

MANAGEMENT OF INTERDEPENDENT SOFT PROJECTS

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Abstract

The discipline of project management was initially developed for more effective management of “hard” projects in the construction, engineering, defence and aerospace industries. Increasingly, organisations in other industries are adopting a project management approach for implementing change and improving performance. However, traditional project management techniques developed to manage “hard” projects are proving inadequate for dealing with multiple interdependent “soft” projects.

The University of Technology, Sydney and the New South Wales Police Service in collaboration have begun a research project that aims to enhance the theoretical understanding of interdependent “soft” projects. This project is the basis for developing improved management systems. With action research as the primary methodology, it will use project management practices and systems theory as a framework and Reform Agenda projects of the New South Wales Police Service as a case study.

This research project has received a major financial grant from the Australian Research Council and is being conducted in collaboration with the University of Technology, Sydney and the New South Wales Police Service. The project funding is set for a three year period commencing in early 1998.

This paper will present the rationale, aims, methodology and expected outcomes for the study as a basis for critical peer review and input to the conduct of the research.

Introduction

The New South Wales Police Service has embarked upon a substantial program of reform which will impact upon almost every facet of policing services. A Royal Commission has been an important, although not the sole catalyst for the reform program.

The Royal Commission into the New South Wales Police Service was established by the Government of New South Wales in 1994 to inquire into and report on matters concerning the Service. Key terms of reference concerned examination of:

- *the nature and extent of corruption within the Police Service, particularly of an entrenched or systematic kind; and*
- *the capacity of the Professional Responsibility Command, and the civilian oversight agencies, to investigate and deal with corruption and complaints of serious misconduct.*

[The Hon Justice J R T Wood *Royal Commission into the New South Wales Police Service: Interim Report* 1996b]

As concluded by the Royal Commissioner, a substantial revision of the Police Service's management practices and of the skill utilisation of its members was needed. The Royal Commissioner identified the need to implement a thorough and systematic solution:

A carefully structured long term reform agenda is necessary to redress the problems.....Effective reform, however, calls for the harnessing of the current momentum for change and the taking of appropriate steps at an early stage that will entrench the process and not be incompatible with the long term agenda.

[The Hon Justice J R T Wood *Interim Report on Immediate Measures for the Reform of the Police Service of NSW* 1996a]

The New South Wales Police Service recognised that for change to be implemented and sustained a carefully planned organisational strategy was needed. Like police forces worldwide, the Service was faced with examining its goals and objectives in the context of rapidly changing social environments and views on what the future of policing ought to be.

The Reform Agenda of the Commissioner of the New South Wales Police Service established a phased change management program according to priorities and resource availability. As observed by Commissioner Ryan:

The ultimate reform of the service will rank amongst the biggest programs conducted in the Australian public sector. There are many proposals for reform contained in the report. The successful implementation of each is subject to many factors. It should be recognised that there are numerous circumstances that can impact on the final form of the reform and that change is a continuous process.

[*Reform of the New South Wales Police Service ; Phase I*; Peter Ryan, Commissioner of Police, 19 November 1996]

“Hard” and “Soft” Project Management Approaches

Public sector and private organisations, including police services, worldwide, have been moving towards project based management (Boznak, 1996; Dinsmore, 1996; Lloyd, 1995). In doing so they have been endeavouring to apply project management systems, tools and techniques that have been developed to assist in the achievement of essentially “hard” projects in the construction, engineering, defence and aerospace industries. These are projects in which both the goals to be achieved and the methods to be used in achieving them are well developed (Turner and Cochrane, 1993).

At the other end of the spectrum, soft projects include research and development and organisational change projects. Neither the goals nor the methods of these types of projects are well defined (Turner and Cochrane, 1993). Application of “hard” project management systems to “soft” projects (eg, public sector management, R & D and organisational change),

has presented difficulties for effective management of projects (Preston, 1996; Heindel and Kasten, 1996).

None of the readily available “hard” project management systems (Heindel and Kasten, 1996) deal with the challenges of organisational change projects which are characterised by multiple, interdependent “soft” subprojects. Organisational change projects are also more vulnerable and need to be more responsive to both external and internal environmental factors than “hard” projects.

A number of writers and researchers have turned to systems theory for possible enlightenment and alternative tools for managing organisational change projects (Churchman 1968); (Checkland 1981); (Rodrigues and Bowers 1996); (Yeo 1993); (Neal 1995); (Cavaleri 1994). The attraction of systems theory is that it recognises the interconnectivity of projects - between subprojects, or parts of a whole and between projects and the environment. Soft Systems Methodology (Checkland 1981) has been used in work with the Police Service in the United Kingdom (Ellis and Green, 1996). Soft Systems Methodology, however, appears to date to have been more effective in problem definition than in providing a framework for management of soft projects.

Another important concept in systems theory is that in order to survive, a system needs processes of communication and control enabling it to adapt and respond to a dynamic environment (Checkland and Scholes 1990). In this context, project management can be considered as a process which is constantly trying to achieve order out of chaos to exercise control and facilitate communication.

Project Management Approaches in the NSW Police Service

The Royal Commissioner, in recommending changes in the New South Wales Police Service, emphasised the need to attend to “*the processes by which those changes should be implemented*” (Wood, 1996a).

The Commissioner’s blueprint for reform (Ryan 1996) identified the broad headings under which reform was to progress in the New South Wales Police Service as follows:

- One Direction, One Boss, One Service
- Structure
- Reallocating Resources to Frontline Policing
- Expelling and Repelling Corruption
- Cultural Change
- Quality of Management Systems
- Work Practice Improvements
- Measuring the Change

In the first phase, the reform process was to be achieved through the initiation of a large number of carefully managed projects. On this point the Commissioner said:

With the help of the University of Technology officers are being trained in both the

technical aspects of project management as well as the reasoning and thinking processes associated with the preparation of a project outline. In the process they are refining a system of project management to fit the specific needs of the Police Service. (Ryan, 1996, p. 43)

In his status report prepared for the Royal Commission in February 1997, Commissioner Ryan referred to the comprehensive consultation process that had been undertaken throughout the organisation. Also, he elaborated on a framework within which reform was to proceed and referred to the development of change management methodology involving project management principles.

The project management systems and approach implemented by the New South Wales Police Service were those readily available in the mainstream of project management. They are based on the Guide to the Project Management Body of Knowledge (Project Management Institute, 1996), the Australian National Competency Standards for Project Management (Australian Institute of Project Management, 1996), practice in industry and Police services both in Australia and overseas. Readily available project management software (MS Project) is being used. The systems and approach are essentially the “hard” project management systems developed for projects with well defined goals and methods in the traditional project based industries.

Coordination and implementation of multiple projects, that are all subprojects of a major organisational change project is a challenging task. Experience shows that project management systems are not always “easy to understand and simple to implement” (Ryan, 1996) when addressing the types of organisational change projects being encountered in policing.

In January 1998, the Commissioner outlined the next phase of the reform process (Ryan 1998). Actions were to continue as set out in November 1996. However, managing these actions under the following four key areas would help focus the implementation and make more efficient use of resources:

- Combating crime.
- Public satisfaction.
- Doing it right - effective and efficient work practices.
- Job satisfaction.

As Commissioner Ryan commented:

Necessarily, there has been the need for some changes in emphasis and tactics in progressing the reform through to its next stages - many of those projects have been completed, others have been rolled together into single projects, while some, reflecting our recent experiences, have been discontinued. And I would like to make the observation at this point that adapting to change and having the ability to change focus is the hallmark of a learning organisation. (Ryan 1998 p5).

In the context of this reform process, both the New South Wales Police Service and the

project management specialists at the University of Technology, Sydney recognised that there was a significant opportunity to conduct a collaborative research project. This project had the potential to fill this recognised gap in project management theory and practice. If this problem were addressed successfully, it would also provide the basis for development of a project management system that would help the New South Wales Police Service to achieve sustainable change.

This project has received a major grant from the Australian Research Council / Department of Employment, Education, Training and Youth Affairs under the Strategic Partnership with Industry - Research and Training (SPIRT) Support Scheme for a period of three years commencing in 1998. The project also includes participants from the New Zealand Police Service which is undertaking a major organisational change program through its Policing 2000 Strategy Group.

A highly innovative aspect of the project is building on police strengths by investigating the potential use of police analytical tools that are successfully used in criminal intelligence to solve problems of “soft” projects.

Research Project Aims

The plan for the collaborative research project between the University of Technology, Sydney and the New South Wales Police Service has been designed to reflect the strategic direction and operational requirements of the industry partner. The plan is consistent with achieving outcomes that will benefit other police services and the wider industry. Specific aims of the research partners include:

- Developing both a theory and a practical system for management of interdependent “soft” projects in a dynamic environment;
- Provision of a mechanism for strategic intervention in the Police Reform Agenda project portfolio that will maximise the success of the reform process;
- Development of a specific project management methodology that will support achievement and sustainability of reform and organisational change in the NSW Police Service; and
- Provision of a framework to support the effective ongoing delivery of policing services.

Research Methodology

Overview

This project will use a combination of both “hard” and “soft” systems approaches in an action research framework. The first step will be the development of a two dimensional model of the NSW Police Service Reform Agenda, using “hard” project management approaches. This model will map the currently defined subprojects of the Reform Agenda and provide a baseline and control mechanism.

The second step will involve developing a three dimensional model, that will consider the linkages and interactions between the subprojects in the Reform Agenda.

The third step will constitute a fourth dimension, using Soft Systems Methodology to engage participants in a review of:

- Each of the subprojects;
- The relationship of the subprojects to other projects;
- Internal and external environments; and
- The role of the subprojects in the overall and sustainable achievement of organisational change.

The research methodology is specifically designed to cause the least possible interference and encourage the maximum possible support for teams involved in implementing Reform Agenda projects.

Steps to be Followed

Step 1: System and situation analysis

An essential background to the project will be a review and analysis of the current situation and systems within the NSW Police Service. This will include identification and review of current systems being used within the Service to manage projects, and systems being used in intelligence and in operational policing which may have potential for use in development of a “soft” systems police specific project management system. Step 1 may proceed concurrently with Step 2.

Systems and approaches of other police services worldwide will also be reviewed. This will require exploratory visits to Police services in the United Kingdom, United States of America and New Zealand. Due to the speed with which systems are changing, a yearly update and information exchange visit will be made to ensure that the project remains current. Attempts will be made to ensure that the visits coincide with policing and project management conferences to enable progressive dissemination of results.

Step 2: Establish baseline

Under the draft *Corporate Plan 1998-2001* for the New South Wales Police Service four key priorities have been identified as set out in Figure 1 below.

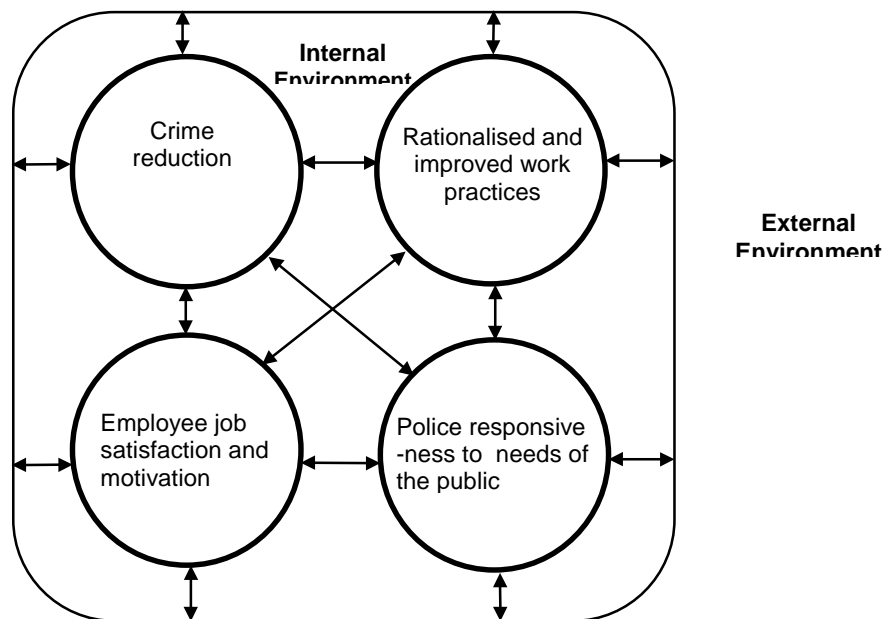


Figure 1: Draft Key Priorities and Relationships - New South Wales Police Service

Using methods designed for ‘hard’ projects, the following project data will be collected for particular projects as follows:

- Description and purpose
- Scope (work breakdown structure)
- Plan (key milestones)
- Resource requirements
- Outcomes and achievement measures
- Linkages to other subprojects (the 3rd dimension).

Important aspects of Step 2 will be:

- Development of data collection formats for both project and environmental data; and
- Development of a project database for project and environmental data.

Project and environmental data will be coded and entered into the applicable database to provide a baseline. These data will be used to monitor the interactions between the four overall themes, the individual subprojects, and the internal and external environments. Environmental data will include: Government directives and policies; Corporate Plans; feedback from yearly cultural survey (internal) and community surveys (external); and availability of funds.

Step 3: Collection and analysis of updated project data

Every three months project and environmental data will be collected. Analysis will be based on the status of each project relative to the baseline, other subprojects and internal and external environments. A review of subprojects will determine which subprojects are:

- Contributing or not contributing to the achievement of the four overall themes (Figure1);
- Achieving or not achieving required outcomes;
- Favourably or adversely affecting other subprojects; and
- Interacting favourably or adversely with internal and external environments.

Decisions will be made, implemented and recorded concerning the future of each subproject. The methodology will involve four iterations of Step 3.

Step 4: Soft systems review

Analysed data from Steps 2 and 3 will be provided to each of the subproject teams. Team members, selected management representatives, and researchers will review each subproject, relative to the desired outcomes of the Reform Agenda and the four major themes, using Soft Systems Methodology. Any changes to project status or definition which are agreed as a result of this review and reflection will be incorporated into the two and three dimensional system models (Steps 2 and 3).

All agreed changes to project status or definition will be mapped. The impact of such changes on other subprojects and with internal and external environments will be recorded and analysed and fed back to the subproject team members. A communication cycle of review, planning, implementation, control, and evaluation will be facilitated to promote organisational learning. The methodology will involve two iterations of Step 4.

Step 5: System design

Once Step 2 and the first rounds of Steps 3 and 4 have been completed, the data collection, recording and review process will be refined using feedback from participants. The refinements will help develop a tool that is useful and user friendly for application as follows:

- Direction and planning of reform;
- Sponsorship of major themes and subprojects;
- Achievement of reporting requirements;
- Achievement of success measures;
- Strategic intervention to achieve maximum benefit for achievement of reform projects; and
- Relating Reform Agenda with other projects and with internal and external environments.

This Step will draw on the review (Step 1) of project management methodologies and computer programs and of the analytical tools used in policing to identify existing tools and techniques that can be used or adapted to assist in the management of multiple interdependent soft projects.

Step 6: Testing

As systems and tools are developed (Step 5) they will be trialed on a number of subprojects using an action research framework. Action research steps will follow the action research spiral of plan, act and observe and reflect (evaluate).

Step 7: Development of theory and practical systems

Significant and useful data gathered in the project will be used by the project investigators to develop and document a theoretical model and a practical methodology for management of multiple interdependent soft projects for achievement of organisational change in a dynamic environment.

Step 8: Reports and dissemination of results

Reports and journal articles will be produced to disseminate research findings. Conference papers will be delivered to both the Project Management and Policing communities.

Time Plan

Figure 2 provides an overview of the eight Step process being followed.



Figure 2: Research Project Time Plan

Expected Outcomes

It is anticipated that the project will enhance the theoretical understanding of managing interdependent “soft” projects while delivering a transferable methodology that:

- Enables strategic interventions in response to changes in dynamic environments, both internal and external;
- Provides a system to facilitate meaningful reporting to project stakeholders;
- Supports organisational change and learning;

- Provides management support for the frontline in effective operational policing;
- Can be used throughout the New South Wales Police Service and has potential for application to other Police Services, worldwide;
- Increases control and therefore accountability for New South Wales Police Reform Agenda projects as well as ongoing projects; and
- Provides feedback to police educators for sustained improvement in management of policing projects and achievement of outcomes throughout the Service.

Conclusion

A research collaboration between the University of Technology, Sydney and the New South Wales Police Service has been established to address the Service's need for a system to manage interdependent "soft" projects. Existing project management practices and systems do not satisfy this need. A further aim of this action research project is to enhance theoretical understanding of management of interdependent "soft" projects. The collaboration offers an opportunity to address an area of project management that has an obvious but unsatisfied need in industry, at an international level.

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