be a tendency to spend money because it is there.

## 4.5 Mitigation Strategies to overcome the challenges

The challenges summarised in Table 7 have led both organisations to institute mitigation strategies, summarised in Table 8:

| |
|---|
| **Mitigation strategies common to both organisations**<br>• Dealing with uncertainty of cost and end of year result<br>  ○ Planning<br>  ○ Techniques to decrease cost uncertainty<br>  ○ Reforecasting during the year to try to reallocate funds and deal with uncertainty around likely end of financial year results<br>  ○ Delaying or advancing the timing of projects to change the spending profile<br>  ○ Managers keeping targets vague so they can shift money around within their budgets<br>  ○ Managers building in enough buffer so that funding is available and does not take time to approve when there are changes |
| **Mitigation strategies specific to SMC**<br>• Dealing with uncertainty of planning<br>  ○ Adding up to 30% contingency to capital budgets in the early stages of costing out a project<br>  ○ Spending money to find determine costs<br>  ○ Outsourcing to outside contractors to pass on the risk<br>  ○ Using contract pricing, historical data and trend analysis<br>  ○ Building long-term relationships with contractors to diminish uncertainty<br>  ○ Using the Central Government Procuring service to buy hardware and software<br>  ○ Using proven software and hardware to reduce uncertainty<br>  ○ Going online and using cloud technology to reduce the cost of added staff<br>• Dealing with uncertainty of year-end result<br>  ○ Delaying projects to avoid large rates increases<br>  ○ Moving money between projects<br>  ○ Delaying the renewal of infrastructure assets past their recommended life to reprioritise spending. |
| **Mitigation strategies specific to NRO**<br>• Dealing with uncertainty of planning<br>  ○ Web-based budgeting software focussing on required resources instead of dollar figures<br>  ○ Teaming technical scientists with finance people |

**Table 8 Summary Table of mitigation strategies**

### 4.5.1 Mitigation strategies common to both organisations

Planning is the foundation of the Traditional Budgeting system. The assumption being that the more detailed the plan, the more accurate the budget and the more certainty. The accountants in particular, seemed to think that more detail and planning was the answer to dealing with uncertainty. NRO1 clearly believed that a good project plan means that an accurate budget can be derived. He compared this to a quantity surveyor being able to get an accurate price from a good house plan:

*"if you have a good plan, the project manager at the end of the day, you put that plan feeding into a central system, you can derive your budget pretty much from that." (NRO1)*

*"we've tried various things, my belief is that you've got to get a good project plan, to set up your drivers, your cost assumptions, it's all based off that." (NRO1)*

*"if you have a good plan…..you can derive your budget pretty much from that" (NRO1)*

*"business plans need to be prepared (for each project)" (NRO1)*

As part of the planning process, both organisations get quotes from outside contractors.

*"we've got contract pricing in place" (SMC3)*

*"when you move to tender you are getting pretty close to the value" (SMC2)*

*"Central Government central procurement keeps prices down" (SMC5)*

*"we can link budgets to actual contractor rates" (NRO1)*

Both organisations expect changes during the year, and they reforecast so savings can be reallocated to where they are needed. Reforecasting of large projects is seen as particularly important.

*"so, we reforecast the project all the time anyway" (SMC1)*

*"you get an iterative process to do that, plus throughout the year you get 4 complete reforecasts" (SMC1)*

*"and do projects come in under budget? – generally no, because you're refining the budget process as you get closer to the start so which budget are you talking about?" (SMC2)*

*"so there's a bit of flexibility there and its understood that money can be moved around a bit to appease, for a better project or some other community initiative." (SMC4)*

*"so, what you do is you reshuffle your objectives." (NRO5)*

*"if we are not spending here and there's another project, they can reshuffle to that." (NRO5)*

Managers and leadership delay and advance the timing of costs to change the spending profile and balance the budgets.

*"we can push funds into the next financial year, hold them over" (for multi-year projects) (NRO4)*

*"a reshuffle of objectives, a reshuffle of resources" (NRO5)*

*"what we have is projects that can potentially slide up and down the ten-year time frame" (SMC1)*

*"ok, the library, can we delay that, do we have to build a park, can we delay that?" (SMC2)*

*"money can be moved around to appease, for a better project or some other community initiative" (SMC4)*

*"you can adopt a very pro-active approach and replace assets when their life expectancy ways they should be replaced. In reality they might last another 10 -15 years….its really about striking a balance." (SMC4)*

*"how much flexibility have you got around your renewals programme? Can we cut some slack to actually fund a discretionary project?" (SMC4)*

*"projects either get brought forward or they get moved later down the years." (SMC3)*

Shifting money around is easier when managers keep targets and deliverables deliberately vague. Vague targets and sufficient contingency in their budgets, means funding is available and does not take time to approve when there are changes.

*"it's probably encouraging fairly vague milestones." (NRO3)*

*"(avoiding) getting too descriptive and then things change" (NRO3)*

*"what you do negotiating the (delivery) schedule, really sets you up" (NRO3)*

The unspecified software renewal and OSH (Occupational Health and Safety) budget lines in one department means $60,000 can be moved around as and when required.

### 4.5.2 Mitigation strategies specific to SMC

The council deals with uncertainty in the early stages of getting project approval by adding up to 30% contingency to capital budgets. Having it included in the budget means uncertain or unforeseen circumstances do not slow down progress on a project.

*"what some councils have done is put a flag against those numbers, so what's the certainty around those numbers? Plus or minus 50%, 30%, 20% and then you move along that continuum and get it refined as you move getting a design" (SMC2)*

Uncertainty is also minimised by spending money early on in a project to try to get a more accurate idea of its final cost.

*"we (spend) money to better understand and help you define the costs" (SMC2)*

Any building, bridge or road will require some serious Geotech work to be done on the soil profile before the engineers can even begin to cost it. Buying land is a hugely variable cost and the longer the project, the more likely that construction costs will increase significantly along the way. This is further affected by the normal economic construction cycle. As demand for materials and labour goes up, so too does the price.

Once the council engineers have a reasonable idea of what the cost will be new capital projects put out to a tender process with outside contractors. Other ways to increase cost certainty are the use of historical data and trend analysis, along with contract pricing and using the Central Government Procuring Service.

*"we use trend analysis to make sure there's no surprises there" (SMC3)*

*"we use a budget scaling estimation process" (SMC3)*

The IT department are prepared to pay more to use mainstream software and hardware in an effort to reduce uncertainty and are in the process of going online using cloud technology to reduce the cost when new staff are hired.

With the growth in the district, there is pressure for a number of new infrastructure projects to be completed. If they were all done at the time requested, it would require a rates increase of 10%. The councillors do not have the appetite for an increase that large, so some projects are being delayed so a more palatable two-and-a-half percent increase can occur. The projects delayed are ones that are of lower risk to the community, such as the library rather than clean water or storm water.

Once projects are underway, money can then be moved between them as appropriate. This is all done using a separate internal tracking system, as the 12-month annual financial system does not cope well with multiple multi-year projects, especially when projects are delayed. Projects are also moved forwards and backwards in time to balance the books. This often involves delaying the renewal of assets past their recommended life, known as "sweating" the asset.

### 4.5.3 Mitigation strategies specific to NRO

To enable better planning, NRO have installed a new budgeting system which uses a cloud database of cost drivers, such as contractor rates. Accuracy has increased with automation of so much of the number-crunching.

Teaming technical scientists with more practical operations people is another way used to get around the problem of dealing with financial illiteracy, which threatens accuracy and adds to the time taken to complete, monitor and re-forecast the budgets.

### 4.5.4 Side effects of the mitigation strategies

These mitigation strategies used by both the organisations and the individual managers (summarised in Table 8) cause several unwanted side effects as summarised in Table 9.

**Side effects of the mitigation strategies:**

- Waste
  - Managers adding contingency to individual budgets makes less money available for the organisation as a whole
  - Contract pricing and the tender process means any savings are lost to the organisation
- Strategy
  - Decisions to spend contingency may be made in isolation
  - Decisions to defer spending may be made in isolation
- Budgeting takes too long
  - Reforecasting adds significantly to the time taken with the budgeting process
  - The separate finance systems needed to monitor multi-year projects increase the time spent on budgeting
- Barriers
  - Lack of funding causes competition between departments
  - Delaying projects can build barriers between departments
  - Lack of cooperation between accountants and budget holders
- Certainty
  - Making targets vague means it is harder for the organisation to know how it is going
  - Time spent getting accurate budgets is time managers cannot deliver outputs
- Stakeholder perception
  - The need to spend money to get realistic costings is seen as “waste” if projects do not proceed
- Risk
  - The tender process can mean unfinished work if the contractor has miscalculated
  - Delaying infrastructure projects increasing the risk of failure of the existing infrastructure
  - Delaying infrastructure projects can cause problems satisfying Audit New Zealand’s review of the Asset Management Plan

**Table 9 Summary of the side-effects of mitigation strategies**

The items in Table 9 have been covered earlier in the chapter, but it is useful to view them as side-effects of the mitigation strategies to overcome uncertainty and negative side effects.

When managers add contingency to their budgets to counter delivery uncertainty, there is less money available for the rest of the organisation. An NRO accountant feels that most project managers do not appreciate the multiplier effect of everyone having a little “petty cash on the side”. When the organisation is running over 100 projects, the “petty cash” can add up to some big numbers.

Organisations can also lose when they outsource the uncertainty through contract pricing and the tender process. While it provides some certainty to the council, the third party will build in contingency of their own. If the project turns out to be cheaper than anticipated, the savings will be lost to the council.

When spending or deferral decisions are made in isolation, there is a danger that they are not strategic, but based on the individual manager’s needs.

Leadership’s need for cost certainty causes planning and reforecasting which is a big use of time. Within the council finance team, their biggest frustration with the budgeting process is the dependence they have on department managers to submit their budgets in a meaningful and timely manner. This causes tension and builds barriers. With pressure to provide services and infrastructure and limited funds, SMC3 said there is a competitive element to providing the best business case to secure those funds. Projects with the best business case will get priority.

Since all funds are allocated at the beginning of the financial year, delaying the start dates of other projects is often the only method to pay for any increases. This can further build barriers and add to the insular nature of the departments.

The idea that money can be spent scoping out a project, only to be “wasted” because the project does not proceed, is a concept that councillors and wider community often struggle with. They want to know how much a project is going to cost and do not fully understand the uncertainty surrounding budgeting for large infrastructure projects

Keeping control on costs means pressure to take the lowest tender and if this is less than the engineers are expecting, then they know there is risk in accepting this. Such projects need to be managed tightly to make sure the contractor does not take short cuts or make up the difference using the tactic of adding variations to the original contract.

A potential danger of this is that renewal projects are pushed back. This is fine while nothing goes wrong, but if a key piece of infrastructure fails, then the ratepayers want to know what on earth is happening. This is the reason Councils are required to have an Asset Management Plan that is audited annually.

### 4.5.5 Initiatives to overcome for the side-effects

**Initiatives to overcome the side-effects:**

- Dealing with waste
  - NRO - Funds allocated for multi-year research projects can be carried forward, which stops some spending for the sake of it
  - NRO - Unspent money is returned to the organisation, but this does not affect future years' funding
- Dealing with time consumption
  - SMC - Using a single page A3 template is used to answer the question: "Is this a good project and does it align with strategic direction? Yes or no." instead of a 10- page project brief.
  - NRO - Using the database to produce budgets has removed the need for spreadsheets and consolidations
- Dealing with barriers between departments
  - SMC - A portfolio approach to coordinating projects to reduce barriers between departments and to reduce rework and duplication
  - SMC - Appointing someone to "force collaboration"
- Dealing with risk
  - SMC - Adding 10% contingency even when work is outsourced

**Table 10 Mitigation strategies for the side effects**

Both organisations are aware of the side effects caused by dealing with uncertainty and the negative consequences of getting it wrong. There are more initiatives in place to overcome these (Table 10). NRO allows unspent money to be carried forward for multi-year projects and not taken off next year's budget for other spending.

Both organisations have taken steps to ensure the budgeting process is less time consuming for managers. In the past, SMC new project proposals have been done on a 10-page project brief template, which used a lot of time when the project may never have fitted in with Council's plans. Now, a single page A3 template is used to answer the question: "Is this a good project and does it align with strategic direction? Yes or no." If the project is gets past this first hurdle, then more detailed costings take place.

NRO's new budgeting system used a cloud database of cost drivers, such as contractor rates, which allow for some of the number-crunching in the budgeting process to be automated.

This has gotten rid of spreadsheets from the budgeting process and the consolidation process required. Web tools are used to gather the information “so that the project manager does not even feel like they are going into a financial management system”. The scientists are now filling in the resources required in term of staff hours, contractor hours and raw materials rather than being required to fill in dollar figures. This web tool also aligns with the way that research projects are being monitored.

Barriers between departments are being broken by SMC1’s new role of coordinating all the projects within council. The role shifts focus from delivering single projects to a portfolio approach of coordinating all the projects and was created because departments were not always communicating well. The portfolio approach is designed to reduce barriers between departments and to reduce rework and duplication. Lack of communication in the past had led to wastage, for example freshly resealed roads being dug up two weeks later for a new water pipe to be laid. Looking at project planning with a strategic overview also helps with the collaboration and coordination of projects, meaning better use of resources and less rework. As well as being used to coordinate projects that are underway, this portfolio approach is also being applied to see whether proposed new projects fit into the overall Council plan.

SMC engineers deal with the risk of the tender process by adding a contingency to make sure there are funds available if the company that wins the tender is having trouble delivering. It is in no-one’s interests for a business to fail partway through a project. Typically, engineers would allow a contingency of 10% for projects like roading and parks. This is another illustration of the uncertainty they are having to deal with.

### 4.5.6 Summary

It was an interesting process to get a feel for the pressures and conflicts that the interviewees had to operate under. Although both organisations are “not-for-profits”, they still need to be financially sustainable. The interviewees made it clear that income is a finite resource and neither organisation has the luxury of being able to easily sell more product or services to increase it. Both organisations are responsible for delivering value to a variety of different stakeholders, who have contrasting and often competing requirements. No organisation can deliver long-term value to stakeholders in a commercial sustainable manner unless they have an engaged workforce (Goldratt, 1994).

Juggling the needs of stakeholders, staff and commercial responsibility is a challenge. The budgeting process focusses more on cost control and the pressure comes on when managers are also trying to deliver outputs to stakeholders. The interviewees in both organisations had their own problems with delivering in their areas and were also very aware of some of the short comings of the budgeting process. They are taking steps both formally and informally, to overcome some of these issues.

Both organisations use budgeting as a tool to carry out strategic objectives and control costs. An NRO accountant explained it by saying that his governing board "want you to say, 'this is the position you're going to be in'". They are looking for certainty and are using a budgeting process to give them that certainty. Both organisations begin the process several months before the start of the new financial year and the budgets are a negotiating process between departmental budget holders or project managers and the finance department. The senior management has a major say in the overall organisational spend.

Both organisations understand their governing body's need for certainty and that the environment does change. Reforecasting during the year is therefore a significant activity to ensure there are no surprises at year end. In theory, this reforecasting should make sure more funds are available during the year if required. However, there was evidence that budget holders are reluctant to surrender any contingency they have built into their budgets until the end of the financial year.

We may conclude that the internal competition for time and money is a major issue impacting the behaviour of managers and ultimately the performance of the whole organisation.

# CHAPTER 5: DISCUSSION

There was strong evidence from the interviews and from the workshop that most of the problems, issues and frustrations outlined in the overseas literature are present in the New Zealand case organisations. These problems arise because of the various challenges faced by the organisations and appear to be largely caused by the prerequisite conditions of unpredictable costs and negative consequences for being wrong.

Organisations want certainty of costs and managers want certainty of output delivery, which causes a series of mitigating actions that turn into undesirable effects. The causality proposed in the CRT was often met with laughter in a way that signalled "welcome to my world". Not every person interviewed agreed that every problem was present for them. However, no-one disputed the nature of the problems or behaviours or the basic structure of the causal relationships depicted in the CRT.

The CRT did not fully explain the pressures and challenges the managers faced in delivering on their outputs. These challenges gave insights as to why they behaved the way they did. Having understood why these undesirable behaviours are there, it was revealing to see how budget holders are able to inflate their budgets and then how they could then spend them.

## 5.1 Costs are often unpredictable

The interviews made it clear that predicting costs was difficult, complicated by the rapidly changing environments in which organisations operate. The specific challenges faced by the participant managers when making assumptions about spending levels have been outlined in the "Challenges" section earlier. Overall, there appear to be 3 main reasons that managers in general find budgeting for expenditure to be unpredictable:

1. Factors external to the manager – the variation in timing and magnitude from things beyond the manager's control, both within and outside the organisation.
2. How managers prepare their budgets – more specifically, the models they use, the data they use, and the assessment of the risk involved.
3. Competence of the manager preparing the budget – their expertise, experience and personal biases.

The combination of these factors mean that the estimation of costs cannot always be certain, precise or accurate and the likely actual outcome of a cost reflects a positively skewed distribution (Otley, 1985). As Figure 19 illustrates, this means an 80% confidence level in meeting a target requires a significantly higher budget than having a 50% confidence level. A 90% confidence level will be significantly higher again.

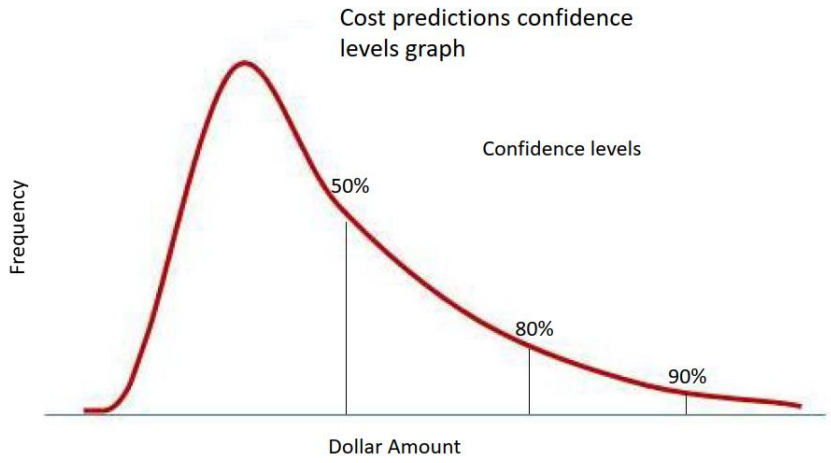


**Figure 19 Right-hand skew graph of cost predictions confidence levels**

Managers will use a higher confidence level to protect themselves when they are accountable for results (Goldratt, 2006). Figure 19 shows that if the original estimate is in the 90% confidence range and the 50% level occurs, which it will half the time, then there will be large surpluses. The unpredictability of costs and the concept of the right-hand skew curve was discussed with an accountant at NRO as it related to costing out a research project budget. The accountant thought the scientists probably pitched at an 80-85% confidence level to ensure they had a reasonable contingency built in for unexpected events and costs. Depending on the shape of the curve for that particular project, the contingency could be significant.

The Central limit theorem states that when independent random variables are aggregated, their sums tend towards a normal distribution. So, when budgets are aggregated, the graph loses its long tail and the outcome is less variable as savings and over-runs cancel each other out (Otley 1999). However, in most organisations, the savings are lost to the system because the managers use up their surpluses rather than returning them to the organisation and money is wasted.

This concept, along with the compounding of waste over time and up through the levels of the business identified by Taylor and Rafai (2003) helps explain why Merchant (1985) feels that waste could be as high as 20-40% in established organisations. It also explains why the central buffer in SB is potentially so effective.

## 5.2 Negative consequences

Failing to allow for cost unpredictability can have negative consequences, both for individual managers and for the Leadership. Managers interviewed highlighted these negative consequences for not delivering their outputs or exceeding budgetary targets:

- Having to spend valuable time explaining why a budget is exceeded
- Being disciplined for exceeding budget
- Being seen as an unreliable forecaster
- Missing out on promotions or bonuses
- Failure to deliver within budget
- Failure to deliver outputs

Being unable to complete job tasks or projects when conditions change, due to either the unavailability of more funds or the time required to get them was the significant driver for adding contingency by those interviewed. This makes sense when it is viewed as an underlying cause for other negative consequences (Figure 20).

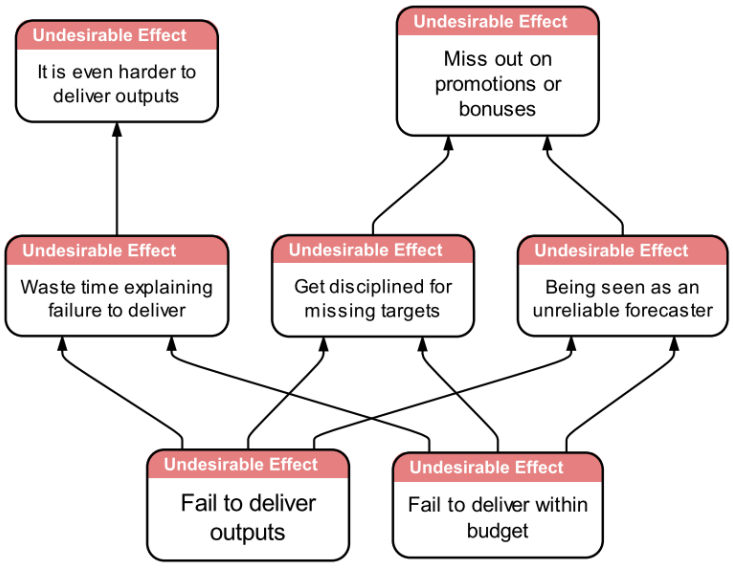


**Figure 20 Negative consequences for managers failing to deliver**

Managers also confirmed negative consequences for being under budgetary targets that were found in the literature:

- Fail to deliver next year's outputs
- Next year's budget is cut
- Miss an opportunity to start delivering next year's outputs

(Onsi, (1993); Taylor & Steenpoorte (2004); Goebel & Weißenberger, (2016))

The negative consequences for not spending excess contingency, can also be explained by managers' desire to deliver outputs, albeit in the next financial year. (Figure 21).

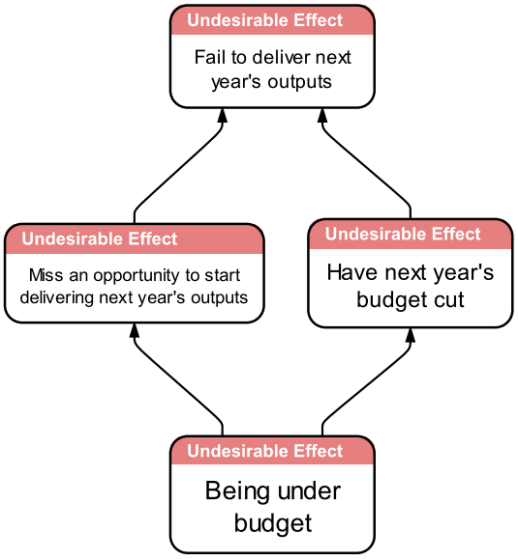


**Figure 21 Negative consequences for managers being under budget**

The interviews and workshop also highlighted challenges and negative consequences for an organisation's leadership team, inclusive of governance and upper management. Overspending by leadership means they potentially face:

- Negative feedback from stakeholders
- Bad media coverage
- Possible sacking of board and/or upper management

And if organisations like the two in this case study underspend, they face:

- Pressure to reduce fees, rates or levies
- Accusations of not providing adequate services

These negative consequences explain why there are policies in place to ensure that outputs are met within budget. Unfortunately, in an effort to meet the policies and avoid the negative consequences, managers behave in ways that are undesirable for the organisation.

## 5.3 Why managers behave in undesirable ways

The research has outlined managerial behaviours that are undesirable from the organisation's viewpoint. Huang and Chen, (2010) have commented that "Managers playing devious games to obtain extra budget requests is a significant factor to be considered in attitudes towards the budgetary process." The implication is that managers are behaving dishonestly whereas the impression from the interviews is that the undesirable effects are due to the managers trying to protect themselves from failing to deliver on their KPI's. Leadership is trying to make managers predict the unpredictable in an environment where there are negative consequences for getting it wrong.

Employees engage in manipulating information and gaming behaviours when conditions exist that threaten budget targets, delivery KPI's and getting favourable performance reviews. These negative consequences threaten a deep-seated desire for humans to feel safe, the second -most important basic human need after physiological needs such as food, water and warmth are satisfied, according to Maslow (Bridgman, Cummings & Ballard, 2019).


**Figure 22 Maslow's Hierarchy of Needs – portrayed as the so-called 'Maslow's Pyramid' (Bridgman et al, 2019)**

'Maslow's Pyramid' in Figure 22 (which was developed by others from Maslow's original step-wise depiction (Bridgman et al, 2019)), indicates safety sits on Maslow's hierarchy as a basic human need that generally must be satisfied before seeking to meet higher needs. So, rather

than being deliberate attempts to disrupt the organisation, it seems more likely that these behaviours are caused by the need to feel safe in the presence of:

- Unpredictability of costs
- Extra funds protecting against uncertainty
- Negative consequences for exceeding budgetary targets
- Negative consequences for being under budgetary targets
- Limited funds

The researcher's interpretation of the causal relationships between these entities is shown in Figure 23, and this can be read as: If there are negative consequences for exceeding the budget and costs are often unpredictable and extra funds protect against uncertainty (Taylor & Steenpoorte, 2007) then budget holders usually add contingency. If budget holders usually add contingency and there are negative consequences for being under budgetary targets, then budget holders will spend the contingency.

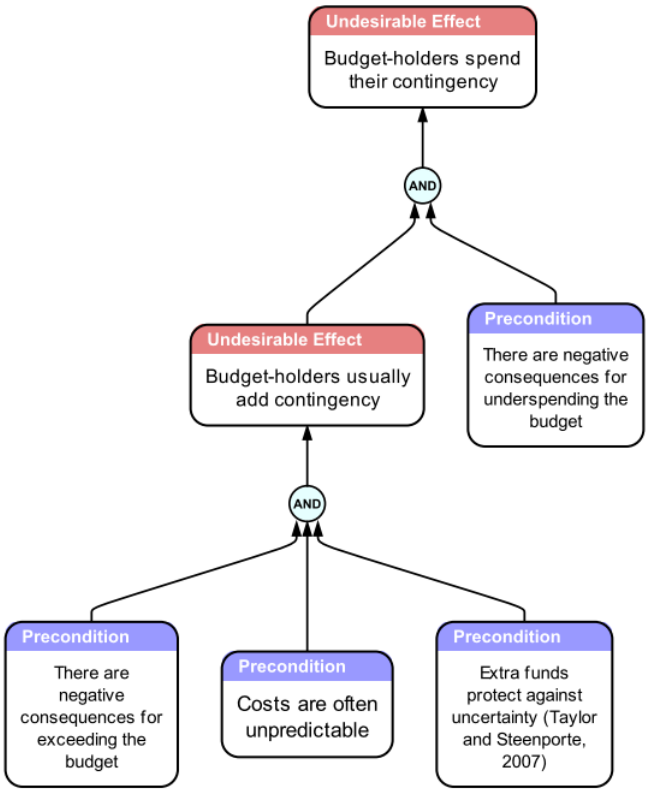


**Figure 23 Causality for managers adding contingency then spending it**

## 5.4 Why organisations plan and forecast so much

The Leadership of organisations also face cost unpredictability of costs and may face a set of negative consequences for getting it wrong. Leadership do not like surprises, and so they seek certainty by imposing control in the form of more planning and reforecasting (Figure 24).

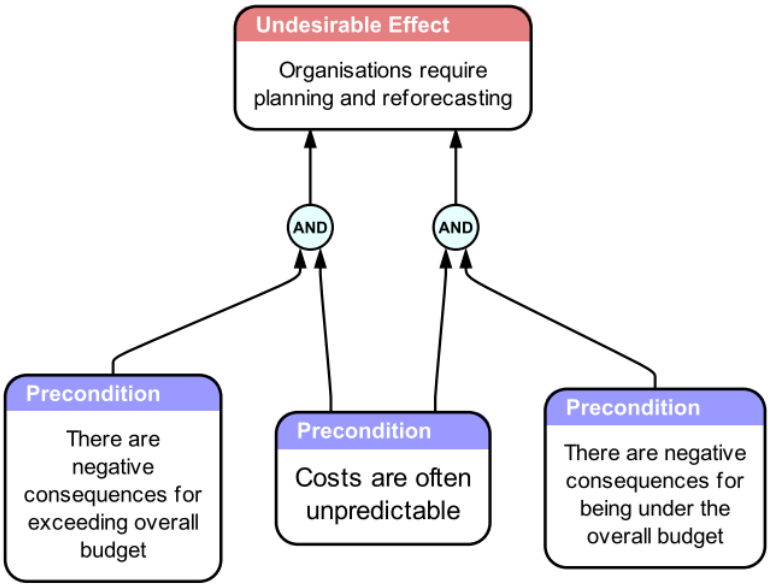


**Figure 24 Causality for organisations wanting planning and reforecasting**

## 5.5 Amplifiers: the other drivers of monetary waste

Unpredictable costs, negative consequences and extra funds protecting against uncertainty are the primary causes of waste, but there are other factors mentioned in the literature and interviews. These are not the cause of waste by themselves but act as "amplifiers". If managers are already adding contingency, amplifiers mean they are able to, or will feel inclined to, add even more contingency.

For instance, tighter financial controls have been suggested as a cause of dysfunctional employee behaviours, especially in situations where employee remuneration or career prospects are dependent on financial outcomes (Goebel and Weißenberger, 2016). While there may be a correlation with increased dysfunctional behaviour, by itself, tighter financial control alone may not be sufficient to cause them.

Factors that act as amplifiers are:

- Being a better negotiator
- Being a better performer

- Being in a situation of information asymmetry
- Anticipating cut-backs
- Not being peer-reviewed
- Not participating in the process
- Contingency being difficult to detect
- Having even tighter controls imposed

These have an effect on the magnitude of the contingency but will only be acted upon if the required conditions for adding contingency has already been met. This would explain why some research is ambiguous and even contradictory, for instance some studies have found that participation in the budgeting process increases slack, whereas others have found it decreases it (Dunk & Nouri, 1998).

Understanding that these factors are amplifiers means that any time and money spent trying to fix them may be wasted. However, once the negative effects caused by unpredictable costs and negative consequences are addressed, the amplifiers will cease to be important.

## 5.6 How are managers able to manipulate their budgets?

This section looks at how managers manipulate their budgets to protect themselves from environmental and cost unpredictability, as well as negative consequences. It attempts to explain how CFO's are unable to uncover the large amounts of contingency that are added, then wasted, as claimed in the literature.

Contingency is added by managers to counteract the unpredictability of costs and the magnitude of this unpredictability varies between different costs. On a continuum, a cost like rent or electricity has a small magnitude of unpredictability and is unlikely to vary more than a few percent. In contrast, the repair bill for the failure of an expensive piece of machinery could easily exceed the repairs and maintenance budget by a factor of 2-300%. Likewise, recruitment and legal costs can vary substantially and are largely unknown at the start of the financial year. It is this variability than causes budget holders to build contingency into their budgets. (Onsi, 1973)

Once they have secured their budget funding, including contingencies, budget holders are able to move money within their budget to ensure they meet their targets. Money can be

shifted between budget lines within the same time frame or the timing of the spend can be moved between financial years. Delaying spending preserves budget and pulling spending forward uses up budget.

However, the interviews revealed that moving spending around must be done in a way that does not cause a different negative consequence. For instance, if spending on maintenance is pushed out into the next financial year, the budget holder must be confident there will not be any side effects. A large repair in the current year may have been caused by a previous maintenance deferral. It helps to think of costs as being either discretionary or non-discretionary. A non-discretionary cost is time-dependent and delaying it would threaten the organisation's ability to function. Costs like wages and rent are non-discretionary whereas others, like staff training, some travel and most maintenance are not time-dependent, so can be deferred. Dunk and Perera (1997) listed costs like safety gear, overtime, travel, repairs and maintenance and quality control as areas where it is possible to build in slack because they are less measurable and more discretionary.

Council staff provided some of examples of how this discretionary vs non-discretionary distinction is used:

> *"can we stop treating water? No. Can we stop it raining and not worry about the stormwater? No. Do we need roads? Yes. So, what are we left with? So, they tend to be, ok the library, can we delay that? Do we have to build a park, can we delay that? Do we need to replace all this, can we delay that?" (SMC2)*
>
> *"the operational side of things is reasonably known, but the capital stuff can easily be pushed out or more easily pushed out and brought forward." (SMC1)*

Although it is obviously a continuum, it is convenient to think of costs as falling into one part of the matrix in Table 11:

| | Non-discretionary | Discretionary |
|---|---|---|
| **More Predictable** | • Wages<br>• Power<br>• ACC levies | • Maintenance<br>• Asset renewal |
| **More Unpredictable** | • Repairs<br>• Recruitment expenses<br>• Legal expenses<br>• Time-sensitive projects | • Non-time-sensitive projects<br>• Travel<br>• IT upgrades<br>• Staff training<br>• Marketing |

**Table 11 Discretionary vs Predictability of Costs Matrix**

The non-discretionary, more unpredictable costs are the most dangerous for a budget holder applying for funds. If a worst-case scenario occurs, these expenses must be met, possibly with a time delay to get funding, assuming it is even available within the rest of the organisation. It is this category of expenses that puts the most pressure on managers to add contingency. If the added contingency is insufficient, discretionary spending like maintenance, IT upgrades and many projects can be deferred to free up cash. If the contingency is not used and the manager believes that having unspent budget will have negative consequences, then discretionary costs offer a way to do this, by bringing them forward. Building in contingency and moving discretionary spending around allows managers to deal with different scenarios as the financial year unfolds:

- If a non-discretionary worst-case scenario occurs and the added contingency is sufficient, then the contingency can be spent, and the original budget targets can be met.
- If a non-discretionary worst-case scenario occurs and the added contingency is insufficient and enough discretionary costs can be delayed, then the original budget targets can be met.
- If a non-discretionary worst-case scenario occurs and the added contingency is insufficient and the discretionary budget has already been spent, then the budget will be exceeded. This will potentially put the whole organisation over budget.
- If the additional contingency is not needed for a non-discretionary, highly variable cost, then it can be spent on the discretionary, highly variable costs and the full budget will be consumed. For example, Onsi (1973) suggests that contingency can be used to prepare for the next financial year. This inflated discretionary spend will appear to be

legitimate departmental expenses but are not necessarily in the best interests of the whole organisation.

One department budget holder (SMC5) interviewed said he had software renewal and OSH (Occupational Safety and Health) budget lines which were unspecified. This effectively gave him a $60,000 "slush fund" that he could spend on anything that turned up unexpectedly. The implication is that software renewal and OSH spending could be deferred and are therefore discretionary expenses. There was further evidence that spending can be increased to use up budget for projects.

> *"but if you were offered a million bucks (to do some research), you'd build a budget to (spend it)". (NRO2)*

One accountant at Council admitted there was scope to budget holders to use:

> *"really small operational type savings which can be easily used within the departments." (SMC3)*

There is also the previously mentioned example of unscheduled road resurfacing being done to use up savings from a different roading project rather than being returned to the organisation. When spending decisions or deferral decisions are made by siloed, individual budget holders, there is a danger that these decisions might not be in the best interests of the whole organisation. It would therefore appear to make sense for decisions on both spending extra funds and deferrals be done as part of a collective, strategic decision-making process.

## 5.7 The other problems

The discussion so far has looked at why organisations plan and reforecast and why managers add contingency then spend it. It has also looked at how managers are able to do this and the factors that amplify it. These actions use up time and money, which in turn are means there is less available for higher priority activities in the organisation.

When money is wasted, the organisation has less funds available, which makes it difficult for managers to react to changes in the environment and limits their ability to meet strategic goals. Managers act to protect their own funds, which increases competition and builds barriers between departments. Cooperation diminishes because neither department wants the expenditure to come out of their budget. The focus also becomes less towards

organisational strategic goals and more towards departmental goals and KPI's. Managers who cannot react to environmental changes are likely to feel disempowered. The disempowerment is also likely to be reinforced when managers have less time due the amount wasted on planning, reforecasting and then explaining variations. Figure 25 shows how the other problems are caused by time and money waste.

This was one of the key insights from this research. The initial CRT derived from the literature review seemed to be explainable as five separate pain chains. The managers interviewed accepted it as a reasonable interpretation of their situation and it gave them further insights and better understanding than they already had. However, further analysis of the challenges and negative consequences facing the managers, makes it seem much more likely that the waste of time and money is actually driving the other three.

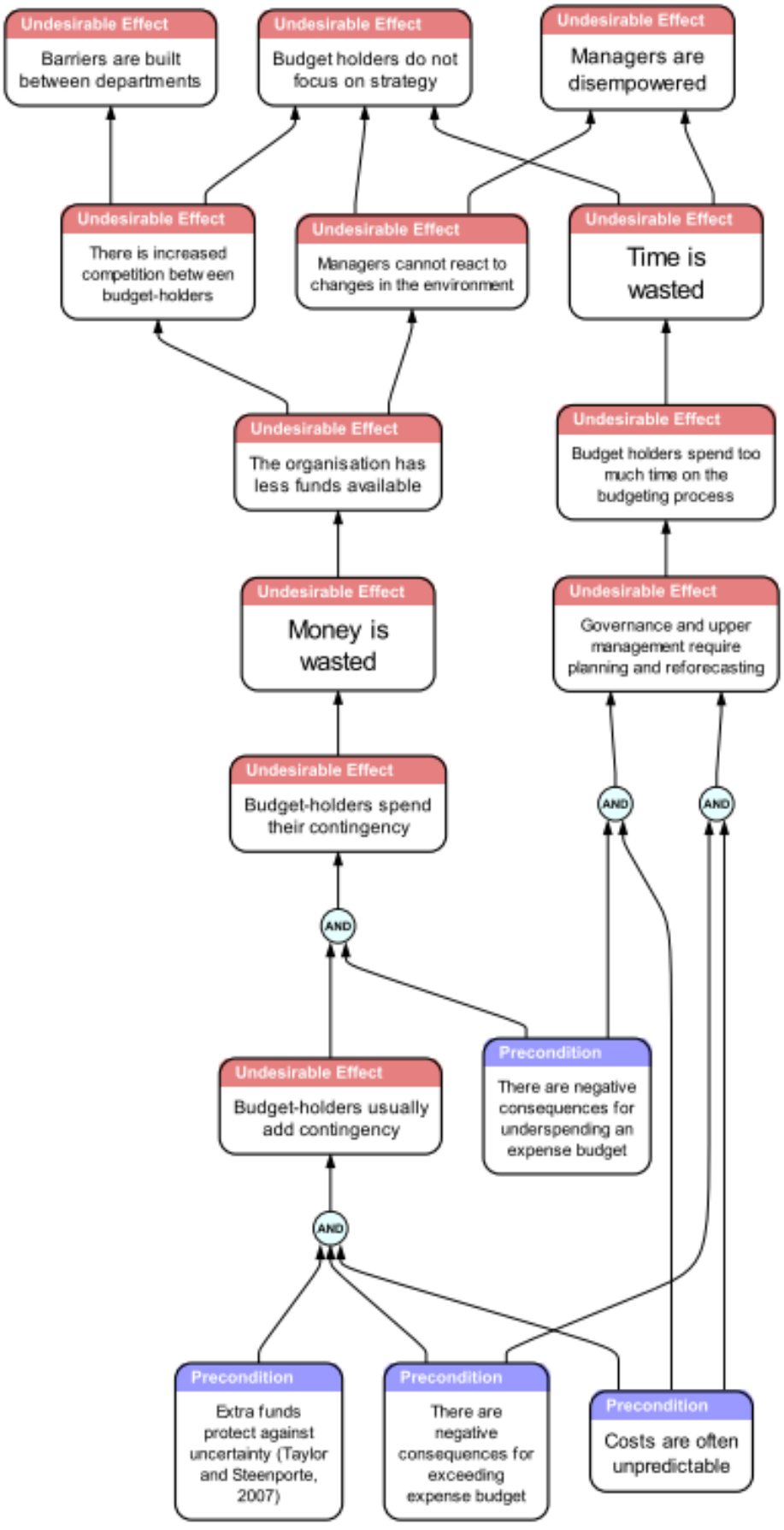


**Figure 25 Expanded Causality diagram**

## 5.8 Other budgeting methods

A closer examination of the causality in Figure 25 gives insights into the issues other budgeting methods are attempting to address. Activity Based Budgeting and Zero-Based Budgeting use a planning process to increase the certainty of monetary outcomes. Rolling Forecasting and Continuous Budgeting are also focussed on certainty of monetary outcomes and use frequent reiteration during the year to get it. All four of these methods are time consuming, which takes managers away from their primary task of delivering outputs.

Beyond Budgeting frees up and empowers managers by reducing monetary planning, with perhaps the ultimate being no involvement in the estimation of costs for budgeting purposes. It uses benchmarking and competition between business units to ensure delivery of outputs and minimisation of waste. A good culture would be essential to stop barriers forming between business units and this is a real feature in the New Zealand organisation Mainfreight (O'Grady & Ackroyd, 2015). The culture would also need to ensure business unit leaders were making long-term strategic decisions when they are competing against their peers in a short-term way. Overall BB seems more suited to an organisation where its business units can be treated like a collection of small businesses, so less collaboration between business units was required. It is hard to see how this approach would work in either of the two case study organisations.

SB uses a central buffer so managers have access to more funds during the year and can deliver their outputs. Monitoring the state of the central buffer provides more certainty of cost without taking up too much time. The Taylor and Rafai (2003) example worked well on a small scale across three functional areas and there was possibly a collaborative culture already in existence. The two computer simulation studies mentioned may have worked because they did not threaten the safety or security of any participants.

This threat to safety may be the reason a larger case study attempted in The Netherlands did not last 12 months despite showing promise. In New Zealand, the budget would be a management not governance issue so would have survived a change of mayor if it had been working well. It is possible the culture change required to implement SB was too big a jump and the pro-forma application for money allocation did not take account of the complexity of

assessing and deciding between inter-dependent projects. Without some formal way of overcoming the competition for money, it is concluded that the SB process will struggle.

## 5.9 The direction of a solution

The "price" paid by managers for certainty of output delivery and by Leadership for certainty of costs, can be the waste of resource, both time and money. This waste of resource reduces the organisation's ability to add value to stakeholders, both internal and external. This conflict is shown in Figure 26.

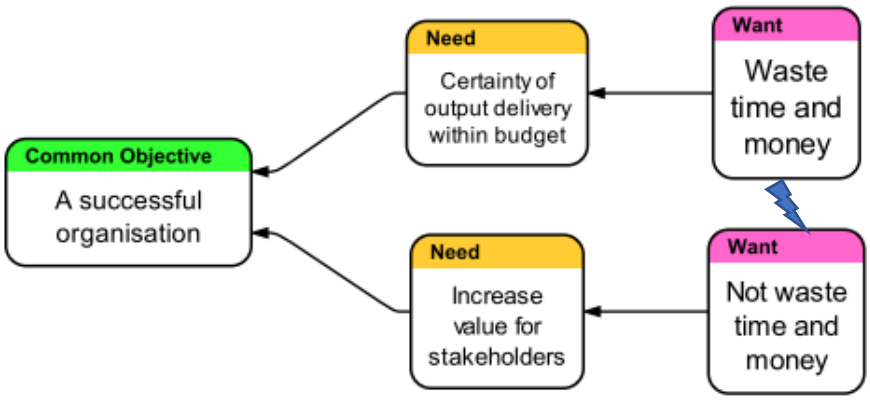


**Figure 26 Conflict for wasting time and money**

Assuming organisations want to increase value to stakeholders by spending time and money better, then a break-through solution will have to either reduce the need for certainty by breaking the top left arrow in Figure 26, or provide certainty without wasting time and money by breaking the top right arrow. For the case study organisations, the negative consequences for being over budget or under-delivering, when those affected are often outside the organisation, means operating without some certainty is unlikely. Leadership still need certainty of overall spending and the managers still need certainty around deliverables. That leaves the option of achieving certainty without using up time and wasting money.

SB, with some adaptations, can offer a solution. When individual budget contingencies are stripped out and combined, this takes advantage of Central Limit Theorem's proof of the impact of aggregation on the reduction of variability in estimated means. For example, savings and overruns can offset each other so overall variability decreases, which increases certainty. It does not remove unpredictability completely but rather, moves the risk from "Where will total spending across all budgets end up?" to "How much buffer will be left over?" The

Leadership of Governors and upper management get certainty by monitoring buffer consumption. Centralising the contingency means savings are not lost and managers potentially get access to even more funds during the year.

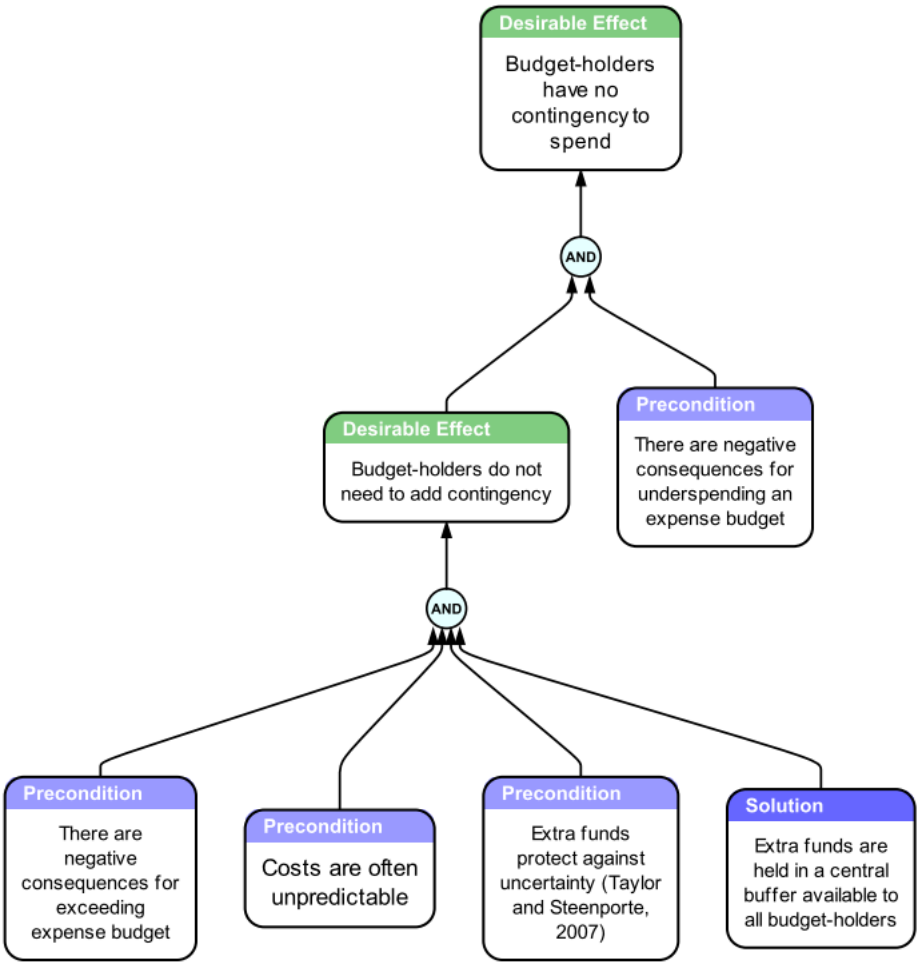


**Figure 27 Effect of buffer for managers**

Figure 27 shows the effect of the central buffer on managers, with managers not needing to add contingency and therefore having none to waste. Figure 28 shows the effect that having an alternative method to provide certainty has for governance and upper management.

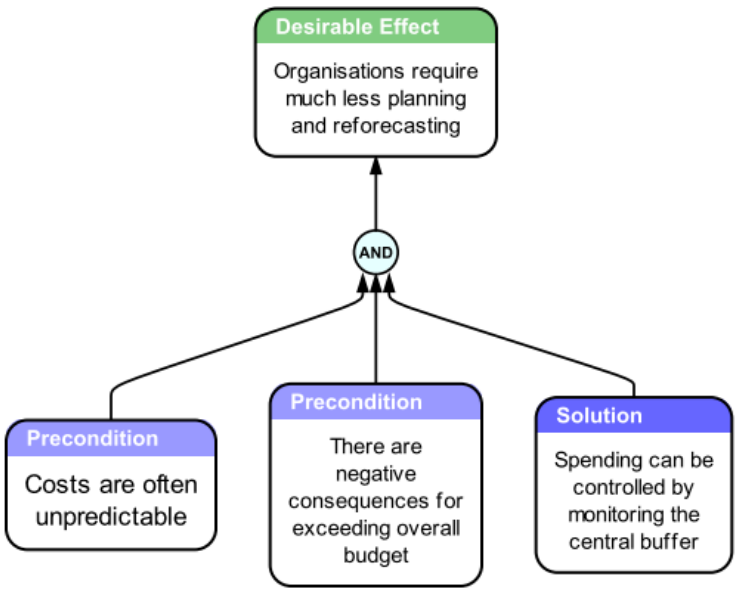


**Figure 28 Effect of buffer for Governance/Upper management**

The central buffer overcomes the waste of money resources and means less pressure to compete for funding as funds are no longer perceived to be limited. A full solution still needs to address the need be time efficient, empowering, collaborative and strategic. Allocation of the central buffer and the decision to shift spending along timelines must deal with this.

For the department managers to allocate the central buffer effectively:

- Spending needs to be controlled by monitoring the central buffer, so Leadership have certainty
- There must be a fast, efficient process to allocate the central buffer so that one time-consuming process is not replaced with another
- The organisation and its decision makers must be clear on the strategy, so that allocation decisions are strategic
- The organisation needs a collaborative culture so that departments work together

The overall effect of these extra strategies can be seen in Figure 29. The effect from these measures is that managers are empowered to work together to delivery more strategic value.

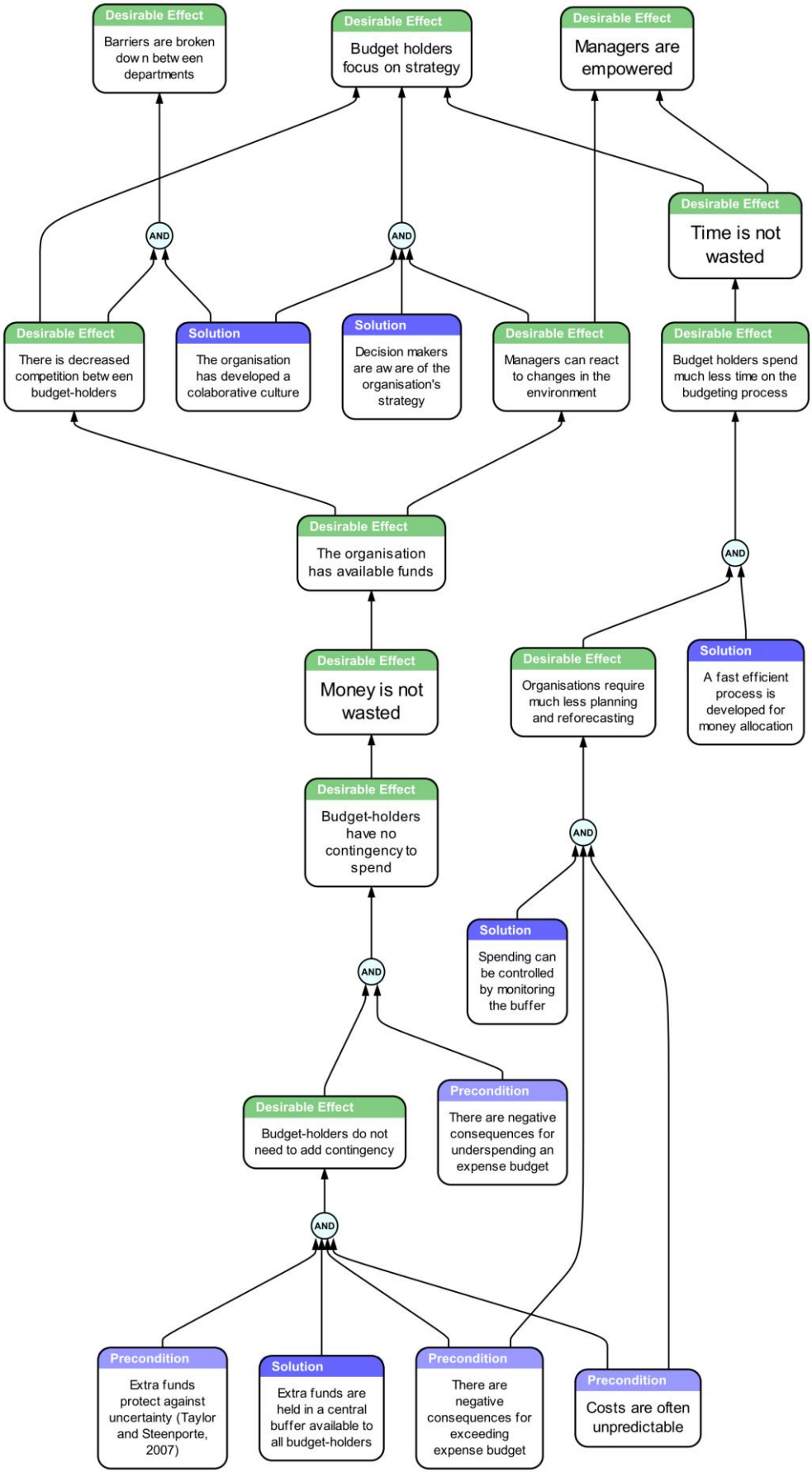


**Figure 29 Effect of adding extra parts to the solution**

To check the effectiveness of the proposed solution, it seems appropriate to revisit some conflict clouds to test the solution. Figure 30 shows how a central buffer overcomes the conflict managers face when planning for unexpected changes in cost (from Figure 7).

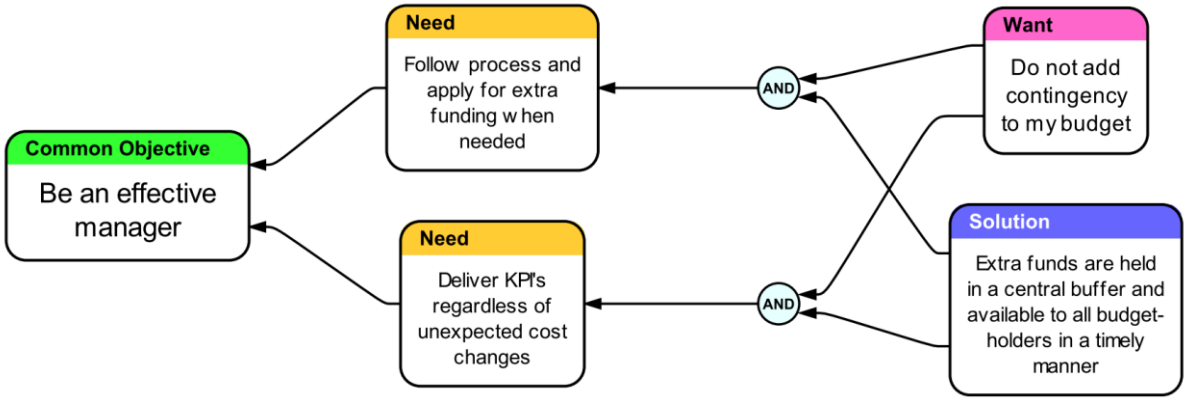


**Figure 30 How the proposed solution breaks manager's conflict for dealing with changing costs**

The central buffer means the managers can follow procedure and get extra funds because the funds are readily available.

The SMC core conflict was forcing managers to choose between prioritising departmental performance and using collaborative team strategy (Figure 15). The central buffer allocation process means that extra funding to departments will be peer reviewed through a strategic lens. Departmental performance will still be delivered but will be subservient to the organisation as a whole (Figure 31).

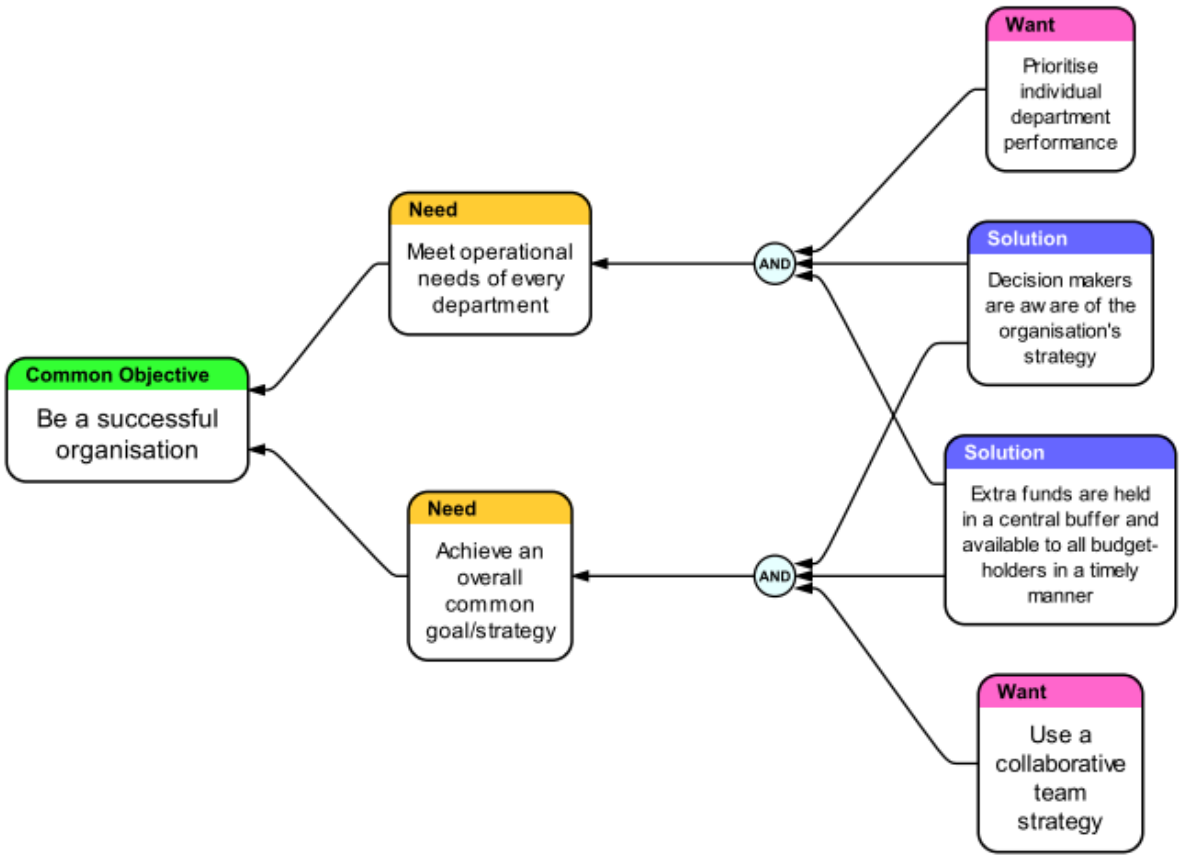


**Figure 31 How the proposed solution breaks the SMC core conflict**

The first obstacle to implementation of SB will be the threat to safety as budget holders have to give up a significant portion of their budget. The next obstacle will be finding a way to allocate money to projects with inter-dependencies in a strategic way. A problem-solving culture needs to be created where empowered managers collaboratively deliver more strategic value. Perhaps Strategic Budgeting requires a culture of collaboration to become Collaborative Budgeting?

The desire for change was sufficient that following the workshop, SMC were sufficiently interested to set up a working group to explore a Strategic Budgeting trial. This trial is beyond the scope of this research and is a candidate for further research.

## 5.10 Reflections

It was interesting to see the lack of progress made towards addressing the problems caused by the Traditional Budgeting process. The same issues being documented in the 1970's are still being found by researchers in 2019. Despite this, most organisations still use Traditional

Budgeting, perhaps because of the lack of a viable alternative or perhaps because of the time and money cost to change.

It appears that one of the biggest issues with traditional and some other budgeting systems, is that almost all the available funding is allocated before the start of the financial year. That means budget holders go into the year knowing that getting more funding is going to be difficult, time consuming and possibly 12 months away. This puts pressure on them to add contingency into their initial budget estimates. BB has been shown to work in some commercial organisations like Scandinavian banks and New Zealand's Mainfreight (Neely et. al, 2003), (O'Grady & Ackroyd, 2016). They have organised their businesses into small units that have their own incomes and expenses, so they can manage their own finances. Whether this would work in an organisation where there is a set amount of income, such as a not-for-profit is debatable.

## 5.11 Limitations and Summary

This research study is limited by the size and nature of the sample for data collection. Firstly, only two organisations were studied, and both organisations were not-for-profits. The choice of not-for-profits was in order to focus on cost driven factors rather than revenue generation behaviours. Secondly the number of interviews was limited due to the difficulty of finding organisations and managers to interview. In most organisations, the managers who have sufficient experience and control a large enough budget to be relevant to the study are very busy. It was only through close contacts that the researcher was able to get 10 useful interviews. While more would have been desirable, the information from those interviews was consistent enough with the literature, that saturation point may have been reached.

Determining whether the causality is applicable to other organisations and to the commercial sector is the work of another study, perhaps a large survey. The challenge of a survey would be to design questions that adequately tested causality.

The most difficult part of this research was the interviews. Having done the literature review and having pre-conceived ideas about what to expect, it was challenging to not ask leading questions. This was especially so when some of the interviewees were aware that some of the undesirable effects from the literature review were present in their organisation. It would

have been relatively easy to lead them through the CRT without giving them the chance to really think about and challenge its contents. The conflict is illustrated in Figure 32.

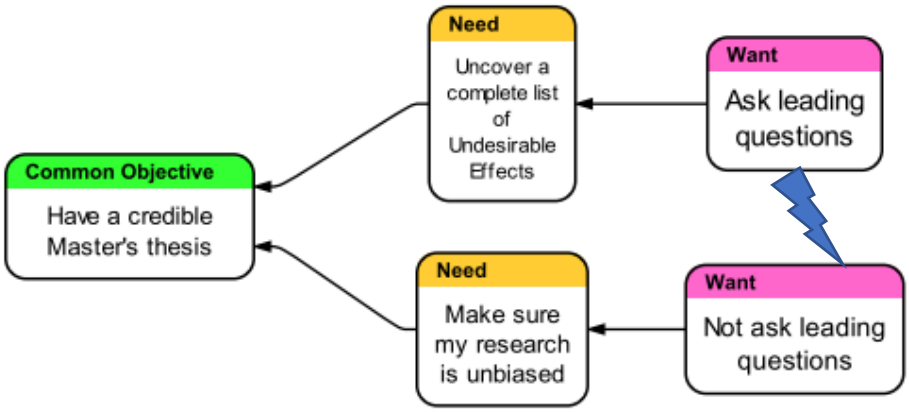


**Figure 32 Researcher's conflict**

The approach taken to deal with this was to question the interviewees about their role and how they perceived the budgeting process and use the CRT as a check only at the end, to see if it triggered any further issues for them. Using the TOC Thinking Processes was also a major factor in keeping the researcher unbiassed when analysing the data. All insights had to get past the causal logic protocol checks of the CLR (Dettmer, 1997) and if they did not fit in or make sense they were discarded.

# CHAPTER 6 CONCLUSIONS

## 6.1 Aim of the research

The aim of the research was to try to understand the underlying causality behind the problems associated with Traditional Budgeting. This understanding is the precursor to finding a better solution for organisations that want to deliver outputs to stakeholders in a cost-effective way. The TOC Thinking Tools were seen as an ideal way to get a holistic view of the process and especially uncover the core conflict.

Organisations use the Traditional Budgeting process in the belief that it allows them to carry out their strategic objectives while retaining control of cost (Hansen, Otley & van der Stede, 2003). Ironically, the literature review and manager interviews identified many undesirable effects caused by the Traditional Budgeting process that actually increases costs and stifles progress towards strategic objectives.

The research was undertaken to look at these questions:

1. What are New Zealand managers' perceptions of the specific issues associated with the budgeting process in their organisations?
2. Does the CRT constructed from the literature review accurately reflect the complex interaction arising from the budgeting process?
3. What are the underlying conditions that cause these issues?
4. How are managers able to cause these problems and issues?

The research questions were being used to test the following propositions:

> Proposition 1: The problems with the Traditional Budgeting process cited in overseas literature are the same as those identified by New Zealand managers.
>
> Proposition 2: The Current Reality Tree (in Appendix 1) based on the literature review and Taylor and Steenpoorte's (2007) core conflict also reflects the perceptions of New Zealand managers.
>
> Proposition 3: Strategic Budgeting offers a potential solution to most of the problems with Traditional Budgeting.

## 6.2 Research process

The findings from the literature review were organised into a Current Reality Tree to causally link the various issues to a core conflict. Semi-structured interviews were then conducted, with a series of back-up interview questions to maintain consistency between interviews. The interviews were to find out:

- What frustrations managers had with the budgeting process
- To compare them with the literature review issues
- To test the causality in the CRT.

The workshop offered an unexpected opportunity to do some Action Research across a broader group of budget-holding managers.

## 6.3 The Findings

### 6.3.1 Similarities with the Literature Review

Interviewee responses supported all three propositions. The interviews showed the undesirable effects that were present in the two New Zealand organisations, (referred to herein as SMC and NRO). Interviewees consistently mentioned the time-consuming nature of the budgeting process and the contingency that was being built into their budgets.

### 6.3.2 Differences with the Literature Review

Despite being a strong theme in the literature, none of the managers interviewed stated directly that they felt disempowered. In general, the managers appeared frustrated by the budgeting process without escalating it to being disempowered. It is entirely possible that disempowerment exists, but is tolerated or the interviewees had sufficient autonomy not to be affected unduly by the budgetary process. There was certainly the perception or more disempowerment from the workshop attendees, who were a broader cross-section of SMC. The logical pre-conditions to cause disempowerment were certainly present.

The sense of entitlement to spend the whole budget once it had been negotiated was not found directly in the literature. It was offered by an accountant as a possible reason that managers could justify unnecessary spending and is worthy of further research.

### 6.3.4 Better understanding of the causality

The CRT (Appendix1) and the simplified CRT (Appendix 2) appeared to show the problems mentioned in the literature as being five main streams, those of: money waste, time waste, disempowerment of employees, lack of strategic focus and siloing of departments. Those interviewed were comfortable that this causality represented their situation, more or less.

Further analysis of the challenges and negative consequences gathered in the interviews, pointed towards the competition for time and money being the cause of the other three. While the original CRT gave the interviewees a better understanding of their situation than they previously had, the expanded causality diagram (Figure 25) gives an even clearer picture. Without addressing the competition for time and money, it is unlikely that measures to fix the other three problems will be successful.

The interviews revealed the challenges and pressures the managers were operating under. It was apparent that different parties within the organisations had conflicting aims and faced many challenges to delivering those aims. Mitigating strategies were in place that caused side effects and needed further mitigation strategies to overcome those.

#### *6.3.4.1 Aims*

Leadership are aiming for certainty of costs and managers are aiming for certainty of output delivery so both can deliver on organisational policies.

#### *6.3.4.2 Challenges*

The interview process and workshop revealed the challenges facing the managers and the underlying conditions that caused them. These can be summarised as the factors that cause costs to be unpredictable and the presence of various negative consequences for being under or over budget. In the organisations studied, the predominant negatives for managers were caused by not being able to deliver on their outputs and for the Leadership, were caused by not being able to deliver within budget. Both Leadership and managers have mitigation strategies, so they increase certainty of delivery and protect themselves from negative consequences.

#### *6.3.4.3 Mitigation strategies*

When managers want certainty that they can deliver outputs, the main mitigation strategy is adding contingency to their budgets. Adding contingency means less money is available to the rest of the organisation, especially when much of the contingency is wasted. When Leadership wants certainty on delivery within budget, their main strategy is to require planning and reforecasting. All the extra time taken on planning interferes with managers' ability to deliver their outputs. The budgeting process therefore increases internal competition for time and money.

#### *6.3.4.4 Amplifiers*

Several factors found in the literature review enable or encourage budget holders to add even more contingency but insufficient by themselves to cause this to happen. This research has referred to them as amplifying factors and they include participation in the budgeting process, information asymmetry and superior negotiating skills.

#### *6.3.4.5 How managers manipulate budgets*

Once they have built in contingency, budget holders can focus on delivering outputs within their budget. When costs are higher than expected, they can use up their contingency, then move money between discretionary expense lines and delay discretionary spending if the contingency is insufficient. If they need to spend excess contingency to avoid different negative consequences, they may have the means to do this by bringing expenses forward.

#### *6.3.4.6 Side effects of mitigation strategies*

Adding contingency so managers have certainty of deliverables decreases the amount of money available and increases pressure on budget holders to compete for funding. The competition for funding between budget holders builds barriers, causing departmental siloing in organisations. To improve communication between departments, prevent waste and have certainty going forward, budget planning and reforecasting are carried out, but they have become very time consuming.

The reforecast process addresses waste only if that unspent money is given back to the organisation. Even if this occurs, strategic opportunities may still be lost as budget holders

tend to not release funds until year end, when they can be sure they will not need them. At this stage, released funds are too late for others to use effectively.

*6.3.4.7 Initiatives to overcome the side effects*

The leaders of the two New Zealand organisations recognise the shortcomings that all the planning and added contingency cause and have initiatives in place to overcome them. Among them are:

- Appointing people to liaise between departments to break down the silos and encourage communication.
- Planning, tendering and contract pricing to decrease unpredictability.
- Moving capital projects backwards and forwards in time, including "sweating the assets" – meaning using them past their recommended life.
- Web-based software to speed up the process.

*6.3.4.8 Relevance of the Literature to a New Zealand context*

Given the pressure arising from various challenges and the means to carry out the undesirable behaviours, it is not surprising that many of the undesirable effects seen in overseas organisations are present in New Zealand. The presence of these undesirable effects and the reaction of the interviewees appears to confirm the causality portrayed in the Current Reality Tree (Figure 2 & Appendix 1). If this causality is valid and relevant in both New Zealand and a global context, then it is likely that those undesirable effects not directly discovered by this research are also present in New Zealand.

*6.3.4.9 Interesting findings*

The literature review suggested that budget holders protect themselves against unpredictability by adding contingency because it is hard to get funding during the fiscal year (Taylor & Steenpoorte, 2007). The New Zealand interviews confirmed this as the primary reason for adding contingency, as well as expanding on why additional funding is difficult and time-consuming to access.

The more junior accountants appeared to believe it was not possible to be wasteful and that all the reforecasting and policies in place were doing the job. The more senior accountants were more cynical and understood that this waste is almost impossible to pick up. It was

suggested that managers feel a certain sense of entitlement to spend the amounts they have negotiated for.

### 6.3.5 Conditions for a More Effective Budgetary Process

A more effective budgetary process needs to address the unintended side effects of internal competition for time and money that occurs when Leadership and managers takes steps to increase certainty. Many existing budgetary process solutions appear to address the need for budgetary certainty by increasing the planning and/or reforecasting, which in turn increases the time required and has limited effect on money waste.

Beyond Budgeting takes a different approach by decreasing the planning and relying on competition between sub-units to cut waste and empowering staff. The effect on waste and strategic outcomes thus relies heavily on the culture that is in place. BB may therefore have limited application for organisations that cannot be treated as a collection of small business units.

Strategic Budgeting treats unpredictability as inevitable and manages it by using a buffer. Budget holders operate as normally but with their individual budgets stripped of contingency. These individual contingencies are combined into a central buffer so that savings can cover overruns and are not lost from the system. Regular funding meetings with peers can allow for fast redistribution of the central buffer funds when they are needed to cope with unexpected threats, needs or opportunities. These peer-led funding meetings should ensure that the most strategically important organisational needs are met and are less likely to be affected by information asymmetry or lack of participation. Moreover, the central buffer required can be significantly less than the sum of contingencies, as would be expected under the Central Limit Theorem.

The workshop participants and interviewees agreed that Strategic Budgeting appeared to overcome most of the issues caused by Traditional Budgeting. The first obstacle to be overcome with implementing Strategic Buffering will be the real and perceived threat to individual budget holders' autonomy, safety and security when their budget buffers are removed. As part of the implementation process, it is likely a culture change would be required, so that collaborative strategic decisions about money allocation are accepted. Saving even a portion of the expenditure waste of 20-40% (Merchant, 1985) or output waste

of 50-100% (Jensen, 2003) suggested in the literature review makes SB worth exploring further. It appears there is clear potential to reduce expenditure and/or get more outputs for the same money.

## 6.4 Summary

Underlying all problems, both perceived and real, is the unpredictable nature of costs, the negative consequences for missing budget targets and the limited funds within organisations. When the organisations who answer to stakeholders want certainty and managers want flexibility, then managers and leadership take actions to get this. The organisations require more planning and reforecasting. This in turn means that more and more time is taken up with the budgeting process. The managers build in contingency, so less money is unallocated, and competition grows between departments. The requirement to meet budget further builds barriers between departments and takes the focus away from strategic objectives. Both parties move expenses between budget lines and time periods to balance the books which also affects strategic objectives.

Analysis of the underlying conditions, conflicts and causality gives the perception that budget holders are being set up to fail. They are being held responsible for the outcomes, often after having initial estimates pared back, with limited access to more funding, in an unpredictable environment. Upper management attempts to overcome unpredictability by using planning and then reforecasting, unintentionally using up managers' time. The budget holders interviewed have various techniques for dealing with unpredictability, including adding contingency, keeping targets vague and generally moving money around within their budgets to keep themselves out of the spotlight. These measures by the Leadership and managers are directed at symptoms and have the unintended side-effects of increasing barriers between departments, disempowering staff and decreasing the organisation's strategic focus.

The articles within the literature review related to managerial agency, suggested that budget holder behaviour was them acting in self-interest and against the organisation. The interviews and the causality they affirmed, showed that the budget holders were behaving this way so they could deliver the services and projects required from their departments in changeable and unpredictable conditions. The other problems and behaviours are negative side effects of the desire to deliver.

## 6.5 Limitations

Issues with Traditional Budgeting have persisted over time and thus it was not a surprise that they were mostly present in the two New Zealand case-study organisations. However, it cannot be said with certainty that the issues are widespread throughout New Zealand, although one interviewee did comment:

> *"so, I've been exposed to the budgeting processes of 3 different councils [where I observed] similar issues and very similar processes" (SMC2)*

The two organisations are in the Not-For-Profit sector. While the Literature Review included commercial organisations, it is not known how prevalent these issues are in other New Zealand sectors. While it would be imprudent to extrapolate from such a small sample, the causality implies that if an organisation has unpredictable costs and there are negative consequences for getting budgetary estimates wrong, then that the negative effects outlined are inevitable.

## 6.6 Further research

Further investigation is required to find out how applicable the proposed causality is across other Not-For-Profits and across commercial organisations both within and beyond New Zealand, how widespread the extra undesirable effects are, as well as more work on SB as a possible solution.

Topics for further research:

- Does the proposed causality explain budgeting issues in a larger sample of Not-For-Profits organisations?
- Does the proposed causality explain budgeting issues in commercial organisations?
- Under what conditions do budget holders believe that Strategic Budgeting is a viable alternative to the Traditional Budgeting process?
- What sort of culture change would need to take place for budget holders to give up part of their budget to create the organisational buffer?
- What does a successful implementation of Strategic Budgeting look like?

## 6.7 Contributions

This research has contributed to the knowledge of budgeting and to the theory and methodology of TOC as a research tool. Whereas much of the literature has focussed on a

small part of the problem, this study has used TOC to take a holistic approach which has uncovered the causality of the issues with Traditional Budgeting. This novel approach has highlighted the following:

- The unpredictability of costs and negative consequences for not delivering outputs within budget are the two most important factors behind the problems with Traditional Budgeting.
- These two factors cause Leadership to increase planning and reforecasting, and Managers to add contingency to their budgets.
- The budgeting process therefore increases internal competition for time and money.
- This competition for time and money in turn causes siloing of departments, disempowerment of staff and a lack of strategic focus.
- Initiatives that do not address the competition for time and money, but are directed solely at siloing, disempowerment or strategic focus may therefore not have any significant impact.
- Budget holding managers are primarily driven by a desire to deliver their outputs and are generally not using gaming behaviour for the sake of it.
- Certain behaviours have been identified as amplifiers which can increase the amount of contingency added, but by themselves do not cause it.
    - This explains why researchers have found conditions which sometimes increase contingency and sometimes do not.
    - It also shows that trying to fix them directly is likely to be a further waste of time and money.
- The causality gave insights as to why alternative budgeting methods have not taken over from Traditional Budgeting.
- The causality gave insights into which drivers alternative budgeting methods are affecting.
- Any solution needs to account for unpredictability in a way that does not use up significant time and money.
- In order to implement any new solution, people will need to feel safe with the changes. This can be worked through using other TOC tools.

Looking at Traditional Budgeting in this way identified key conditions that cause the undesirable behaviours and other conditions that are amplifiers of those behaviours. TOC causal thinking forced the researcher to look beyond what the problems are, to why they are happening and how they are happening. It has given insights into why alternative budgeting methods have not been widely adopted and given the direction of a solution which addresses the core conflict.

The research has also shown the value of the TOC Thinking Processes to analyse the effects of a process like budgeting in complex business systems. The research in the literature review tended to look at the problems associated with the Traditional Budgeting process in isolation. By regarding them as symptoms, then causally linking them to a core conflict, it was possible to build a complete model that could be tested within organisations. The tools also proved useful to analyse the data once it was collected.

As well as adding to our understanding of Traditional Budgeting, this research study has shown the value of using the TOC approach to organise a literature review into a logical sequence. This helped to gain a fuller understanding of the issues and highlighted gaps to be researched within the literature or investigated in the field. It also made for more complete interviews as the whole picture could be tested.

When making sense of the data, the use of causality logic also helped to keep the researcher unbiassed. Using the tools helped to show what was missing, clarified thinking, unblocked logic and made writing the results much easier. Insights had to fit within the logic structure, or they were discarded as distractions.

## 6.8 Implications

### 6.8.1 Implications for Practice

The irony of the budgeting process is that the effort to decrease the waste of time and money is causing more waste of time and money. Leadership needs to recognise the effect that demanding more planning and reforecasting is having on staff and their ability to deliver value to outside stakeholders.

Leadership also needs to recognise that managers are not deliberately behaving to disrupt the organisation but are adding contingency to protect themselves and so they can deliver

their outputs. The other problems associated with budgeting are side-effects of this and any initiatives aimed at these side effects will not have any long-term effect.

To deliver more value, organisations, especially Not-For-Profits, often claim they need more income and more staff, which is another way of saying they need more time and money. Reducing the waste from the budgeting process, using a process like SB, would deliver that.

The biggest blockage to moving ahead with better solutions seems to be developing the right culture. This should be the focus of Leadership. The use of TOC Thinking Processes is a potential way that a problem-solving culture can be created where empowered managers collaboratively deliver more strategic value.

### 6.8.2 Implications for Research

The TOC Thinking Processes, particularly the CRT, are invaluable tools for organising a Literature Review and highlighting the pieces that are missing. The missing pieces give direction for further literature research or investigation. Conflict clouds provide a way to explain the pressure people are under when they make decisions and acted as a cross check on causality.

The CRT causality chains give a logical way to structure interviews so they are consistent, do not miss anything and the causality can be tested. Furthermore, the CRT gives a model to test any solutions.

## 6.9 Summary

The thesis has made a contribution to the body of knowledge about budgetary processes and their effectiveness, which will enable users to evaluate various alternatives for overcoming the process's shortcomings.

The thesis also demonstrates how effective TOC tools can be in theorising and understanding the causal relationships underpinning traditional budgeting processes. As such the researcher has extended the theoretical and methodological basis

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# APPENDIX 1 – CURRENT REALITY TREE FOR ORGANISATIONAL BUDGETING

# APPENDIX 1 CONT. – CURRENT REALITY TREE POLICIES

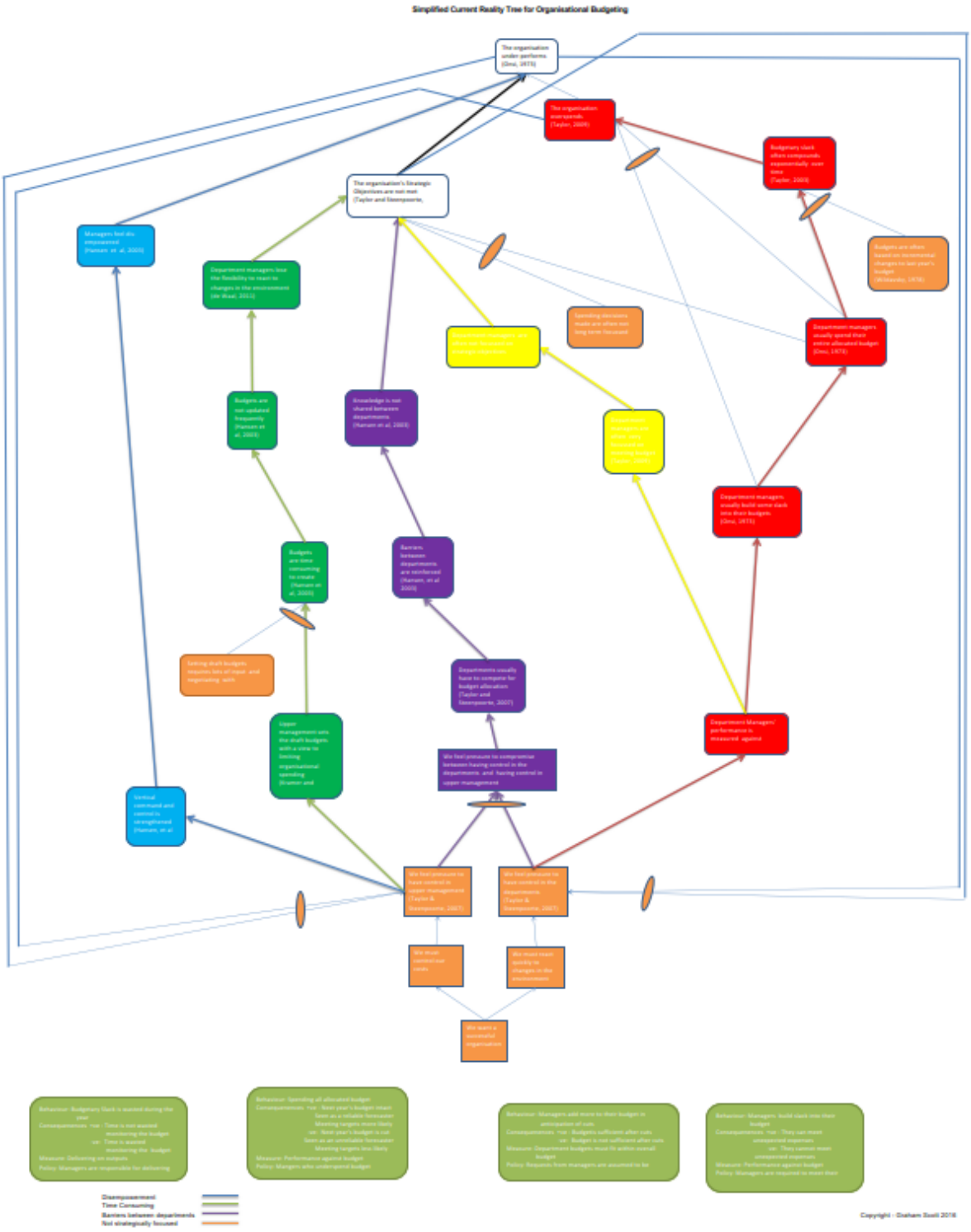
Behaviours: Budget requests are often trimmed
Managers add more to their budget in anticipation of cuts
Consequences +ve : Budget is sufficient after cuts
-ve: Budget is not sufficient after cuts
Measure: Department budgets must fit within overall budget
Policy: The overall organisational budget must be within certain limits

Behaviours: Managers build slack into their budget
Managers do not cooperate
Lots of time is spent on budgets
Consequences +ve : They can meet unexpected expenses
-ve: They cannot meet unexpected expenses
Measure: Performance against budget
Policy: Managers are required to meet their budgets

Behaviours: Budgetary Slack is wasted during the year
Budget holders do not cooperate
Focus is on department's deliverables not organisational strategies
Consequences +ve : Time is not wasted monitoring the budget
-ve: Time is wasted monitoring the budget
Measure: KPI's on delivering outputs
Policy: Managers are responsible for delivering

Behaviour: Spending all allocated budget
Consequences +ve : Next year's budget intact
Seen as a reliable forecaster
Meeting targets more likely
-ve: Next year's budget is cut
Seen as an unreliable forecaster
Meeting targets less likely
Measure: Performance against budget
Policy: Managers who underspend budget allocation are punished in some way

# APPENDIX 2 – COMMUNICATIONS CRT SHOWING MAIN THEMES




Disempowerment: Time: Competition between Departments:

Lack of Strategic Focus: Wasting Money:

APPENDIX 3 - A COMPARISON OF HOW THE VARIOUS METHODS ADDRESS THE MAIN PROBLEMS WITH TRADITIONAL BUDGETING.

| | Strategic Focus | Empowers Managers | Reduces budgetary Slack | Simple to Implement | Time efficient | Allow managers to react to external changes |
|---|---|---|---|---|---|---|
| Traditional Budgeting | **N** | **N** | **N** | **N** | **N** | **N** |
| Beyond Budgeting | **?** | **Y** | **?** | **Y** | **Y** | **Y** |
| Activity Based Budgeting | **N** | **Y** | **Y** | **NN** | **NN** | **N** |
| Rolling Forecasting | **N** | **N** | **?** | **Y** | **NN** | **?** |
| Continuous Budgeting | **N** | **N** | **?** | **Y** | **NN** | **?** |
| Zero Based Budgeting | **N** | **N** | **Y** | **N** | **NN** | **NN** |
| Strategic Budgeting | **Y** | **Y** | **Y** | **Y** | **Y** | **Y** |

**Y Addresses this issue**

**N Does not address this issue**

**NN Is worse than Traditional Budgeting**

**? Unknown/Unclear or depends on the organisation**

# APPENDIX 4 – SUGGESTED RESEARCH INTERVIEW QUESTIONS

| | **Suggested Questions** | **Obstacle, need or research finding to be tested** | **Desired effect or outcome of the question** |
|---|---|---|---|
| 1 | What is your role? How long have you been in your role? | To establish rapport and to get background information that may be useful to check against anomalies | Interviewee is more relaxed and background information has been obtained. |
| 2 | When you think about the budgetary process, what bothers you? | Researcher bias and leading questions will make data obtained less useful. An open question is more likely to allow the interviewee to answer without biasing their responses. | The interviewee has had a chance to either deny that they have any problems with the budgeting process or to unload their experiences |
| 3 | How familiar are you with the strategic aim and values of the organisation? | The ability to create slack does not always turn into actual slack. When it does, this may be due to disconnect between the department manager and the organisation. | The level of alignment between department manager and organisational strategy and values is understood |
| 3a | How are the organisations strategic goals affected by the budgetary process? | Research claims the budgetary process is not strategically focussed | The level of strategic focus when the budgets are set is known |
| 4 | How much do you participate in the budgetary process? | Participation in the budgetary process appears to influence the amount of budgetary slack | The level of participation in the budgetary process is established |
| 5 | How much of your budget is based on last year's spending? | If last year's budget contained slack, this will be carried forwards. | The degree to which slack may be carried forward has been established |
| 6 | How much does upper management know about the job you do? | Information asymmetry can influence the amount of slack built in by department managers | The existence of information asymmetry is established or eliminated |

| | | | |
|---|---|---|---|
| 7 | How likely is it that there will be changes in the external environment during the year? | Research claims that a high level of uncertainty in the external environment increases the likelihood of slack | The degree of uncertainty in the external environment has been established |
| 7a | If the environment changes, how likely is it you will need extra funding? | Not all uncertainty generates the need for funding. | The likelihood of needing extra funding during the year is established |
| 8 | How much importance is placed on your performance against budget? | Research claims that slack is proportional to the importance of performance against budget | The importance of performance against budget is established |
| 9 | What do you do if there is money left in your budget as the year ends? | Spending the entire budget is an indication that slack may exist | It is known what happens to excess funds at year end |
| 9a | What do you believe will happen if your entire budget is not spent? | Research claims managers behaviour is driven by the belief that if they underspend, then next year's budget will be cut. | The department manager's beliefs about the treatment of budget surpluses are established |
| 9b | How important is it for you to be seen as a reliable forecaster? | Research claims managers desire to be seen as reliable forecasters. | The desire for being a reliable forecaster is established or eliminated |
| 9c | Under what circumstances can spending excess budget funding help ensure you meet targets? | Research claims managers will spend excess funds as an insurance against underperformance | Spending as an insurance against missing targets is established or eliminated as a behaviour |
| 9d | Under what circumstances might spending excess budget funding not contribute to the organisation's strategic objectives? | Spending of excess slack is only wasteful if it does not contribute to the organisation's strategic objectives | It has been established whether or not all end of year spending benefits the organisation's strategic objectives |

| | | | |
|---|---|---|---|
| 10 | Under what circumstances might you consider adding slack to your budget? | Managers often have good reasons to add slack to their budgets | There is a check to ensure all possible reasons for including slack have been covered |
| 11 | If you were to have a guess, what percentage of the organisations budget might be slack? | Research claims somewhere between 20% and 40% of spending is slack and therefore could be saved | There is an estimate of how much slack might be in the organisation |
| 12 | What influence do other department managers have on your budget? | Research claims peer monitoring reduces slack | The existence of peer monitoring has been established or eliminated |

# APPENDIX 5 – ETHICS REQUIREMENTS

1. Letter of Approval
2. Information Sheets for Participants
3. Consent to Interview
4. Research Questions – Guidelines

ResearchMaster

# Human Ethics Application

| | |
|---|---|
| Application ID : | 0000023576 |
| Application Title : | What are New Zealand managers' perceptions of the problems associated with the budgeting process in their organisations? |
| Date of Submission : | N/A |
| Primary Investigator : | Graham Scott; Principal Investigator |
| Other Personnel : | Dr David Stewart; Peer Reviewer |
| | Prof Vicky Mabin; Supervisor |
| | Prof John Brocklesby; Head of School (or delegate) |

**Research Form**

**Application Type**

What type of application is this?

Research

**Information**

# Welcome to the Human Ethics Application Form

The following advice will assist you in completing this process:

## Useful information

For information about Human Ethics, go to the Human Ethics web page. A sample Participant Information Sheet and Consent Form are available on this page.

For help, please email the Ethics Administrator.

## Policy

You must read the Human Ethics Policy before beginning your application. Appendix B of the Policy contains a sample consent form, information sheet, and transcribing confidentiality form which may be useful (see last page).

Health research may require HDEC approval. To find out if your research requires this, read the HDEC Guidelines or contact the chairperson of your committee for clarification. If your research does require HDEC approval, a copy of the application must be sent to the Administrator of the HEC. Evidence of approval should also be sent to the HEC administrator

## Student research

If you are a student, check with your supervisor before filling in this form. You may need to complete School requirements before applying for ethical approval.

Student applications are automatically forwarded to supervisor(s) for approval when the form is submitted. Once the supervisor has approved it, the form is automatically forwarded for committee review. Staff applications go directly to the Committee on approval.

## Technical

This online system works best on Internet Explorer and Safari. It may not work on your iPad or tablet.

A guide to using this online form, which includes a workflow showing how the approval process works, can be downloaded here.

If your application involves other researchers, you can use the Comments function of this form to communicate about the application with each other. Click on the Application Comments or Page Comments icon on the top right of the screen to view and add comments. Comments left on the form once it is submitted will be visible to your Head of School and committee reviewers, so **remember to delete any private comments before submitting the form**.

## Process

You will normally receive an outcome of the review of your application within three weeks, unless you apply during an advertised close-down period (i.e. December and January). NO part of the research requiring ethical approval may commence prior to approval being given.

To apply for an amendment or extension to an approved application, open the approved form and click on Apply for amendment/extension. You will then be able to complete the Amendment/Extension page and resubmit the form.

**Application Details**

1. Ethics category code*

Human

Application ID

0000023576

2. Please select the appropriate committee below. Please note that:

- Education applications are now handled by the Human Ethics Committee.

Pipitea Ethics Committee

4. Title of project*

What are New Zealand managers' perceptions of the problems associated with the budgeting process in their organisations?

School or research centre*

Management

5. Please list all personnel involved in this project. Ensure that all are listed with the correct role. **If you are a student, do not add your supervisor here: you will be asked to add this information on the next page.**

**Please ensure that only one person is listed as Principal Investigator.**

To add a person, search for their Victoria ID if known, otherwise *either* their first *or* last name (whichever is the most unusual). Click on the magnifying glass to search for results.

Press the **green tick** at the bottom right corner to save the person record.

Add anybody who is involved in this project as:

- Associate Investigator
- Other Researcher
- PhD Student
- Masters Student
- Research Assistant

Click on the help button if you are having difficulty adding people to the list.*

| | | |
|---|---|---|
| 1 | Given Name | Graham |
| | Surname | Scott |
| | Full Name | Graham Scott |
| | AOU | Management |
| | Position | Principal Investigator |
| | Primary? | Yes |

6. Are any of the researchers from outside Victoria?*

- ○ Yes
- ◉ No

7. Is the principal investigator a student?*

- ◉ Yes
- ○ No

**Next time you save this form or move to a new page, a Student Research page will appear after this one. Please complete the two questions on the Student Research page.**

## Student Research

7a. What is your course code (e.g. ANTH 690)?*

MGMT591

7b. Please add your primary supervisor (the supervisor who should review this application).

If your supervisor is also the Head of School or the school ethics officer, you will need to discuss with your School who should approve this application as Head of School or delegate. The supervisor and Head of School or delegate **must not be the same person.**

To add your supervisor, search for their Victoria ID if known, otherwise *either* their first *or* last name (whichever is the most unusual).

Press the **green tick** at the bottom right corner to save the person record. *

| | | |
|---|---|---|
| 1 | Given Name | Victoria |
| | Surname | Mabin |
| | Full Name | Prof Vicky Mabin |
| | AOU | Management |
| | Position | Supervisor |

**If your supervisor is also the Head of School, you will need to assign a different person to the Head of School or Delegate role on the Signoff page.**

7c. What is your email address? (this is needed in case the committee needs to contact you about this application)*

graham@gwscott.co.nz

Note that system-generated emails (eg approval notifications) will not necessarily come to this address. System-generated emails will come to the email address stored for you in Student Records. To change the record in Student Records, log into My Victoria, and click on Student Records. You will be able to update your email address from there.

**Project Details**

9. Describe the objectives of the project*

Overseas literature has outlined many problems caused by using the traditional budgeting process. The objective of this project is to find out what New Zealand managers perceive as the problems with traditional budgeting and to determine the cause and effect logic underpinning them.

10. Describe the benefits and scholarly value of the project*

Understanding the individual problems perceived by NZ managers and their underlying causality will clearly outline the overall problem and allow for the future development of a solution.

11. Describe the method of data collection. Note that later in this form, in the Documents section, you will need to upload any relevant documentation such as interview schedule, survey, questionnaires, focus group rules, observation protocols etc. Delays are likely if the interview questions are missing from the Documents section. *

Data collection will be by semi-structured interview of 15-20 managers. A free flowing discussion is likely to uncover problems not mentioned in overseas literature and to show how the problems link with each other. Attached is a list of questions that may be used to start the interview and to prompt discussion on areas not covered.

12. Does your research have more than one phase that requires HEC approval?*

- ○ Yes
- ◉ No

**Key Dates**

If approved, this application will cover this research project from the date of approval

13. Proposed end date for data collection*

31/03/2017

14. Proposed end date for research project as a whole*

31/08/2018

**Proposed source of funding and other ethical considerations**

15. Indicate any sources of funding, including self-funding (self-funding means that you are paying for research costs such as travel, postage etc. from your own funds) (tick all that apply)

- ☐ Internally funded
- ☐ Externally funded
- ☑ Self-funded

16. Is any professional code of ethics to be followed?*

- ◉ Yes
- ○ No

16a. Name the professional code(s) of ethics *

Institute of Chartered Accountants of Australia and New Zealand (ICAANZ)

17. Is ethical approval required from any other body?*

- ○ Yes
- ◉ No

18 Depending on the characteristics of your participants or location of the research, you may need to arrange permission from another body or group before proceeding. If this is the case, explain and describe how you are addressing this*

N/A

**Treaty of Waitangi**

19. How does your research conform to the University's Treaty of Waitangi Statute? (you can access the statute from Victoria's Treaty of Waitangi page)*

The research is on NZ managers' perceptions of the problems associated with the budgeting process in their organisations and may include interviews with some Maori people. The research will respect Maori cultural values and business models and recognise the potential differences that may exist in Maori organisations

**Information about participants**

20. How many participants will be involved in your research? If you are using records (e.g. historical), please estimate the number of records*

15 - 20

21. What are the characteristics of the people you will be recruiting?*

They will all be managers who are involved in the budgeting process who work for non-commercial organisations

22. Are you specifically recruiting any of the following groups?

- Māori
- Pasifika
- Children/youth
- Students
- People who are offenders and/or victims of crime
- People with disabilities
- People in residential care
- People who are refugees

Please indicate below.*

- ○ Yes
- ◉ No

23. Have you undertaken any consultation with the groups from which you will be recruiting?*

I have spoken to 2 organisations who have offered to arrange interviews with their staff

24. Provide details of consultation you have undertaken or are planning*

I have used, and will continue to use, personal contacts to put me in touch with appropriate people in the organisation

25. Outline the method(s) of recruitment you will use for participants in your study*

The participants will be selected by senior people in the organisation who understand the project and are keen to help

26. Will your participants receive any gifts/koha in return for participating?*

- ○ Yes
- ◉ No

27. Will your participants receive any other assistance (for instance, meals, transport, release time or reimbursements)?*

- ○ Yes
- ◉ No

28. Will your participants experience any special hazard/risk including deception and/or inconvenience as a result of the research?*

- ○ Yes
- ◉ No

29. Is any other party likely to experience any special hazard/risk including breach of privacy or release of commercially sensitive information?*

- ○ Yes
- ◉ No

30. Do you have any professional, personal, or financial relationship with prospective research participants?*

- ○ Yes
- ◉ No

31. What opportunity will participants have to review the information they provide? (tick all that apply)*

- ☐ They will be given a transcript of their interview
- ☑ They will be given a summary of their interview
- ☐ Other
- ☐ They will not have an opportunity to review the information they provide

**Informed consent**

32. Will participation be anonymous? **'Anonymous' means that the identity of the research participant is not known to anyone involved in the research, including researchers themselves.** It is not possible for the researchers to identify whether the person took part in the research, or to subsequently identify people who took part (e.g., by recognising them in different settings by their appearance, or being able to identify them retrospectively by their appearance, or because of the distinctiveness of the information they were asked to provide).*

- ○ Yes
- ◉ No

33. Will contributions of participants be confidential? Confidential means that those involved in the research are able to identify the participants but will not reveal their identity to anyone outside the research team. Researchers will also take reasonable precautions to ensure that participantsż identities cannot be linked to their responses in the future.*

- ◉ Yes
- ○ No

33a. How will confidentiality be maintained in terms of access to the research data? (tick all that apply)*

- ☐ Access to the research will be restricted to the investigator
- ☑ Access to the research will be restricted to the investigator and their supervisor (student research
- ☐ Focus groups will have confidentiality ground rules
- ☐ Transcribers will sign confidentiality forms
- ☐ Other

33b. How will confidentiality be maintained in terms of reporting of the data? (tick all that apply)*

- ☐ Pseudonyms will be used
- ☐ Participants will be named only in a list of interviewees
- ☑ Data will be aggregated and so not reported at an individual level
- ☐ Participants will be referred to by role or association with an organisation rather than by name
- ☐ Names will be confidential, but other identifying characteristics may be published with consent
- ☑ Other

33c. Please provide further details about how confidentiality will be maintained in terms of reporting of the data*

Participants may be referred to by their role to help understand their perspective if they are quoted. The participants role and organisation will not be identified together so that confidentiality is maintained. As several organisations will be involved, this will be possible.

34. How will informed consent be obtained? (tick all that apply to all phases of the research you are describing in this application)*

- ☐ Informed consent will be implied through voluntary participation (anonymous research only)
- ☑ Informed consent will be obtained through a signed consent form
- ☐ Informed consent will be obtained by some other method

**Access, storage, use, and disposal of data**

35. What procedures will be in place for the storage of, access to and disposal of data, both during and at the conclusion of the research? (tick all that apply)*

- ☑ All written material will be kept in a locked file; access restricted to investigator(s)
- ☑ All electronic information will be password-protected; access restricted to the investigator(s)
- ☐ Any files stored on a USB will be encrypted or password protected*
- ☑ All questionnaires, interview notes and similar materials will be destroyed
- ☑ Any audio or video recording will be returned to participants and/or electronically wiped
- ☐ Other procedures

*Storage of data on a USB or similar device should be avoided if possible.

35b. Will the data be destroyed immediately after the conclusion of the research?*

- ○ Yes
- ◉ No

35c. How many years after the conclusion of the research will the materials be destroyed?

5.00

36. If data and material are not to be destroyed, indicate why and the procedures envisaged for ongoing storage and security

All original data will be destroyed or electronically wiped after the five year period

**Dissemination**

37. How will you provide feedback to participants?*

Once all interviews have taken place, the participants will be given a summary of their transcript.

38. How will results be reported and published? Indicate which of the following are appropriate. The proposed form of publications should be indicated on the information sheet and/or consent form*

- [ ] Publication in academic or professional journals
- [x] Dissemination at academic or professional conferences
- [x] Availability of the research paper or thesis in the University Library and Institutional Repository
- [ ] Other

39. Is it likely that this research will generate commercialisable intellectual property? (check the help text for more information about IP)*

- ( ) Yes
- (•) No

**Documents**

40. Please upload any documents relating to this application. A sample Participant Information Sheet and Consent Form are available on the Human Ethics web page.

Please ensure that your files are small enough to upload easily, and in formats which reviewers can easily download and review. To replace a document, click the tick in the column to the right of the document title. A green arrow will appear - click this arrow to upload a new document. To add a new document click on 'Add New Document', at top right of the documents window. Then enter the document name in the box that appears and click the green tick. A green arrow will appear to the right of the file name which allows you to upload the new file. *

| Description | Reference | Soft copy | Hard copy |
|---|---|---|---|
| Participant information sheet(s) | HEC-information-sheet.docx | ✓ | |
| Participant consent form(s) | HEC-consent-form.docx | ✓ | |
| Interview questions or guide | Research questions.docx | ✓ | |

**Getting feedback**

**Committee representative (peer reviewer) approval**

When you submit your application, it will be automatically forwarded to the committee representative (peer reviewer) you nominate on the Peer Review Page of this form. The peer reviewer may require you to make changes. Once the peer reviewer has finished their review, they will approve it and your application will be automatically forwarded to the Head of School you nominate on the Signoff page.

**It is important that your supervisor (if you are a student), your Head of School, and the committee representative (peer reviewer) are not the same person. Assigning the same person to more than one of these roles may create problems with your online form.**

**Emailing your application to someone**

You can email your application and any associated documents to another person at Victoria. To do this:

1. Click on the Action tab (on the left of the screen)
2. Click on Email application
3. Search for the person using **either** their first name **or** their last name (whichever is the most unusual)
4. Select the documents to include from the Document list (eg the Application PDF)
5. Click on Send or Zip and send

If you wish to send your application to someone outside Victoria, one option is emailing the application to yourself and then forwarding it.

**Assigning an informal peer reviewer**

If you want a colleague to informally review your application BEFORE you submit it, you can add them as a 'peer reviewer' under the Actions tab. Please note that this is an entirely optional, informal step you might want to take. Your application will also receive formal peer review from a Committee representative once you have hit the 'Submit' button on the Actions tab. If you add an informal peer reviewer, they will be able to access your form by logging onto ResearchMaster. They will also be able to comment on your form online. **If you are a student, don't add your supervisor to the form as a peer reviewer - to get supervisor feedback, submit the form. Your supervisor may then make comments on it and ask you to review it further before it progresses to formal peer review stage (by the committee representative you nominate on the Peer Reviewer Page).** To add an informal peer reviewer:

1. Click on the Review tab on the left of the screen
2. Click on 'Peer reviewers'
3. Search for the person using their person code if known, or **either** their first name **or** their last name (whichever is the most unusual)
4. Click on the person's name
5. You may then also want to send the peer reviewer a notification, by clicking on Notify Peer Reviewer on the Actions tab

**Peer Reviewer Page**

**Peer Reviewer (Committee representative)**

The Pipitea committee requires that you discuss your application with a Pipitea HEC representative. Please assign a committee representative below. (For Pipitea HEC guidelines and list of committee representatives, please email the Pipitea Ethics Administrator.) *

| | | |
|---|---|---|
| 1 | Given Name | David |
| | Surname | Stewart |
| | Full Name | Dr David Stewart |
| | Position | Peer Reviewer |

**Note to applicant:** Once the committee representative has approved your application, it will be forwarded automatically to your head of school for approval, and then will be received by the full committee.

**Note to peer reviewer:** Please use the comments functionality and/or emails to communicate any required changes to the applicant.

You can return the form to the applicant for further work by clicking on Actions, and then Return to Researcher.

Once you are happy with the form, please click on Actions and then Approve. The form will then be forwarded to the Head of School or delegate nominated by the applicant on the Signoff page, and the Head of School and applicant will be automatically notified.

**Checklist**

Please check the information below and tick the box at the bottom of the page. Then follow the instructions to submit.

- Have you read the Human Ethics Policy?
- Have you included an information sheet for participants which explains:
  - the nature and purpose of your research;
  - the proposed use of the material collected
  - who will have access to the material collected
  - whether the data will be kept confidential to you
  - how anonymity or confidentiality is to be guaranteed?
- Does your information sheet also include:
  - a statement about participants' right to withdraw and the final date for doing so (and is this also referred to in the consent form)?
  - a statement confirming that the research has been approved by Victoria University of Wellington Human Ethics Committee?
  - a statement about the destruction of the data at the end of the project?
  - (for students) your supervisor's name and email address?
  - Contact details for the HEC Convener should participants have ethics queries? (AProf Susan Corbett, email susan.corbett@vuw.ac.nz, telephone +64-4-463 5480)
- Have you used your VUW email address?
- Have you included a written consent form?
  - If not, have you explained on the application form why you do not need to get written consent?
- Are your information sheets and consent forms on VUW letterhead?
- Have you included a copy of any questionnaire or interview schedule you propose using?

I have gone through the checklist and completed all the relevant tasks. *

☑ Yes

**Signoff**

41. This section records sign-off by all other researchers involved in the project (the other team members listed at Q.6). Principal investigators do not need to complete this section - you signoff by submitting the application.

If co-researchers are external to Victoria University they may be unable to access this site. In this instance, the Principal Investigator may sign off on their behalf. Please upload evidence of the co-researchers' signoff (e.g., a scanned email) to the Documents page.

To sign off, do ALL 5 of the following 5 steps::

1. Click on the pencil icon on the far right of the line with your name on it
2. Click on I Accept
3. Add the date
4. Click on the green tick icon on the bottom of the signoff window
5. Go to the Actions tab and click on 'Notify lead researcher that signoff is complete'

*This question is not answered.*

Please add the Head of School or delegate - the person in your School who is responsible for Human Ethics. This person will be notified when your application is approved, and will have online access to the form.

| | | |
|---|---|---|
| 1 | Given Name | Robert |
| | Surname | Brocklesby |
| | Full Name | Prof John Brocklesby |
| | AOU | Management |
| | Position | Head of School (or delegate) |

Please ensure that you **save your application before submitting it**. Once you have saved your application, to submit it, click on 'Actions' on the left hand side of the screen and then 'Submit for review'.

**If you are a student, your application will go to your supervisor once you submit it. If you are a staff member, your application will go straight to the committee for approval once you submit it.**

If you have any feedback about this online form, please email it to ethicsadmin@vuw.ac.nz

**Amendment or extension request (available only for approved applications)**

43. Are you applying for an extension, an amendment, or both?*

- ○ Extension
- ○ Amendment
- ○ Both an extension and an amendment

*This question is not answered.*

Please check that you have answered all mandatory questions and have saved the application before submitting your form. Upload any amended documents (e.g. Paritcpant Information Sheet) at Question 40 on Documents page. To submit your form, click on the Action tab and then click on Submit for review

**Subsequent Amendments (further requests after initial amendment request has been approved)**

If you have already had an extension or amendment in the past, please answer the questions below:

44a. Do you have a second amendment request to make?

- ○ Yes
- ○ No

*This question is not answered.*

44b. Do you have a third amendment request to make?

- ○ Yes
- ○ No

*This question is not answered.*

44c. Do you have a fourth amendment request to make?

- ○ Yes
- ○ No

*This question is not answered.*

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
UNIVERSITY OF WELLINGTON

# What are New Zealand managers' perceptions of the problems associated with the budgeting process in their organisations?

## INFORMATION SHEET FOR PARTICIPANTS

Thank you for your interest in this project. Please read this information before deciding whether or not to take part. If you decide to participate, thank you. If you decide not to take part, thank you for considering my request.

### Who am I?

My name is Graham Scott and I am a Masters student in Management at Victoria University of Wellington. This research project is work towards my thesis.

### What is the aim of the project?

This aim of this project is find out how New Zealand managers perceive the budgeting process. Overseas literature cites many problems with the budgeting process. This study will gather the problems faced by New Zealand managers and explain how they interact with each other. It is the intention that this information will be used to develop an implementable solution.
This research has been approved by the Victoria University of Wellington Human Ethics Committee, reference number 0000023576.

### How can you help?

If you agree to take part I will interview you at your place of work or a convenient location nearby. I will ask you questions about the problems you perceive with the budgeting process. The interview will take 45-60 minutes. I will record the interview and transcribe it into text. You can stop the interview at any time, without giving a reason. Once I have collated the information from 15-20 interviews, I will require another 30 minutes of time to check back with you to make sure my conclusions match your perceptions. At this time I will supply you with a summary of the transcript of our discussion. You can withdraw from the study by contacting me at any point in the next 48 hours. If you withdraw, the information you provided will be destroyed or returned to you.

### What will happen to the information you give?

This research is confidential. This means that the researchers named below will be aware of your identity but the research data will be aggregated and your identity will not be disclosed in any reports, presentations, or public documentation. In order to give any quoted comments

some perspective, your broad role in the organisation may be attached to them. As there are people from multiple organisations being interviewed and the role and organisation will not be linked, then the chance of being identified is greatly reduced. However, you should be aware that in small projects your identity might be obvious to others in your community.

Only my supervisors and I will read the notes or transcript of the interview. The interview transcripts, summaries and any recordings will be kept securely and destroyed 5 years after the research ends.

**What will the project produce?**

The information from my research will be used in my Masters thesis. The information may also be used to produce conference papers or research articles. If this is the case, then the identity of the individual participants will remain confidential.

**If you accept this invitation, what are your rights as a research participant?**

You do not have to accept this invitation if you don't want to. If you do decide to participate, you have the right to:

- choose not to answer any question;
- ask for the recorder to be turned off at any time during the interview;
- withdraw from the study within 48 hours of the interview;
- ask any questions about the study at any time;
- receive a copy of your interview recording (if it is recorded);
- read over and comment on a written summary of your interview;
- be able to read any reports of this research by emailing the researcher to request a copy.

**If you have any questions or problems, who can you contact?**

If you have any questions, either now or in the future, please feel free to contact either:

| **Student:** | **Supervisor:** |
|---|---|
| Name: Graham Scott | Name: Professor Vicky Mabin |
| University email address: graham@gwscott.co.nz | School: Management |
| | Phone: 04-463-5140 |
| | Vicky.mabin@vuw.ac.nz |

**Human Ethics Committee information**

If you have any concerns about the ethical conduct of the research you may contact the Victoria University HEC Convener: Associate Professor Susan Corbett. Email susan.corbett@vuw.ac.nz or telephone +64-4-463 5480.

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
UNIVERSITY OF WELLINGTON

# What are New Zealand managers' perceptions of the problems associated with the budgeting process in their organisations?

## CONSENT TO INTERVIEW

This consent form will be held for 5 years.

Researcher: Graham Scott, Management School, Victoria University of Wellington.

- I have read the Information Sheet and the project has been explained to me. My questions have been answered to my satisfaction. I understand that I can ask further questions at any time.
- I agree to take part in an audio recorded interview.

I understand that:

- I may withdraw from this study within 48 hours of this interview, and any information that I have provided will be returned to me or destroyed.
- The information I have provided will be destroyed 5 years after the research is finished.
- Any information I provide will be kept confidential to the researcher and the supervisor. I understand that the results will be used for a Masters report and a summary of the results may be used in academic reports and/or presented at conferences.

Please cross out one of the two options following:

- *[EITHER]* My name will not be used in reports, nor will any information that would identify me.
- *[OR]* I consent to information or opinions which I have given being attributed to me in any reports on this research:
- I would like a summary of my interview: Yes ☐ No ☐
- I would like to receive a copy of the final report and have added my email address below. Yes ☐ No ☐

Signature of participant: _____

Name of participant: _____

Date: _____

Contact details: _____

**Research questions - guidelines**

| | Suggested Questions | Need or research finding to be tested | Effect |
|---|---|---|---|
| 1 | What is your role? How long have you been in your role? | To establish rapport and to get background information that may be useful to check against anomalies | Interviewee is more relaxed and background information has been obtained. |
| 2 | When you think about the budgetary process, what bothers you? | To ask an open question that will allow the interviewee to answer without biasing their responses. | The interviewee has had a chance to either deny that they have any problems with the budgeting process or to unload their experiences |
| 3 | How familiar are you with the strategic aim and values of the organisation. | The propensity to create slack does not always turn into actual slack. When it does, this may be due to disconnect between the department manager and the organisation. | The level of alignment between department manager and organisational strategy and values is understood |
| 3a | How are the organisations strategic goals affected by the budgetary process? | Research claims the budgetary process is not strategically focussed | The effect that the budgetary process on strategic focus is known |
| 4 | How much do you participate in the budgetary process? | Participation in the budgetary process appears to influence the amount of budgetary slack | The level of participation in the budgetary process is established |
| 5 | How much of your budget is based on last year's spending? | If last year's budget contained slack, this will be carried forwards. | The degree to which slack may be carried forward has been established |
| 6 | How much does upper management know about the job you do? | Information asymmetry can influence the amount of slack built in by department managers | The existence of information asymmetry is established or eliminated |
| 7 | How likely is it that there will be changes in the external environment during the year? | Research claims that a high level of uncertainty in the external environment increases the likelihood of slack | The degree of uncertainty in the external environment has been established |
| 7a | If the environment changes, how likely is it you will need extra funding? | Not all uncertainty generates the need for funding. | The likelihood of needing extra funding during the year is established |
| 8 | How much | Research claims that slack is | The importance of |

| | | | |
|---|---|---|---|
| | importance is placed on your performance against budget? | proportional to the importance of performance against budget | performance against budget is established |
| 9 | What do you do if there is money left in your budget as the year ends? | Spending the entire budget is an indication that slack may exist | It is known what happens to excess funds at year end |
| 9a | What do you believe will happen if your entire budget is not spent? | Research claims managers behaviour is driven by the belief that if they underspend, then next year's budget will be cut. | The department manager's beliefs about the treatment of budget surpluses are established |
| 9b | How important is it for you to be seen as a reliable forecaster? | Research claims managers desire to be seen as reliable forecasters. | The desire for being a reliable forecaster is established or eliminated |
| 9c | Under what circumstances can spending excess budget funding help ensure you meet targets? | Research claims managers will spend excess funds as an insurance against underperformance | Spending as an insurance against missing targets is established or eliminated as a behaviour |
| 9d | Under what circumstances might spending excess budget funding not contribute to the organisation's strategic objectives? | Spending of excess slack is only wasteful if it does not contribute to the organisation's strategic objectives | It has been established whether or not all end of year spending benefits the organisation's strategic objectives |
| 10 | Under what circumstances might you consider adding slack to your budget? | Managers often have good reasons to add slack to their budgets | There is a check to ensure all possible reasons for including slack have been covered |
| 11 | If you were to have a guess, what percentage of the organisations budget might be slack? | Research claims somewhere between 20% and 40% of spending is slack and therefore could be saved | There is an estimate of how much slack might be in the organisation |
| 12 | What influence do other department managers have on your budget? | Research claims peer monitoring reduces slack | The existence of peer monitoring has been established or eliminated |