

Implementing Strategy through P3M and Benefits Management

A Case Study of the Defence Science and Technology Group

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Abstract

The problem of project failure has persisted despite concerted efforts to overcome the issue. Project, program and portfolio management (P3M) and benefits management are being promoted as a solution. However, the uptake of benefits management has been low, even in the countries that are thought leaders in this area. This paper addresses the call for further research to be undertaken to identify the key factors that may enable the uptake of benefits management and also to explore how benefits management fits within P3M approaches in organisations. This paper has explored these issues using an action-research case study within the Defence Science and Technology Group, Department of Defence (DST Group). It has confirmed that P3M and benefits management are organisation-wide initiatives and found that implementation is difficult because it requires a change in organisational culture driven by the top management team. Technically benefits management appears to be difficult because it is necessary to reconcile the many strategy documents produced at the various levels within a large organisation. Benefits management was found to be compatible with P3M approaches but it seems extensive technical training is necessary to introduce benefits management tools into an organisation. Despite these difficulties, the case study is producing promising results and further research is needed to form a definitive view on the key factors for the uptake of benefits management.

KEYWORDS: Benefits management, strategy, PPM, P3M, project portfolio management

Introduction

The problem of IT project failure has persisted over the past 50 years despite intensive efforts to try to resolve the issue (Caminer, 1958; PMI, 2016; Standish, 2013). This problem affects business more generally because projects are undertaken to implement strategy (Kwak and Anbari, 2009) and substantial amounts are being invested on projects without much evidence that strategic goals are being realised (Kiechell, 2010; PMI, 2016; Young and Grant, 2015). Nobel laureate Daniel Kahneman reports disappointing results in all types of large projects in areas as diverse as manufacturing, marketing and mergers and acquisitions (Lovallo and Kahneman, 2003).

It is argued that increasing control can help deliver the outcomes needed to realise strategic goals (Tjahjana et al., 2009). The types of controls that have been tried in the past are mainly at the project level and include project steering committees and project management methodologies and processes (Office of Government Commerce, 2009; PMI and Cleland, 2008). More recently the controls that are being advocated are at the program and portfolio level and one promising development is in the area of benefits management (Badewi, 2016; Bradley, 2010; Breese et al., 2015; Chih and Zwikael, 2015; Ward and Daniel, 2012). This may show promise because projects

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tend to focus on the delivery of outputs, whereas programs focus on the delivery of outcomes and benefits management is an integrative discipline that links outputs to outcomes and can link outcomes to strategy (Jenner, 2012; Laursen and Svejvig, 2016; Zwikael and Smyrk, 2012).

However, the uptake of benefits management has been low, even in the countries that have been thought leaders in this area, and Breese et al. (2015) suspect there are barriers to adoption. In many cases effective benefits management requires a change in organisational culture, something that is notoriously difficult to achieve. Breese et al. (2015) have suggested further research be undertaken to identify the key factors that may enable the uptake of benefits management and also to explore how benefits management fits within P3M approaches in organisations. The opportunity to research these questions presented themselves when DST Group embarked on an organisation-led strategic initiative to implement P3M as its approach to investment and explore through action research the viability of benefits management to prioritise, manage and assure its capabilities and the value of its work program. This paper reports on the work-in-progress.

Methodology

An action research methodology was adopted because DST Group has a practical problem that needs a solution which may be better delivered by trialling or testing the viability of the approach rather than by theoretically based academic research (Brydon-Miller et al., 2003). Furthermore, the theory on project failure has been found to be ineffective. More specifically the action based research methodology is appropriate as it allows for theory to emerge as the intervention is adapted to the specific context of the issue to be addressed and as the participants reflect on their theories-in-use (Eden and Huxham, 1996; Schön, 1983).

The action research was informed by the designs applied by Middel et al. (2005) and Coughlan & Fergus (2009) and one or more cycles in what is known as a "hermeneutic spiral" were used to clarify understanding and generate theory (Figure 1) (Gummesson, 1991).



Figure 1: A Hermeneutic Spiral

Each cycle consisted of four overlapping stages: plan, act, observe, and reflect.

- STAGE 1: Clarification: The status of the DST Group P3M initiative was reviewed with key DST Group and Defence of Department documents such as the DST Group Strategy, Domain S&T

strategies³, Defence White Paper and associated documents. Researchers were also trained on Investment Logic Mapping (Victorian Department of Treasury and Finance, 2017), the preferred DST tool for business case development. The objective of this cycle was to try to find a common understanding of the desired outcomes.

- STAGE 2: Planning: This cycle involved development of a benefits management framework. Theory was drawn from best practice and matched with DST Group and Defence Department conceptual frameworks whenever possible.
- STAGE 3: Act & Observe: The proposed benefits management framework was presented to key stakeholders and refined based on feedback. More work is planned to develop this framework.
- STAGE 4: Reflect: Benefits management and P3M theories were developed based on the degree that the actions matched expectations.
- Minutes and reflective notes were kept during the project to document the possible richness and complexities. In addition to formal meetings for reflection, the research constantly included informal reflection as part of the process.

Case Study: Implementing Benefits Management to improve P3M in the DST Group

Stage 1: Clarification

DST Group provides scientific advice and innovative technologies to meet Australia's Defence and National Security challenges. DST Group is part of the Department of Defence and DST Group is Australia's second largest publicly funded research organisation with approximately 2,100 scientists, engineers, IT specialists and technicians. DST Group is organised into 37 Major Science and Technology Capability (MSTC) areas that have been developed to deliver outcomes against Defence and National Security strategies.

DST Group provides value through its capacity to reduce and mitigate strategic and operational risks and to create and maintain a capability edge. DST Group has a need to explain how it adds value and an audit report found that "it is difficult for the Group to demonstrate quantitatively the extent to which its portfolio of work aligns with Defence's strategic priorities." (ANAO, 2015, p. 10). In addition, the 2016 Defence First Principles review identified a recommendation that DST Group "be required to clearly articulate its value proposition". In response to these reviews a formal report was developed to articulate the value delivered to Defence through science and technology capability and a new investment process to align work with strategic priorities was initiated.

DST Group makes considerable effort to liaise with each of the Defence and National Security client domains. The client feedback is positive but issues related to prioritisation of the DST Group capabilities and the research program have been raised. In the past DST Group scientists prioritised work in consultation with clients using primarily a bottom-up process across a large number of requirements (over 1000 in total). The large number of client requirements made it difficult to evaluate and agree the overall priorities across a large number of Defence stakeholders.

Project, Program and Portfolio Management (P3M)

DST Group's Science and Technology Program Office (PO) has implemented a formal investment process to try to redress the balance and allow senior management and the client more input on where resources should be allocated. In 2015-16 the 37 DST MSTCs were allowed to make up to five

³ With its Defence clients, DST Group has developed S&T strategies that describe for each domain (Maritime, Land, Aerospace, Joint and Intelligence) the key focus areas for S&T and the military objective that may be realised through research.

bids for funding to develop and sustain the capability and deliver to the client domains. Decision-makers initially considered and ranked around 170 proposals addressing the client requirements. When the bids were consolidated at the MSTC level it became difficult to easily resolve the investment needed for capability sustainment from that needed for delivery to the client. DST Group also undertakes strategic research in alignment with nine research themes as outlined in the DST Group Strategic Plan and these were considered separately to the MSTC bids.

In 2016-17 the investment process was refined using a P3M approach (Figure 2 and 3) where investment was first decided at the Portfolio and Program level before undertaking S&T Project prioritisation within a Program later. In this way a smaller number of bids may be considered in separate steps. The investment process is being supported by using Investment Logic Maps (ILM), a tool that had been developed by the Victorian Government in the early 2000s, to provide a standard means to outline the business case for investment proposals (Jenner, 2012). A business case is being produced to identify the raise, train and sustainment needs for each MSTC (37 capabilities in total), one business case for each strategic research initiative (SRI) area (nine in total) and around 20 to 25 business cases for each client domain (approximately 100 to 120 in total). DST Group is delivering ILM training and aims to develop all their business cases over a 2-month period. Investment reviews will be undertaken in late March and April 2017 where investment will be prioritised and allocated. The Program Office recognised DST Group may not get it right initially, but received agreement from the leadership team that the organisation would learn by doing.

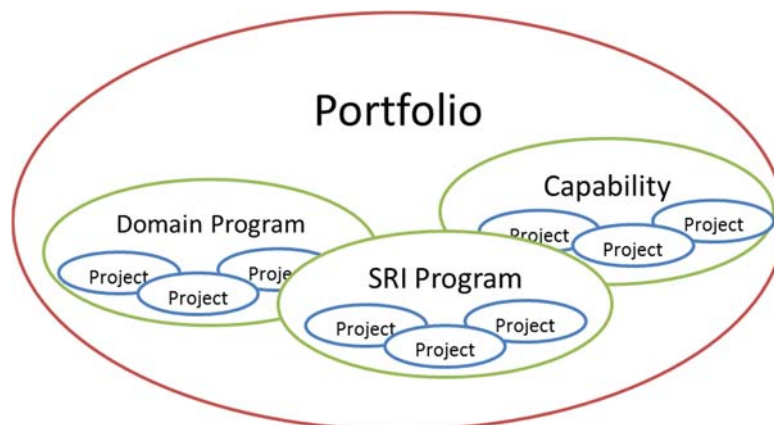


Figure 2 DST Group P3M Approach

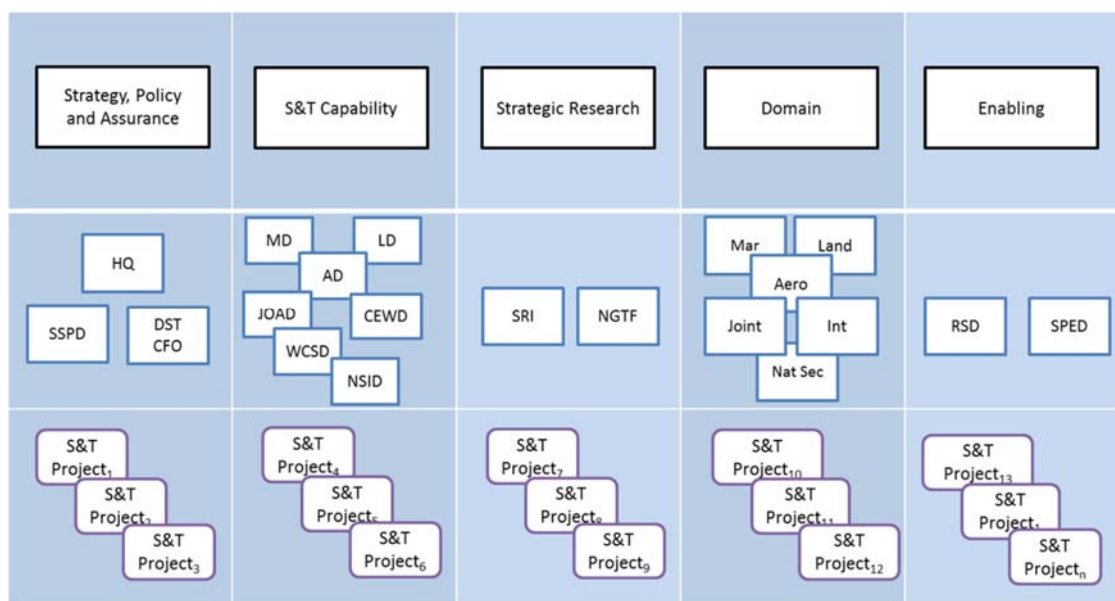


Figure 3 DST Group Portfolio, Program and Project framework.⁴

Stage 2: Planning

The researchers in this project realised they may add value by developing a benefit framework⁵ that could be used as an input for developing the ILMs or business cases. Young had conducted research in the State of Victoria and found that the delivery of the state’s strategic goals had not improved in a 10-year period of study despite a long history of usage with ILMs (Young et al., 2012). Benefits management has been introduced in the State of Victoria to manage its projects, and the researchers postulated that the introduction of such a framework may also assist DST Group in both showing the value of its capabilities and program, but also to ensure the outputs aligned to the strategic goals of Defence.

The researchers turned to the Defence White Paper⁶ to look for an organisation-wide set of benefits. The White Paper states an objective to have a regionally superior defence force and also specifies Preparedness, Capability and Future Capability as criteria for measuring superiority. The White Paper also highlighted an innovative defence industry and international engagement as objectives so the benefits framework proposed in Figure 3 was used to capture all of these criteria.

⁴ HQ – Headquarters; SSPD – Science Strategy and Program Division; CFO – Chief Finance Officer; MD- Maritime Division; LD – Land Division; AD –Aerospace Division; JOAD – Joint Operations Analysis Division; CEWD – Cyber and Electronic Warfare Division; WCSD – Weapons and Combat Systems Division; NSID – National Security and Intelligence Surveillance and Reconnaissance Division; SRI – Strategic Research Initiative; NGTF – Next Generation Technologies Fund; Mar – Maritime Domain; Land -Land Domain; Aero – Aerospace Domain; Joint – Joint Domain; Int – Intelligence Domain; Nat Sec – National Security Domain; RSD – Research Services Division; and SPED – Science Partnerships and Engagement Division.

⁵ <https://www.vicroads.vic.gov.au/~//media/files/documents/planning-and-projects/benefit-management-framework-new-09012017.pdf?la=en>

⁶ <http://www.defence.gov.au/whitepaper/>

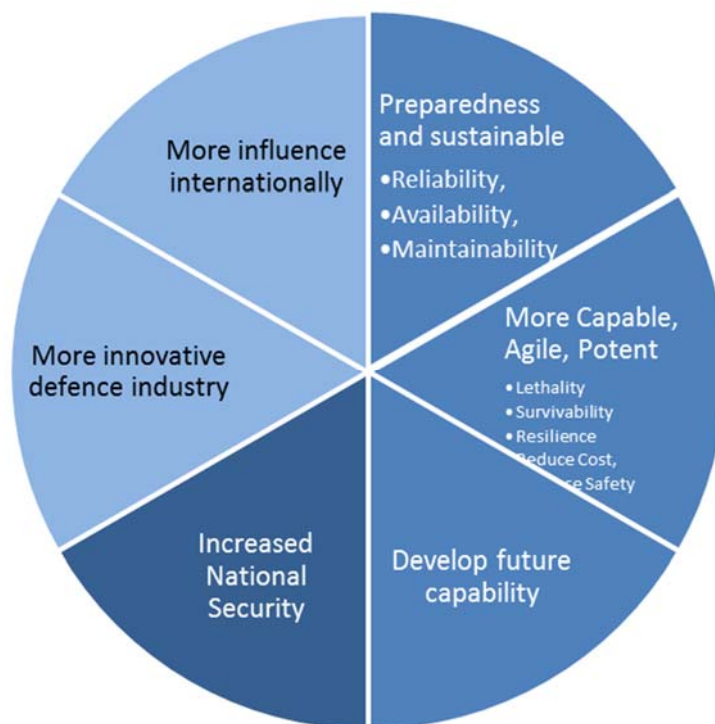


Figure 4 Benefits Framework - first draft

The benefits framework in Figure 4 was initially tested with stakeholders and while the framework was observed as being a good reflection of the priorities in the White Paper a view of benefits that was more closely aligned with Defence client domains was also sought. The researchers noted that the DST Group Domain S&T strategies may provide such a mechanism.

A review of investment and management approaches in other Defence organisations⁷ found such organisations appear not to have developed an explicit benefits framework to evaluate their projects. This meant DST Group would probably have to pioneer a benefits management approach for integration with their P3M approach.

Two conceptual breakthroughs occurred to the team. The first was that outputs, and hence benefits, were delivered by cross-functional projects that sometimes also required input from multiple technical areas (Figure 5). Benefits tracking and assessing the contribution of each MSTC to Defence outcomes is therefore not straightforward. In addition, there is often a long time delay between the delivery of outputs from an S&T project and benefits realised within the Defence client domains. In long-range strategic research areas this lead time can be decades long. Tracking benefits well after a project has ceased to exist is therefore a significant challenge for the organisation.

⁷ <http://www.onr.navy.mil/About-ONR/science-technology-strategic-plan.aspx>
http://www.defenseinnovationmarketplace.mil/resources/2014_AFRL_Strategic_Plan_Final_PA_Approved.pdf
<https://www.gov.uk/government/publications/dstl-corporate-plan-2014-2019>
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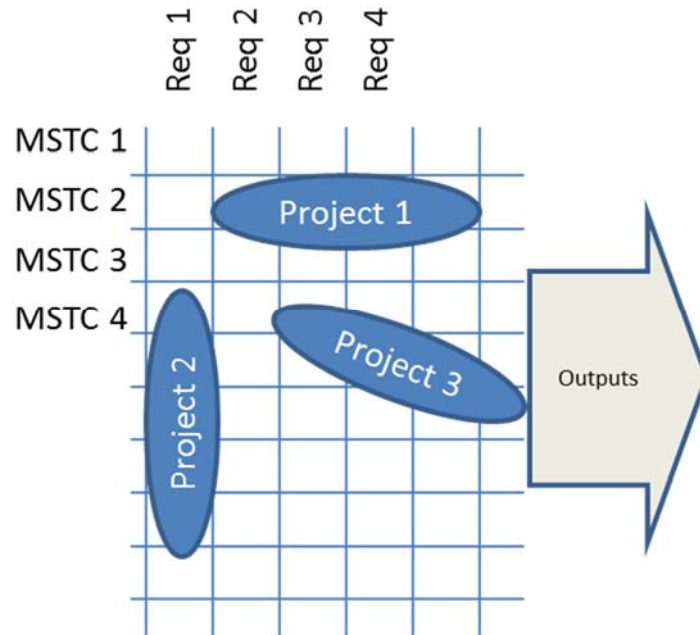


Figure 5 Outputs delivered through cross-functional input areas

The second conceptual breakthrough was to realise that in a research and development environment, not every project will have customer benefits as some projects are undertaken to develop the fundamental scientific knowledge and facilities needed to improve the capability of a MSTC and prepare it to respond to Defence needs at short notice. This relationship is shown schematically in Figure 6. The categories in the capabilities framework (left circle in Figure 6) were based on the categories used in periodic DST Group external benchmarking assessments of the MSTCs.

The benefits framework in Figure 6 was tested against a key DST Group strategy document which defines the capability of each MSTC (DST S&T Capability Portfolio⁸). This document describes the capabilities of each MSTC. It was found that all the key capability descriptors corresponded to one or more of the segments in the benefits framework.

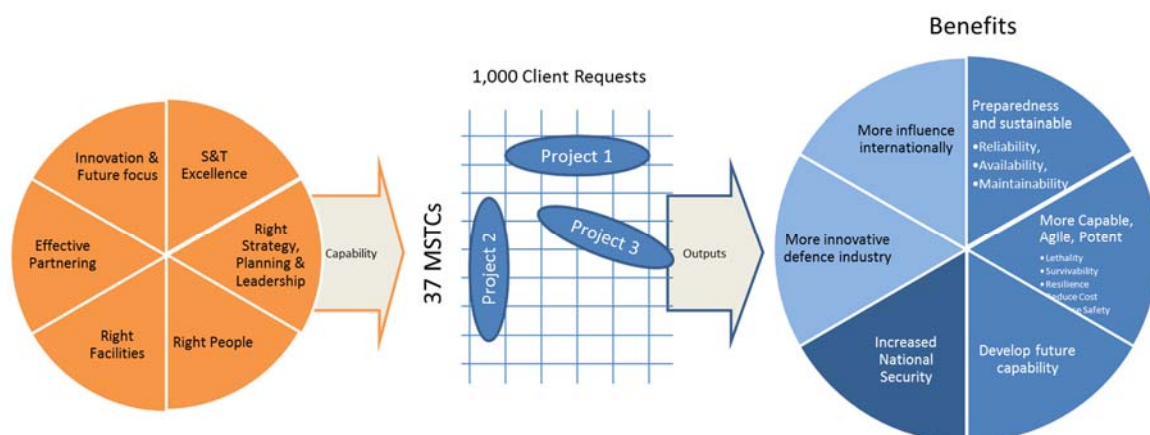


Figure 6 Benefits framework in an R&D organisation

⁸ <https://www.dst.defence.gov.au/>

Stage 3: Act and Observe

The benefits framework was consulted with stakeholders within DST Group to seek feedback. It was agreed that the framework may be useful and should be tested during the action research. An alternative is to allow benefits to be identified independently during the development of each business case rather than pick a benefit from a predefined framework. It is noted that, VicRoads, one of the exemplars of the Investment Management Standard used an organisation-wide benefits framework. In addition, the novelty of the capabilities framework (left circle in Figure 6) was noted and accepted because it leveraged the existing DST Group MSTC benchmarking assessment criteria.

The benefits framework was then presented during an ILM training workshop with DST Group managers. It provoked discussion and attempts were made to apply the framework during a workshop exercise to produce some example business cases. The benefits framework was found to be helpful but the capability framework was more problematic. A second half-day workshop was held to further develop the example business cases. This second workshop found the benefits framework of some use in guiding thinking (rather than providing a pick-list of possible benefits), but found the capability framework was more useful in guiding potential solutions than suggesting benefits. Conceptually the problem may be because there is an overlap between the business cases produced to represent the technical areas (MSTCs) and those produced to describe the delivery of S&T outcomes to clients.

The next step is to roll out training and develop business cases in each of the 37 technical areas. Progress will be monitored closely to see if the benefits framework adds any value and whether it has to be revised to reflect learnings.

STAGE 4: Reflection

This paper has been written to identify some of the key factors in the uptake of benefits management and to explore how easily benefits management may fit within the approach to project, program and portfolio management (P3M). The case study is of an R&D organisation that has a high level of motivation to implement both P3M and benefits management because they wanted to thoroughly address the recommendations of the First Principles Review and the ANAO audit. What has been found is that despite this high level of motivation, benefits management may not be that easy to implement.

Organisational Change

Firstly, organisational culture was identified by Breese et al. (2015) as a crucial factor for benefits management to be successful. DST Group had a major driver to implement P3M and benefits management: they want to avoid any negative findings from future audits and Defence reviews.

The senior management group had bought into the P3M initiative, but the case suggests a lot more is required than a superficial level of top management support (TMS). The P3M initiative was part of a broader strategic initiative called 'D2 - Strategic engagement with client focus' which was designed to improve client focus and engagement. This was one of ten strategic initiatives identified in the DST Group S&T Strategy and was led and managed by two senior executives. The strategic initiative was given significant management support and resources and was subject to scrutiny through quarterly progress reviews. The team responsible for the D2 Strategic initiative placed a high degree of emphasis on communication and consultation with staff at all levels within the organisation to identify how P3M may be successfully adopted. A change management plan was also developed which included an emphasis on organisational culture. The executive leadership team also requested briefing sessions on how the new P3M processes would work and they thoroughly

discussed all of the details before committing to continue with the initiative. The case confirms previous findings that TMS is crucial for projects to succeed and provides a specific example of the need for TMS for P3M and benefits management projects (Young and Jordan, 2008; Young and Poon, 2013).

Key factors in the uptake of Benefits Management

The P3M initiative at DST Group is a work-in-progress and it is not yet possible to claim Benefits Management has been adopted. What has been done to date is the development of a benefits framework to inform the development of business cases (ILMs).

The case suggests that the holistic implementation of benefits management is quite difficult. It was possible to develop a benefits framework, but to develop a framework which would gain widespread acceptance was difficult. The researcher had theorised that the benefits framework would emerge from a reconciliation of all the existing strategy documents. What was found was that there were a large number of strategy documents that were difficult to reconcile due to specific terminology and jargon adopted, for example within each of the Maritime, Land, Aerospace, Joint and Intelligence domains. The benefits framework that was developed guided some business cases and was not used for other business cases. It is not yet clear whether business unit business cases can align with high-level Defence objectives specified in the Defence White Paper in the way the framework assumes or whether benefits need to be set at a more tactical level, perhaps at the level of the objectives identified within each of the specific client domains.

Breese et al. (2015) have suggested the tools used have to be easy to use and deliver results. In this case, this meant reusing data within DST Group and introducing as few new concepts as possible. For example, DST Group MSTC benchmarking assessment criteria was incorporated into the benefits model even though the benchmarking criteria were not benefits as traditionally understood (Figure 6).

What this experience highlights is that the development of a useful benefits management framework is likely to be technically difficult. We believe a holistic framework is necessary because it has been shown to be the best practice of the Victorian government and because a holistic framework is likely to overcome the issue of projects outputs not leading to strategic outcomes (Young et al., 2012). A large effort is likely to be needed to socialise the resultant benefits framework and gain widespread acceptance in an organisation. Again, it is likely that TMS will be necessary for a benefits framework to be accepted and implemented in an organisation. This will need to be tested in future cycles of the action research.

Benefits Management and P3M

The final research question was to explore how easily Benefits Management fitted into P3M processes. The case was quite clear and showed that benefits can be one of the key criteria in deciding where to allocate funds.

The Investment Logic Map (ILM) was adopted as the tool to assess project business cases. Benefits management does not have to use ILMs, but it does need a tool of some sort to understand the relationship between projects and benefits (Jenner, 2012). In this case, the ILM had distinct advantages because the structure of the ILM resembles the structure used in the DST Group program domain strategy documents which link military objectives to science and technology requirements (Figure 7). The second column of the ILM is specifically focussed on the benefits and key performance indicators that are being targeted. The ILM only required solutions to be added (in

the two right columns of Figure 7) to develop an investment proposal for consideration by decision makers.

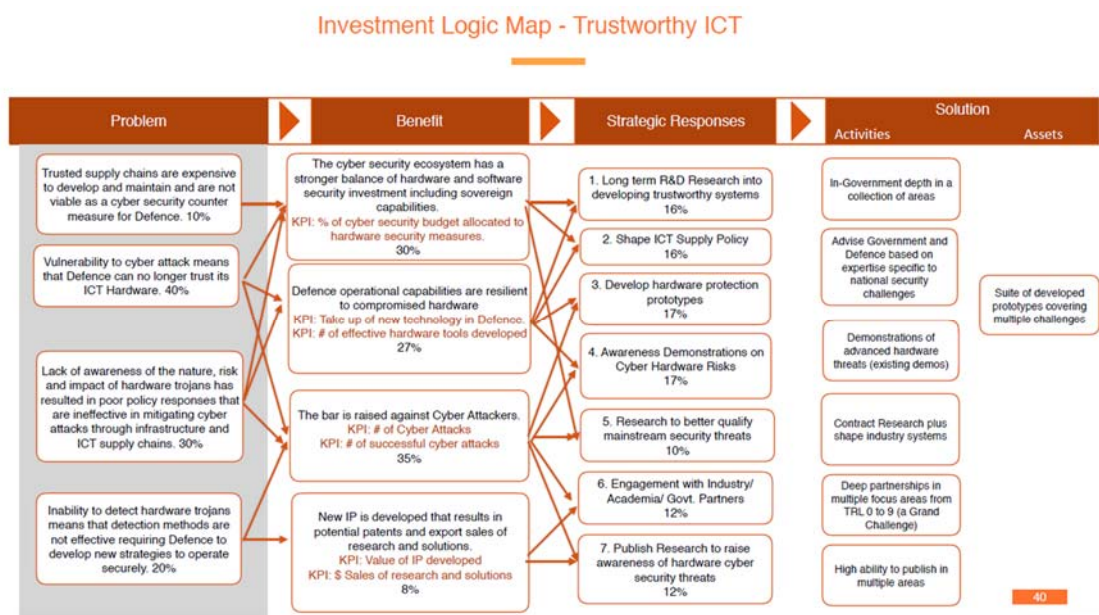


Figure 7 Example ILM that describes cyber research related to information and communication technology (ICT)

However, the adoption of the ILM was no trivial matter because it required training and extensive communications to ensure understanding and compliance. In addition, it was important to understand how to apply ILMs in the DST Group environment and to develop exemplars for the organisation to use when drafting business cases. The case showed adoption of a tool can be labour intensive and conceptually a significant hurdle for an organisation to overcome.

Conclusion

The problem of project failure has persisted despite concerted efforts to overcome the issue. Project, program and portfolio management (P3M) and benefits management are being promoted as a solution. However, the uptake of benefits management has been low, even in the countries that have been thought leaders in this area, and Breese et al. (2015) suspect there are barriers to adoption. This paper addresses the call for further research to be undertaken to identify the key factors that may enable the uptake of benefits management and also to explore how benefits management fits within P3M approaches in organisations.

This paper has explored these issues using an action-research case study. It has confirmed that P3M and benefits management are organisation wide initiatives and found that implementation is difficult because it requires a change in organisational culture driven by the top management team. Technically it appears to be difficult because it is necessary to reconcile the many strategy documents produced at the various levels within a large organisation. High calibre insider knowledge is needed to identify the relevant strategy documents and reconcile them with benefits management concepts. Benefits management was found to be compatible with P3M approaches but it seems extensive technical training is necessary to introduce benefits management tools into an organisation. Despite these difficulties, the case study is producing promising results and further research is needed to form a definitive view on the key factors for the uptake of benefits management.

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