

TOWARDS A TRANSFERABLE METHODOLOGY FOR MANAGING STRATEGIC CHANGE BY PROJECTS

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ABSTRACT

In the transition to project based management within complex dynamic environments, a basic premise is that each industry organisation, professional discipline and individual, must cast off the shackles of accepted functional barriers, traditional roles and processes. As each project is unique, so is the experience of each organisation as it embraces the project management approach. Nevertheless, successful implementation of strategic change by projects requires an organised process (methodology) grounded in shared professional expertise/experience.

Conventional project management wisdom has looked to frameworks and processes developed within technical paradigms ('hard' project processes) to manage projects within organisations irrespective of the characteristics and nature of particular projects. However, as recognised in Turner and Cochrane's Goals and Methods Matrix Model, in many projects the 'what' and/or the 'how' may not be well defined, leaving project managers' options open on goals or methods or both (Turner and Cochrane 1993 p95), (Turner 1999 pp25-27).

The experience of a collaborative University and industry research team working with New South Wales Government Agencies, where internal and external factors have created opportunities for participation in strategic change projects, is leading to a re-examination of project management theory and practice. One collaboration involves developing and applying a strategic approach to managing multiple interdependent 'soft' projects to achieve an agency's organisational change commitment (Agency A). Here the research plan was essentially 'hard' but its achievement is being underpinned by the creation and application of innovative strategies and tools aimed at capturing and sharing project management information, competencies and experiences and supporting effective project management learning. The methodology, which is being progressively advanced through action research, is being applied to assist in developing a strategic project management capability across Agency A.

Another collaboration is contributing to the transition of an agency, parts of which have been traditionally involved in the management of 'hard' construction projects into an across the board Management by Projects approach (Agency B). Management by projects is seen as facilitating an organisation wide focus on results and an organisational structure that has flexibility to respond rapidly to internal and external environmental changes.

In the spirit of action research, this paper will reflect upon the experience of the collaborative research team in developing and applying a model using Soft Systems Methodology to make sense of the project management transformation process underway in both agencies.

REFORMS IN PUBLIC SECTOR MANAGEMENT

Public sector and private organisations worldwide, have been moving towards project based management. In public administration, there has been an increasing awareness of the capabilities of project management to provide a structured approach to organisational change (Griesche and Dworatschek 1998 p698). This has occurred in the context of 'the new public management', a trend for public sector reform, especially in Anglo-American democracies, that has been occurring since the 1980s (Peters and Savoie 1998 p3). Measures being implemented have one thing in common – a strong reliance on the business management model. Coupled with the resulting organisational changes has been the advent of new technologies and work practices that are redefining the nature of work and projects and team-based work (Gadeken 1998 p489); (New South Wales Government 1997).

Experiences of two public sector agencies in New South Wales (NSW), Australia in responding to significant pressures for change through a strategic project management approach have been reviewed. Agency A has developed and applied a methodology for managing multiple interdependent 'soft' projects to help achieve an organisational change commitment. Agency B has adopted a 'management by projects' approach to focus the whole organisation on collaborative working to achieve results, facilitate response to change and enable delivery of better outcomes to the community through integrated services.

SOFT SYSTEMS METHODOLOGY IN ORGANISATIONAL CHANGE PROJECTS

In general, project management systems, tools and techniques being applied to organisational change projects have been developed to assist in achievement of essentially 'hard' projects in the construction, engineering, defence and aerospace industries. In these projects both the goals to be achieved and the methods to be used are well-developed (Turner and Cochrane 1993 p94). Projects where either the goals to be achieved or the methods to be used, or both, are not well defined may be described as 'soft'. Such projects include research and development and organisational change projects. These projects involve a high level of risk, although failing more often through people problems than for technological reasons (Turner 1996 p13). Application of 'hard' project management systems to 'soft' projects (e.g., public sector management) has presented challenges for effective management of projects and defined a need for a new approach to project support systems (Heindel and Kasten 1996 p250).

Currently, there is no agreed set of generic process steps to guide people undertaking organisational change initiatives (Stretton 1998 p1). Further, none of the readily available 'hard' project management systems deal with the challenges of organisational change projects characterised by multiple, interdependent 'soft' sub-projects. Indeed within the project management community, there are differing viewpoints about the degree of relevance and transferability of project management techniques from 'hard' to 'soft' projects, or even to complex projects (Williams 1999 p272). Nevertheless, it is commonly held that management of change is central to project management (Yeo 1993 p115); (Stretton 1998 p1). A number of writers and researchers have turned to systems theory for possible enlightenment and alternative tools for managing organisational change (Neal 1995 p7); (Cavaleri 1994 p262); (Winter et al. 1995 p1310); (Rodrigues and Bowers 1996 p215); (Yeo 1995 p288).

Soft Systems Methodology (SSM) is one of a number of 'problem structuring methodologies' developed to probe patterns of systematic relationships (Friend 1998 p11). SSM has been applied in industry and the public sector to help tackle organisational problems in which information provision is a feature and for making sense of the experiences gained. Initially the action research that produced SSM was carried out in industry. This focus proved helpful "because for all their complexity, industrial companies are in one sense simpler organisations than, say, local authorities or acute hospitals" (Checkland and Holwell 1998 p173). Over the last decade, emphasis in SSM development has shifted towards the public sector. Checkland refers to difficulties in thinking about public authorities in a unitary way, characterising them as a complex network delivering services, rather than being routinely managed in a conventional sense (Checkland and Holwell 1998 p174).

Applying Soft Systems Methodology

SSM can be described as an interpretive approach to organisational problem solving, that can be used to provide a structure for action research in which desirable change and organisational learning are the aims. It is based on the belief that thinking about the world and having experiences in it cannot properly be separated. Research proceeds on the basis of a learning cycle in which theory and practice create each other (Checkland and Holwell 1998 p11). There are diverse forms of action research, of which SSM is only one. Nevertheless, action research has been linked closely to systems theory from its inception and has been used extensively in development of SSM (Baskerville and Wood-Harper 1998 p98).

The formal structure of SSM as a learning process may be seen as follows (Checkland and Holwell 1998 p160):

1. Exploration of a perceived problem situation, including its social and political nature; *leads to*
2. Selection of relevant systems of purposeful activity and model building; *enables*
3. Structured exploration of the problem situation using the models; *yields*
4. Knowledge relevant to improving the problem situation and accommodations enabling action to be taken; *leads to*

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5. Action to improve the problem situation.

With practice, SSM can become an adopted 'way of thinking' (Checkland and Holwell 1998 p163). Experienced users may use it to illuminate the process of investigating a problematic situation and to deal with the content of the situation itself.

Frequently, as found with Agency A, the change is associated with the introduction of an information system. It seems that SSM's developers, however, never thought of it as simply as 'a system development methodology'. Rather, it is an approach to managing whose application area includes problems commonly associated with information provision (Checkland and Holwell 1998 p155). These can be very broad once it is accepted that the key to successful information systems strategy is integration with the corporate (business) strategy on the one hand and information systems development and organisational change on the other (Galliers 1995 p51).

Extending Checkland's "Processes for Organisation Meanings" (POM) Model

Models developed using SSM can be directed at exploring cohesively common elements of people ('human activity systems') trying to take purposeful action to address a problem / to effect change. SSM's models of human activity can never be models of real world purposeful action as the complexity of the latter will always far exceed the complexity of the former, however elaborately formulated (Checkland and Holwell 1998 p160). Nevertheless, models are useful devices to:

- explore the real world situation (i.e. sources of good questions);
- provide (via questions) an explicit process which can be followed to reach conclusions;
- 'structure a debate' within which is defined 'improvement' in a particular situation and what 'action to improve' is culturally feasible as well as arguably desirable;
- find accommodations between individuals/groups enabling action to be taken.

Essentially Checkland and Holwell's "Processes for Organisation Meanings" (POM) Model contains "three parts which are in a particular kind of relationship with each other. Elements 1-5 describe the organisational context in which people create meanings and intentions; this leads to purposeful action being undertaken (Element 6). Element 7 describes what would usually be described as information support" (Checkland and Holwell 1998 p109). The POM Model is viewed as cyclic, with pathways that link all of the elements with each other. There is no clear starting point for use of the POM Model; in any particular set of circumstances, the initial focus would be expected to vary.

The POM Model has been extended and used within the field of the research collaboration as a framework for making sense of the dynamics of the project management processes occurring in complex organisational contexts. For Agency A, the research has involved design and piloting of an on-line Project Integration Management System. Examining the process in this framework is providing a picture of "the shifting situation in which information systems are defined, created, modified or abandoned" (Checkland and Holwell 1998 p222).

CASE STUDY – AGENCY A

Organisational Context

In 1995 Agency A began a phased program of reform that would impact upon almost every facet of service provision. A Government Inquiry was an important, although not sole, catalyst for this program. It was recognised that for change to be implemented and sustained a carefully planned organisational strategy was needed (Crawford 1998a p12). Like similar agencies worldwide, Agency A was faced with examining its goals and objectives in the context of a rapidly changing social environment and views on the future of its service provision. Agency A and the Project Management Program at the University of Technology, Sydney recognised a significant opportunity for collaborative research with potential to fill a recognised gap in project management theory and practice and were successful in obtaining a major research grant commencing in 1998. The research methodology was designed to reflect the strategic direction and operational requirements of Agency A, consistent with outcomes that could benefit other services and the wider industry.

The research collaboration has completed the first phase of its agreed three-year timeframe. Considerable progress in research focused on change management, project management support systems and competencies as well as in development of agency project practice has been reported to stakeholders. Initially, the focus was on priority reform projects, many being managed simultaneously in a complex and dynamic environment. With progressive adoption of learning and techniques developed by the research partners, the scope has been extended to other corporate strategic and key operational projects including those supporting a Government reform direction requiring a co-ordinated approach between the Agency and other government departments.

Elements of the ‘Work in Progress’ Extended POM Model – Agency A (Exhibit 1)

External Changes – One “boundary” point identified in the dynamic and complex external environment in which Agency A is undertaking purposeful action is the NSW Government’s Reform Agenda. This established high-level organisational change goals that the Agency’s priority reform projects would be required to address.

Project Management Theory, Methodology and Practice - In looking at generic process steps for managing organisational change as projects, Stretton observes it is a substantial generalisation to talk about organisational change as an entity in its own right. Four basic types of organisational change (individual task behaviour, organisational processes, strategic direction and organisational culture) and four methods (structural, technological, managerial and people) are identified. Sampling relevant literature, he found in a substantial number of examples, the change objectives were well definable at or near the outset (Stretton 1998 p2).

For Agency A, the change to be achieved was clearly set out in the form of specific recommendations from the NSW Government Inquiry. In this sense, the priority reform projects could be seen as Type 2 under the Goals and Methods Matrix Model (Turner and Cochrane 1993 p96). For these projects, while core mission and goals might be agreed, there could be widely differing views about particular objectives and how these might be achieved in practice. This could be expected from projects within a ‘bureaucratic’ as distinct from a ‘technical’ project paradigm (Hassen 1997 p276). The multiple and inter-dependent sub-projects initiated by Agency A to undertake particular pieces of work, however, tended to have characteristics of Type 4 projects i.e. both the goals and methods of achieving them were incompletely defined at the outset. It should be noted that the term ‘program’ had a particular meaning within Agency A relating to external reporting requirements. Hence, ‘projects’ and ‘sub-projects’ were used in the sense that ‘programs’ and ‘projects’ may be in other contexts.

In developing their methodology, the collaboration partners had regard to “best practice” in project management. Recourse was had, for example, to:- 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); PRINCE 2 (CCTA 1998); Project Quality Standards/ Guidelines and practice in industry and in the services provided by the Agency both in Australia and overseas (Standards Australia 1998). Available project management software was also considered.

Soft Systems Methodology Mode 2 - Checkland distinguishes between the two ends of the SSM spectrum as (Checkland and Holwell 1998 p164):

- **Mode 1** – *the methodology is taken to be a prescriptive set of stages to be followed in sequence.* Arguably, it can be directly associated with the generic project life cycle from project management literature (Stretton 1998 p1). The associated knowledge creation process is expected to be discipline based, hierarchical and academically driven.
- **Mode 2** – *the basic model of the methodology is used as a sense-making device.* Its form and content will be appropriate both to the particular situation addressed, with its own unique history, and to the investigators involved, with their particular attitudes and experiences. The knowledge creation process is expected to be practice-based, trans-disciplinary and socially distributed.

Mode 2 appeared the most applicable to make sense of the on-going change process in Agency A. Many of the projects concerned were already under way, or even completed, before the Government Inquiry recommendations were finalised. Implementation of the research plan (itself a “hard” project in that both the high level goals and methods were defined and the subject of formal agreement at the outset), provided a framework for new sub-projects to be managed in a way more consistent with a generic project management methodology. Hence, in practice, recourse was had to ‘hard’ and ‘soft’ systems methodologies simultaneously.

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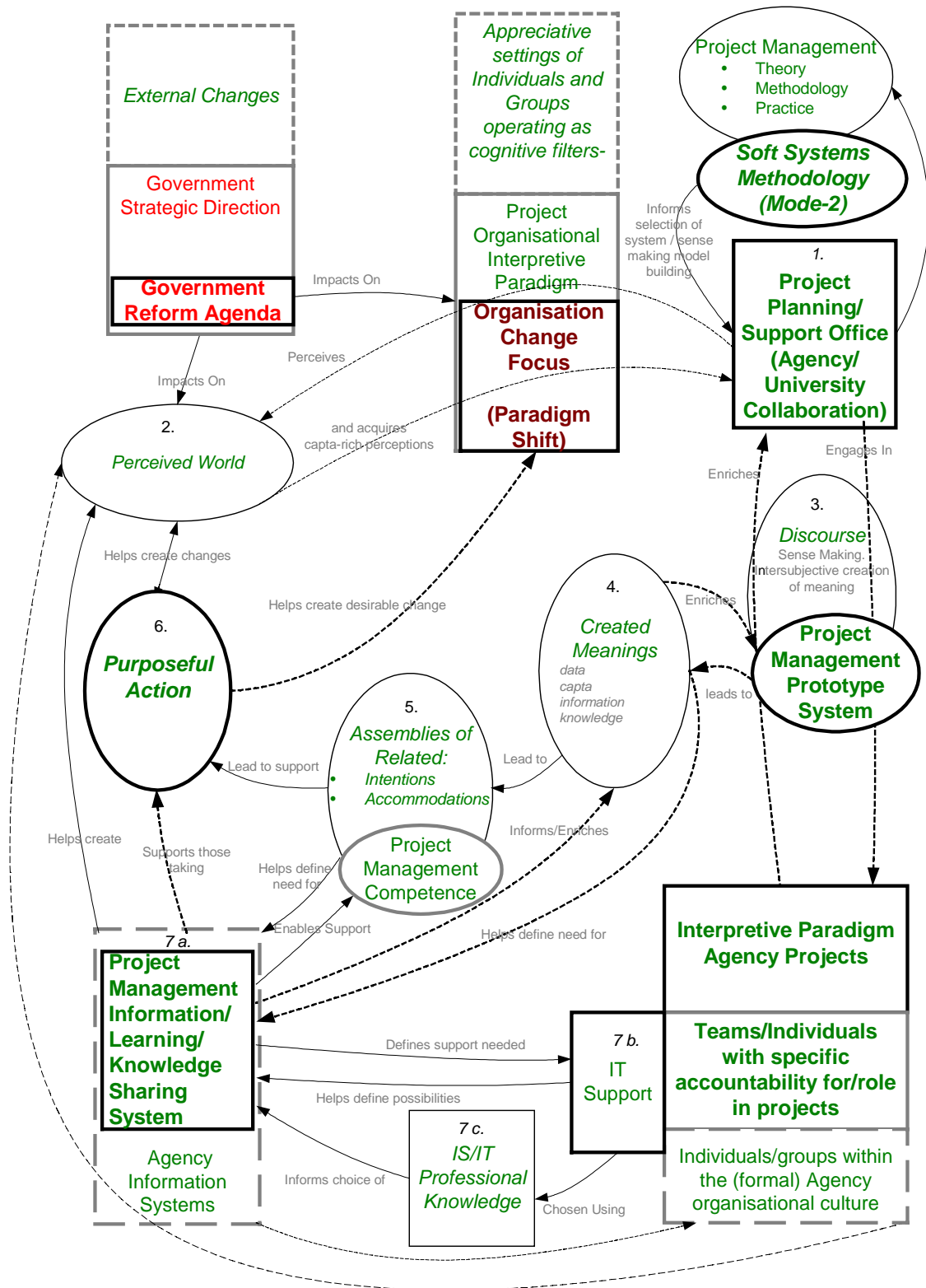


Exhibit 1: 'Extended "Processes for Organisation Meanings" Model' - Agency A

Based on Checkland P. POM model. The 'organizational' form of the model of the social process in which meanings are established and lead to information support for the people undertaking purposeful action: the 'processes for organization meanings'.

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Individuals and Groups (*Checkland Element 1*) – Encompassed here are individuals and groups with a concern for purposeful real-world action and for the institutional support needed by those carrying out the action (Checkland and Holwell 1998 p148). Understanding these is fundamental to appreciating the requirements for promoting effective information exchange, sensemaking and knowledge creation (Barua et al. 1997 p242). Expressly identified in the Extended POM Model are: the Project Planning Office (the Agency/ University research collaboration); teams/individuals within the Agency with a specific accountability for/role in managing projects; and individuals/groups in the (formal) Agency organisational culture.

The Project Planning / Support Office – Comprised of members located both within Agency A and at the University of Technology, Sydney, in a number of aspects the Project Planning Office is operating as a virtual team that is putting into operation the research agreement between the collaboration partners. From the outset, the Project Planning Office has been directly supporting key managers of priority Agency projects. This has included strategic planning and training, mentoring and coaching. Also, it has included design, implementation and administration of an Intranet capable on-line database application. Growing out of a prototype rapid application development, the database is supporting project communication and knowledge capture and sharing while promoting a consistent approach to day-to-day management of projects.

Perceived World (*Checkland Element 2*) – In the language of the POM Model, this is defined as the data-rich world that individuals and group members (*Element 1*) perceive selectively through their various taken-as-given assumptions. These individuals and groups are ‘appreciative settings’ playing the role of ‘cognitive filters’ (Checkland and Holwell 1998 p105). The perceived world can be changed by shifts in both thinking and action that may in turn change the perceptions of the appreciative settings.

Appreciative Settings – Real-world happenings are described as “an incredibly complex flux in which many appreciative systems, both individual and group, were operating simultaneously and interactively” (Checkland and Holwell 1998 p107). Appreciative settings may be individuals, a group (although there will never be complete congruence between individual and attributed group settings) and an organisation as a whole (Checkland and Holwell 1998 p104). Thus the detail of ‘observable reality’ will always be far less clear than the representation in the POM Model. In terms of both structure and organisational process, Agency A was large and complex. For the purposes of the Extended POM Model, Constantine’s set of assumptions about the structure and operation of an organisation (the *organisational paradigm*) was adopted as a first step towards making sense of the complex organisational reality encountered (Constantine 1993 p35). In this context, organisations are viewed as “human systems, governed by specific mechanisms and guided by over-arching paradigms that reflect assumptions inherent in their means of coordination” (Constantine 1991 p41).

Four *project organisational reference paradigms* may be distinguished by variation in the mechanisms by which groups control and coordinate their efforts on a common task (Constantine 1993 p37). Another approach is to think of cooperative work as organisation i.e. an ensemble of cooperatively working people (Keller 1997 p444). In Constantine’s framework, projects can be coordinated by a traditional hierarchy, by reliance on independent initiative, by collaborative discussion, or by virtue of alignment with a common vision or direction. For the purposes of the Extended POM Model, Agency A may be characterised as a *traditional authority hierarchy*. Within this paradigm standards and rules of operation promote continuity, and “highly valued stability is maintained through control that counteracts any deviation from established norms and patterns” (Constantine 1993 pp35-36). Such organisations have well-defined roles for each position. Information is carefully controlled and channeled along lines of authority.

As Clarke and Clegg observe “different concepts of management paradigms have been at the centre of critical debate in recent years, and the notion of changing paradigms captures the flux of organisational transformation” (Clarke and Clegg 1998 p9). Enhancing the Agency’s capability to support implementation of priority reform projects was seen as requiring a *shift in organisational change focus* towards a form and style of *organisational reference paradigm* that could be considered as particularly supportive of organisational learning (Haslett 1998 p2); (Cavaleri 1994 p259). Styled *open collaborative* in Constantine’s framework, this paradigm is based on adaptive collaboration, integrating innovation with stability and individual and collective interests through negotiation and discussion. The style of project team building that best fits here fosters full participation and involvement with real work training relevant to the project.

In considering the direction of an Agency’s paradigm change, issues in evaluating public sector reforms must be taken into account. Reforms are usually multi-faceted and success or failure is rarely clear cut. Further, there is a need to appreciate the politico-organisational context of particular reform elements as well as analysing the

characteristics of the reform objectives themselves (Peters and Savoie 1998 p5). Nevertheless, there is widespread interest in and attempts to apply performance indicators across public sector management (Smith 1995 p192).

Discourse and Created Meanings (Checkland Elements 3 & 4) – This is where meaning is created inter-subjectively, leading to attributions of meaning that yield information and knowledge. It is a very complex social process, embodying politics as well as rational decision-making (Checkland and Holwell 1998 p105).

For Agency A, *discourse* was structured within the framework of a prototype project management / information system. Prototyping takes an experimental approach to systems design, working with user feedback to refine a preliminary system until user needs are met. This proved a very effective, as well as inexpensive interim solution for priority reform projects. As well as enabling learning to be shared, the prototype system provided the means for applying a standard practice to achieve consistency across projects in such aspects as project initiation (startup), communication, control points, performance measures, documentation standards, quality management, risk management project reporting and archiving. Continual enhancement of the system as users define their needs and expectations and share their learning is assisting in development of a capability suitable for Agency-wide application to key operational as well as to corporate strategic projects. While the prototyping approach to systems analysis and design bears a striking resemblance to action research, there is no strong intellectual heritage of action research in the development of prototyping. Nevertheless, Baskerville and Wood-Harper conclude that the technique exhibits qualities that fall within the boundaries they established for forms of action research (Baskerville and Wood-Harper 1998 p98).

Interpretive Paradigm - Agency Projects / Teams and Individuals with Specific Accountability for/role in Projects – Overall, Agency A does not yet have a coherent project management ‘culture’. Reform projects are being implemented under a number of arrangements covering formal responsibility, location, project process and project team operation. An initial strategy of the Project Planning Office was to progressively engage key managers and team members through a generic project management methodology structured in the prototype application. In response to their learning, the methodology and supporting system have been progressively enhanced and expanded.

Three levels of analysis for project team operation have been described:- *process* (the observable behaviour taking place); *operating mechanisms* (the structures that account for patterns in observed behaviour); and *paradigm* (the model and its incorporated assumptions that guide or inform the operation or organisation of a group) (Constantine 1993 p35). These are interrelated, with structure regulating process and paradigm informing structure. For the purposes of the Extended POM Model, the Agency’s projects may be classified according to an *Interpretive Paradigm*, examples of which follow. For each category, a separate set of problems and potential project management techniques may apply (Evaristo and van Fenema 1999 pp 276-278).

- *Level of definition of goals and /or work methods.* The Goals and Methods Matrix Model may be refined by tailoring planning and control procedures to meet the needs of individual project types - integrative, strategic; and tactical (Payne and Turner 1999 p57).
- *“Technical” and “bureaucratic” project paradigms.* Distinction between managing “technical” and “bureaucratic” projects may be particularly sharp where the organisation has a paradigm that directs project work into bureaucratic process channels (Hassen 1997 p301).
- *Human and technical difficulties.* In this framework, the strategy for projects with a strong technical difficulty can be summed up as a tradeoff between deadlines, costs and objectives (a direct strategy). For projects with a strong degree of human difficulty, an indirect strategy may be indicated. (d’Herbemont and Cesar 1998 p11).
- *Project complexity.* While there is no classification of complex projects in general use, various project dimensions have been identified such as organisational complexity (e.g. operational inter-dependencies between organisational elements) and technological complexity (e.g. in terms of inter-dependencies between tasks, teams, technologies or inputs) (Williams 1999 p269). Another example is provided by a typology that distinguishes projects according to whether they are single or multiple and the number of sites they encompass (Evaristo and van Fenema 1999 p276).

Assemblies of Related Intentions and Accommodations (Checkland Element 5) – Under SSM, system improvements rely on processes of learning and accommodation, rather than on the optimised outcomes of the ‘hard’ systems means-ends paradigm (Cavaleri 1994 p265); (Yeo 1993 p112). Checkland explains this element

as organisations enabling assemblies of related meanings, intentions and accommodations between conflicting interests to emerge.

Project Management Competence – In the Extended POM Model, *Element 5* has been linked to development of project management competence, focussed on the achievement of strategic initiatives. (Crawford 1998b p 10). Here, an Agency that has no corporate wide history of project management either in its organisation or in the practice of its core business, is endeavouring to develop the project management capability of the people, the systems and the organisational environment simultaneously and interactively. To be able to undertake purposeful action, project managers within the Agency must have the means of identifying relevant data, collecting it, analysing it, and reporting on it, as well as the means of translating the information into useful knowledge for the individual project managers.

Purposeful Action (*Checkland Element 6*) – Once assemblies of related meanings, intentions and accommodations have emerged, purposeful action can be taken. Checkland says this can be best thought of and expressed as “managing of relationships” (Checkland and Holwell 1998 p105). In organisations purposeful action is dependent upon information support. It requires the bringing together of technical capability with the people who will use the system in the framework of the culture of the organisation. Commercially available project management information systems were not suited to meet all the needs of the research collaboration (Turner and Speiser 1992 pp 201-206) so an ‘in-house’ solution was developed for Agency A.

Information Systems and Technology (*Checkland Elements 7a,b&c*) – These elements are described respectively as: (a) formally organised information systems; (b) the technology support element; and (c) the knowledge needed to operate, maintain and modify the technology.

The strategy has been to build the Project Integration Management System as an application on existing / developing Agency A platforms rather than as specific computer aided SSM tools (Zhang et al. 1997 p131). The prototype system first developed was user friendly and flexible supporting easy communication and capable of integrating fully with other applications. From its earliest iteration it was functional as a decision support system and the participating project managers / team members were able to generate workable outputs according to user ability and requirements. As the iterations have progressed users of the system have developed the capability to administer the system and undertake new design. It is now in the process of being converted into an Agency-wide Intranet application.

Thus successful development of the Project Integration Management System has required flexible arrangements to bring people with IT expertise and users together in a less bureaucratic and more intensive way of working (Jones and King 1998 pp61-62) to facilitate sharing of learning. In the field of information technology research organisational learning has been identified as an increasingly significant issue. Two perspectives have emerged, systems-structural and interpretive. The latter may be defined as the process of “generating cognitive interpretations of environmental events, and the development of shared understandings of interpretations” (Hine and Goul 1998 p128). The Project Management Information System developed by the research collaboration is being continually challenged to find a way through such issues as it extends to dispersed locations and becomes progressively available to increasing numbers of users throughout the Agency through the Corporate Intranet.

MANAGEMENT BY PROJECTS APPROACH

In response to a rapidly changing business and social environment and demands to demonstrate achievement of performance goals, major organisations, worldwide have adopted an approach of managing their organisations by projects. Within such organisations, the focus of roles is on successful management and completion of projects rather than on static positions in a corporate hierarchy. This leads to a more flexible structure capable of responding quickly to changes in market demands and the business environment. It also focuses the attention of the whole organisation on cooperative working to achieve results.

A major benefit for public sector organisations is that Management by Projects provides a flexible structure. The organisation can respond rapidly to environmental changes, and in particular to changes in government direction without undergoing a complete organisational restructure which is disruptive and unsettling for staff, and impacts negatively on productivity. Key characteristics of the approach are: work organised into projects;

delivered by project teams; focus on results; flexibility to deal with change; and delivery of products by cross-functional, cross disciplinary project teams.

CASE STUDY – AGENCY B

Organisational Context

As described by Agency B, the Management by Projects (MbP) approach it adopted in 1997 is the way it “organises its people and other resources to deliver products and services to satisfy our client's needs. MbP means giving the best available people the best available resources, applying teamwork, leadership and project management principles, and producing the best outcome for the client. MbP breaks down artificial barriers between functions and business units and gives everyone the chance to focus on results, not get bogged down in internal processes” (Crawford et al 1999 p610).

Over the previous two decades Agency B had introduced a range of responses to the challenges facing the public sector. A specific challenge over the last decade has been the addition and subtraction of parts of the organisational portfolio, usually associated with elections and administrative changes. As a result of amalgamations Agency B has acquired a range of cultures and disciplines, each with their own history and patterns of service delivery.

To reap the benefits of managing by projects Agency B recognised that it had to provide support for their projects and their people, to assist them in working together on projects to achieve corporate goals. This support should include systems for management of portfolios of projects, and training to develop the project management competence of all staff. It is essential that the people within the organisation understand the approach, understand their roles and have the skills to work effectively within this environment.

Applying Soft Systems Methodology

In the case of Agency B, the research team has used SSM and the Extended POM Model as ‘an explicit framework of guidance for sense-making, leading to processes which can be both described and recovered’ (Checkland and Holwell 1998 p169). The problem situation being interpreted is the process of organisational change involved in adopting a Management by Projects (MbP) approach with a view to identifying action for improvement of the change process as a project.

Whereas in Agency A both researchers and Agency representatives have actively engaged with the SSM approach, for Agency B only the researchers have used SSM as a sense-making device. The relationship between researchers and Agency B staff has been through collaborations that focus on the assessment and development of both individual and organisational project management competence.

Elements of the ‘Work in Progress’ Extended POM Model – Agency B (Exhibit 2)

External Changes – For Agency B, the most significant pressures for reform have come from the NSW Government promotion of “Whole of Government” concepts. These encourage the breaking down of barriers to communication within and between agencies to provide improved and integrated services and outcomes for clients (New South Wales Premier’s Department 1999 p iii).

Individuals and Groups (*Checkland Element 1*) – Distinguished here are those who are leading the change (the Chief Executive Officer (CEO), Senior Executive and personnel in the internal Project Management Centre of Excellence) and the teams and individuals within Agency B with specific accountability for or a role in projects who are required to respond to and support the change to Management by Projects (MbP). The University research team is depicted as separate from either of these groups and is linked to SSM as a ‘cognitive filter’.

Appreciative Settings – The *project organisational reference paradigm* for Agency B can be characterised, according to Constantine’s framework (Constantine 1993 p39) as primarily a *traditional authority hierarchy* (closed). This reflects the formal structure of Agency B. The paradigm shift required here, to satisfy the requirement for collaboration and delivery of integrated services, is towards an open organisational reference

paradigm, facilitating an *adaptive collaborative* process. Government requirements, however, are likely to modify any shift in this direction. At the same time, there are informal structures operating within Agency B with characteristics that may be described as *random*, displaying *innovative, independent initiative* or *synchronous*, displaying *efficient, harmonious alignment*. These are those parts involved in design and within certain technical areas where strong professional disciplines facilitate coordination and provide direction.

The change to a MbP approach was recommended by members of the Senior Executive Team based on literature review, visits to other organisations and consultation with 'experts'. One of the members of this team had formal qualifications in project management and others had experience in the traditionally project-based divisions of Agency B. The world view of the team recommending the organisation change focus was coloured by both knowledge and experience in 'hard' project management theory and practice.

Everyone in Agency B has been required, as teams and individuals, to take specific accountability for, or a role in, projects. Due to the diversity of agency's activities, these teams and individuals have differing world-views of projects. Some are working primarily in parts of the agency that can be described as random or synchronous, namely design and technical disciplines, whose work has always been project-based, generally with well-defined goals and well-known methods. Those involved in operations do so within a predominantly closed organisational reference paradigm and are unfamiliar with project management as an approach. Their work,

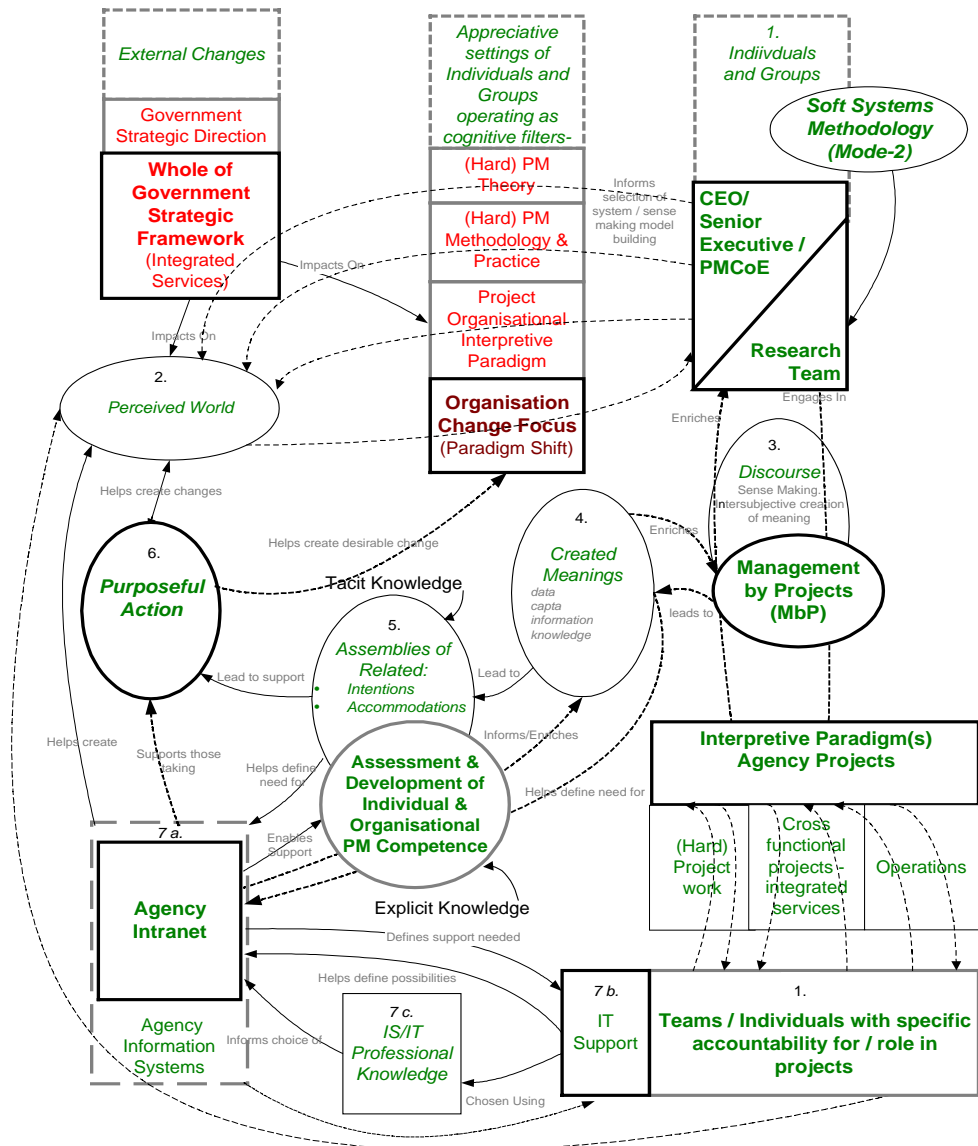


Exhibit 2. 'Extended "Processes for Organisational Meanings" (POM) Model' - Agency B

Based on Checkland P. POM model. The 'organizational' form of the model of the social process in which meanings are established and lead to information support for the people undertaking purposeful action: the 'processes for organization meanings'.

when defined as projects, though in many cases having both well-defined goals and methods, is largely bureaucratic (Hassen 1997 p301) involving human difficulties (d'Herbemont and Cesar 1998 p11) and complexity (Williams 1999 p269). There are others operating within an open organisational reference paradigm, having embraced the need to work collaboratively across functions and agencies from experience in such areas as quality and process improvement and on special cross functional and inter-governmental task forces.

Perceived World (Checkland Element 2) – The different experiences and perspectives of the various individuals and groups (over 2500 people) that comprise the appreciative settings, mean that there are many and complex perceptions that need to be dealt with in the change process.

Discourse and Created Meanings (Checkland Elements 3 & 4) – In Agency B, discourse has been structured through the introduction of MbP. This approach and supporting documentation (Agency Intranet) and activities (Assessment and Development of Individual and Organisational Project Management Competence) is providing Crawford, L. and Costello, K. (2000) Towards a Transferable Methodology for Managing Strategic Change by Projects. In: Crawford, L. and Clarke, C.F., (Eds.) *IRNOP IV Conference - Paradoxes of Project Collaboration in the Global Economy: Interdependence, Complexity and Ambiguity*, Sydney, Australia: University of Technology, Sydney

the shared language and framework for collection of data that are leading to creation of new meanings and useful knowledge.

Assemblies of Related Intentions and Accommodations (Checkland Element 5) – In Agency B, the transformation of knowledge from tacit to explicit is informing and modifying the discourse structured around the MbP approach. This is the focus area of involvement of the research team with the agency. The Project Management Centre of Excellence has been established to provide a focal point. An MbP Guide has been prepared and is available on the Agency Intranet. An MbP Champions Network has been established to provide leadership, encourage, mentor and support the MbP concept at various levels across the organisation. Resource Managers have been appointed and a skills database established. Through training in project management, individuals are provided with a shared language, tools and techniques for management by projects and encouraged to use this in their workplace. The Australian National Competency Standards for Project Management have been adopted and, through the research collaboration, a process is being developed for assessment, development and recognition of the project management competence of individuals to support the MbP approach.

Purposeful Action (Checkland Element 6) – The desired *purposeful action* is for Agency B's work to be organised into projects, delivered by cross functional, cross disciplinary project teams, focusing on results and with flexibility to deal with change thereby delivering the best outcome for the client. Capacity to undertake such action is influenced by technical capability, organisational culture and the systems and information support available. For Agency B, communication of the concepts through the MbP discourse has been effective largely due to strong top management support. Developing and recognising the project management capability of a large and diverse workforce takes considerable time and resources as does changing and unifying the diverse and well-established cultures to enable the MbP approach. As Checkland and Holwell (Checkland and Holwell 1998 p105) point out, purposeful action in organisations is dependent upon information support. In Agency B, the SSM analysis has highlighted strategic information support as a key weakness in the organisation change process.

Information Systems and Technology (Checkland Elements 7a,b,c) – The primary systems for information support in Agency B are the Agency Intranet and the Electronic Mail System. These are the areas of focus for IT support (*Element 7b*) to teams and individuals required to manage their work as projects. Support is delivered through the IS/IT specialists within the Agency (*Element 7c*) whose approach is primarily from a systems-structural perspective rather than from a perspective that focuses upon the specific needs of users as modified by the introduction of MbP. Thus the Agency Intranet has an MbP site which offers the only version of the MbP Guide and other templates, tools and assistance for those managing by projects. Unfortunately, the Intranet is not yet available to all members of staff throughout the various sites occupied by the Agency. Some groups within Agency B, with a history of project based work, have developed specific systems to assist in managing projects. However, these systems have not been rolled out to the rest of the agency and, in any case, can not at present integrate smoothly into the corporate information systems.

CONCLUSION

In 1993 Yeo attempted to “build bridges to link project management with the extended body of knowledge in systems thinking, incorporating the soft systemic methodology” (Yeo 1993 p111). This was in the context of organisational change, learning and management competence. He concluded that “the secret of success in project management, as in any other field of management, is learning, especially when dealing with soft, ill structured and initially ambiguous problem situations.” (Yeo 1993 p116).

However, while this theme has been occasionally taken up, project management literature has continued to reflect the nature of projects themselves, tending to be focused on 'hard' practice. It has no sustained line of research contributing to development of the discipline of project management by building and testing models and theories. This led Stretton in 1998 to commence a synthesis of materials from general management, project management and systems theory and practice, especially Checkland's SSM, as a step towards a generic approach to managing organisational change initiatives as projects (Stretton 1998 p1). Another approach, is to use SSM as a *sensemaking device*. Initial results from reviewing the experience of a collaborative research team in applying this methodology to make sense of the project management transformation process underway in two

large and complex Government agencies points to a potentially rich new direction for development of project management theory and practice.

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