

Apples and apples: the DEST Business Technology Investment framework (B)

As Tony Kwan, Chief Information Officer for the Department of Education, Science and Training (DEST) approached the 2004-2005 financial year, he was confident that the newly developed Business Technology Investment framework had answered many concerns about the department's previous resource allocation system for IT projects. While, in its second year of operation, the framework needed refinement, it had proved worth developing. Kwan believed that DEST now had an objective basis from which to consider its discretionary funding decisions.

No-one in DEST called it the Business Technology Investment framework, except in formal publications. Universally it was "the Instrument", "the process" or simply "the tool".

DEST described the rationale for the development of the Instrument as "fundamentally, to drive improved value realisation from (the) investment effort."¹

The measures introduced largely involved:

- use of a comprehensive project management framework and toolset, incorporating an enhanced systems development methodology;
- adoption of a strengthened "portfolio management approach to business technology investment which emphasises a holistic, integrated and whole-of-business perspective to the evaluation"; and,

This case was written by Bob Mills, Sandy Halley and Michael Vitale for the Australia and New Zealand School of Government. It is a sequel to the case 2004-17.1 and has been prepared for teaching purposes. The use of teaching materials is restricted to accredited academics and other approved persons.

Cases are not necessarily intended as a complete account of the events described. While every reasonable effort has been made to ensure accuracy at the time of publication, subsequent developments may mean that certain details have since changed. This work is licensed under Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International Licence, except for logos, trademarks, photographs and other content marked as supplied by third parties. No licence is given in relation to third party material. Version 11-04-06. Distributed by the Case Program, The Australia and New Zealand School of Government, www.anzsog.edu.au.



¹ DEST Information Services Group, 2004.

- incorporation of a value assessment methodology to promote better measurement, evaluation and realisation of the value (or benefits) of projects over their full life cycle.

The toolset comprised a detailed project evaluation schedule, which sought to establish the value a project would produce and the risks associated with it by examining up to 35 different factors. (See *Exhibit 3*).

The toolset's four "value lenses" comprised:

- Strategic alignment, including factors such as improved stakeholder relationships and contribution to DEST objectives;
- Business process impact, including use of existing data and reduction in non-value adding activities;
- Architecture, including enhancement of future initiatives and use of standard components; and,
- Direct value return, including direct and indirect cost/benefit ratios and client demand, among many other factors.

The two "risk lenses" comprised technical risk, including technical novelty, the experience, stability and integration of the technical team, and the level of integration into existing systems; and business risk, including the number of sponsors, business team experience, and the extent of existing business rules and policy.

Each of the 35 factors was scored and then weighted, and finally presented on a "Portfolio on a Page" graph (*Exhibits 4 and 5*), which plotted the value and risk of all projects using spheres proportional to the size of individual project investments.

As Kwan explained, the Instrument was developed for discretionary projects. It would be "pretty pointless" to use it for non-discretionary payments such as renewal of software licences and payment of providers. Discretionary projects were subdivided, with corporate IT development in one bundle and business applications in the other.

Ownership and involvement

For Kwan, a key objective was to get the business groups of the Department to assume a greater sense of ownership and involvement in the selection process for IT projects. He was always looking for opportunities to link IT to the broader agenda of the department, "so that people don't look at IT as running its own show...to move on from that and change that perception, to show that what we do is very much business-driven rather than IT-driven...to align our work, our projects, our priorities with the corporate priorities of the Department."

In this strategic approach, Kwan had a strong and like-minded ally in Bill Burmester. Prior to becoming Branch Manager of DEST's Higher Education Group, Burmester had been responsible for oversight of the department's IT functions.

"We went against declaring a formal projects office," Burmester said.

"One alternative was to set up a central office to manage the [development] projects. That doesn't fit with the management culture in this organisation. It would probably be seen as a

threat to so many other areas, or as a centre that had power that others would resist out of natural good sense.”

Informally, the “projects office” role was filled by a team led by Neville Jackson, the Director (Planning and Governance) in the Information Systems Group headed by Tony Kwan. Jackson, who described himself as a change agent, had been recruited from the Department of Finance where he had worked in the outsourcing of the Australian Government’s major IT resources. His experience in cost/ benefit analysis around IT and new policy and programs enabled him to “take the policy and turn it into some practical concepts.” Bill Burmester:

“What Neville is, he’s the head of the project office but we haven’t called it that. He’s building the systems by which we can manage the process, the processes by which we make decisions. He’s assisting people with their specifications, costings, and benefit realisation. And he’s doing it gently and subtly and helpfully. It’s been a facilitative approach... If you had put a Tsar in charge of a project office and started demanding things, you would have got nowhere.”

An Instrument to define benefits

The Instrument was seen as part of overall management to ensure that projects flowed productively and realised the value that justified their selection. DEST’s motto for the process was “*Doing the right projects ... and ... Doing the projects right*”.

The rationale for the approach was “Managing Business Technology Projects to Realise Value”. The accurate identification of both costs and benefits of IT business application projects was therefore centrally important.

As CIO Kwan put it: “We have to tackle benefits realisation head on, but in a sensible manner. It is the hard part because so much is not quantifiable, so many benefits are diffuse. Our aim is to identify and quantify, where possible, those benefits...to present to the executive information and analyses to outline clearly where the money goes and what sort of benefit both direct and indirect that we get back in return.”

Both he and the Higher Education Group’s Burmester realised the need to establish trust in the process. Kwan said:

“Typically people would have no hesitation to put their hands up and ask for more money to spend on IT. But if you turn around and say: ‘OK tell us that by doing this work you will improve efficiency and productivity and you don’t need as many people, give us the saving,’ then you can imagine the typical reaction to that.”

Burmester: “If you want change to happen, the first thing to recognise is that local line areas are going to define their resource base. It’s a natural thing – cautiousness, empire-building, wanting to avoid conflict. You won’t get many managers to put their hand up and say I want a smaller area, even if they know intellectually it’s the right thing to do.”

Planning and Governance Director Neville Jackson commented that the theoretical aspects focussed on “a perennial issue for IT: ‘What is its business value? How should that be measured and what’s the proper basis for making decisions?’” where the organisation “has a deep sense that IT costs a lot more than what goes in up front.”

Implementation and operation

After some internal development during 2003, a consultancy was let with a Canberra-based consulting firm from October 2003 to January 2004, focussing on building an IT investment framework with better value measurement tools.

It was up to the Information Services Group (ISG) to recommend the best way to implement the Instrument. The fact that the Instrument was a further development of DEST's existing methods for prioritising IT projects allowed the ISG to recommend a fast-track introduction.

“We had to decide whether we would pilot this stuff [in the 2004 calendar year] or go in as a full scale implementation – give it a real test,” Jackson said.

“We chose the latter and that meant we could prove the worth of the concepts in real life through the whole cycle of decision-making and the upfront analyses that people needed to do. We knew the basic foundation was there. People were already accustomed to putting proposals in this way, so we had a sense of control over the ground rules.”

The process was designed to begin each December with the development of initial concepts, and flow through January and February with project definition and proposal preparation, with the proposals entering the evaluation stages during March, and assessments and approvals delivered by April.

Everyone involved, from CIO Kwan to the business unit managers, agreed that this time scale posed serious challenges, but it was viewed as an unavoidable consequence of the department's budgetary cycle.

Kwan approached the problem of last-minute bids by providing more support to the business managers in developing their bids, and to simplify some of the perceived complexities of the bidding process. Kwan hoped that business managers would then be able to complete their bids earlier and submit them further in advance of the deadline.

Application

Higher Education Group Manager Bill Burmester identified a number of applications for the Instrument. He had introduced a new automated, e-commerce-based financial system, centralising a number of functions, making a “huge difference – a fundamental change in the way we did business”, and leading to the reassignment of many staff.

“Those people are still working in the same branch but doing different jobs.”

“[We were not wanting] to grab resources from those areas that get business benefits from IT, but [by] identifying and quantifying the actual gain [being able to use those resources] in other areas. So when they come and say: ‘We’ve got a new project, or the Minister wants something,’ we could say: ‘Well, you’ve got five staff, we just gave them to you. We’ve liberated them from a business process.’”

Burmester suggested that executives in the public sector should push managers to demonstrate the benefits they are getting from [new] systems, even when there is no formal pressure to do so. “You’ve got to try. It’s always going to be difficult.”

The Instrument in use

There were teething problems with the introduction of the Instrument, but there were also some very positive spin-offs, not all of which appeared obvious in advance.

The major problems revolved around resources, the time and work demanded in preparing projects for their assessment, and the tight timeframe. Chief Finance Officer Craig Storen acknowledged that a very compressed business planning cycle led to a “bit of a rush” and some “short and sharp” decision-making by the committee, but said:

“That’s less of a limit on our tool than on our medium term IT planning. So the question is how do we make the tool better, faster, sharper.”

It had been a relatively straightforward process to identify both direct and indirect costs. However, the identification and, in particular, the quantification of benefits proved both technically and managerially more difficult.

Catherine Wall, Branch Manager of the Schools Group, reported that the requirements of the Instrument meant a total transformation in the way her team organised their work.

“It was a shock to them. As one example, we found it very difficult to quantify the direct benefit captured by our clients – that’s something that we’ve identified that we will have to test before next year. Our clients vary from tiny little village schools that don’t have any technology to King’s School [a large, Sydney-based private school] that has full time bursars and an office staff, and our systems need to work for all of them. The benefits generated may vary widely from school to school.”

Bill Burmester from the Higher Education Group commented: “One component was you had to get the costings side right, and we’ve improved that by many fold this year.

“You also had to get the benefit realisation side right and the first step we’ve taken in that is actually identifying the benefits. Before, every project was just described as a ‘fundamental business process’ and therefore you had to have a system to do it. You [now] have to show in addition what actually happens from that investment.

“The result of spending money on some projects is to fundamentally change business processes. IT can become so integrated in the business process that you can’t operate without it. The benefit realised there is you have got robust, secure, high-efficiency business processes as part of your day-to-day work. You can’t value that very easily, but you can at least start valuing some of the other things that emerge.”

CFO Storen acknowledged: “Putting an internal budget controller’s hat on does not work when you’re analysing IT projects in the public sector. One of the things you have to accept is that you will generate efficiencies, but it’s very difficult to get them returned to the centre.”

Funding decisions

One of the open questions regarding the operation of the Instrument was the degree to which its findings should dictate funding decisions. The argument ran that if the Instrument was robust and if it was to be open and transparent, then its findings should be applied.

One concern of the Department, and especially of the Information Services Group, was that a mechanistic tool would be likely to reject all cutting-edge and innovative projects because of their inherent risks, and the difficulties of proving value.

CIO Kwan said most people were not suggesting the Instrument should be applied mechanistically, although “if the tool is really as good as we say it is, then it should be possible to use it in that way.”

CFO Storen pointed out that quantitative analysis is only part of the decision-making process. “We’re talking about business systems developments that have a high qualitative factor around them. Then you have to gel in with the culture.

“I suppose that’s what the Information Business Technology Committee (IBTC) does. It’s a cross-section of the culture – albeit at a pretty senior level – of the Department. They’re looking at a qualitative analysis of projects and they’re trying to mesh that in with their analysis of culture and fit and the environment. We don’t actually write it or say it but I suppose that’s what the process is.”

Storen was one of several managers who reported that the Instrument had led them to reassess the way in which they prepared project proposals.

“I’m learning from this process, and as we fine-tune the model, that you can use it as a filter for your own ideas. If you work through it yourself and find that you can’t properly answer all the questions yet, then you find you might have to do some more business development work on a project before you go to put your hand out for money or start pushing it. For a business owner, it can be a very difficult process working through the model. It’s a good discipline. One of the important lessons for me is that we tend to go off half-cocked. What the process has done is bring you back to earth.”

Planning Director Neville Jackson observed that, for business groups whose proposals had been returned with a request to spell out the implications of not doing every single component of the proposed work, the process prompted an ordering of priorities and “flushed out some of the things that were highly discretionary.”

Robert Latta from International Education concurred: “The interesting part of the process was that it made us think more about the value of a project. We had a lot of argument with some business areas about why you just can’t score everything perfect. It is a matter of how we manage scarce capital resources. It’s not a precise science.”

He observed “more sharpness to the evaluation criteria that we wanted people to address in their proposals. That also brought to light a lot of interesting concepts in value realisation – measuring projects against their value.

“Where there were arguments it was because some of our proposals were not really written as well as they could have been. They were written by people who just assumed they’d get funding and they hadn’t realised that the world had moved on.”

Catherine Wall from the Schools Group said that because the tool “forces us to unbundle projects, it’s really forced us to identify our priorities and our bottom line outcome very clearly. If I then put on my Information and Business Technology Committee (IBTC) hat, it makes it much easier for us to weigh up the merits.”

Evaluation of the first year

In Higher Education Group Manager Bill Burmester's view:

“We made good progress – we're not there yet – and we've got a process by which we can keep evolving. We made better decisions this year than we did last year so the net gain to the Department is a positive. I reckon next time we do this, three quarters of the problems we had last time will be solved, and nobody will care about them, we'll just get on and do it. The other thing is that we weren't doing a very good job before, so every dollar saved is an improvement. You don't have to get to the ultimate nirvana to say that [it's] a success.”

Robert Latta from International Education said: “I think it comes down to: the tool has its limitations but it is a valuable tool, a valuable instrument to help us make better decisions. But it can't make the decisions for us.”

Accepting that “there is always going to be an element of subjectivity that presents itself as objectivity [so there has to be] institutional trust and faith that something will be delivered,” he felt the Instrument had been applied fairly.

“We didn't just say ‘there's the score’. We still had the opportunity at the end to put some subjectivity back into the process, to speak about our individual projects and how important they were to underpin our business. There was a cycle that went on - to say how might we find alternative funding sources to allow this project, can we de-scope some of them, can we look at changing timelines, so we might spread the project over three years rather than two or over one. I don't think the metrics changed that process in any way. It didn't drive it to the point where you got a score and that was it.”

Cultural elements such as trust in the process, along with technical capability, would be the key limiting factors for other departments wanting to take their resource allocation a step further as DEST has done, Tony Kwan said.

“One of the things about the IT group here is that we do have a level of credibility and people do, in a sense, trust us. We try to work in with the business groups to meet their needs in a very tangible manner so I think they value their relationship with us and that also helped us to be able to sell this new Instrument process.

Kwan assessed the first year results as “pretty good considering the timing constraints. We have a quarterly monitoring process [by the IBTC] to track all the projects and how they are traveling. My sense is that people are reasonably happy with the outcomes from the process. Then there are intangible benefits such as improved customer satisfaction and improved customer service.”

Information Services Group Director Neville Jackson cautioned that the proof of the monitoring part of the process would come when a project was seen to be failing. Then the decision would have to be made either to redesign the project to overcome obstacles or to abandon it.

Kwan was pleased with the way the two committees (CITC and IBTC) had continued to evolve. He saw the ITBC operating more in a corporate and collegiate manner. “They argue from their own interests but they're also looking at it from a corporate angle as well.” CFO Storen attributed this to the decision to subdivide the discretionary spending:

“I think [subdivisions] strengthened the process because what you have is a lot of lobbyists, and they find it very difficult to remove their lobbyist hat and try to adopt a corporate strategic approach. Splitting the projects into the two baskets got people to think, all right, let’s try to distinguish some of the corporate IT projects.”

Future challenge

Kwan believed three areas of the framework needed improvement. One was to broaden the Instrument to cover non-application projects. The Information Services Group needed to give the executive “a better idea of how we consume all of our IT resources, not in just one particular area.”

Second: “Clearly benefit realisation is where we need to focus our attention, to look at how we can identify, monitor and then realise and harvest the benefit.

“The third area is more closely related to the process. Certainly there are a number of areas where we can improve, more in the area of providing clarity for the stakeholders when they are looking at projects and to provide more support to them.

“But also there is the need for the IBTC to take on a decision-making role. In order for us to do that we really need to do better planning and better preparation. I think there has to be better training, better support and a more streamlined process.

“The CITC is focusing more on the big picture in terms of affordability and they certainly don’t want to get into the detail of assessing individual projects, provided the other committee has done its work and culled.”

For 2005-06, he said, the IBTC would be given an indicative budget and required to make a full cull, passing firm recommendations for project approval to the CITC. Given that the 2004-05 cull reduced \$14 million in bids to \$8 million, it would be a significant task.

**Exhibit 3: Agenda Papers with sample project proposal template attached
Corporate IT Committee – Meeting of 16 February 2004: Agenda Item 4**



Australian Government

Department of Education, Science and Training

IT Portfolio Management Review

The attached paper was considered by the Information and Business Technology Committee at its meeting on 10 February. The proposals received a positive response from IBTC members and the recommendations in paragraph 27 of the paper were agreed.

2. There are some key points drawn from the IBTC discussions that CITC members may wish to note:

- (a) The effectiveness of the Portfolio Management framework was dependent upon the value and risk assessment methodology being used by all business technology projects, although the extent of effort necessary would have regard to project scale and impact.
- (b) The new framework should facilitate tracking and reporting on total project costs and significant variance in these costs and value and risks over the project lifecycle, including costs across financial years. This information was a key to Steering Committees and the IBTC/CITC exercising discretion, for example on suspension or continuation of a project at key StageGates.
- (c) The Portfolio Management framework including value assessment and Total Cost of Ownership measures provide a useful methodology to review and evaluate current legacy applications for potential redevelopment, replacement or discontinuation which may lead to new BTI proposals. It is intended that planning and implementation of the dot NET migration strategy broadly follow such methodology.

3. The CIO wrote to all Group Managers on 10 February setting out details of the timetable for the 2004-05 business technology investment round including initial discussions with Group Managers on business technology strategic priorities and plans.

Recommendations

It is recommended that the CITC:

- (a) endorse the proposed improvements to the business technology investment framework summarised in paragraphs 4 to 18 of the attached Overview Paper;
- (b) note that IBTC and CITC members will be consulted out-of-session on the proposed weighting of value and risk factors that will be applied in the assessment of BTI proposals in the 2004-05 round;
- (c) note the proposed plan and timetable for the implementation of the new portfolio management framework and the 2004-05 BTI round;

- (d) note the progress towards the finalisation of the Project Management Framework (A brief status report is to be considered under agenda item 9 at this meeting).

Information Services Group
February 2004



Australian Government

Department of Education, Science and Training

Information and Business Technology Committee

Business Technology Investment: Portfolio Management Review

Purpose

This paper provides an outline of proposed enhancements to the business technology investment framework flowing from a review undertaken since August 2003. We are seeking support from the IBTC on recommendations prior to their consideration by the Corporate IT Committee (CITC).

Introduction

1. Since August 2003, Information Services Group (ISG) has been undertaking a review of the business technology investment (BTI) process drawing on the advice of APIS Consulting. The primary aim of this review was to identify and implement enhancements to the BTI process as part of an integrated “portfolio management” framework emphasising:

- (a) strengthening the application of standardised evaluation criteria related to the value of business benefits, risk and strategic alignment of new investment proposals;
- (b) improving the information available to decision-makers on relative benefit and priority of new investment proposals;
- (c) better identification and evaluation of potential benefits (and risks) at the conceptual stage of new proposals and improved mechanisms and processes for measurement, reporting and realisation of these business benefits over the project life-cycle and the longer term.

2. A major imperative for this review has been the desire of the IBTC and Corporate IT Committee to have a clearer sense of the strategic alignment and relationship between new investment proposals and to promote rigorous pursuit of value and return on investment, including potential dividends on operating efficiencies. A paper² considered by the IBTC and CITC in August last year set out a number of possible improvements to address these issues that have been examined in more detail in the context of the APIS consultancy. This consultancy has completed Stage 1 and the final report is available to the Committee on request.

3. In parallel with this work on Portfolio Management, ISG is implementing significant improvements in the project management framework for business

² Information Strategies Group Discussion Paper, *Realising Benefits from Business Technology Investment*, August 2003.

technology projects, including the DEST System Development Methodology. This enhanced Project Management Framework provides a critical foundation for many of the measures set out in this paper.

Overview

4. In its broadest sense, IT portfolio management can be understood as a practice that emphasises a holistic, integrated and whole-of-business perspective on the evaluation, prioritisation, resourcing and monitoring of IT and business technology investment. Portfolios are essentially structured groupings of investment programs selected to achieve defined business outcomes. Programs are clusters of projects that are strongly interdependent in terms of their relationship to business outcomes. For any organisation, the investment in IT can be categorised in a number of portfolios; typically:



5. Following this comprehensive approach, an organisation would seek to balance and prioritise the IT investment across the breadth of its portfolio categories in accordance with its overall strategic business objectives eg to ensure that there is recognition of the need to sustain effective business operations and also innovate and grow. At the same time, investments in the different portfolio categories are weighed against others in their category, not those extrinsic to it.

6. While the portfolio management review has considered the adoption of this broader framework, it is not intended to extend the application of the current proposals beyond the business technology projects portfolio at this stage.

7. Achievement of best practice value realisation, however, is heavily predicated on an organisation being able to compare the value³ (and risk and cost) of different project proposals (“apples with apples”). The differentiation of portfolio segments permits the definition of “value factors” (see below) and “risk factors” appropriate for projects within that segment. It is proposed to divide the business technology projects portfolio into the following segments:

- Business Services Systems - and
- Shared Services Systems.

8. This fairly straightforward division of the BTI portfolio, which broadly conforms to the main distinct system categories described in the *DEST Strategic Business Technology Framework*, is open to further refinement in light of experience.

9. Within this overall portfolio management framework, and drawing on the recommendations of the APIS consultancy, it is proposed to introduce the following measures which are designed to provide an integrated, packaged solution that addresses the aims of the review summarised in paragraph 1; what we have termed an Improved Value Realisation (IVR) strategy.

- (a) value assessment methodology
- (b) value & risk factors/metrics
- (c) value realisation process

³ We have used the term “value” to comprehend the “worth” of a project in both financial and non-financial; tangible and intangible terms. While use of this term is more in keeping with prevailing usage in portfolio management, it is interchangeable with the concept of “benefit”.

10. Each of these measures is broadly outlined below. We are confident that together they provide DEST with an opportunity to adopt an integrated series of principles based, better practices that can significantly improve the effectiveness of the BTI decision-making process and the outcomes of BTI projects.

Value Assessment Methodology

11. A Value Assessment Methodology is aimed at defining, capturing and measuring value associated with IT, which goes beyond the traditional Return-on-Investment (ROI) calculations. It accounts for tangible and intangible value (ie benefits) as well as costs and direct return and in the public sector must necessarily recognise the broader impacts comprehended by what Gartner have termed the “public value of IT”. These are less direct but no less important impacts on constituents (eg DEST clients), society and the economy.⁴ While to a greater or lesser extent BTI project proposals have addressed this broader concept of value it is planned to adopt a far more rigorous approach to the analysis of value and risks associated with a proposal and at each major stage over the project lifecycle using standard value and risk factors and metrics (see below). Other key components of this approach include:

- (d) Portfolio on a Page reporting: In order to aggregate and simplify the information presented to decision makers it is recommended that each portfolio segment be represented graphically “on a page”. An example can be found in Attachment B. These portfolio segments on a page show all of the projects in that segment according to total project cost and arranged according to the relative aggregate value and risk score.
 - While the IBTC and CITC would still need to assign overall priorities within the available resources for each portfolio segment, this cost/value/risk information would be the primary basis for decisions.
 - The effectiveness of this analysis is dependent on an assessment of all BTI projects and each individual project separately. The past practice of some Business Groups to present projects of varying “value” and “risk” to the IBTC and CITC as “omnibus” proposals from a Business Group would need to change.
- (e) StageGates: The lifecycle of BTI projects can be broken down into logical, discrete blocks of effort (stages). These stages, which are defined in the Project Management Framework, provide an opportunity for Steering Committees and the IBTC/CITC to structure resource allocation and critically review project progress, including key indicators of success across value, cost and risk. Such a review and accountability mechanism is designed to support excellence in project governance and validate earlier evidence and decisions at project initiation or later stages. It empowers decision-makers to consider on objective evidence what may be difficult choices to suspend, continue, rework or withdraw a project.
- (f) Results Chain analysis: This is a modelling technique developed by DMR Consulting that assists in the identification and mapping of causal linkages between project elements (initiatives) within a “program” and business outcomes. The utility of this technique has been demonstrated in an AEI Group trial (for the e-Business “program”) and Science (CRC programme) trial at the project conceptual stage – ie preliminary value assessment of a project and its alternatives – and over the project life-cycle.

⁴ Refer Gartner paper presented at the 2003 Symposium Itxpo titles (*ROI*) *Return on Investment in Government: Toward the Public Value of IT* Andrea Di Maio

- It is proposed to promote the use of Results Chain analysis for value self-assessment and as supplementary information for the IBTC and CITC on key project linkages and value.

Value and risk factors/metrics

12. Proposed value and risk factors have been compiled by ISG for each portfolio segment. These are set out in Appendices to the revised BTI Project Proposal template (Attachment A). These have been compiled from a range of better practice sources taking account of advice from APIS consulting as part of the review. These sources which are summarised in the final APIS review report include Gartner, the US Federal CIO Council Value Measuring Methodology and work done by NOIE on a Value Assessment Methodology for Commonwealth agencies.

13. We have seen particular merit in adopting the Gartner “five pillars of value realisation” as part of this methodology and tried to ensure that the factors are relevant to the DEST environment, including “public value of IT” measures. The five pillars are:

Strategic Alignment: The alignment of the IT investment strategy with the realisation of the organisation’s business goals and objectives.

Business Process Impact: The impact on the requirement for the company to redesign business processes, more closely integrate the supply chain or to undertake similar process-intensive initiatives.

Architecture: The integration, scalability and resilience of the databases, operating systems, applications and networks that the organisation has implemented or plans to implement.

Direct Payback: The conventionally understood “benefits” a project can deliver, such as operational efficiencies, cost reduction and better information.

Risk: Identifying the exposure of the proposed investment to failure or underachievement.

14. The selection and weighting of factors and the assignment of metrics within these pillars or value lenses must take into account the strategic priorities and standards (eg for architecture, business process improvement and risk tolerance) DEST intends to apply to new BTI investment. Each factor is normalised on a scale from zero to four. Collectively they are intended to cover the essential factors for determining a project’s value and risk for a given portfolio segment. The existing Design Criteria for BTI projects can be readily mapped to the proposed factors although we have necessarily had to refine these factors to improve their objectivity, reliability and measurability.

15. We anticipate that the initial definition of factors will need to be refined over time to reflect operational usage and a continuous improvement cycle. Further, as our implementation matures we anticipate being able to introduce additional objective measures for each factor (see the Value Measurement Methodology below). These objective measures will further strengthen our application of standardised evaluation criteria.

16. We have undertaken some testing of the proposed metrics against a sample of past BTI proposals. This has been constrained, however, by the generally limited, objective (measurable) value and risk information available in most proposals.

Value Realisation Process

17. The ability to measure value and changes to value over time is critical to the realisation of value from investments in business technology projects. A Value Measurement Methodology needs to be incorporated into DEST's Project Management Methodology. This will ensure that projects will be strongly encouraged to design and build value measurement systems tailored for the needs of a particular project, from conception to implementation. It is these value measurement systems that will provide the basis for decisions concerning any future replacement systems. However, for true value realisation to be implemented within DEST there are longer term implications for business groups and some fundamentals to be addressed; in particular:

- (g) to progressively begin identifying and assessing dimensions of value. These will form the base case against which more objective value-based investment decisions can be made in the future;
- (h) in conjunction with the consistent assessment of value, to progressively begin identifying and monitoring metrics that directly measure performance in realising the dimensions of value that are identified;
- (i) to clearly establish accountability for the realisation of value from a project over its operational life and reporting on the results achieved.

18. Together, these fundamentals establish the necessary conditions for 'full cycle governance' - that part of the value realisation process that ensures that clear, informed decisions are made to initiate, continue, modify or discontinue business technology activities.

Next Steps

19. It is proposed that the Improved Value Realisation Strategy be implemented in the 2004-05 BTI round. The implementation plan gives particular emphasis to:

- (j) refinement of the value and risk factors and metrics and finalisation before the end of February;
- (k) communication of the new requirements to Business Groups (including ISG), including through guidance material and workshops. The Precip at Attachment B when finalised is intended to contribute to a better appreciation of the changes in the process and their relationship to the new Project Management Framework.
- (l) facilitation and direct assistance to Business Groups in the development and assessment of proposals, including the use of value and risk assessment methodology and Results Chain techniques. APIS has been engaged to assist with both the workshops and this direct assistance.

20. We acknowledge that there will be lessons from this first cycle that may need to be accommodated in the design of the BTI process as DEST moves along a maturity growth path for portfolio management and value realisation.

2004-05 BTI Process

21. ISG has informally initiated the 2004-05 BTI process with a series of consultations with IT Coordinators in Business Groups in mid to late December last year. These preliminary meetings were helpful in identifying potential candidate projects for 2004-05 and providing Business Groups with an indication of the likely changes to the BTI process to implement value realisation and portfolio management concepts. The planned steps for the remainder of the BTI process is as follows. This incorporates the effort necessary to communicate and support the implementation of the improvements in the process that are the subject of this paper.

- mid to late February – Workshops with Business Groups and ISG on BTI process

- mid to late February – Refine value & risk metrics and settle weightings in consultation with IBTC & CITC members
- late February - CIO/Group Manager meetings on BTI investment strategies and priorities
- Feb-March - ISG (assisted by APIS consulting) works with Business Groups to develop, refine and assess proposals.
- 30 March – Deadline for final proposals.
- 20 April - IBTC meeting to consider all proposals
- 28 April – CITC meeting to consider IBTC recommendations.

22. These timelines are broadly consistent with those set for last years round but given past experience with late and poor quality proposals we are suggesting a slightly earlier cut off for submissions.

Project Management Framework

23. The purpose of the Project Management Framework is to establish comprehensive, practical standards for the management of business technology projects in DEST. The standards promote cost-effective processes for control over IT portfolio governance, project planning, control and reporting, software development, risks, change and quality (including conformity with DEST IT policies and architecture standards); support the realisation of project objectives, (including sustainable business benefits to DEST); and provide assurance to DEST stakeholders on the quality and effectiveness of its project governance.

24. The Framework addresses both mandatory requirements and guidance material that encompasses basic policies, principles, fundamental concepts, activity descriptions and templates for end-products.

25. The project management, software development and risk, change and quality management disciplines are currently being circulated for comment and feedback within ISG. A snapshot of the project management discipline, focussing on the role of Project Steering Committees is also available for comment and feedback.

26. Attachment B to this paper provides a high level view of the scope of the Framework incorporated in the Executive Precis⁵.

Recommendations:

27. It is recommended that the IBTC:

- (e) endorse the proposed improvements to the business technology investment framework summarised in paragraphs 4 to 18 above and refer the proposals to the CITC for consideration;
- (f) note that IBTC and CITC members will be consulted out-of-session on the proposed weighting of value and risk factors that will be applied in the assessment of BTI proposals in the 2004-05 round;
- (g) note the proposed plan and timetable for the implementation of the new portfolio management framework and the 2004-05 BTI round;
- (h) note the progress towards the finalisation of the Project Management Framework and that a detailed report on the deliverables and implementation plan will be provided to the next meeting of the IBTC.

⁵ Not included with case study

**Information Services Group
February 2004**

Attachments:

- A. (Excerpt from) Updated Project Proposal Template (including Value & Risk Factors/Metrics)



Australian Government

Department of Education, Science and Training

Business Technology Investment Proposal: { Proposal Name }

Business Technology Project Proposal: Proforma

[The Summary Sheet (Part A) would be necessary for all proposals. The depth of business case analysis and documentation in Part B could be adapted according to the scale (including cost and impact), complexity and risk of the proposal and/or the stage of development.]

Part A: Summary Sheet (1 page)

Group.....

Project Name: **Ref:**.....

Project Scope:

- Brief description of project purpose, deliverables and impact.

Benefits:

- List major benefits to DEST and stakeholders.

Costs:

- Whole of life costs and savings attributable to project and funding sought:

	Year 1 (\$'000)	Year 2 (\$'000)	Year 3 (\$'000)	Year 4 (\$'000)
Costs				
• <i>Capital (Hardware & Software) *</i>				
• <i>Other *</i>				
Total Costs				
Savings				
Total Net-Costs				
Funding (Identify source)				

Timetable:

- List project stages and target date(s) for completion (including stages that are to be covered by subsequent proposals).

Project Sponsorship/Management:

- Identify Group/Branch/Team with responsibility for project management and sponsorship.
- Contact Officer for proposal:

...../...../.....
 Group Manager
 Group

...../...../.....
 Project Sponsor
 Group

* *Capital* includes hardware and software (both acquired and internally developed). *Other* includes application maintenance and other non-capital preliminary project costs such as business case analysis.

Part B: Detailed Proposal**Project Name:** **Ref:**.....**Scope:**

- Aims & purpose of the project.
- Key deliverables at each stage.
- Key dependencies - systems, agencies, service providers.
- Key Impacts - customers, stakeholders, systems and programmes.
- Identify linkage to other current business technology proposals or projects.

Policy Drivers:

- Describe project linkage to Group Business Plan.
- What policy decisions impact on project options and timetable.
- What consideration has been given to project previously (eg by Executive or IBTC).

Base Case:

- Summarise current issue or problem (ie business need) the project proposal seeks to address.
- Identify baseline costs and performance indicators which quantify business need (eg service levels) and for which improvement is sought.

Alternatives:

- Identify realistic alternatives to proposal. Address in the sections below the benefits, costs and risks of all options (including the preferred option being proposed).

Value:

- Complete the Value Assessment table at Appendix C (for Business Services Systems) OR Appendix D (for Shared Services Systems). This will involve, for example:
 - Identifying measurable and realisable returns expected from the project, both qualitative (eg improved service and program effectiveness) and quantitative (eg efficiencies leading to reduced cost of outputs).
 - Identifying benefits that may not be measurable eg enablement of future initiatives (architecture).
- Indicate the timeframe over which benefits will be realised and how these will be measured (and reported, where appropriate).
- Link benefits to business objectives, outputs and outcomes.
- Address feasibility (of both technology and business process changes) and constraints on scope of project and realisation of benefits.

Costs:

- Identify, and estimate as accurately as possible, all costs associated with each phase of the project (and alternatives). These estimates are independent of whether funding is being sought.

- ❑ For projects in the early exploratory stage, broad-scale estimates of total project cost for business solution should be identified where possible.
- ❑ The full life-cycle costs of assets (including software) should be estimated recognising the costs of replacement and any additional costs of support.
- ❑ Apply sensitivity analysis where appropriate eg material costs (& savings) with potential high variability including time, capital and continuing costs.
- ❑ Identify key assumptions impacting on costs, savings and funding.
- ❑ How are actual costs (expenses) to be measured (and reported, where appropriate) against budget allocation and project phases?
- ❑ Identify funding sought for project and source:
 - Group budget allocation, ISG or supplementation;
 - Departmental or Administered item - with some explanation.
- ❑ Identify realisable savings and whether these are available as offsets to funding sought.
- ❑ Complete attached table, adapted as necessary for project scope.

Cost/Benefit Financial Analysis

- ❑ Where appropriate (eg high cost/risk projects), a cost/benefit analysis⁶ should be presented incorporating:
 - value of each alternative after costs have been deducted from benefits;
 - sensitivity analysis; and
 - Discounted Cash Flow (DCF) expressed as Net Present Value for each alternative.
- ❑ Incorporate the rating of the cost benefit ratio (for internal and external benefits) in the Value Assessment table (Appendix C or D)

Risks:

- ❑ Identify and rate key risks impacting on the project and its alternatives. Describe key risk management and control strategies.
 - Risk impacts on costs and benefits and the probability of project success. They can derive from particular technology (including security issues), business processes or operations, relationships with clients and/or service providers.
 - Risks may relate to the project itself (development and implementation) and/or the proposed business technology solution, when implemented.
- Complete the Risk Assessment Table at Appendix B

Project Governance:

- ❑ Summarise project management arrangements including:
 - identify project sponsor, participant work units, agencies or organisations and responsibility for project management; and
 - project stewardship/reporting structure.
- ❑ List Key Project Success factors, KPIs and planned performance reporting.

⁶ The ANAO Better Practice Guide: Internet Delivery Decisions (Section 2) provides a worked example of this financial analysis.

Business Technology Project Proposal

Costing Schedule

		Year 1 (\$'000)	Year 2 (\$'000)	Year 3 (\$'000)	Year 4 (\$'000)
Costs (by Project Stage)					
(a)	Envisioning – develop concept and prepare and evaluate proposal	Other			
(b)	Planning – Establish scope, objectives and requirements, develop solution options and identify end-products, resources schedule and budget	Other			
(c)	Developing – Design, build and validate business and technology solutions	Capital			
		Other			
(d)	Delivering – Deliver the solution and contribute to service delivery knowledge.	Capital			
		Other			
(e)	Post-project Costs – System support and maintenance	Other			
(f)	Post-project costs – System enhancements and replacement	Capital			
		Other			
Sub-Total Costs;		Capital			
		Other			
TOTAL COSTS					
Savings (identify source)					
TOTAL COSTS NET OF SAVINGS					
Funding (Identify source)		Capital			
		Other			

Key Assumptions:

- Figures should be based on estimated (or proposed) cash flows and not accrual expenses such as depreciation.
- Costing for Project Stages can be expanded, combined and/or omitted, as appropriate.
- Capital includes hardware and software (both acquired and internally developed). These should be separately identified in the costing assumptions.
- Application Development Capital costs for internally developed software must be estimated in accordance with DEST's accounting policies and Section 3.5 of the *Financial Management Manual*. These costs include:
 - direct costs of materials and services for developing and obtaining internal-use software (including installation costs);
 - payroll and payroll-related costs for employees directly associated with and inputting effort to the software development project.
- Savings reflect efficiency gains that are realisable in budgetary terms

**Business Technology Investment Proposal: Risk Assessment
(Appendix B)**

Title of Project: [\[Insert title\]](#)

Technical Risk								
Risk Factor		Score (Descriptor)					Score	Weight
		0	1	2	3	4		
1	Technical novelty	Proven					New	
2	Alignment with architecture	Strong					Weak	
3	Technical team	Experienced					Inexperienced	
4	Team location	One					Many	
5	System platforms	One					Many	
6	Level of integration	Stand-alone					Fully integrated	
7	Transaction volume	Low					High	
8	Fault tolerance	High					Low	
						Average Score =		
						Weight Adjusted Average Score =		100%

**Business Technology Investment Proposal: Risk Assessment
(Appendix B)**

Business Risk								
Risk Factor		Score (Descriptor)					Score	Weight
		0	1	2	3	4		
1	Sponsor	One				None/Many		
2	Objectives	SMART				Vague		
3	Unresolved Issues	Few				Multiple		
4	Business Team	Experienced				Inexperienced		
5	Time to completion	Loose/Flexible				Tight		
6	Geography	One location				National		
7	Business Rules	Established				Non-existent		
8	Policy	Established				Non-existent		
						Average Score =		
						Weight Adjusted Average Score =		100%

**Business Technology Investment Proposal: Risk Assessment
(Appendix B)**

**Portfolio Segment : Business Services Systems
(Form A)**

Title of Project: [Insert title]

Value Lens	Value Factor		Score (Descriptor)					Score	Weight
			0	1	2	3	4		
Strategic Alignment	1.1	Improved stakeholder relationships	No impact	Some impact on a small number of stakeholders	Some impact on a large number of stakeholders	Significant impact on a small number of stakeholders	Significant impact on a large number of stakeholders		
	1.2	Contribution to achievement of whole of Government objectives for integrated service delivery	No contribution		Limited contribution to whole of government objectives for integrated service delivery		Demonstrable contribution to whole of government objectives for integrated service delivery		
	1.3	Contribution to / Improvement in client trust & confidence in services.	No improvement.	Some improvement in client trust and confidence in services to a small number of clients	Some improvement in client trust and confidence in services to a large number of clients	Significant improvement in client trust and confidence in services to a small number of clients	Significant improvement in client trust and confidence in services to a large number of clients		
	1.4	Improved client & constituent understanding of Government policies and programmes.	No improvement	Some improvement to a small number of clients and their understanding of Government policies and programmes	Some improvement to a large number of clients and their understanding of Government policies and programmes	Significant improvement to a small number of clients and their understanding of Government policies and programmes	Significant improvement to a large number of clients and their understanding of Government policies and programmes		

**Business Technology Investment Proposal: Risk Assessment
(Appendix B)**

Value Lens	Value Factor		Score (Descriptor)					Score	Weight
			0	1	2	3	4		
	1.5	Improved client access to information & services (eg new service channels & increased traffic/usage)	No improvement	Some improvement to access to information and services to a small number of clients	Some improvement to access to information and services to a large number of clients	Demonstrable and significant improvement to information and services to a small number of clients	Demonstrable and significant improvement to information and services to a large number of clients		
Business Process Impact	2.1	Use of existing data to support multi-service delivery	No re-use of existing data.	Minimal use of existing data to support multi service delivery	Some use of existing data to support multi service delivery.	Significant use of existing data to support multi service delivery	Full use of relevant existing data to support multi service delivery		
	2.2	Reduction in non-value-adding activities, support for economies of scale, reduction in data duplication	No reduction	Some reduction to the proportion of value added to non value added activity for few business processes	Some reduction to the proportion of value added to non value added activity for many business processes	Significant reduction to the proportion of value added to non value added activity for few business processes	Significant reduction to the proportion of value added to non value added activity for many business processes		
	2.3	Adaptability of technology to changes in business processes eg Flexibility to reflect new regulatory and/or Government policy changes; new organisational structures.	Negative - impedes business process change	Provides process change support for core transactions	Allows for configuration of some key process areas	Allows for configuration of all key process areas	Provides totally configurable business process support		
	2.4	Adoption of DEST model business processes for functions supported including automated, on-line processes for claims, payments and revenue collection.	No adoption	Minimal adoption of DEST model business processes	Limited adoption of DEST model business processes	Significant adoption of DEST model business processes	Full adoption of all relevant business model processes.		
	2.5	Integration of business processes with clients and/or business partners.	No integration	Partial integration across some business processes for some clients	Partial integration across all business processes for all clients	Fully integrated across some business processes for some clients	Fully integrated across all business processes for all clients		

**Business Technology Investment Proposal: Risk Assessment
(Appendix B)**

Value Lens	Value Factor		Score (Descriptor)					Score	Weight
			0	1	2	3	4		
Architecture	3.1	Enablement of future initiatives	Low flexibility, scalability or potential reusability of application architecture	Medium Flexibility, scalability and identified potential reusability of application architecture or business model	High Flexibility, scalability & identified potential reusability of application architecture	Enablement of identified future initiative(s)	Enablement of identified future initiative(s) as project deliverable(s)		
	3.2	Use of common/standard application components and/or shared infrastructure and data management systems.	Use of non-standard infrastructure or data management systems	Use of shared infrastructure and data management systems	Use of common/standard application components, through cloning and customisation	Use of common/standard application components and shared infrastructure and data management systems with some customisation of components	Use of common/standard application components and shared infrastructure and data management systems without customisation.		
	3.3	Integration with other DEST service delivery channel(s) including consistency in web interface	None	Identified potential future integration with existing channels	Future integration with existing channels planned	Integration with existing channels with some need to customise these	Integration with existing channels without need to customise these		
	3.4	Integration with Shared Service Systems	None	Development of new interface	Development of new interface that will be reused	Use of standard interfaces with some customisation of these required	Use of standard interfaces with no customisation of these required		
Direct Value Return	4.1	Cost to <u>Internal</u> Benefits Ratio: <i>Cost = additional costs incurred by project</i> <i>Internal benefits = Measurable and realisable improvement in internal operational efficiency and/or productivity - cost reduction, cost avoidance</i>	Less than 0.5	0.5	1	1.5	2 or better		

**Business Technology Investment Proposal: Risk Assessment
(Appendix B)**

Value Lens	Value Factor		Score (Descriptor)					Score	Weight
			0	1	2	3	4		
	4.2	Cost to External Benefits Ratio: <i>Cost = additional costs incurred by project</i> <i>External benefits = Measurable NET improvement in client and/or business partner operational efficiency and/or productivity - cost reduction, cost avoidance</i>	Less than 0.5	0.5	1	1.5	2 or better		
	4.3	Improvement in client service quality - faster delivery, improved client satisfaction and/or reduced client complaints or problems.	None	Identifiable improvement in client service quality to a small number of clients	Identifiable improvement in client service quality to a large number of clients	Measurable and considerable improvement in client service quality to a small number of clients	Measurable and considerable improvement in client service quality to a large number of clients.		
	4.4	Client demand for service improvements	Low		Medium		High		
	4.6	Improvement in quality (including timeliness) of information available to DEST (eg programme managers)	No improvement	Some improvement in quality and relevancy of information to a small number of clients	Some improvement in quality and relevancy of information to a small number of clients	Demonstrable and significant improvement in quality and relevancy of information to a small number of clients	Demonstrable and significant improvement in quality and relevancy of information to a large number of clients		
					Average Score =				100%
					Weight Adjusted Average Score =				

Technical Risk				
Risk Factor	Score (Descriptor)		Score	Weight

**Business Technology Investment Proposal: Risk Assessment
(Appendix B)**

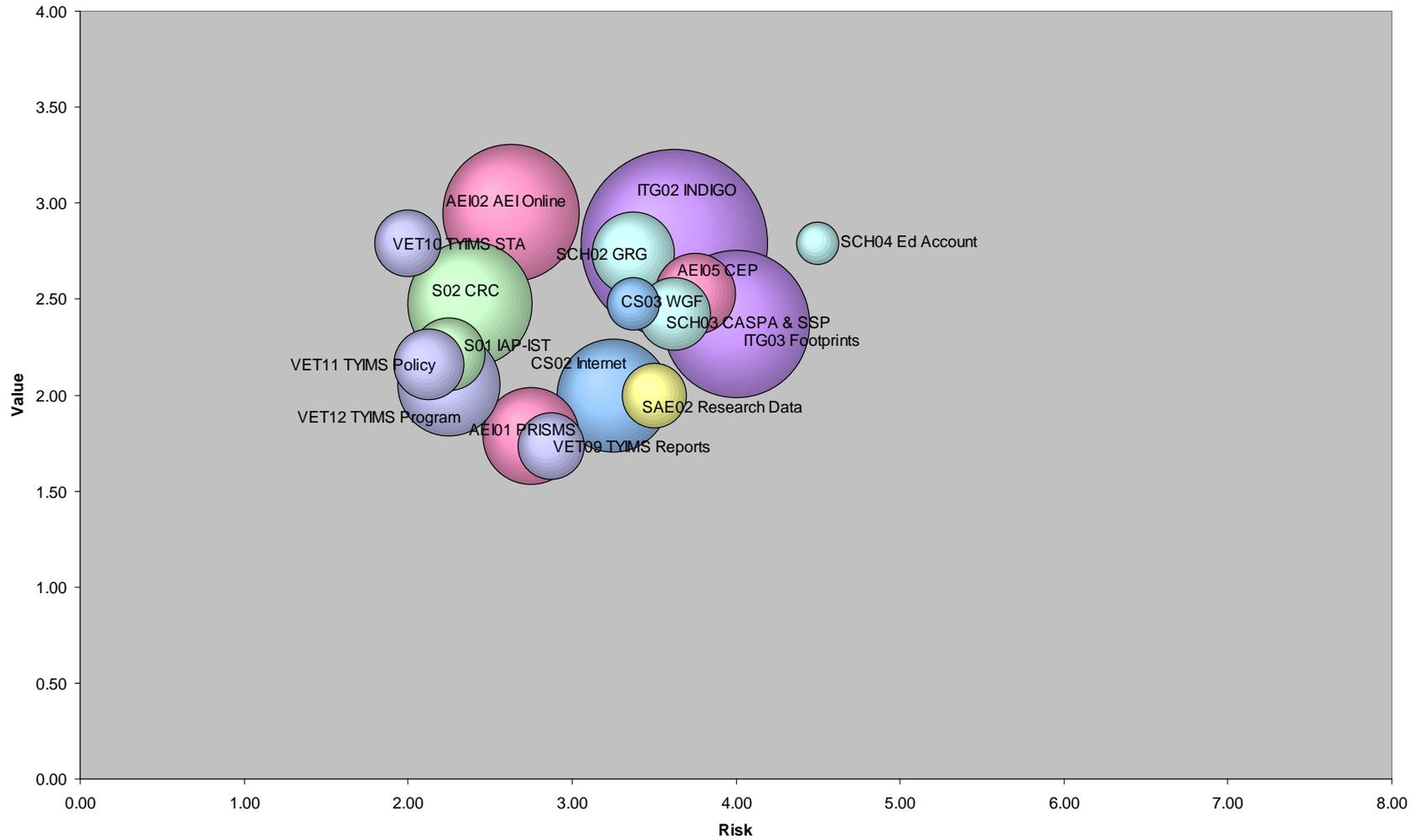
		0	1	2	3	4			
1	Technical novelty	Proven				New			
2	Alignment with architecture	Strong				Weak			
3	Technical team	Experienced				Inexperienced			
4	Team location	One				Many			
5	System platforms	One				Many			
6	Level of integration	Stand-alone				Fully integrated			
7	Transaction volume	Low				High			
8	Fault tolerance	High				Low			
					Average Score =				
					Weight Adjusted Average Score =				100%

**Business Technology Investment Proposal: Risk Assessment
(Appendix B)**

Business Risk								
Risk Factor		Score (Descriptor)					Score	Weight
		0	1	2	3	4		
1	Sponsor	One				None/Many		
2	Objectives	SMART				Vague		
3	Unresolved Issues	Few				Multiple		
4	Business Team	Experienced				Inexperienced		
5	Time to completion	Loose/Flexible				Tight		
6	Geography	One location				National		
7	Business Rules	Established				Non-existent		
8	Policy	Established				Non-existent		
						Average Score =		
						Weight Adjusted Average Score =		100%

Business Technology Investment Proposal: Risk Assessment (Appendix B)

Business Services Systems Portfolio on a Page



Business Technology Investment Proposal: Risk Assessment (Appendix B)

Shared Services Systems Portfolio on a Page

