



Independent Commission Against Corruption

NEW SOUTH WALES

MANAGING IT CONTRACTORS, IMPROVING IT OUTCOMES

AUGUST 2013



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INDEPENDENT COMMISSION Against Corruption

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Introduction

Since the first word processors appeared on workplace desks some 30 years ago, information technology (IT) has continued to revolutionise operations unlike any other aspect of corporate services. Ongoing technological leaps in the ability to access, synthesise, integrate, interrogate and disseminate information drive substantial shifts in an organisation's core business. Increasingly, clients expect to manage their interactions with government through web-based software. Universities enrol students and deliver courses on-line. Tax returns are completed on the home computer and refunds are automatically deposited into bank accounts. Parents can even analyse the performance of their child's school or register their car from a smartphone.

Decades of disruptive technological shifts and constant innovation have led to unrelenting change in organisations being driven by an area that is outside the expertise of most operational managers.

Those responsible for managing the delivery of home care for the elderly or rehabilitating prisoners, curators of museum collections, educators of disadvantaged children or providers of social housing understand first and foremost their core business. Yet, the same managers often play a key role in the IT decisions of their organisation. For managers with an expertise and focus on the core goods and services of an organisation, it is virtually impossible to get on top of the ever-transforming subject matter of IT.

This disruptive innovation also affects the IT industry structure. The result, over an extended period of time, is the perpetuation of a somewhat immature industry structure with many micro firms. While the number of large providers of IT services in Australia is small, a very large number of small providers populate the industry. Some 20,000 IT firms exist in this country, with 85% having fewer than five employees, and 500 firms with more than 20 staff.

This high number of specialised micro firms is paralleled by more than 2,000 specialist IT recruitment firms, some of which are owned by the contractors themselves. For most government agencies, some dealing with this complex contractor labour market is inevitable. With highly specialised skills required for only one project it is often inappropriate to consider IT specialists for permanent positions. Conversely, specialists in cutting-edge technologies do not want to work in an environment in which they are paid less and lose skills. Rather, specialists work in association with other micro firms, forming industry networks and associations, as needed.

The result is a heavy reliance on contract IT specialists to design and implement highly innovative projects. As innovation and skill specialisation increase on a project, the traditional methods of project control are rendered less effective. As projects become more innovative in nature – "blue sky" projects – the basic project controls of budget, specifications, timeframe, cost and measurement of deliverables can become elastic. The more innovative the project, the more difficult it is to work out what technical design and deliverables are needed or even possible, how long the project might take or cost, if it has not been done before, and realistically what deliverables can be accepted as the best possible outcome. It is not surprising that the IT area is littered with cost blowouts, delays and projects that fail to meet expectations.

As project controls weaken, the NSW Independent Commission Against Corruption ("the Commission") has seen opportunities for profiteering and corruption increase. Contractors can over-service, over-price and under-deliver. They may over-specify the needs of the organisation to increase the price. They may bid low for standard work and then mire the organisation in a long and complex implementation. Contractors may steer hardware purchases toward those organisations that provide them with a commission. They can gain control of intellectual



property (IP), making the organisation dependent on a single contractor for servicing and upgrades. Contractors may engage additional sub-contractors of lower skill, but bill them to the organisation at full price. Contractors and employees may own recruitment firms in secret through which contractors are sourced, or may have associates in the industry to whom work is directed. Position descriptions can be enhanced to include superfluous skills for a position in order to extract higher contract rates.

Insights derived from effective organisations

The question, then, is what do organisations do to keep IT projects on track, while at the same time better aligning contractor behaviour with the interests of the organisation, and reducing the opportunity for contractors and staff to act contrary to the interests of the organisation, corruptly or otherwise?

This paper presents insights into the ways a diverse group of successful organisations go about keeping control of IT contracting and dealing with the difficulties thrown up by information asymmetry between themselves and the contractor, the fragmented but highly networked IT services and recruitment sectors, and the complex and technical nature of the work being undertaken.

The Commission spoke with chief executive officers (CEOs), operations managers, IT managers, project managers and auditors from a diverse range of both public and private sector organisations in Australia about how they control IT contractors. These organisations include:

- a global IT services firm
- a state-owned energy firm
- an international property management firm

- a financial services firm
- a major accounting firm
- one of the big-four Australian banks
- a university
- a multinational publishing firm
- an entertainment organisation.

Through these conversations, IT executives, managers, and staff described in detail the steps they take to control contractors and offered insights into the functioning of their IT processes, policies, structures, and risk-control measures. Not surprisingly, these organisations have identified a broad range of approaches to controlling contractors and the contracting process.

Different project complexity, project size, risks associated with failure, organisational capabilities, and so on, demand a tailored response to keep control. While these organisations may differ on specific steps they take, all of their approaches to contractor management are aimed at effective handling of five key levers:

- 1. linking of business case to project controls
- 2. separating design and build
- 3. guarding the "gateway" through which contractors enter the organisation
- 4. managing the project management
- 5. ensuring a clear exit strategy is in place.

Conversely, the Commission's investigations and public inquiries have found that the opportunities and motivation for corrupt behaviour occurred in organisations that had not paid basic attention to one or more of these five levers. Costs, timeframes and deliverables are not tied to a comprehensive business case. Consultants engaged to design the project are not effectively segregated from contractors engaged to build. Friends and associates



as well as low-skilled contractors enter unguarded gateways to the organisation, often through capital works budgets, procurement processes or as an add-on to human resources (HR). Project managers lack the skills, motivation or capacity to supervise contractors. Contractors are able to manipulate their continued employment in the absence of an effective exit strategy.

Similar problems have arisen in other jurisdictions, as reported in Sir Peter Gershon's *Review of the Australian Government's Use of Information and Communication Technology*¹ ("the Gershon report") and the Victorian Ombudsman's *Investigation into IT-Enabled Projects*² ("the Victorian Ombudsman report").

The goal of this publication is not to provide a "how to" approach or a set of guidelines for all agencies, but rather to provide insight into the diverse range of strategies and tactics used by organisations to minimise corruption and opportunistic behaviour while achieving their IT goals. In the end, every organisation has to work out its way of managing contractors that suits their capabilities and the challenges of the project. The lesson is that regardless of the specific steps taken by an organisation, all organisations need to find a way of getting to grips with the five levers.

¹ Gershon, SP 2008, *Review of the Australian Government's Use of Information and Communication Technology*. Retrieved May 2013 from Australian Government Department of Finance and Deregulation at http://www.finance.gov.au/publications/ict-review/docs/Review-of-the-Australian-Governments-Use-of-Information-and-Communication-Technology.pdf.

² Brouwer, GE 2011, *Own motion investigation into ICT-enabled projects*. Retrieved May 2013 from Victorian Ombudsman at http://www. ombudsman.vic.gov.au/resources/documents/investigation_into_ict_ enabled_projects_nov_2011.pdf.



The business case as the project's touchstone

To a greater or lesser degree, most projects require a business case to be put to management. At the minimum, the case may consist of anticipated costs, benefits and an indicative timeframe. Even at this most basic level the business case still provides management with some degree of control over the project. With minimal information about cost, benefit and timeframe, managers are able to generate controls based on judgment of the value of the project, development of a system to monitor costs, reporting requirements on adherence to timeframes and development of outcome criteria, and the methods by which the project benefits will be measured. The controls available to management flow directly from the content of the business case.

The more thorough the business case, then the more comprehensive the range of controls available to management, the greater the probability of a successful project and less likely the opportunity for undetected corruption. Rather than simply being the launch point of a project – a point of go/no go decision – a well-designed business case provides a constant basis for the development of controls that can be used by management as the project unfolds. A well-designed business case is the touchstone to guide the project to completion.

In its report, the Victorian Ombudsman emphasised the importance of the business case as being key to the project:

The business case is the road map for the project. If an agency has an unreliable road map, it is unlikely to reach its destination – that is, to achieve the required benefits within budget and timeline ... If the project is approved, the business case becomes the core governance document for managing and measuring the project. However, many business cases were not updated throughout their life. This was despite the projects continuing over several years or more, during which time assumptions, risks, costs, timelines and technology changed significantly.³

The organisations that spoke with the Commission are in accordance with the Ombudsman's assertion, with most citing the business case as the single most important source of control throughout a project.

In recent years, a good business case and associated management plan have come to include business needs, development options (including use of external resources), costs, deliverables and broader benefits, assessment of risks (including project complexity against organisational capability), and the consequences of failure (including the financial, operational, strategic and political impacts).

Business cases and the management plans also include the milestones, pay points, steps taken to manage IP and knowledge transfer. A business case will address governance and management of the project. This includes audits of progress, project management approaches, reporting requirements, methods for verification of deliverables, and management of the engagement, performance and exiting of contractors.

From such a detailed business case, the management team is then able to develop a suite of project controls, almost regardless of its collective technical expertise. The scope of the project as set by the business case, for example, can be used to limit contractor manipulation of the project in their favour. Whether corrupt or otherwise, variations and additional functionality that alters the scope of the project are flagged and can be assessed by management using the original scope as a reference point. For example, the major accounting firm discussed with the Commission the use of a very fine-grained scope and specification within the business case as its primary control over contractors expanding the project for personal benefit.

Beyond scope controls, risks associated with the project manager and the project team can be anticipated and controls established in the business case. Specification

3 ibid, page 24.

of the design and staffing of the project management function, including issues to do with project manager skills and the role of contractors in the project team, can be set. The risks of becoming dependent on contractors and their entrenchment in the organisation can be managed by including contractor exit strategies and post-project servicing in the initial business case. Under-delivery and overcharging are reduced with clear definition of deliverables, agreed measurement methods, reporting regimes, independent oversight and independent verification of deliverables – all derived directly from the business case.

In general, a business case rich with detail allows management to develop a suite of controls based not only on overseeing accountable parties, but also controls achieved from tight design of the processes by which the project will be conducted. Insistence on tight processes for project delivery removes much of the opportunity for corrupt contractor appointments, overcharging for contractors, over-servicing and under-delivery, extension of tenure within the organisation, or development of technical specifications that deliver a corrupt benefit or commission.

The business case can also help managers maintain the link between their goals and the technical specifications of the project. A tight business case can lead to a closely-linked set of specifications. This close linkage of business case to specifications allows a second consultant to accurately review the technical specifications and provide assurance to management. Keeping management focus on the business case allows the team to operate from a position of strength. When management focuses its control efforts on the technical aspects of a project rather than using the business case as the basis of control, it can quickly find itself out of its depth. Members of the management team can become vulnerable to consultants pushing their own products and services or those of their associates. They can also be exposed to risk of exploitation by contractors who gain control of IP, embed themselves in the organisation, sell high-priced and unnecessary variations, divert work to associates, bring in poorly-skilled additional contractors and fail to deliver on time and on budget. The project can thus become a series of variations and blowouts in time and cost. As the Commission has seen, managers can end up signing-off on deliverables they do not understand to be poor value for money, developed by over-priced and under-skilled contractors who should never have gained entry to the organisation.

The inability of some organisations to develop and manage through technical specifications is so well known that some contractors will bid low on technically-specified projects, anticipating profits from the changes that they will recommend to their clients. The multiple variations needed to achieve the outcomes as the organisation shifts the specifications are compounded by extended timeframes that almost inevitably follow in such contracts.

Measures that link the business case to deliverables

The specification and measurement of deliverables is a particularly strong control that can be derived from a tight business case. Specification and agreed measures make it clear to the contractor what is expected of it and how its performance will be assessed. This also removes some opportunity to manipulate timelines and deliverables, and provides the basis for solving contractual disputes.

While ideal in many ways, specification and measurement of deliverables can be difficult in practice. The more innovative and technical the project, the more difficult it can be for management to define outcomes and agree on measurement with the contractors. Senior managers and contractors can find themselves speaking different languages; management using the language of business needs and contractors using the language of their technical specialty.

The accounting firm that the Commission spoke with ensures that communication with contractors regarding deliverables is conducted in a language that focuses on business outcomes. The firm's experience is that it is easier for both contractors and managers to understand business needs than technical matters. Like many organisations, the accounting firm judges the deliverables and measures it develops against the SMART framework as follows.

- **Specific.** The goal is defined clearly and understood by those involved. The measures are not ambiguous or open to interpretation.
- Measurable. Measurement of goal achievement is feasible in terms of the time, effort and cost to collect quality data.
- Attainable. The goals are achievable, reasonable and credible under the conditions expected. The goals are aligned with the service outcomes required and for which the contractor has responsibility.
- Relevant. What is being measured is what matters.
- Time-based. The goals and measures will occur within a clear timeframe with targets. If required, the measures will scale automatically or be adapted to forecast variations in the system or services, without the need for contract change.

Applying the SMART framework helps managers and contractors to avoid ambiguity and confusion about specification deliverables, budgets and timeframes. The number of outcomes varies by the size of the project; for example, the accounting firm defines approximately 10 to 15 SMART-aligned outcomes in its specifications for a medium-size project.

Avoiding scope creep

The launch of a project is where many of the most important decisions are made. These decisions set the direction of the entire project. It is at this point that the controls are set; where the scope is defined, deliverables are specified, and the budget and timeframe are established. Whether to manage the project in-house or to outsource the entire project is set based on an assessment of the degree of innovation, complexity, risk and level of internal competencies.

These initial settings ideally would be maintained throughout the project, giving management a continuity of control. When variations in the project deliverables do occur, they are then reflected in changes to the control parameters of budget, time, deliverables and make – buy decisions. Ideally, substantive changes in the project automatically trigger a reconsideration of the controls and the risks of continuing with the current approach.

But, despite best intentions, IT projects are notorious for running over-cost and over-budget and for under-delivery. The initial scope and plan morph into something quite different; more complex, more expensive and more risky. Often changes in the project scope do not occur in a discrete large step that causes the management to re-think the effects of shifting complexity and risk on its control of the project. Rather, the project creeps away from the original level of innovation, risk and complexity without triggering a substantial re-think of the management approach. Without such triggers, the project can become highly complex and innovative as new functionality is added without any adjustment to the original management controls.

Management begins to lose its grip on the project when budgets and timeframes are no longer definitive. At this point, project managers and contractors cannot be held tightly to deliverables, as it becomes less clear what will be possible to deliver. Management gradually finds itself without the capabilities to judge the performance of contractors.

Sometimes the scope creep is the result of what was initially a loose definition of business needs and a loose business case. Budgets and timelines are estimated based on broad needs rather than a well-understood business case. Only after the project is underway are the specific business needs and deliverables firmed up through advice from consultants and consultation with relevant departments.

When the project is managed this way, the consultant is able to continue to propose additional functionality and services, often based on a staff consultation process that generates the largest possible wish list of product capabilities. In short, the project starts to creep beyond its original scope, in favour of the contractors.

The organisations that spoke with the Commission use a variety of strategies to limit scope creep, such as:

- heightening management awareness of the problem and encouraging management to engage in rigorous questioning in order to better understand the variations to scope, price and deliverables
- embedding triggers to cause a re-think of the effectiveness of controls when the project moves beyond the original plan
- developing a tight business case that is translated into a finely-calibrated implementation plan
- developing a business case by considering the cost of changing business processes to match the software rather than vice versa
- conducting end-user consultation prior to project launch, not after approval has been given to proceed.

The accounting firm, for example, is well aware of the risks of scope creep. As its organisation nears the design phase, timelines are developed to identify and describe all critical project tasks, which are "spliced" into finer and finer detail. Plans for pricing, specifications, reporting, milestones, due diligence and timeframes are articulated in detail. This up-front planning of project tasks in fine detail allows the firm to develop a thorough corruption-risk assessment for the project. Corruption risks and conflicts of interest are identified for each step of the project. Control mechanisms are then prescribed for each of these and each task is then delegated to appropriate contractors.

For the accounting firm, at least, such a fine-grained approach helps to alert management as scope creep begins to occur. Smaller-scale variations become more easily detectible as each change has flow-on effects throughout the plan by virtue of the fine-grained approach. The ripple effect of small changes alerts management to incremented scope creep. Mid-project variations may require more deliberate decision-making, and deliberate changes across the entire project plan, triggering awareness amongst managers that the project is going off-course.

While a fine-grained plan may be the preferred control in



most cases, such an approach is not always possible. As projects become increasingly blue sky, it becomes less possible to define precisely how the project will unfold and what will be delivered.

Where fine-grained planning is not possible to the extent needed to control scope creep, the role of a well-informed management becomes increasingly important. This thinking was illustrated by the approach of the financial services firm consulted by the Commission. While this firm also plans the projects as tightly as feasible, it relies additionally on an informed and well-trained management team. The firm educates its management oversight group in the phenomenon of scope creep. Its view is that, if management understands the phenomenon of scope creep and is alert to indicators that it may be occurring, management's awareness of the phenomenon provides an important additional layer of protection.

Avoiding the customisation trap

Management control is also weakened when off-the-shelf products are bought but customisation of the product occurs, rather than the straight installation that had been planned. Sometimes this appears as a deliberate strategy to control costs by starting with a cheaper product and planning minor modifications. In other cases, the customisation of standard products appears to be driven by internal users unwilling to adjust their business activities to match the capabilities of the software.

Both the Victorian Ombudsman report and the Gershon report note that government agencies are reluctant to make the most of commercial off-the-shelf systems, despite being cheaper, faster to implement and easier for the end-user. As a rule of thumb, off-the-shelf systems usually have about 80% of the required functionality. But adjusting business practices to deal with the 20% that does not match existing business processes is too much for some.

Both reports note that the reluctance to change business processes appears to be driven by a desire not to inconvenience users, even in the short term, by a change in approach or the look and feel of a product. In one case documented by the Victorian Ombudsman, an agency purchased a commercial off-the-shelf system and "over 100 changes were made to the base package, which was customised to make it look and feel like [the existing system]... [the agency] should have re-engineered its business processes to fit the new system, rather than trying to make the system fit the [the agency's] processes".⁴

The effect is a "customisation trap", in which a project emerges over time with a significantly changed risk profile, complexity, scope, cost estimate, deliverables and timeframes, compared to the project plan that was originally approved. A straight configuration of a standard product evolves into a highly innovative project that may be beyond the capabilities, budget and acceptable timeframes of the organisation.

Scope creep driven by customisation of a standard product is a vehicle by which contractors can then over-service and obtain long-term engagement and lower performance accountability. Once the scope of the project has expanded sufficiently, the initial budget, timeframes, deliverables and risk planning cannot be used to control the contractors without a reconsideration of the enlarged project. Projects can evolve that would never have been attempted in-house had the full scope been examined at the launch. In short, management starts to lose the ability to control contractor behaviour.

⁴ ibid, page 36.

Separation of design and build

For any organisation undertaking the design and build of an IT project, it is daunting to know that the demands of the project might exceed the capability of the organisation to deliver the project. In deciding whether to outsource the contract or manage the project itself, management typically relies heavily on the risk-and-cost analyses presented within the business case. Where both the likelihood of project problems and the consequences of project problems are very high there is a preference to outsource the project in its entirety. Where the likelihood of failure is low and the consequences of failure are low. in-house solutions are naturally preferred. But when the likelihood of failure is relatively high due to the lack of internal capabilities, but the consequences are low, or where the cost premium of outsourcing is too great, then organisations can find themselves in a position where the most logical alternative is to undertake a project that they know they do not have the capability to deliver.

The internal management of projects that exceed the capabilities of the organisation, but where complete outsourcing cannot be justified on cost or risk grounds, are the most problematic in terms of project failure and corruption. Where the organisation can neither design nor build the project itself, the opportunities and motivations for consultants to design a project that favours their own interests are often quite obvious. Design proposals from consultants may include specification of equipment for which the consultants receive a benefit, or a program of work for which the consultants hold a competitive advantage, at the expense of the organisation.

In most matters the Commission has examined, managers recognised the risk of having the consultant, who is engaged for the design phase, also involved in the delivery of the build phase. Where design and build are both internally managed but delivered by consultants and contractors, most organisations separate the consultants used in the design phase from the contractors engaged in the build phase. Generally, a tender for the build excludes the consultant from participation in either the tender evaluations or tendering for subsequent purchases of goods and services. The build work is deliberately given to a different contractor. In theory, the consultants are unable to manipulate the scope to create downstream work, produce a design that only they can implement, staff the project with associates or through their recruitment firms, or otherwise divert work or sales to themselves. In theory, they act in the interests of the organisation that pays their fees.

Strengthening the design – build separation

In reality, the complex nature of relationships between the various actors in the IT industry limits the effectiveness of simple segregation of the design and build roles. In small, sub-specialty areas of IT, those scoping and designing the work will often have associations with suppliers, recruitment firms and other contractors that allow them to benefit from what happens in the separate build phase, even if formally excluded from participation.

To formally exclude the consultant from the actual purchase of equipment or provision of services in the build phase, or even from participation in the tender process for the build phase, may not necessarily be a barrier to opportunistic behaviour by the design consultant. A consultant can use the recommended scope, specifications and informal advice to managers to nudge the bulk of the work toward the consultant's associates even though they are excluded from formal roles.

The organisations that spoke with the Commission have a variety of strategies for strengthening the separation of design and build. While there is no one approach that is common, most go beyond simply limiting the involvement of the design consultant in the tender process and direct building of the project. They question or reject low consultant bids, use a second consultant to review specifications, employ a second consultant to evaluate tenders, limit the informal contact of consultants with other staff, and involve permanent staff in the evaluation of options rather than relying solely on the original design consultant. The effect is to reinforce the design and build separation by removing questionable bidders and strengthening the review of the consultant's work in a way management could not do itself.

In one case examined by the Commission, the commissions on purchases made during the build phase were an improper income source for the contractor involved in the design and specification of the project. The consultancy was priced low to gain access to the organisation and this was accepted as good value by the government department. In contrast, the major Australian bank considers very low bids for IT work to be a red flag. A very low bid is seen as an indication that the consultant is attempting to gain access to the project and the organisation for reasons other than profit. Sometimes that reason may be genuine, such as bolstering their reputation with a major bank as a client, but it is also possible that the consultant is up to something improper; from creating long-term dependency of the bank on the consultant, accessing secure IP or corruptly benefiting from manipulation of the project. The bank, therefore, automatically excludes from consideration all bids over one standard deviation from the average.

The energy firm's approach to the problem – that is, of not understanding whether the consultant has designed a system from which the consultant would benefit – is quite different to that of the bank. When the firm finds it lacks the technical knowledge to manage and control the project, it engages a second consultant at key points in the project to evaluate the work and inform management of the performance to date. The second consultant provides the link between the initial business case and the technical specification and project progress. In addition to providing management with a second view on the value of the design, and the degree of progress on the technical aspects of the project, the second consultant also provides a safeguard against consultants and contractors manipulating the design and management of the project for their own benefit.

A case of objective evaluations not being what they appear

One way consultants can breach the separation of design and build is to produce recommendations that have the appearance of being clear and objective when, in reality, they are designed to give the consultant the outcome they want. With the aim of both improving decision-making in the project design and reducing reliance on unsubstantiated consultant opinions, managers often insist on objective evaluation of options. It is quite common to use decision matrices to try to reach an objective assessment in multi-criteria decisions. The use of decision matrices allows the set of options to be evaluated against a set of criteria such as continuity of service, ability to upgrade in the future and price.

For management, the decision matrix provides some confidence that the technical options have been evaluated objectively using criteria and weights it understands and can link to the business case. Most IT project designs involve various multi-criteria decisions on a number of sets of options. The servers of companies A, B or C, for example, would constitute such a set of options. Each server has a different price, capacity, warranty, compatibility with future IT options, reliability and so on. If the decision matrix works well, management is presented with a systematic and objective rating of options. Opportunities for consultants to skew the design in their favour, at the expense of the organisation, are constrained.

If not managed, consultants can manipulate the options considered, the criteria on which they are rated, the weights given to the criteria and the assessment of the option against the criteria. The results appear objective but are skewed in the consultants' favour. The appearance of objective and clear analyses with a numerical score can be compelling, possibly making uncritical acceptance of the results more probable than if they were presented as the opinion of the consultant.

Compared to the other organisations that spoke with the Commission, a manager in the firm that owns and manages a national property portfolio takes extensive precautions against such manipulation. The manager described an experience whereby options A, B and C were evaluated by a consultant with an undeclared interest in the company that supplies option C. Option C beat options A and B in a legitimate comparison. What was not known to management is that there was an option D, which would have beaten them all. The work was steered toward the company supplying option C by the consultant leaving option D out of the analysis.

Now, the property firm manager always conducts his own market research, at least to the extent that he can make an informed assessment of the completeness of the range of options that have been presented by consultants. He is also on guard against criteria and weights that may favour a particular option or are so vaguely phrased that the evaluation can be manipulated by the consultant.

Consultants and contractors may also manipulate the decision process by choosing criteria and weights that favour their preferred option. Innocuous criteria such as "suitability for future upgrades" may be included as a decision criterion and weighted heavily. Such criteria and weights may produce a high score for the consultant's preferred option C. What management does not realise when it reviews the decision analysis is that the "suitability for future upgrades" is, at worst, not relevant or, at best, excessively weighted.

Equally difficult to detect is the validity of the scores the consultant gives to options A, B and C. If the options are assigned scores of 3, 4 and 7, respectively, management has no way of verifying the validity of the scores.

For this manager, the solution is to reduce the role of consultants in conducting assessments and in establishing criteria or weights. In addition to the consultant, the manager involves the internal end-users, operators who will actually use the finished product, in the establishment of criteria and weights. Assessment of options against criteria is carried out by an internal team rather than the consultant acting alone.

The overall effect of the manager's actions is to ensure that the best analysis has been conducted, by personally ensuring that all possible options were considered and by using internal staff to truly align the evaluation of the options to the business needs of the organisation. At the same time, the opportunity for a consultant to manipulate the analysis, whether through omission of options, manipulation of criteria or weights, or falsification of assessment of each option has been greatly reduced and the quality of the decision improved.

CASE OF PERFORMANCE, TECHNICAL AND ALLIANCE CONTRACTING

Sometimes it can make more sense to completely outsource a project. Where risks are high and the project capabilities of the organisation are low, project management and risk can be transferred to the supplier, albeit at a premium price. An example of this was described by the energy firm. When deciding whether to outsource a project, the energy firm considers the complexity of the project, the capability of the organisation to manage and deliver the project and the costs associated with the potential of failure. Different risks pose different concerns to different firms. The financial services firm is more concerned with risks around project management and security. As a general rule, though, a highly complex project that is beyond the capability of the firm and where failure has a significant impact would be completely contracted out. Both the energy firm and the financial services firm approach this high risk situation as one of contract management, not project management.

Because managers of the energy firm understand the business needs well, but the technical issues less well, their preference is to outsource through performance-based contracts. This is also the preference of the financial services firm. Deliverables on performance-based contracts are able to be specified such that managers fully understand up-front what the project will achieve, while at the same time allowing some freedom for the market to provide the best technical solution. Performance-based contracts hold contractors to deliver on a set of outcomes defined in the business case at a given price, allow the managers to set and understand the deliverables, and align the interests of contractors with the interests of the organisation.

Although performance-based contracts have significant control advantages, the more common

form of contracting is based on technical specifications. For specification-based contracting to work well, the organisation must have the capabilities to understand current IT solutions and technical possibilities. Too often, government does not have that capability and poorly-specified contracts are conducive to opportunistic behaviour by contractors. Contractors can bid low on poorly-specified contracts, knowing that variations will be necessary, and that they will be in a position to steer those variations. An independent review from a second consultant can be invaluable.

Where the project is large, complex, unpredictable or highly innovative, the risks to either party may become unacceptable. Where there is a strong history of working with a service provider, the energy firm will, for example, enter into alliance contracts to manage project delivery. While the broader arrangements of alliances are beyond the scope of this paper, the shared goals and remuneration conditions of these alliances limit the incentives and opportunities for corruption. As is typical of such arrangements, the energy firm requires its alliances to work on an open-book basis, where costs, normal profits and corporate overheads are assessed by the organisation. Risks and gains beyond these expenses are also shared.

To increase control, portions of remuneration can be held in an "at-risk account". This is a proportion of each disbursement that is linked to a contractor's performance, and represents the initial amount that the contractor can potentially forfeit due to under-performance from a given contractual specification. One approach is to make the at-risk portion of each payment equal to the contractor's profit margin.

Guarding the gateway

Nowhere is the dictum of needing the right person for the job truer than in IT contracting. Project success, in both meeting the business needs and controlling costs, depends very much on the ability of the entry process to bring in contractors with the right skills mix and characteristics – a difficult task in a highly-fragmented industry of somewhat unique sub-specialisations.

It is a particularly difficult sector from which to recruit contractors. Due to large numbers of micro firms and relatively rare specialists, thousands of recruitment companies have come into existence. For managers already struggling to fully grasp the technicalities of a one-off project, navigating such a fragmented labour market and industry to identify the right recruitment firms and contractors presents a substantial challenge. In this recruitment environment, the wrong people, the wrong price or, in some cases, a corrupt engagement is quite possible.

The organisations that the Commission spoke with pay particular attention to the ways contractors can enter the organisation – their gateways. As a general rule, these organisations have a single gateway dedicated to contractor engagement, which is well guarded. Contractors enter the organisation through this specialised process outside of HR and procurement processes. The entry of contractors into the organisation involves panels of candidates, selection by senior staff rather than the direct project manager, formal and informal background checks and always specific individuals, what many in the industry refer to as "named resources".

Where an organisation allows multiple points of entry for contractors, controlling the access of contractors becomes difficult. An organisation's defences are weakened in instances when informal panels are built on the recommendations of a number of project managers, project managers directly engage contractors, recruitment and IT service agencies select and provide contractors, contractor performance and paperwork is managed through HR or procurement instead of a specific entry point, or long-term current contractors recommend other contractors for work. Not only is there less assurance that the best people are being engaged, the more informal, devolved, multiple-entry points are vulnerable to corruption.

As the Commission has seen on several occasions, a government employee or a current contractor may own a recruitment company and use IT requirements to gain work for their clients. More profitably, they provide low-skill contractors to the project at a high-skill price, but pay the contractor at a lower level. Even without ownership of small recruitment companies, recommendations to engage contractors who are friends and relatives of the staff or existing contractors are not uncommon. One IT contractor, by virtue of his project manager position, was able to bring five of his associates onto the project, and subsequently defraud the agency of more than \$400,000.

While the general rule is that contractors should not be involved in hiring contractors, the exception may be that, where the organisation has a very tight control of scope, where deliverables are well defined and where the price has been agreed, it really does not matter who the lead contractor brings in. But this is unlikely to be the case in many government in-house project management.

Case studies in gateway control

All of the organisations that the Commission spoke with have in common a specific, dedicated gateway and processes for engaging contractors that give them the best chance of hiring the best person. Due to different risk sets associated with hiring contractors, the gateway for contractors is separated and distinct from procurement, capital works, and HR processes. The approaches used by these organisations equally safeguard against collusion between contractors and staff, resumé falsification, hiring sub-standard contractors at full price, hiring based on associations and friendships, and hiring based on financial interests in small recruitment firms.

Specific activities to control the gateway differed between the organisations that spoke with the Commission, but often include one or more of the following:

- a single gateway
- multiple reputable firms involved in recruitment
- a panel of candidates
- merit selection that involves selectors other than the project managers or existing contractors
- specific individuals hired rather than companies engaged
- formal background checks carried out by managers other than the potential direct manager of the contractor
- tapping into well-established informal networks.

A single, well-guarded gateway is the focus of the approach taken by one of the world's leading IT services organisations with which the Commission spoke. For this global services organisation, IT projects are the core business – not a support function – and it takes control of the contractor gateway very seriously. With over 200 contractors on projects at any one time, there is only one dedicated gateway within Australia by which contractors can enter the organisation. Contractor engagement is not done as an add-on to procurement and capital works or as a variation of HR practices or as choices from formal and informal panels. Nor are contractors and recruitment firms engaged on the recommendations of project managers.

This organisation manages the employment of contractors through a single gateway comprising four top-tier recruitment firms in contest. All IT contractor appointments must come through this single entry point at the organisation, regardless of whether the potential contractor is registered with the top-tier recruitment firm or a small specialist recruitment firm, is associated with an independent IT consulting firm or is recommended by employees within the organisation itself. All contractor appointments are made from a panel of candidates put forward by several recruitment firms.

The organisation appoints only named resources. Contracted IT firms or current contractors are not allowed to choose who should work on the organisation's projects. The organisation ensures it has a good understanding of the backgrounds and capabilities of everyone working on the project. Opportunities are minimised for the contractor to appoint favoured sub-contractors or the use of sub-contractors of low skill and value that are billed to the organisation at a higher rate. The IT services organisation gets the best people for the job at a relatively low cost to itself. At the same time, it is very difficult for any small recruitment firm or associate of an employee to find a way through the gateway to the panel of candidates.

The performance of each of the four recruitment firms that constitute the gateway is monitored on a balanced scorecard that considers the number of candidates put forward, the proportion appointed, the churn of contractors and contractor performance. A recruitment firm that consistently fails to deliver quality candidates risks being removed from the gateway panel.

Fees are tied to merit-based appointment of candidates put forward by the recruitment firms. Losses of reputation and future earnings stemming from poor performance and consequent removal from the gateway are unacceptable to these firms. The risk of losing their position in the gateway is a strong motivation to act honestly and perform well. The effect of the approach is to create a competitive tension that relies on both reward and punishment to align the recruitment firm incentives.

With a panel of quality candidates, the internal selection process is led by the manager of the relevant project managers. The involvement in the selection process of the direct project manager, and other contractors on the project, occurs in the context of senior management oversight. Single employees are less able to influence the contractor engagement, should an inappropriate candidate have made it through the initial contested screening.

The final step for the IT firm in the process of recruiting a contractor is to conduct background and performance checks at the gateway. Background and performance checks conducted by firms that specialise in background and resumé verification provide assurance in addition to that provided by screening and checks carried out by the recruitment firms. The IT firm can thus be relatively sure that it has engaged a contractor with the right skills and track record, and at the right price.

Resumé embellishment and fraud have become increasingly prevalent risks in IT-related projects. According to a risk consultancy firm, more than 22% of tech-industry resumés verified by the firm contained misrepresentations of academic credentials, and more than half of the resumés contained employment history discrepancies. A recruitment firm "found that 64 percent of candidates overstate their accomplishments, while 71 percent misrepresent the number of years they held a position".⁵ Another recruitment firm found that 39% of 900 surveyed workers and managers from Australian IT and finance industries had used a friend as a referee.⁶

Background verification of contractors is a central focus of the entertainment organisation with which the Commission spoke. This organisation relies heavily on electronic security, and background checking of potential contractors is particularly rigorous, in line with risk assessments of the project and around contractor engagement in this field. Contact is made with all previous and current clients of the potential contractor from within a set period, and the checks particularly focus on those clients that have ended a contract with the potential contractor. The logic being that, if there is a problem, those who have terminated the potential contractor may be the best source of information.

The entertainment organisation is also very much aware that those doing the background checks may, at best, be somewhat cursory in their approach and, at worst, corruptly linked to the candidate. To minimise the risk of a poor quality or corrupt background check, the checks are conducted by two different parts of the organisation. Some client checks are carried out by the manager of the project managers, and some are carried out by a separate governance unit. All checks follow an in-depth protocol of some 25 areas to be assessed.

In addition to formal checking, the entertainment organisation relies heavily on informal information

5 Patel, P 2009, *Experts Expect Resumé Fraud to Rise*. Retrieved May 2013 from IEEE Spectrum at http://spectrum.ieee.org/at-work/tech-careers/experts-expect-rsum-fraud-to-rise.

6 Woodard, A 2012, *The end of the embellished CV*. Retrieved May 2013 from In the Black for Strategic Business Leaders at http://www.itbdigital. com/opinion/2012/08/02/social-media-embellished-cv/. networks. An email network of similar organisations allows the manager to send out requests for information about potential contractors.

It is this informally-sourced information that many managers identified as most important. As was the case in a number of the organisations with which the Commission spoke, the energy firm also relies heavily on informal information networks and industry contacts to assess potential IT contractors. The manager of the project managers uses his industry contacts to assess the reputation of any proposed contractor. Effectively, this manager works the phones, searching out managers in a similar position who have direct or indirect experience with the potential contractor.

The major Australian bank takes informal information further. Regular meetings are scheduled with counterparts from other banks to share known risks and information. The meetings represent organised but informal information-sharing sessions across organisations facing the same risks.

For public sector managers, the question is what to do with information that may come from such due diligence efforts. How can such informally-sourced information about a contractor be properly used within the framework of administrative law? How can procedural fairness be ensured? The NSW ministerial memorandum, M2006-01, provides a useful protocol on dealing with information obtained in such an informal way.⁷ While the memorandum focuses on allegations of corruption in lobbying, the protocol for ensuring consistency with administrative law is equally applicable to most informally sourced information.

7 This memorandum is available from www.dpc.nsw.gov.au.

THE NSW PRE-QUALIFICATION SCHEME

In 2013, the NSW Department of Finance and Services introduced a scheme to pre-qualify suppliers to work with government agencies. Through this new system, IT suppliers can apply for pre-approval to undertake work for the NSW government. "For each individual scheme, guidelines and rules have been established to manage the respective risks. As risk increases, so does the level of assessment criteria".⁸ This new system may ultimately help to reduce red tape and lessen risks involved in engaging IT contractors.

Some 450 suppliers have already registered. The state registration is designed to facilitate doing business by

providing a basic level of screening of suppliers and establishing clear communication of expectations to suppliers. It is not intended to be a probity control.

Under this new scheme, there are several benefits for government consumers who engage suppliers for IT services. These include access to panels of a wider range of expert resources that can assist in development of business cases and project quality assurance reports, streamlined competitive tendering processes, and enhanced probity standards through third-party assessment and selection of suppliers.

This new scheme, however, is only a pre-qualification that streamlines business selection within government, and simply provides an extra level of security. Alone, this new scheme is not a guarantee that the best contractor will be selected or that corruption risks are significantly reduced.

⁸ NSW Department of Finance and Services, 2013, *About prequalification schemes*. Retrieved May 2013 from NSW ProcurePoint at https://www.procurepoint.nsw.gov.au/before-you-supply/prequalification-schemes/about-prequalification-schemes.

Managing project management

The quality of the final outcome of an IT project depends largely on how well the project is managed. For those managers who talked with the Commission, it is not enough to have a project plan with budget, timelines and business related outcomes as controls. Of equal importance is the management of the process and arrangements surrounding project management. The senior management groups set key parameters around the project management that give them confidence in the process. They take steps to ensure the project manager is capable and can be trusted. that the span of control of the project manager allows close supervision of contractors, that problems are not created by the contractors dominating the project team, that the project scope does not creep, that the deliverables are certified as fit for purpose by the users and that IP is retained by the organisation as planned.

According to the Gershon report, submissions from government regarding 193 recent IT projects acknowledged that 23% of projects ran over budget and 33% of projects missed their deadlines.⁹ Where the management of the project management provisions are not tight, the Commission has seen situations where the projects fail to deliver as planned, and where corrupt behaviour is common.

The management of the project management function was noted in one recent Commission investigation. A government agency had employed approximately 80% of IT staff on a contract basis, despite the fact that many of these contractors were initially engaged on a short-term basis. This created a situation whereby contractors far outnumbered permanent staff members, making their effective supervision difficult. As the project progressed, lines between staff and contractors became blurred, as contractors were called on to perform the duties of permanent staff members and, in effect, became de facto permanent employees. Corrupt appointments were made to the project team, and falsified timesheets and substandard work was approved.

Trust in the project manager

The key concern for many organisations is that project managers are in an environment where they are close to the contractors for an extended period. Operational managers perceive a real risk that existing or new professional relationships will flourish over time between the project managers and the contractors and suppliers, spawning conflicts of interest and making it harder to be sure that the information from the project managers can be trusted. Even if problem relationships do not develop, it may be in the self interest of the project manager to present cost over-runs as normal or present their failure to deliver as due to external factors at the expense of the organisation.

The importance of trust in the project manager is heightened when the project managers are hired on contract. For some of the organisations with which the Commission spoke the risk is considered unacceptable. The financial services firm, the bank and the IT services firm will not hire contract project managers under any circumstances, as they can never be sure of whose interest they are serving. Contractors managing contractors also makes project control more difficult. As projects become more innovative and budgets, costs and deliverables become less effective as controls, the role of the project manager becomes more critical in maintaining central control of the project. The risk of existing or new professional relationships developing between the project managers and the contractors and suppliers is heightened when the project manager's future interests are better served by close alliances with the contractors and suppliers

⁹ Op cit, page 18.



than with the employing organisation. For some of the organisations with which the Commission spoke the choice was between project managing internally or outsourcing the project entirely.

For others with large project offices, part of the solution is to rotate project managers across projects. Both the energy firm and the IT services firm, for example, rotate project managers on a routine basis; the coordination and hand-off costs of bringing in new project managers are outweighed by the benefit of having confidence that the project managers can be trusted and a belief that project performance is improved by a fresh set of eyes.

For smaller organisations, there are simply not enough project managers available to rotate them across projects. Nevertheless, smaller organisations are equally vulnerable to the development of close relationships within the project team and to performance problems being hidden from management. There is still a need for a second set of expert eyes to be cast over the project. Several organisations with which the Commission spoke, including the accounting firm and financial services firm, bring in a consultant or auditor at pre-set key points in the project to provide assurance to the operational managers that the project is on track.

Assurance the project manager is capable

The technical capability of the project manager is also a factor that affects project control. Ideally, internal project managers hold at least a basic level of product knowledge, preferably not significantly less than contractors, in order to make informed budgeting and financial decisions, to problem solve, to ensure overall project specifications are being met, and to steer projects towards completion. Different organisations deal with the skills of project managers in different ways. For the IT services firm, a project manager with less basic product knowledge than the contractors is not acceptable business practice under any conditions. The risk of opportunistic behaviour is simply too great. The energy firm, however, will allow an internal project manager with less technical knowledge than the contractor to manage low complexity and low risk projects but, like the accounting firm, it also engages an auditor or consultant to monitor the progress of the project at key points.

Managing span of control

For many of the organisations with which the Commission spoke, the management of project management extends beyond just monitoring and controlling project managers. These organisations also control the size of the project teams, the ratio of contractors to staff within project teams, the scope changes during the project and IP ownership and transfer.

As the project manager's span of control grows, and the proportion of contractors to be supervised grows, the capacity of the project manager to control the project team and the contractors in the team is diminished. IT projects are frequently seen as hard to control. Project team members, particularly contractors, are considered to need close supervision to ensure performance is maintained and that contractors are acting in the interests of the organisation.

In one government case examined by the Commission, there were 50 staff being supervised by a single permanent project manager. The volume of the contracted staff under this manager's responsibility, the breadth of subject areas and the fact that his staff were dispersed across different sites made oversight extremely difficult. With weak oversight, corruption risks increased and contractors were afforded discretion well beyond what was needed to perform their roles. Contractors were even allowed to take supervisory roles, including sitting on selection panels (hiring and supervising) for other contractors, identifying the need for project resources and signing confidentiality/IP agreements. This situation resulted in contractors under-delivering, corruptly using their authority to appoint other contractors with whom they held undisclosed financial relationships, assigning their associates with substandard IT skills to highly-paid roles and taking a heavy per-hour "commission" in the process.

To have assurance that a project manager can manage a team and control inappropriate behaviour most organisations keep the span of control within manageable limits. Many organisations with which the Commission spoke maintained a ratio of project manager to project staff member of between 1:6 and 1:8. A narrower ratio of 1:4 was the goal at the university and a wider 1:10 ratio was accepted at the financial services firm.

Managing the contractors in the team

The proportion of contractors on a team and the length of time they spend on a project can affect the control that contractors gain over the project and the IP being developed. In an environment where contractors and permanent staff may work together on projects side by side, permanent and contract staff can blend into a single workforce. Several managers told the Commission that keeping the contractor status clear is an important boundary that prevents blurring of responsibilities, maintains in-house decision-making authority, prevents excessive or unauthorised delegation to contractors, and prevents unauthorised sharing of internal or confidential information.

With contractors sitting outside normal performance management by HR, and carrying out tasks that project managers may find hard to assess, the assessment and management of contractors can fall between the cracks or into the too-hard basket. Worse, contractors can use their relationship with the project manager to continue their engagement regardless of performance.

It emerged from the Commission's discussions that the approaches to managing contractors within a team vary depending on the risks and whether the final goals were self-management of post-project operations or continuing the relationship with the contractor. The publishing firm, for example, combines contract release clauses with regular performance reviews to evaluate each contractor's project contribution. Subject to determinations by both project manager and operations executives, the firm reserves the right to terminate surplus or low-performing contractors within one week of a performance review. In a very different approach to the performance assessment issue, the manager at a university physically locates the contractor's workstations next to trusted, permanent employees and integrates the work of the contractor and employees. Management then consults the permanent employees to obtain performance feedback on the contractor.

Depending on circumstances, some organisations find the risk of becoming beholden to contractors unacceptable. As noted in the previous section, if contractors dominate project teams they can become informal managers of the team, and often push for this additional power. Several of the organisations with which the Commission spoke limit the proportion of contractors on any team to a pre-specified percentage. They also rotate contractors around projects after a set time period – usually about 12 months – to limit contractor ability to gain control. For the same reasons, these organisations also ensure contractor access to the business systems (relative to permanent staff) is constrained to the minimum necessary to do the job.

For other organisations and circumstances, these steps to limit contractor domination of the project team are less relevant. If the project plan, cost, time and deliverables are able to be monitored easily, or if knowledge transfer, ownership of the IP and any ability to separate from the contractors post-project are not important, then limiting the proportion or time of contractors on a project is not as relevant.

Benchmarks and milestones

Along with costs and outcomes, benchmarks and milestones are almost universally used to control project progress. Like most organisations, the accounting firm builds a strong set of benchmarks and milestones for each project it undertakes. Time schedules are defined up-front with milestones to measure each step of the project, and plans for contingencies and variations are defined up-front.

The accounting firm goes a bit further than most, however, in developing an assurance that the progress really is occurring as reported. A single auditor, separate from contractors, is selected and maintained throughout a project to monitor progress from start to finish, ensuring that the project result matches the initial design specifications. The review points throughout a project are based on expenditures or timeframes, with pre-specified outcome targets and deadlines.

A problem for some managers is what to do if a project begins to falter. The project proponents, managers and technical experts are conflicted in trying to find a solution to the problem that occurred under their management. One way to deal with this is to give the responsibility for resolution to a different management group. If a project has not reached the anticipated development targets, the financial services firm uses an independent review panel to review and examine how it is to be resolved.

Sometimes remedies can be pre-specified, such as milestone payments built into the contract. As mentioned elsewhere in the paper, the concepts of an account or profit-at-risk can be used to align the incentives of the contractor with the goals of the organisation. In practice, targets that are not carefully chosen can be counterproductive if they encourage shoddy work by the contractor simply to meet targets. Such remedies can be perceived as too harsh, which can also affect working relationships.

End-user sign-off

End-user sign-off on a project against business needs ensures the original business needs have been met. Separation of project proponents from project management and from certification of delivery reduces the ability of any one party to hide low performance or corrupt under-delivery.

If one person or close-knit group, however, is project proponent, manager and certifier of delivery, there is a strong incentive to accept whatever is delivered because failure of the project reflects badly on that individual. The incentive is to hide or explain away problems. In one matter the Commission investigated, one individual had responsibility for the project budget, sat on the oversight committee and was able to sign-off on deliverables. While the manager was not corrupt, the result was that the manager signed-off on a very poor product – the result of corruption in the contracting – rather than investigating the cause of poor performance.

In order to ensure that the product performs as expected and according to specification, the IT services firm makes certain that all projects have end-users involved in the testing and sign-off process. End-users are often more knowledgeable than senior executives on IT product function, more likely to approve only those products that successfully meet business needs, and to voice concerns if the product does not function according to established specifications. As the CEO of the IT firm stated, end-user sign-off creates a discipline that is not found with other approaches.

Exit strategy

For the organisations that spoke with the Commission, the process of exiting contractors is as closely managed as the initial engagement. If the view is that contractors are brought on to provide specialised skills relevant to a single project, there is no reason for contractors to remain on the books after the project is completed. The systems that have been developed by these organisations ensure there is no drift into long-term contractor engagement. Such systems include non-negotiable deadlines for exit, high-level internal reviews and approvals for extensions, and a straight choice of letting the contractor go or converting this engagement to a permanent role at a set time. The exit strategy is planned at the beginning of the project, with mechanisms in place for IP and knowledge transfer that reduce long-term dependency on the contractor.

For other organisations the situation becomes blurred. Long-term contractor engagement is implicitly accepted by management as a way to pay market rates when government salaries are too low. Contractors hired for a specific project become entrenched in ongoing work and are more difficult to exit.

Labour caps and hiring freezes can lead organisations to supplement staff numbers through the use of contractors, which are often paid out of capital projects where one capital project rolls into the next to maintain ongoing work. Over time, the contractors can become viewed as colleagues, albeit expensive ones. There is a tendency to forget that contractors retain their industry associations and often operate outside of normal HR controls.

The Gershon report noted that "many agencies are using contractors to top-up permanent staff to address workloads, with the contractors effectively becoming permanent staff". The review notes that "approximately 20% of staff in many agencies have been converted from full-time permanents to more highly-paid contractors". The Commission has seen cases where contractors have been in organisations for years – in one case up to a decade – and the contractors are often making management decisions, including corruptly hiring other contractors.

For most projects, reducing the high cost of the contractors as soon as possible can significantly improve project budgets. Where there is no hard and fast exit strategy and the reason for continued engagement is able to be fudged in reports to management, the environment becomes rich with opportunity for the contractor to act opportunistically. Where contractors make themselves legitimately indispensible through effective selling of their value or through manipulation and control of IP, by slowing delivery, promoting variations or colluding with or misleading managers, it can become very hard for an organisation to know what a contractor is doing and when they should exit.

Time-limited senior review of contractor engagement

To ensure the contractors leave as soon as possible, many of the organisations that spoke with the Commission use hard and fast time limits to force contractors out. The IT services firm imposes strict timeframes around review of the contractors and the total time they can remain on a project. All contractors are reviewed every three months to consider whether they still add value. The review is not conducted by the supervisor or project manager alone but by a panel made up of senior executives that includes the CEO.

After 12 months of continuous contract work, the IT services firm feels the risks and costs outweigh the benefits of continued engagement of that contractor.



Simply by virtue of their ongoing presence in the organisation, the contractor is gaining control of IP and forming close relationships with colleagues and the project manager. At one year, the contractor on a project is to be made permanent or replaced. The bank also implements this system, with a HR mechanism to convert contracted staff to full-time employees. Contractors are never engaged in long-term operational support, only on short-term capital projects.

While most organisations focus on hard end-points (such as 12-month limits) as their exit strategy, some also look at managing the incentive structures under which contractors operate. With scope creep and variations, contractors often have incentives to slow projects and impede project completion in order to extend their work contracts.

This conflict of interest may be solved by building incentives into contracts for completing projects early or devising outcome-focused contracts. For example, the financial services firm aims to motivate contractors to complete project goals by rewarding contractors with bonuses upon reaching project milestones. By building completion bonuses into contracts, IT managers can keep contractors focused on the end results and incentivised to finish projects efficiently and on time. To augment completion bonuses, some firms even attach disincentives for missed deadlines or substandard performance quality.

The reality for many organisations, however, is that bringing down an axe on contractor engagements at a set time during the project is not feasible. Even after the project is complete, there may be residual dependency on the contractor as knowledge and IP developed during the project remain in its ownership, thereby creating a reliance on the contractor for post-project servicing. Regardless of the steps taken in the management of the projects to ensure the flow of knowledge to the organisation, it is not uncommon to find organisations that remain dependent on the contractor for post-project operational support of the system.

Planning IP and knowledge transfers

For many organisations, the intention is to decisively end the relationship with the project contractors as the project concludes. Ongoing maintenance of the newly-developed systems will either be handled in-house or be managed by contractors of the organisation's choosing. To make this exit possible, the issues around IP control and knowledge transfer from contractors to permanent staff are planned from the outset of the project.

Some of the organisations that shared their approaches with the Commission emphasised the importance of limiting dependency on contractors and their IP products by adding contract clauses that gives the project owners the right to modify the product in the way they see fit without using the original contractor. The project contract can include an irrevocable, royalty-free, non-exclusive, non-transferable right to any IP the contractor has brought to the project.

Contracts can also include the provision of free updates of any software/IP created by the contractor. In this case, the company will often serve as the guinea pig for further software developments and both parties benefit from the software upgrades. Where IP is jointly shared between contractor and purchaser, there is no obligation to use the same contractor to make modifications, as it is the purchaser's property. While arrangements such as sole or joint ownership of IP can assist an organisation to reduce post-project dependency on a contractor, in practice the original contractor often remains the best person for the job, if the skills required to change the product are not available in house; the real issue becomes knowledge transfer, not IP ownership. The knowledge developed and held by the contractor can only be moved to an in-house capability over time and it is not in the interest of the contractor to facilitate such a transfer.

The financial services firm, for example, realises that not all post-project operations management can be planned up-front yet it still requires a time-limited exit strategy. The firm allows contractors to be hired for post-project support as needed, and they may remain on the team to continue operational post-project support, but with a one-year limit. One year is considered the maximum time needed to transfer IP and project knowledge to permanent staff. The firm structures into contracts a "knowledge transfer course" to ensure that jointly-owned contractor IP knowledge is transferred to full-time staff for long-term product servicing. At 12 months, post-project contractors are either offered a permanent position or terminated. This pre-set time limit and structured knowledge transfer planning help to hasten the communication of project knowledge to permanent staff and help restrict contractor manipulation of the system to stretch out its engagement.

When exiting the relationship is not an option

In some situations, it would never be sensible to hold in-house the knowledge necessary to understand and manage the project or for post-project servicing. If a project is highly specialised, the contractor will hold significant bargaining power with its detailed knowledge of the IP, and the organisation has to face the fact that there is no way around a long-term relationship with the contractor after the project is completed.

Like other organisations, when the financial services firm believes it will face such a future relationship, one where a traditional exit from the contractor arrangements will not be possible, it tends to look at alliance contracting from the beginning. The firm develops an IT strategic plan around IP issues, increasing open-source and joint IP agreements.

In many cases, IP issues are covered in labour contracts, and the financial services firm increasingly surrenders IP property rights to the contractors as an up-front bargaining chip to cut down on labour costs over the total period of the relationship. The firm includes a "collaboration clause" outlining its intention to try to work together on maintaining a piece of software over time. This is simply a statement of intent and is not binding.



Conclusion

For public sector managers, the oversight of IT projects and engagement of IT contractors is fraught with risks of delays, cost blowouts and failure to achieve project goals. The rapidly evolving IT field renders impractical many attempts to directly manage the technical aspects of IT projects – a problem heightened for managers with core expertise that is remote from IT. Managers in unrelated areas, such as child protection, nursing, custodial services or education, are often placed in the invidious position of overseeing internal IT projects.

Undertaking innovative projects within a fragmented industry of small, interrelated players only heightens the risks of contractors over-servicing, over-pricing and under-delivering. An IT contractor may:

- over-specify the needs of the organisation to boost the price
- under-price the work and then stall completion in order to augment the original quote
- steer hardware purchases toward those organisations that provide them with a commission
- gain control of IP and make the organisation dependent on a single contractor for servicing and upgrades
- engage sub-contractors of lower skill but bill them to the organisation at a price for higher skill
- own a recruitment firm in secret through which contractors are sourced or have associates in the industry to whom work is directed
- enhance position descriptions to include superfluous skills for a position in order to extract higher contract rates.

The Commission spoke with private and public sector organisations to understand how they deal with these and other risks while at the same time maximising the outcomes of their IT projects. While the details differed according to the specifics of the organisation, the projects and the risks, all of these organisations pay close attention to the following five broad levers.

- 1. Using a thorough business case to develop controls around deliverables, price and scope creep. These controls link business needs to technical specifications and run throughout the project.
- 2. Putting considerable effort into ensuring consultants that are hired for the design phase are strongly separated from the build phase. This includes rejecting low bids that may indicate some undisclosed interest, limiting the formal and informal contact of the consultant with managers, engaging a second consultant to review the work of the first, and managing decision matrices internally.
- 3. Designing a gateway into the organisation specifically for contractors. This includes using recruitment firms in contest, panels of candidates and senior members on merit selection panels, conducting informal information gathering, and formal background checks.
- 4. Closely managing the project management function. This includes assuring the skills of the project manager are adequate, that the project manager is not too close to contractors, placing limits on the project manager's span of control as well as the proportion of contractors on the team and the time contractors spend on the team, and insisting on end user sign-off and audit of progress.
- 5. Preparing an exit strategy from the beginning. This means that knowledge transfer is planned from the beginning, continued engagement is reviewed by senior management at set time periods, fixed limits on tenure are enforced, and post-project support is anticipated.



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