

THE PARADOX OF PROJECT CONTROL

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Abstract

Purpose of this paper

This paper will explore a case study example of the decision-making process that occurs within complex organisations. It exposes a murky 'zone' of decision making and action between the strategic vision set by senior management and the work of teams to realise projects.

Design/methodology/approach

A case study from the experience of one of the authors is used to illustrate the activities in this 'zone'. The lessons from the case study are supported by emerging project management and general management literature. The paper is exploratory in nature and the case study used provides a useful vehicle for reflection and sense making.

Findings

The 'zone' is metaphorically described as a highly complex and dynamic organism. Operating in the 'zone' requires agility and an understanding of both the project and the organisational environment to cope with the demands of its chaotic nature. The paper's conclusions indicate that the traditional command-and-control management style is counter-productive in today's organisations.

Research implications

Key implications include the need for project managers and their teams to be politically astute and sensitive to the needs and pressures of a wide range of project stakeholders. A methodology and tool for visualising the influence of stakeholders can be of considerable use and a flexible style of decision-making is necessary to manage within the inherent uncertainty, complexity and chaos found in projects and organisations like the one illustrated by the case study.

Keywords

Management Styles; Organisational Forms, Project Management, Decision-making

Introduction

Projects are about delivering change (Cleland 1999). However, successful projects are not just about managing change; they are also about managing relationships and managing uncertainty (Bourne and Walker 2003). The evolution of the profession of project management had its beginnings in construction / defence / engineering organisations (Morris 1994). These organisations are typically characterised by the following aspects:

- The product of the project is tangible or at least easily visualised;
- Straightforward 'command and control' structures;
- Well-defined management hierarchy;
- Authority and responsibility is appropriately balanced; and



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- Project objectives clearly understood by most, if not all of the stakeholders.

Once project management concepts were extended to business environments for management of systems development, change management, and research, different techniques were needed to deliver results in environments typified by poorly defined rules, methods, and objectives. (Turner and Cochrane 1993). These complex matrix organisations operate differently from the 'traditional' hierarchical organisation.

Characteristics of this type of organisation include:

- Changing scope and divergent objectives;
- An end product/deliverable that is intangible or difficult to visualise;
- Many competing levels and types of authority;
- Multiple/competing lines of authority; and
- Frequent use of virtual and partial/part-time teams.

Despite the obvious organisational differences between these two types of project, managers at all levels seem to expect the 'zone' to always react to strategic management stimuli in the same way. Standard management control processes are appropriate for dealing with *known* problems and risk-management strategy can be directed to controlling *known unknowns* (Ward 1997). When "*unknown unknowns*" cause unplanned outcomes to eventuate, the reaction of senior management is often to perceive the project process as being 'out of control'. The solution of choice is usually to impose more or better control mechanisms such as new (or additional) Key Performance Indicators (KPIs) for the managers, or a requirement for more frequent reporting. The underlying assumption for the imposition of greater controls is that an adjustment to the controls at the top of a matrix organisation will have predictable outcomes at the lower levels inhabited by projects and project managers. This almost never eventuates because the only certainty in the 'zone' is unpredictability.

In the days when the construction and defence industries were the primary users of project management to deliver outcomes, the focus on schedule, budget and quality/scope was considered to be sufficient for successful delivery of outcomes. Change was considered to be a linear process, science and technology worked together to achieve incremental improvements in a predictable and proportional way. When the world of business 'discovered' projects to deliver business outcomes and organisational change, the situation became more complex. Implementing change successfully became more difficult to achieve as organisations moved from the relatively simple functional structure to the complexity of the matrix structure. "What worked in the past is no longer adequate for creating the future" (Goldstein 1994, p1). The idea of change as a linear process gave way to the idea of change as non-linear where the 'whole' was not just the sum of its parts because the relationships between the parts had to be included into the equation (Goldstein 1994, p12).

The dynamics of the global economy and the ensuing increased complexity had consequences for organisations and their people. These consequences impacted on the individual's increasing uncertainty about their role; the ensuing anxiety lowered productivity, leading to an increasing focus by the organisation's senior management for more and more control. The challenge now for project managers is to deliver successful projects in a climate of change and uncertainty within an organisational framework that responds to this change and uncertainty by imposing more control. The profession of management, and indeed project management, has been firmly in the grip of Taylor's scientific management theory which defined management as



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organising, planning and controlling, (PMI 2000) based on “rational analysis of task requirements and human motivations to perform them” (Streatfield 2001, p8). The emphasis has been on ensuring that the project manager is ‘in control’, while at the same time acknowledging that he/she is ‘not in control’ through the many courses, papers, and conferences devoted to the topic of project control.

This paper will explore the nature of the decision-making that occurs within complex matrix organisations by proposing a metaphorical ‘zone’ between the strategic vision set by senior management and the projects created to fulfil it. This highly complex and dynamic organism receives inputs in terms of resources, energy and communicated signals and processes them into outputs, and outcomes. Stimulus by senior management and customers/stakeholders to signal and influence this organism may, or may not, produce the required change.

Succeeding in this environment requires a different management paradigm from that developed for management in traditional project settings. The paradox of project control is that the project manager must be vigilant in controlling the outcomes of his/her project in the prevailing climate of change and uncertainty where the project manager and the project stakeholders are affected by the same change and uncertainty. In particular, the project must continue to deliver according to the agreed budget, schedule and scope/quality while operating within an organisation where predictable (but not known in advance) deviations from plan are viewed by senior stakeholders as being ‘out of control’, and where management reaction to regain control will most likely result in instability within the project. This instability can be in the form of the resignation or removal of team members, new reporting impositions or a requirement to maintain the original budget, schedule or scope even though conditions external to the project, but affecting its ability to deliver on time, budget or within scope, have changed dramatically.

This paper is developed as follows: the first section is a discussion of the context of projects in the environment described above, looking at the project controls and relationships necessary for project success as well as the particular case of the relationship between the larger organisation and the project organisation. The second section describes the management of change in complex environments through a case study of the development of a National Complaints Management system in a large Australian utility organisation and the affects that changes and threats to the organisation had to its outcomes. The third section explores the idea of the ‘zone of unpredictability’ and the nature of uncertainty, anxiety and unpredictability that change engenders within organisations and their projects. Finally, the paper will look at ways that project managers must operate to deliver project outcomes in the face of lack of power or authority, impossible deadlines and ‘morphing’ stakeholders.

Project controls and team relationships

Attempts to understand the nature of complexity as it affects the working lives of managers and team members and how that has affected the process of management has led to the development of the concept of *chaordic* systems thinking (van Eijnatten 2004) emerging from complexity theory. *Chaordic* is defined as anything that is both orderly and chaotic at the same time, that has a pattern dominated by



neither order nor chaos and that exists between order and chaos. (van Eijnatten (2004, p431) Some seeming chaotic situations appear to have some kind of underlying logic when viewed over time. Karl Weick, an early writer on 'sensemaking', writes of a small Hungarian detachment of troops that successfully found their way out after being lost in the Alps for two days by using a map of the Pyrenees – a triumph of sensemaking over pure strategy. (Weick 1995, p345) The apparent chaos or uncertainty of the Alps shares an underlying logic of mountain formation and the development of landscapes; the orderliness of another mountain range depicted on a map proved helpful.

In chaordic systems there are influences similar to the 'strange attractors' described in chaos theory. Signals, whether physical forces or unseen power sources like magnetism, act upon objects as agents. These agents and the forces they apply can only be understood within the context of the situation. Sometimes the agent's forces are enhanced by other influences, for example a ball slightly prodded on the rise of a hill will roll forward with little effort but would need an entirely different treatment if it were in the dip of a hill working against the added attractor of gravitational force. In the same way, instigating change requires application of influence and response within a swamp of forces, counter-forces, impediments, re-enforcement, learning and un-learning and a huge array of contradictions. What the chaordic systems thinking and sensemaking proponents such as (Weick 1995; Backström 2004; Jensen 2004; van Eijnatten 2004) suggest is that effective leadership is more about 'orientteering' or 'pathfinding' than control and inflexible rules and structures.

Taking some of these elements of complexity theory further, the notion of synchronisation from the world of physics can help us understand how people exert influence. Strogatz (2003, chapters 9 and 10) discusses the phenomena of fireflies flashing in unison, crickets synchronising their mating calls and the relationship with wave theory, chaos theory, and connectivity of people in small-world networks. Small-world network theory has been popularised as 'six degrees of separation' and the 'tipping point' theory. The former states that through social networks it is possible to contact anyone on this earth through six other people; overlapping communities and groups allow a vast number of people to be linked together. Tipping-point states that at some point an influence (idea, plague, fad or other stimulus) that remains hidden within a small population suddenly breaks out in seemingly unpredictable ways – gains 'critical mass'. Strogatz (2003) postulates that these phenomena are predictable within a chaordic framework of understanding.

The implication of environmental complexity within a project management context is that to succeed, project managers must establish and maintain relationships with many stakeholders both within and beyond the project management organisation. This paper will focus on those aspects of a project manager's skills and knowledge necessary for project success in large, complex organisations. The first task will be to define project management as a mixture of *art* and *craft* and how this connects to concepts of *management* and *leadership*. One of the themes of this paper will be that a successful project manager must be able to balance the requirements of *art* and *craft*, of *management* and *leadership*.

Briner, Hastings and Geddes (1996) explore the idea of a framework of six directions in which a 'project leader' must operate to manage a project's stakeholders successfully. Bourne in (Weaver and Bourne 2002; Bourne and Walker 2004) describes a seven-element framework as the project environment or 'sphere of influence and support' on which a project depends for its very existence.



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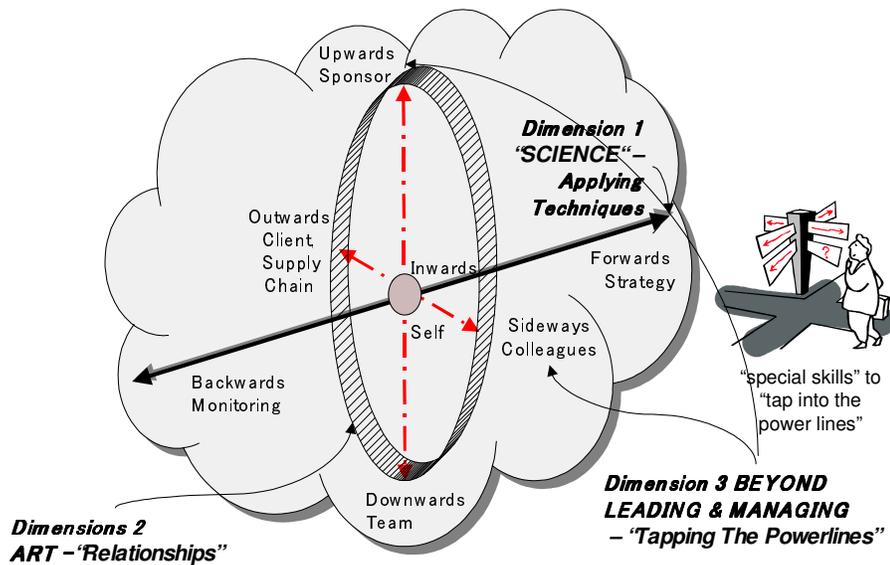


Figure 1 - dimensions of project management (Bourne and Walker 2004)

Figure 1 defines what a project manager must do to be successful. The project manager must manage the project control processes to develop and monitor the plans, schedules, reports, lessons learnt and forecasting that will serve as communication devices to everyone who has an interest. This is 'Dimension 1' looking *forwards* and *backwards*. The project manager must also manage him/herself, from the point of view of personal discipline, but also from the point of view of having needs and wants that should be fulfilled through successful completion of the project. This aspect of stakeholder management – looking *inwards* - is often neglected. If the project manager's needs and wants have not been satisfactorily delivered, it cannot be termed a successful project, because all stakeholders have not had their interests fulfilled (Bourne and Walker 2004). Looking *outwards*, managing the needs of clients, suppliers and users, requires a mix of management and leadership. Looking *downwards* requires considerable leadership skills to motivate followers and ensure all team members have their needs and wants satisfied. Looking *inwards*, *outwards*, *upwards* and *downwards* are 'Dimension 2' skills. Dimension 3 in Figure 1 focuses on satisfying stakeholders' expectations. These expectations include formal project deliverables as well as needs and wants that can be unique to each stakeholder and cannot be assumed. Managing such expectations demands significant interpersonal skills to respond in a flexible and appropriate manner when these stakeholders threaten the success of the project.

The project manager must understand the nature of the organisation and the culture that these stakeholders operate within. Without attention to the needs and expectations of different sets of project stakeholders, the project will probably not be regarded as successful (and certainly not to the project manager) even if he/she was able to stay within the original time, budget and scope. Project control, essential for successful delivery of projects, must be considered as requiring more than the *craft* of maintaining time, cost and quality. Project control includes managing relationships with stakeholders. In matrix organisations in particular, these stakeholders work within and are influenced by, the imperatives and culture of the organisation.



An understanding of the concept of managing different types of stakeholders in different ways is an essential part of a project manager's *art AND craft*.

Another essential element is the knowledge and understanding of the processes needed to identify project stakeholders and their 'how, why and when' issues so that these needs might be best addressed. Project teams and their stakeholders operating in today's multicultural or outsourcing environments must demonstrate a greater level of flexibility, leadership, and ability to 'read' the organisation, as well as the stakeholders that operate within it, working together to jointly deliver successful outcomes (Mintzberg 1989; Viney 1997; Theilen 1999).

Organisations and Project Structures

Before exploring the structure and relationships of organisations and their projects, it is necessary to understand the nature of culture and its context with projects and organisations.

Organisational (and project) Culture

Schein (1985) defines *culture* in terms of systems of symbols, ideas, beliefs, values and of distinctive forms of behaviour. Trompenaars and Hampden-Turner (1993, p13) define it as "a shared system of meanings (that) dictates what we pay attention to, how we act and what we value". Simply put, *culture* is: 'how we do things around here' and *cultural norms* are the unwritten rules of behaviour. 'How we do things around here' varies with each group and/or organisation, therefore there can be no universal law of organisational management nor a universal management tool kit.

"Organisations do not simply react to their environments as a ship might to waves. They actively select, interpret, choose and create their environments" (Trompenaars 1993, p19). The concept of *corporate memory* is related to how organisations react to their environments. Corporate memory is unique organisational knowledge – intellectual assets of data, routines and processes, norms, strategies and even language (jargon). It is intrinsic to corporate culture and essential for organisational effectiveness. Beckett (2000) describes corporate memory as being essentially the intellectual assets of the company. This essential asset is held in the minds and memories of individuals and groups, as well as in databases, records, procedures and rules.

Corporate amnesia, on the other hand is one of the reasons for underperformance of an organisation. This *amnesia* is one aspect of project management failure, caused by inadequate records or lack of access to these records, or personnel that move into the project for a short time and then move away offshore, as well as the removal of 'know how' through outsourcing, downsizing. Within the organisation itself, corporate amnesia can be caused by loss of key people, new management (new "brooms"), inability of the organisation to develop ways to share knowledge, or to access knowledge.

Three factors are especially important in determining corporate culture:



- System of authority between superiors and subordinates (in the next section)
- Relationships between employees and their organisation (discussed in a later section of this paper)
- Employees' views about the organisation and his/her place in it (discussed later in this paper) (Trompenaars 1993, p157).

Hierarchy and Authority

Talbot (2003) proposed that the development and creation of industrial and post-industrial organisational forms derives from military models, traced back to military organisational innovations of Napoleon in the early 19th century. Infrastructure projects such as the Western Railroad of the US were the catalyst for the hierarchical and bureaucratic line and staff management structure. Adopted by other railroads, it became the dominant management structure – the traditional functional structure. The language and culture of management as we practice it today has direct links to this military connection (Talbot 2003, p331). Mintzberg (1979, p27) refers to the 'chain of command' in his discussion of organisation structure. The military culture is echoed in the metaphor of business as war, whose reference manual is Sun Tzu, *the Art of War* and whose language includes such terminology as 'indefensible claims', targets, 'arguments shot down in flames' (Lakoff and Johnson 1981, p4).

The structure, culture and language of the military has been the pre-dominating one in the world of organisations, and still drives the dominant paradigm by which senior management is 'in command' and therefore 'in control'. The implication of the traditional, military-based organisational culture is that it is management who generate ideas, make decisions, and provide leadership, and it is staff's role to work to deliver management vision. Bolman and Deal (1991, p42) refer to this structure as *vertical coordination*, where higher levels use concepts of authority, rules and policies, and, planning and control systems (including performance monitoring and control) to define and control the work of subordinates.

(Yukl 1998, chapter 8) provides a useful review of theories of sources of power and influence. Whereas *position power* provides for formal authority, control over rewards, punishment and the like, it does not provide the means to influence people to do or not do something. Such influence is achieved through the exercise of *personal power* in the form of expertise, loyalty or charisma, or through *political power*. In situations where goodwill, flexibility or self-motivation and responsibility are required, the command and control approaches of coercive power simply do not work.

It is for this reason that other structures have emerged – in particular the structure of the matrix organisation and the idea of patterns of relationship. Bolman and Deal (1991, p45) define matrix structures as an aspect of the *lateral coordination*. The characteristics of the environment of the matrix organisation, then, are completely different from those of the functional structure with a focus on competing levels and types of authority and often the use of virtual and partial/part-time teams.

Matrix organisations focus on multiple relationships. For the project manager operating in a matrix organisation, the task of successful project delivery will be complicated by multiple reporting relationships for project team members. The relationships will be further complicated by issues around acquisition and allocation



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of resources and ensuring that senior management, the project's most powerful stakeholders, perceive that the project is 'working'.

The organisation's senior management will most likely still be operating in the culture of the traditional functional organisation and have the expectation that they must control all outcomes, moving to impose more controls when project results do not meet expectations (Fonseca 2002). The main challenges for project managers in a matrix organisation are negotiation and allocation of increasingly scarce resources aligned to the functional departments, and developing communication strategies that require more than just top-down or bottom-up lines of communication.

There is another form of organisational structure – that described as “*patterns of relationships between people*” (Stacey 2001, p140). In these forms of organisation, structure, power relations and forms of organising are not fixed, but vary in unpredictable ways according to events and relationships that occur within and outside of the group.

One such structure describing an organisation of patterns of relationship is the circular form developed by Hesselbein (1996) for the Scouting Association in the US. Because there is no hierarchical structure apparent in the depiction of this (circular) organisational form, authority and decision-making have to be re-defined. In this form of organisational structure, it is conversation and collaboration that develops communication and interaction. “ It is the very features of the process of interaction namely, taking turns, using rhetorical devices, categorising, and so on, in the context of mutual expectations, that imparts coherence and pattern to people's ongoing communicative interactions”. It is conversation in the form of relating to each other in the “medium of symbols, thereby forming while being formed by power relations between them”, that forms the group, organisation or community (Fonseca 2002, p7) and facilitates action, knowledge transfer and resolution of issues.

Fonseca (2002) and Stacey (2001) have developed a theory of conversation as a methodology where power is shared and is held by each actor in turn and where knowledge is shared through conversation – each participant adding to their knowledge through the interaction. This concept is essential for project managers operating in the 3rd Dimension.

Relationships between Organisations and their projects

The PMBOK (PMI 2000, p18) states “Projects are typically part of an organisation larger than the project – corporations, government agencies, international bodies, professional associations and others. Even when the project is the organisation (joint ventures, partnering) the project will still be influenced by the organisation or organisations that set it up.”



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Table 1 - Organisational structure influence on projects (PMI 2000, p18)

Project Characteristics	Organization Type	Functional	Matrix			Projectized
			Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's Authority	Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total	
Percent of Performing Organization's Personnel Assigned Full-time to Project Work	Virtually None	0-25%	15-60%	50-95%	85-100%	
Project Manager's Role	Part-time	Part-time	Full-time	Full-time	Full-time	
Common Titles for Project Manager's Role	Project Coordinator/ Project Leader	Project Coordinator/ Project Leader	Project Manager/ Project Officer	Project Manager/ Program Manager	Project Manager/ Program Manager	
Project Management Administrative Staff	Part-time	Part-time	Part-time	Full-time	Full-time	

Table 1 shows how organisation structure influences projects, project managers and project resources as well as stakeholder management issues. These organisational structures cover the spectrum from the *functional* where the project manager is part-time and there are probably no full-time resources assigned, to the project management ideal of *projectised*, where the project manager's role is full-time, as are most of the project resources. Another important feature of the *projectised* organisation is that the project manager's independence and authority is high compared with that of functional organisations where independence and authority are almost non-existent. In this table, the matrix organisation is somewhere between the two extremes, and categorised as weak, balanced or strong depending on the project manager's role and level of authority.

Projects should be considered as organisations on a human scale. The structure(s) of both projects and their organisations are by definition similar. Projects have purpose, structure, groups and teams, authority networks, culture, as do the organisations they operate within. The major difference is that projects are *temporary* organisations whose structures either may or may not reflect that of the performing organisation. The structure may be formed through the combined endeavours of multiple groups all from different cultures and organisation structures (Theilen 1999).

It is important to recognise that project structures need to be optimal for the task that they must perform. It is possible that a matrix organisation may initiate a project that is best structured around traditional organisational concepts. Projects must by their nature, and the nature of the single task to be performed, work within the tradition (from the military and construction) of a clear focus on time, cost, and quality. The maturity of the organisation with respect to its project management systems, culture, style, organisational structure and project management office will influence the project (PMI 2000, p18).

Returning to the metaphor of project teams working within a 'zone' that is an organism, what is needed is a new way of 'seeing' project organisations to help us understand how power and influence are applied and the subsequent results. This will be done by using a real life case study, reflecting on this example to explain the zone concept in light of its need for adaptive behaviour. Within the frame of this concept of adaptive behaviour, the next step will be to substantiate and support our



assertions that project managers need to be politically astute to effectively managing projects in matrix organisations. We will then draw some inferences of implications for project management professional development.

PLATO – a Case Study

PLATO was initiated in Telephones Plus (an Australian telecommunication company) as just one project out of many identified during a Business Process Re-engineering (BPR) exercise in the 1980s. The project was identified as “finding a better way to manage customer complaints”, and consisted of redeveloped complaint management processes along with a database of complaints, customers and causes. The IT component, the database, the customer interface and performance measurement and reporting, was initially estimated to cost less than A\$1 million and to take nine months to complete. The estimate allowed for refinement of the process specifications into requirements for the IT component.

The project manager, project team and supplier were selected; the solution was well into development phase, when T+ was embroiled in a legal battle with a group of dissatisfied small business customers –VOTe (Victims of T+). VOTe alleged that their businesses had failed because of T+'s unsatisfactory products, ineffective fault management and poor customer service. These small business customers claimed that each time they called to report their faults, they received conflicting advice from different technicians. VOTe alleged that this poor customer service was caused by T+'s systems not having any record of their previous fault reports.

Initially, T+ was reluctant (or unable) to act to satisfy the concerns of the group. It was an election year, and VOTe successfully lobbied politicians to set up an enquiry into the fault management processes of T+. The outcomes of the enquiry were that one of the ‘Big Five’ accountancy firms (ABC) was commissioned to define a fault management process to resolve the issues uncovered through the enquiry and Vote’s continuing public campaign.

When ABC’s report and recommendations were published, T+ was forced by the Government of the day (its major shareholder) to implement all the recommendations. The Taskforce identified PLATO as the vehicle for the implementation of the IT portion of the solution. Development of the previous PLATO solution was more than half complete; work was halted and the project team, business and user representatives worked with ABC to re-define the process. The process was extremely complex; estimates for completion and implementation of this solution were significantly higher than the original costs of the much simpler solution. T+ had no option but to comply with this (now regulatory) requirement, and work recommenced.

Both business analysts and technical team members raised their concerns about the process being too complex, but senior management insisted that the work must continue as defined in the ABC recommendations. When users were exposed to the new solution in the testing phase they also raised serious issues on the useability of the solution. The users saw PLATO being too complicated to use. Nevertheless, senior management continued to push for 100% compliance with the Taskforce recommendations as well as a new aggressive implementation timeframe – despite



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the concerns the project manager and user representatives presented to PLATO's steering committee.

The week before PLATO was to be released into production, all work was halted, and the release was postponed. The CEO of T+ finally listened to one user who had been quite outspoken in opposition to this (extremely complex and almost unusable) solution. Through this influence, the release was postponed, and a new group was to be formed of users, suppliers, and ABC consultants to work with the project team to simplify the design. The project team were perceived by senior management to have failed, so the project manager was replaced. PLATO was then simplified and released much later under a more politically astute project manager who was able to manage the expectations and perceptions of influential stakeholders while still working with the project team to deliver the project.

This case study illustrates how the multiple needs and expectations of a wide set of stakeholders can exert influence on a highly sensitive project. The following section describes PLATO's decision making process within the frame of concept of the 'zone'.

The 'Zone'

The case study of PLATO's development and implementation, illustrates many of the aspects of the 'zone' and the effects of change discussed in this section of the paper. In looking at the idea of the 'zone' it is necessary to understand what it is, how it works and who is affected. This section will explore aspects of change within an organisation with its consequent uncertainty and anxiety, as well as the way that activities within and of the 'zone' impact on employees' views of the organisation and relationships between the organisation and its employees.

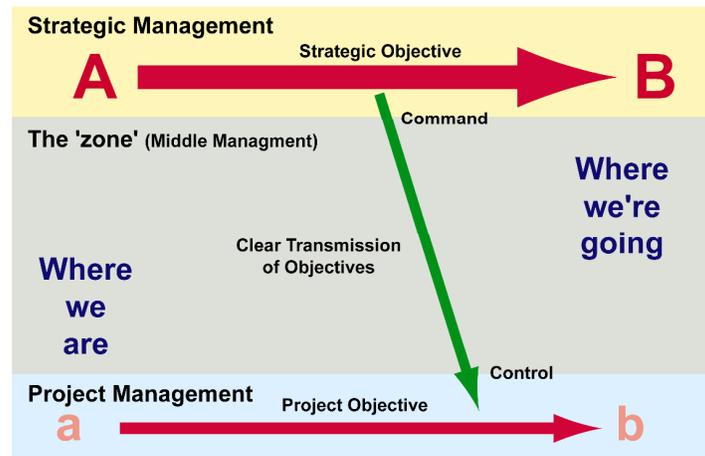


Figure 2 - accepted theory of the 'zone'

The 'zone' was described in the introduction to this paper as a highly complex and dynamic 'organism' set between an organisation's strategic vision and the projects created to deliver that vision. The term includes all senior (or middle) management



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moves to improve productivity. 'Zone' activities include such strategies as developing Portfolio and Program Management to ensure that all work done by projects delivers some aspect of the organisation's strategy, is appropriately funded and is tracked to deliver the benefits outlined in the project's Business Case. Other legitimate and worthy 'zone' activities are the implementation of new methodologies or programs such as Organizational Project Management Maturity Model (OPM3), CMMI (Capability Maturity Model Integration) or Six Sigma. The endorsement and implementation of management fads such as Business Process Re-engineering (BPR), Total Quality Management (TQM), are examples of 'zone' activities that were implemented to fulfil strategic vision, but which were expensive, increased staff uncertainty and eventually achieved very few benefits. In the case of T+, PLATO was one of the outputs of the company-wide BPR program, distilled after many months of activity by T+ staff, in addition to their everyday roles.

Figure 2 describes the generally accepted theory of the 'zone'. It shows how, theoretically, management's vision has clear direction and clear outcomes, and through clear transmission of strategic (organisational) visions into tactical (project) objectives, projects will be delivered to required time, cost and quality.

Figure 3 shows the more likely picture of what actually happens in the 'zone'. Management's vision is still clear, but the outcomes are unpredictable. The impact of the change that the project is to deliver as well as other unpredictable events, cause a complex cycle of adjustment and reaction whose outcome can not be planned or controlled. Goldstein (1994) explains the lack of fit between the aims of these organisational change programs and the outcomes, in terms of change occurring when conditions are such that all factors interact to cause change. Whether this change is slight or significant, positive or negative cannot be predicted nor planned for. Goldstein (1994, p23) also observes that "change imposed from above or from outside the organisation does not match the long-term needs of the organisation or its people; stimulation from within often does". Christensen and Walker (2004) demonstrated how clarity of vision has overcome problems with at least one complex IT project of similar complexity in terms of stakeholder influence and team commitment.

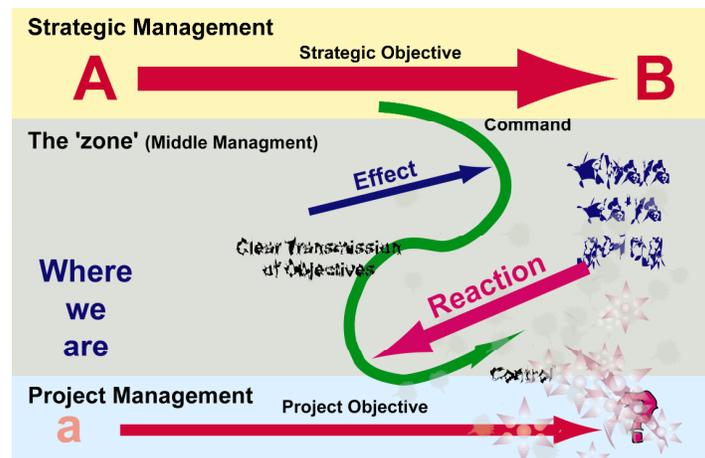


Figure 3 - The effect of the 'zone'



The stress and anxiety experienced in coping with change is borne by everyone in an organisation, not just the managers, but also all members of the organisation community. Management of T+ was determined to achieve its strategic objective of company-wide revolutionary change through its BPR program, and did not want to be distracted by the competing (and legitimate) claims of their customers - VOTe. As management and regulatory pressures forced the PLATO project to review and re-develop the solution, the project manager's "authority gap" (Sotiriou and Wittmer 2001) became more and more evident as her advice was ignored in the moves to gain and regain control of the deliverables of the project. The users of the solution, primarily Call Centre staff, were resistant to all changes delivered by the solution, even in its original form. They were under pressure to increase 'throughput' of calls, while at the same time expected to provide 'excellent customer service' as part of management's new vision for the company.

The unexpected consequences of the actions of the VOTe group not only added to the complexity and chaos of the 'zone' of T+, but also affected the objectives and outcomes of PLATO as management imposed more and more controls on the project organisation.

Change, uncertainty and anxiety

Being 'not in control' is often viewed as management incompetence. This view applies to management of projects as well as of parts of the organisation. The expectation is that management should be able to anticipate important potential changes and put in place controls to ensure that only the intended outcomes were realised. But managers only work with part of the picture (Fonseca 2002). When PLATO moved from being a simple solution for a well-articulated problem to a highly complex solution for a vexing political problem, there was no single person who could articulate (or communicate) the overall structure and objectives of the project.

Change

The transformation of the business environment of globalisation, high-speed communications, mergers and acquisitions and the concept of shareholder value as a major driver of organisational strategy, has led to extraordinary changes in the nature of organisations and the interaction of people within these organisations. The "traditional paradigm of organisational change holds deep, largely unconscious assumptions and values about efficiency and control" (Olson and Eoyang 2001, p5). The traditional change paradigm assumes that it is the job of senior management to define the strategy and definition of success, that there are clear goals and structures and that the outcomes can be predicted. When change does not occur as predicted and the unintended consequences result in a perception of less control than before, all members of the organisation, from the CEO to the most junior member, experience the effects of this unpredictability.

When 'unknown unknowns' (such as the success of the VOTe group) caused unplanned outcomes, the reaction of senior management was to see the project process as being 'out of control'. The solution of choice is usually to introduce more or more rigorous and/or aggressive control mechanisms such as new KPIs or more detailed or frequent reporting, or in extreme situations, change project personnel: the



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assumption being that an adjustment to the controls at the top of a matrix organisation will have predictable outcomes at the lower levels inhabited by projects and project managers. The reality at the project implementation level is instability and a higher workload for the project team. The project manager and his/her team also experience the turbulence and turmoil experienced by individuals in the organisation, both as individuals and as a group.

Table 2 - Different Models of Change based on (Olson and Eoyang 2001)

	<u>Traditional Model</u>	<u>Complex Adaptive Model</u>
<u>Variables</u>	A few variables determine outcomes	Innumerable
Relationship of whole to parts	The whole = the sum of the parts (reductionist)	The whole is different from the sum of the parts (holistic)
Direction	Determined by design and the power of a few leaders	Determined by emergence and the participation of many people
Individual or system behaviours	Knowable, predictable and controllable	Unknowable, unpredictable or uncontrollable
Causality	Linear; effects can be traced to cause	Mutual: every cause is also an effect, and every effect is also a cause
Relationships	Directive: imposed from above	Empowering: inclusive
<u>Systems</u>	All are essentially the same	Each is unique
Measures of value	Efficiency and reliability	Responsiveness to environment
Basis for decisions	Facts and data	Tension and patterns
Leadership	Experts and authorities	Facilitators and supporters

Ways of managing the impacts of change vary. Olson and Eoyang (2001, p1-2) have identified two major streams of thought on managing change. The Traditional Model describes change as 'managed' by traditional management practices and most likely to result in uncertainty and unexpected results as discussed earlier in this paper, while the Complex Adaptive Model describes a less traumatic, less turbulent model for implementing change.

Table 2 provides a clear picture of the traditional model of change, that has been in place and may have worked for traditional organisations and their projects, but are less likely to support the kind of change that organisations and their projects today are experiencing. The Complex Adaptive Model may provide an answer to management of change needed in today's organisations. Alternative views of managing change are important in the world of projects, since projects deliver change. However, until project managers have the authority and flexibility to work outside the traditional organisational paradigm, he/she can only manage in Complex Adaptive paradigm in a limited way. This will be discussed in the last section of this paper.

Uncertainty

Change, whatever its form, will engender uncertainty. Weick (1995, p86) has characterised this uncertainty as being caused by:



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- “Information load” - there is too much ambiguous data/information to be processed,
- Complexity – the increase in the complexity of each role in an organisation will increase and will affect what people select to focus on,
- “Turbulence – the combination of instability (frequency of change) and randomness (timing/period and direction of change).”

(McCaskey 1982) has codified ambiguity as a set of statements:

- “We are not sure what the problem is (definitions are vague or competing),
- We are not sure what is really happening (information is incomplete, ambiguous or unreliable),
- We are not sure what we want (multiple goals are unclear or conflicting. Different people want different things, leading to political and emotional conflict),
- We do not have the resources we need (shortages of time, attention or money),
- We are not sure who is supposed to do what (roles are unclear, situations keeps changing as players come and go),
- We are not sure how to get what we want (we are not sure how to make it happen, even if we could agree on what is required),
- We are not sure how to determine if we have succeeded. (How do we evaluate success, or are unsure how to measure it).”

Uncertainty, ambiguity and turbulence affect everyone in the organisation, through all levels. Managers respond by applying solutions that promise to be effective. (Watson 1994, p896) hypothesises that management is “trying to exert control simultaneously on behalf of the employing organisation and over their own lives by using ideas and actions to make sense of their own lives and their place in the scheme of things.” He has termed this “double-control”.

Others, lower in the organisation structure, respond to these frustrations by various coping strategies such as *withdrawal* - absenteeism, or indifference, or becoming passive and apathetic, *resistance* - restricting output, deception or sabotage, *escape* through quitting or seeking promotion, or *solidarity* – forming groups such as unions “to redress the power imbalance.” Bolman and Deal (1991, p109-111).



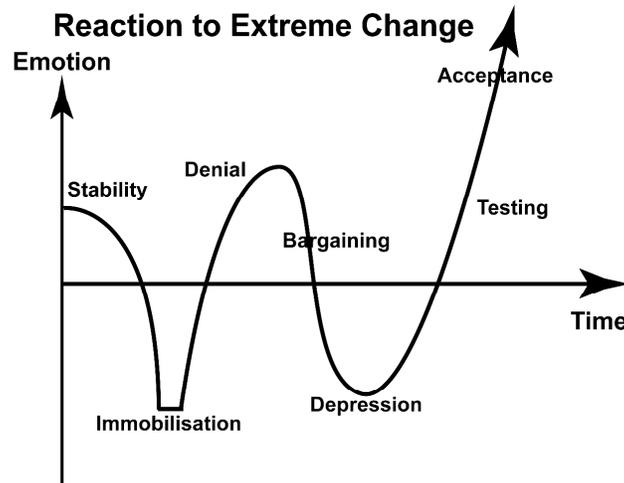


Figure 4 - Employee's reaction to extreme change (adapted from (Turner *et al.* 2002))

Figure 4 shows how employees of an organisation undergoing major change may react, experiencing a range of emotions over time from stability through denial, bargaining, depression and finally acceptance. This graphic assumes that there is only one major change and that the employees will have time to work through all their anxiety, before they are asked to cope with more change. The situation in today's organisational and project environment is continuous and often contradictory.

The employees of T+, and particularly those involved in developing or using PLATO had been buffeted by the changes of the BPR program and then by the cycle of changes to PLATO, and had experienced many of the reactions identified in Figure 4. Alternatively, using the categories of (Bolman and Deal 1991), all those involved in PLATO, and in changes in the larger organisation, had singly and as a group exhibited all stages from withdrawal to resistance to escape.

The situation is exacerbated by the inability of each group to see the point of view of the other. The nature of these asymmetric relationships (power) means that those at the top cannot understand the impact of the change and controls they impose, and those at the bottom cannot understand the reasons for management requiring these changes (Oshry 1995).

Anxiety

For the organisation's employees, the uncertainty that impending change engenders can result in extreme anxiety. Their working life is at risk; they may be about to fall under 'new management' or their own job may be on the line. The users of PLATO were required to learn how to use yet another new system, while at the same time cope with increasing work loads. The social contract between employer and employee was about to be broken. The level of anxiety tends to be proportional to the uncertainty that surrounds the impending changes. This anxiety is often accompanied by feelings of resentment and anger at the prospect of 'unfair' treatment of staff (Domberger 1998). This is the condition of alienation (Israel 1971).



Delivering successful project outcomes

In most organisations, project managers are accountable for the successful delivery of complete projects. Increasingly, this success depends on project managers' possessing and utilising skills and competencies that may initially appear contradictory (Bourne and Walker 2004). The project manager must be seen to be 'in control' of the project time, cost and scope components (traditional project controls) as well as 'in control' of the project relationships (stakeholders), while at the same time operating in a turbulent, uncertain and unstable environment. The project manager, the project team and possibly most stakeholders will be experiencing the anxiety and ambiguity that the rest of the organisation is experiencing while having to maintain stability and control within the project organisation. The key to surviving this paradox is through a combination of understanding, and working within, the 'politics' of the organisation and a proactive communications strategy that builds and maintains robust relationships with the project's key stakeholders.

In a matrix organisation the project manager has limited authority over the project team. "Project authority' is the right to suggest to others what needs to be done and when it needs to be done. Project authority is not as strong a source of influence as supervisory authority (the right to make decisions that must be followed by others), which project managers generally do not possess. The end result is that project managers experience a gap in influence – the 'authority gap' Overcoming this gap includes persuasive ability, negotiation and management competence" (Sotiriou and Wittmer 2001, p16).

It is useful to look at the two models of managing change proposed by Olson and Eoyang (2001) in the context of projects delivering change. Even with the limited authority that a project manager generally has, it is possible to influence outcomes by using aspects of the Complex Adaptive Model of change as outlined in Table 2. By accepting that change and the environment of the project – the 'zone' – is complex and unpredictable, the project manager can influence the outcome of the project through developing relationships within his/her sphere of influence and exhibiting leadership that supports the participation of many people in decision making and managing change. This is the essence of the 3rd Dimensional skills described earlier in this paper and illustrated by Figure 1.

It is clear in the case of the PLATO solution for T+ that the traditional mindset dominated and that the project manager had little authority and inadequate 3rd Dimension skills. In the absence of the necessary skills to manage the expectations of senior management and to support those in the 'zone', the project fell into crisis.

Projects are affected by both the 'hidden agendas' and the actions, both overt and covert, of project stakeholders as well as the actions of the organisation and its management. This group extends well beyond the more readily recognised traditional stakeholder groups. In large complex organisations, understanding the power structures and using them to influence project outcomes is often understood as 'politics'. Awareness of the need and ability to manage different types of stakeholders and their 'how, why and when' issues to address stakeholders' needs is an essential part of a successful project manager's toolkit. Visualisation tools such as the Stakeholder Circle that show power and influence relationships within the project environment can support this process (Weaver and Bourne 2002).



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Pinto (2000) describes behaviours and competencies that project managers can use to make organisational politics work for project success. This 'political' behaviour is important for a project manager to acquire because when projects exist in a matrix organisation, access to resources (financial, human, material and informational) must be negotiated. Typically, project managers are not assigned the authority or status to manage their team members, who will still be organisationally attached to functional groups elsewhere in the organisation. At best these members will be 'loaned' to the project and may have other, competing roles on multiple projects. Ensuring the best performance from these team members is therefore based on leadership qualities and the ability to manage conflict and the competing claims on their project resources.

When the project manager lacks formal power, he/she needs to be able to influence people and outcomes; through building and nurturing what power they have in optimising "coalitions of support" (Boddy and Buchanan 1999). Failure to understand and control the political process has been the downfall of many good projects (Senge 1990; Lovell 1993). To manage successfully within an organisation's power structures it is necessary to understand the organisation's formal structure (an organisation chart should illustrate this), its informal structure (friendships, alliances, maintaining acquaintance with former work colleagues) and its environment (each player's motivation, priorities and values) (Block 1983).

Communication is a vital tool for project managers to develop and maintain robust and effective relationships with stakeholders within all three organisational structures. Active communication, including sharing access to the 'grapevine', is more easily accomplished *sideways* with the project manager's peers, mostly in the informal organisational structures through meetings, telephone calls and perhaps regular (even if infrequent) coffees, or through a Community of Practice.

Maintaining communication, tapping into the power lines, in an *upwards* direction is a great deal more difficult, but not impossible. It is generally in the domain of the formal organisational structure influenced by elements from the organisational environment described above. Regular project updates and formal project communications and presentations to influential senior stakeholders and effectively managed governance meetings are formal means. Other effective *upwards* communication techniques require knowledge of the organisation and product offerings and exploiting the 'grapevine'.

Inevitably, 'rogue' stakeholders (supporting one of the conflicting parties, or seeking to establish ascendancy over other stakeholders, regain control or with other hidden agendas) will incite conflict or cause trouble for the project manager. This trouble can come in the form of seeking to cancel the project or change the scope or technical direction of the project, reduce the funding, or perhaps requiring additional or different reporting. It may come as a result of the turbulence caused by another management attempt to resume 'control' within the organisation.

If the project manager has established credibility, disaster can be averted. To establish credibility, the project manager must build the appropriate power and influence foundations by involving all relevant stakeholders throughout the project and maintaining them with active communication systems. The project manager must also never lose sight of the implications of operating in the 'zone'. Efforts to deflect or repair the consequences of the 'zone' will also have unpredictable results. Through



establishing robust relationships with stakeholders, the project manager and the project team modify the effects of the 'zone'.

Practice Implications and Conclusions

A paradigm shift in management thinking is needed to succeed in managing projects and their teams within the turbulent environment of a modern matrix organisation. Senior and strategic management must be made aware that the outcome from any attempt to regain 'control' over a project is unpredictable. To succeed, project managers must be both vigilant and flexible. Management of project relationships and engagement of important stakeholders are keys to success in the dynamic environment of these organisations.

It is vital that project managers are able to harness the political skills to be able to manage team and broader stakeholder relationships as indicated in Figure 1 and to visualise the potential and real impact of key stakeholders and the forces at work that they exert in the 'zone'.

The implications of this paper upon project management practice in managing project teams is that it lays greater stress on project managers 'reading' the politics and value propositions of stakeholders as well the signals that they send to and receive from the 'zone'. It questions the command and control ethos that is implicit in many texts on the craft of project management: the ethos that links budget, schedule and quality management alone with project success.

The paper used a case study to illustrate the complexity of working in the 'zone' and argues a case for project managers being more politically astute. Implications of the 'zone' can be summarised as follows:

- The capability and competence of project managers and project teams are known, understood and available within matrix organisations. However, the areas where successful outcomes can be predicted tend to be limited to an inward and downwards focus (team building / vendor management / schedules / etc).
- The techniques and skills necessary to help projects and project managers to manage upwards and outwards (communications / stakeholder management / etc) are also becoming better understood, but frequently the results these efforts produce are unpredictable and unexpected.
- Similarly, the application of control systems and performance measures to align projects with their organisation's strategic objectives (project offices / KPIs / etc) are becoming better understood and more commonly used, but again the results produced by these control processes are frequently unpredictable and unexpected.
- The paradigm shift in management thinking needed to succeed in managing projects across the 'zone' is acceptance that the outcome from any management input to the 'zone' is unpredictable. To succeed, managers need to combine vigilance and flexibility; to identify and capitalise on unexpected gains and deal with unexpected problems.



- Communication networks and more flexible management of relationships are keys to resolving problems and creating success in the dynamic ever-changing environment of the 'zone'.

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