The improvement paradox in project contexts: a clue to the way forward?

"Paradoxes are like the weather, something to be lived with, not solved, the worst aspects

mitigated, the best enjoyed and used as clues to the way forward"

Charles Handy, *The Empty Raincoat*, 1994

Abstract

This paper emerged as the authors struggled to make sense of a phenomenon observed during fieldwork. We had entered the field knowing a project-based organisation to be performing poorly and to be in need of improvement in its management of projects. We expected that the organisation would be actively trying to achieve the necessary improvement. We found that the organisation as a matter of course was not pursuing any improvement activities. It was only following a crisis with its major client that limited changes were introduced, and then business as usual resumed. This we have termed, the improvement paradox.

The paradox exists because there are two systems of logic operating: that of the researcher in forming the expectation of change and that of the organisation in not changing. Both of these systems provided insight. Our expectations reflected a bias for the logic that there was inherent goodness and desirability in improving PM practices. Furthermore, we are actors in an environment that actively promotes improvement and provides mimetic, coercive and normative pressures on an organisation to improve. The logic of the organisation was founded on complicity – between the organisation and its client, and between multiple levels of the organisation. This complicity was seen to be causal in maintaining a series of defensive routines – routines that perpetuated the status quo.

Further reflection revealed many paradoxes in the world of projects and project management. Given the prevalence of paradoxes perhaps we should move beyond labelling

these phenomena to explore them more deeply and to contribute insights which better reflect the complexity and ambiguity in project contexts.

Introduction

The idea for this paper emerged over a period of three years during which the authors struggled to make sense of a phenomenon they had observed in the course of some fieldwork. A few years ago, we were conducting some case study research on the value of project management in a project-based organisation that was contracted to design, develop and produce a major piece of military hardware, when we observed something we thought was strange at the time – the long-standing non-adoption of some basic project management practices and techniques that would have been beneficial, followed by the subsequent adoption of one well-established technique being acclaimed throughout the organisation as 'best practice'.

We tried to analyse this phenomenon using a variety of theoretical lenses – none of which could satisfactorily explain what we had observed. We then attempted to construct our own theorisation of the phenomenon, which we called 'complicity theory' because the phenomenon was only allowed to persist because of the complicity between the organisation and its major customer and between multiple levels of the organisation. But our theory of complicity proved to be very narrow in context – it is only useful where complicity exists. Where it is absent there is no need for the theory.

We compared our original case study with another ongoing major project where many best practice/accepted/promising practices had been adopted – the construction of Heathrow's Terminal 5. At the time this was heralded as a great success and an example of a breakthrough in project management. However, a year later the terminal opening was described as a national disaster when multiple problems emerged that resulted in the cancellation of numerous flights and thousands of pieces of baggage being separated from their owners. So here was another paradox: how does a major success become a major failure almost overnight?

The paradoxes highlighted above are just two examples of the many paradoxes in the world of projects and project management that researchers and practitioners in the domain have identified. We realised that by focussing too narrowly on specific examples of paradox we could only develop theories of limited scope. Given the prevalence of paradoxes in the world of projects perhaps we should move beyond labelling these phenomena to explore them and to contribute insights "more in tune with organisational complexity and ambiguity" (Lewis, 2000). We suggest that as researchers of projects and project management we should pay more attention "to the opportunities offered by tensions, oppositions, and contradictions among explanations of the same phenomenon" (Poole and Van de Ven, 1989, 562) to help build theories of project management and project organising.

The Improvement Paradox

The Oxford English Dictionary defines a paradox as:

 "A seemingly absurd or contradictory statement or proposition which when investigated may prove to be well founded or true; a statement or proposition which, despite sound (or apparently sound) reasoning from acceptable premises, leads to a conclusion that seems

logically unacceptable or self-contradictory; a person or thing that combines contradictory features or qualities."

Harvey (1988) citing Rapaport and Chammah (1970), notes that:

"Paradoxes are only paradoxes because they are based on a logic or rationale that is different from what we understand or expect. Discovering the aberrant logic not only destroys the paradoxical quality, but also offers alternative ways for coping with similar situations." (Harvey, 1988, p.20).

As Poole and Van de Ven (1989) state:

> *"Most contemporary theory construction methodologies attempt to build internally consistent theories of limited scope. Relatively little attention has been paid to the opportunities offered by the tension, oppositions, and contradictions among explanations of the same phenomenon." (p562)*

They go on to distinguish four ways of working with paradox: (1) accept the paradox and use it constructively; (2) clarify levels of analysis; (3) temporally separate the two levels; and (4) introduce new terms to resolve the paradox.

Elsewhere, it has been suggested that significant advances in management and organisation theory might require us to better address paradoxes inherent in human behaviour and their social organisations (Cameron and Quinn, 1988). Lewis (2000) cites a growing number of researchers (e.g. Handy, 1994; Kets de Vries, 1995; Koot, Sabelis and Ybema, 1996; Hatch & Erlich, 1993; and Vince & Broussine, 1996) who have studied paradox. She notes that these researchers have abandoned the idea that change is a smooth, linear and planned journey. Rather they point out that contradictions both hamper and encourage organisational development. Lewis laments the fact that whilst the term is used by many in management research to the extent that it is in danger of becoming a

cliché, few researchers explore paradox at greater depth.

She constructs a framework based on insights from psychology, philosophy and organisational studies around this to help understand key elements of paradox. She claims the framework clarifies: (1) how paradoxical tensions arise from polarised cognitive or social constructions, (2) how actors' defensive reactions might fuel reinforcing cycles, and (3) how actors can avoid becoming stuck in these paralysing and often vicious cycles via greater cognitive and behavioural complexity. She notes that formal logic is based on either/or thinking which is incapable of understanding the intricacies of paradox (Ford and Ford, 1994).

For the case we present here, there is a clear difference between our expectations and the reality of practice. The logic of our expectations was based on what we now recognise as a bias of our research. That is, there is a fundamental goodness and desirability of improving PM practices. Indeed, the work took place under the heading of 'The Value of Project Management.' Our finding, that improvement was neither rationalised as good nor inherently desirable clearly presented a paradox for us – *the improvement paradox.*

Summary of the observed phenomenon

The project we studied was to design, develop and eventually manufacture a new piece of military hardware. Right from the outset in 1996, it was subject to continual slippage and cost escalation. Just two years later the contractor informed the client that it was unlikely to meet timescales and a revised in-service date was agreed for March 2005. There followed a series of renegotiations of the contract terms as both sides revised their expectations for the project and introduced new approaches. By May 2002, for example, a new incremental

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approach to product delivery was adopted, that reflected a revised assessment of operations requirements. By the end of the year further slippage in both budget and time was disclosed by the contractor attributed to the underestimation of technology risks, which placed them under severe 'cost pressures,' making further contract negotiation necessary. The first full product test date was moved back from mid-2002 to end 2002, then to the second half of 2003. The situation failed to improve despite a plethora of advice resulting from 11 separate reviews that presented 255 issues to the management team. An independent audit report on the project described the situation as follows:

> *"Difficulties on (the X project) stem from 'the design challenge being hugely underestimated by industry, perhaps as a result of continuing to see the project as if it were the adaptation of an existing [product], as it was originally intended to be, when in fact 95% of the [product] is new."*

> *"Against the background of the fixed price contract, the consequent cost pressure and financial losses provided little incentive on (the contractor) to deliver. These difficulties were compounded by a weak programme management culture which lacked transparency, neglected or overrode project control systems and disciplines, and produced forecasts that lacked depth and reality."*

The effect of this was to throw the project into complete crisis and in 2003 the two parties agreed, in effect, to draw a line under it and come to a new agreement, which accepted the slippage (by then 71 months) and agreed to share the costs between the two parties. The contract was in effect re-baselined and a new contract negotiated. New revised agreed milestones were introduced – first complete test June 2004; award of manufacturing contract end 2005; in-service date 2009.

Evidence of practices within the organisation prior to 2003 included comments that:

"The client was worried about performance. The company was worried about cost. No-one worried about schedule."

Given the continuing delays, this was key to the idea of collusion – each party trying to protect its own interests, whilst missing one of the major issues that was central to the overall success of the project.

Similarly, much attention was given to the prevailing 'technical' culture, where the focus was on achieving technical excellence rather than meeting the needs of a business case:

"We had basic [project management] mechanisms but the 'culture' was not there. I was fairly typical of managers who were not concerned with business case – just did numbers to save getting ******** by the boss… We used to aim to surpass customers' expectations – regardless of whether he wanted the features and the gold-plating."

Project managers described the climate at the time as follows:

"It was a terrible place to work – there was fear, the project was a dead duck and morale was very low."

and

"The programme was out of control – people weren't being true to each other about what could be achieved – either in our own organisation or the customer's organisation. We both wanted to understand that – that was as much of a driver as the performance itself."

The organisation responded by initiating no fewer than 11 separate audits and reviews of the project, which required over 170 high-level actions for management. This, initially, slowed

progress even further; paradoxical in the short-term, but not the main issue of interest to this discussion.

As a result of the restructuring of the contract, development, manufacture and service contracts were separated out and project reforms were introduced. These project reforms included more openness with the client, collocation of staff, introduction of 'anchor milestones' as key progress check points, a joint risk register, and Earned Value (EV).

These reforms were embedded in a robust and open partnering approach that improved access, information, communication and behaviours, and placed a greater emphasis on delivery, cost minimisation and schedule adherence. One manager stated the benefits of this as:

> *"We now have control and predictability and can understand cause and effect in the schedule. The customer particularly likes that. We used to be cheesed off about his requirements constantly changing. It [the new approach] reduces flexibility but is now easier as you can show the effects of particular changes. Planning becomes a heuristic tool as there are knock-on effects."*

In addition, the organisation put in place a behavioural programme, which aimed to legitimise and professionalise project management in addition to a leadership development programme and partnering development programme. However, the changes were relatively straightforward. One manager commented:

> *"Our objective was very simple – we needed conformance to a fairly basic level of proceduralisation."*

Within the contractor's company the reform programme is held up as a great success. The project is now seen as exemplifying 'good' or 'best' practice throughout the parent organisation. A prime outcome of the reforms is that the project is no longer under threat of closure. The company retained the business and the project has now has fallen 'below the radar' with the client. The relationship with the client is much better. Planning disciplines

have been implemented. People working on the project appear motivated and confident in both the product and the new processes.

However, if you scratch below the surface, there is very little critique of what has been achieved in comparison to external benchmarks. We found very low levels of knowledge and certification in the firm. Management qualifications were not recognised as valuable (there was one MBA among several thousand staff). The customer was similarly (un)knowledgeable. In PM maturity terms, they have moved from chaotic to the use of some basic processes. More surprisingly, there is no desire or requirement for ongoing improvement:

"I don't believe we'll move the bar much beyond where it has gone already."

"We won't spend any more money on comparing a good programme with a bad programme – we'll send them out into the hinterland as disciples and bring in more junior people to train up." (Project Director).

and, despite the reforms, the project still showed both schedule and costs increasing (albeit at a slower rate than before). However, the complicity in stagnating performance was well established in the organisation again. Data from the 21 project managers surveyed showed that:

- 15 of the 21 agreed and 1 strongly agreed with the statement that they were well trained (5 neutral).

- 14 of the 21 agreed and 2 strongly agreed with the statement that they had suitable education to fulfil their jobs (5 neutral).

- 12 of the 21 agreed and 3 strongly agreed that management provides advanced development and training programmes for members of the organisation.

This was despite the fact that there was not a single recognised (APM/PMI) qualification among the 180 project office staff. We interpret this difference as a form of collusion. Further, this was reflected in the views of the organisational PM capability:

- 14 of the 21 agreed and 2 strongly agreed with the statement that the organisation is viewed as having a very strong management capability (3 neutral and 2 disagreed).

- 11 agreed and 7 strongly agreed that the organisation had very high PM standards.

- 15 agreed and 2 strongly agreed that this organisation has superior project management practices.

The benchmark here was taken as knowledge of the bodies of knowledge (APM/PMI). Not one of the interviewees demonstrated such knowledge. The last statement provides another interesting contrast with the performance that the project was again demonstrating. On the subject of performance:

- Only 5 agreed that the project management practices of the organisation consistently exceed expectations (14 neutral and 2 disagreed).

The self-delusion of the project members was evidenced by:

- 8 agreeing and 2 strongly agreeing with the statement that 'Projects in this organisation are more successful than in other organisations I know' (9 were neutral and 2 disagreed).

- 12 agreeing and 5 strongly agreeing that the organisation delivered high quality products and services

- 12 agreeing and 2 strongly agreeing that projects were successfully delivered

- 12 agreeing (5 neutral, 4 disagreeing) that projects managed by the organisation consistently deliver on their objectives

However, when broken down we see that this was mostly in terms of technical specifications:

- 11 agreed and 2 strongly agreed that projects achieved their technical objectives.

Whereas:

- only 5 agreed that they met their schedule objectives (10 disagreed and 1 strongly disagreed).

- 9 disagreed, 1 strongly disagreed that they met budget objectives.

In relation to their opinion of the clients' view of projects:

- 11 agreed and 10 were neutral in relation to the statement: clients are consistently satisfied by the process by which projects are managed.

Whilst it can be argued 'who is the client' here, the client itself had no reason to be satisfied with a renegotiated and very late project that was continuing to slip.

Overall, what we witnessed was complicity between the client and the contractor (just stay out of the press), propped up by complicity within the contracting organisation (it is a good news story), and complicity in the project team (we are well qualified, knowledgeable and doing well). The result is that poor processes and poor performance were allowed to continue with no obvious requirement for improvement.

What theory could help explain this phenomenon?

We puzzled over this phenomenon and tried to analyse it using a variety of theoretical lenses. These were not intended to be an exhaustive selection, but are illustrative of some approaches that we hoped would enlighten the phenomenon of interest. This is the difference between our expectations (poor performance leading to improvements being actively pursued) and the reality of the case (performance condoned leading to no further improvements sought). These lenses were innovation diffusion theory, rational choice

theory, institutional theory (including the fads and fashions literature), and organisational learning.

Innovation diffusion theory

Diffusion theory concerns the role adopted by different actors – whether early adopters or laggards (e.g. Rogers 1983). The first phase of the diffusion of an innovative practice sees it adopted by relatively few innovators – the early adopters. Once the efficacy of the practice is demonstrated by these early adopters it is taken up by other organisations and so diffuses more generally over time until it becomes standard practice. What we observed above does not seem to fit easily with this since the organisation in question spent many years avoiding taking up the good practice that had already diffused widely in other project settings (both in other parts of the organisation and more widely). In order for new practices to be adopted they must first be found in some kind of search activity. It appears that there was little attempt to search out better practice until the major crisis in 2003 when the threat of programme closure forced them to seek alternatives. Once these were implemented, however, there was no further change. Perhaps the actors in the case organisation could simply be viewed as laggards, but this is not necessarily helpful in explaining the full range of behaviours.

Institutional theory would suggest that organisations in the same industry exhibit isomorphism – i.e. they will adopt similar working practices (DiMaggio & Powell, 1983). On the one hand diffusion of practices seen as best practice takes place encouraged by the legitimacy argument. The introduction of earned value by the project organisation was legitimised by the widespread and successful use of the technique in the company's US business. Furthermore, a new manager, who had previously worked in the US business, was appointed to oversee the changes. On the other hand, the benefits achieved by the adoption of successful practice may inhibit the take up of superior practices in the future (Arthur, 1989). In this case, the non-adoption of superior practice in the future is not so much

a result of the successful adoption of the EV technique but a deliberate strategy not to go beyond what has already been achieved.

At the level of the organisation some practices become institutionalised as rules – 'the way we do things around here.' Such practices become embedded and are very resistant to change (Oliver,1992). It appears that the new 'good practice' had become institutionalised as a rule in the organisation and hence will be hard to change in the future.

Rational choice

Rational choice approaches to the adoption of new practices and their impact on performance, include the behavioural theory of the firm (e.g. Cyert & March 1963; March & Simon 1967) and evolutionary economics (e.g. Nelson & Winter 1982). These suggest that the primary driver for organisational innovations is the identification of performance gaps. When a firm's actual performance drops below its desired performance level, determined either internally by past performance or internal targets (e.g. Lant & Mezias 1992) or by comparison to an external reference group (e.g. Massini et al 2005), this performance gap will lead managers to search for new practices to improve performance. Once the new practice has been adopted and put into use, managers will compare before-and-after performance to determine whether it should be retained or discarded. Thus, rational choice presents the identification, selection, evaluation, and retention or discarding of management practices as relatively straightforward for managers, who should thus be viewed as rational actors who search for new practices to maintain or improve organisational performance.

This clearly has not happened in our case study organisation except when forced. The project was performing poorly for many years (problems identified in 1998 through to final melt-down in 2003) before any change was implemented. Furthermore, despite the opportunity for further improvement, none was taken.

The improvement paradox relies not on one rationality, but more than one to be present. Whilst there was logic in our expectation, it clearly wasn't the same logic as that used by the managers in the case company. The people interviewed were all highly rational individuals, who exhibited a highly developed sense of professionalism. We are not then able to reject rational choice theory. Rather, the theory needs qualification for this context to provide any useful explanatory power.

The institutional approach

An alternative perspective to rational choice is the institutional approach, which derives from sociology, and shifts the main focus of attention from rational choice and technical efficiency to pressures from the organisation's external environment (e.g. Dimaggio and Powell 1983). The institutional approach views all economic activity as embedded in social contexts. Whilst firms may aspire to rational solutions to performance gaps, because of uncertainty about competing practices and performance outcomes or alternative practices that might plausibly achieve the same outcomes, they may be uncertain how to achieve them. So that managers appear rational and progressive according to "norms of rationality" (March & Olsen, 1976), they will tend to adopt institutionalised organisational practices, those "taken-for-granted" as the most appropriate means of improving performance, and hence perceived as legitimate by key institutional actors (e.g. Abrahamson, 1996).

From an institutional perspective, the explanations accompanying the adoption of a new practice become important because explaining how the practice helps managers achieve the desired performance outcomes legitimises the practice (Green, 2004) and is essential to constructing certain practices as "taken for granted" (e.g. Green, 2004; Suddaby & Greenwood, 2005). Hence, a focus on managerial discourse often accompanies an institutional analysis of diffusion and adoption of management innovations. The management fashion perspective (e.g. Abrahamson, 1991; Abrahamson, 1996; Abrahamson & Fairchild, 1997; Strang & Macy, 2001; Strang & Still, 2004) focuses particularly on the role

of rhetoric and social networks in the diffusion of new practices, and the presence of "bandwagons", or the number of adopters (e.g. Abrahamson & Rosenkopf, 1997). Managers must therefore heed key institutional actors, including consulting firms, management gurus, business mass-media publications, and business schools, who provide important sources of information for managers about what other firms are doing. On this last point, there is an underlying assumption that managers are being exposed to these 'key institutional actors.' In the case, the managers appeared insulated from what other firms were doing, inhibiting any 'search' for improvement opportunities.

Institutional theory further specifies that the diffusion and adoption of management practices will be influenced by mimetic, coercive, and normative pressures from the external environment (e.g. Scott, 2001) to adopt certain practices. Mimetic pressures are pressures for firms to imitate the practices of other, usually successful, firms; coercive pressures are pressures to avoid sanctions from regulatory agencies and other institutional actors; normative pressures are pressures to conform to perceived professional norms. Institutional actors are thus important in driving the diffusion and adoption of management practices (e.g. Paauwe & Boselie, 2005) and there are strong sanctions associated with failing to adopt certain practices (Nelson et al. 2004). However, diffusion and adoption is not *only* a social process, since technical, economic, and socio-psychological forces jointly shape the demand for new practices, and diffusion and adoption of practice is ultimately driven by the need to respond to organisational performance gaps.

In this case the focus of the theory is on adoption of practices, rather than explaining non-adoption as we have seen here. For instance, whilst there has clearly been a 'project management bandwagon', the case organisation has taken conscious decisions to ignore it. This in itself is insightful and provided the identification of a bias that we, the researchers, had taken into the case. We were researching 'The Value of Project Management' – itself an indication that we (the researchers) believed the practices under that heading were

valuable. Furthermore, as teachers and consultants, we had a stake in promoting the value of PM practices. In addition, we had assumed that the case would be about 'change', rather than 'no-change.' Lastly, whilst we were regularly exposed to the mimetic, coercive and normative pressures of external agents of change for organisations, it was wrong to assume that the managers interviewed were likewise connected.

The organisational learning approach

Another perspective is provided by the organisational learning literature, which accepts that organisational issues create barriers to learning and improvement. We would suggest that this perspective is the most useful to help us understand the case presented above. In particular we draw on the concept of defensive routines (Argyris, 1993) to explain the non-adoption of promising practices from elsewhere. Organisational defensive routines exist in both private and governmental organisations, but few studies have been undertaken about how to overcome them (Argyris, 1993, p.242). Those few that do offer advice seem to suggest either bypassing the defensive routines and covering up the bypass or else in acting in ways that actually strengthen the routines rather than get rid of them.

> *"An organisational defensive routine is any policy or action that inhibits individuals, groups, inter-groups or organisations from experiencing embarrassment or threat and at the same time prevents the actors from identifying the causes of embarrassment or threat. Organisational defensive routines are anti-learning and over-protective"* (Argyris, 1993, p.15).

The immediate effect of such policies, practices and behaviours is to inhibit the detection and correction of error. A second-order effect is to inhibit problem solving and decision making. The third order effect is to lower effective organisational performance.

The case above can be seen as a clear example of this. Despite the embarrassment of continually being seen to be over budget and behind schedule the situation was allowed to continue for many years because the organisation refused to experience the embarrassment. The refusal to become embarrassed by the poor performance led both sides to ignore the signals. There was complicity in this. This refusal to accept the obvious inhibited problem solving and decision making. Better to turn a blind eye than to see the problem because then something would have to be done about it. Better not to hear the news that things were going badly. Managers commented:

"The company didn't ask questions because it didn't want the answers."

"In a programme that on day 1 was going to fail, the culture was 'don't want to hear bad news'."

In a study of defensive routines in government, Argyris (1993, p. 19) observed that in "neither the official policies nor the administrators' espoused values was there encouragement to deceive, to manipulate or to distort information. Nevertheless, the actions were robust; they appeared in spite of (and even because of) their deviancy from ideas in good currency on how to administer governmental agencies."

In a similar way neither the policies nor the espoused values of the employees and managers in the company we studied encouraged them to actively deceive, manipulate or distort information. They simply ignored the information coming from external assessments. Their denial was robust.

According to Argyris (1993), organisational defensive routines are caused by a circular, self-reinforcing process in which individuals' theories in use produce individual strategies of bypass and cover-up, which reinforce the individuals' theories in use. Thus the explanation for organisational defensive routines is both individual *and* organisational. This means that it is necessary to change both organisational and individual routines to achieve sustained change of behaviour. The reform programmes that the company undertook addressed this

by creating a standardised approach to project management in the programme so that all individuals operated in the same way and to the same norms. Our interviews confirmed this – individuals were pleased (for a very limited time) to adopt the new practices as they could see benefit from them, and their theories in use became closer to the espoused theories in the new situation. However, this was not sustained and the mechanism did appear to have more complexity than previously stated. We therefore sought further explanation of the causes of these defensive routines.

Other lenses

We note that there are many other lenses that could have been applied to providing explanation for the phenomenon observed. The punctuated equilibrium model (Gersick, 1991) is one such explanation. In this model, inertia maintains an organisation in equilibrium, until a major event occurs that requires a change. Once that event has passed, the state of equilibrium returns, possibly at a different equilibrium point. Lindahl and Rehn (2007) note that projects, *"…despite being generally seen as the most action-oriented way of organising, are usually conducted under a bureaucratic superstructure based on foundations of stability, predictability and success*" (p.250). They introduce the term 'yield point' to describe the point at which a project goes into crisis to an extent that established protocols and routines can no longer deal with them. The action required to turn the project back on track will require a step out of the institutionalised web of intra and inter-organisational rules, or the rules themselves have to be reformulated and renegotiated. In this case, whether the bureaucratic superstructure was based on foundations of 'stability predictability and success' is doubtful. It is far more likely to have evolved based on custom and practice. The yield point issue is useful however. It was the publication of the results of an audit of the performance from an external third party that threw the project into crisis and triggered the yield point.

Whilst the punctuated equilibrium model does describe at a high level what we saw happening in the case, our observed phenomenon concerns 'lack of change', rather than 'change' per se. In addition, we found interesting the logic(s) present in the improvement paradox, in the project context.

As we attempted to understand the logics present in the improvement paradox, we noted the importance of the level of complicity of multiple actors in their reasoning. For this reason we suggested a 'theory of complicity' as a contributor to this understanding.

Towards a 'theory of complicity'

Having seen that the behaviour being exhibited was not explained by innovation diffusion theory, was counter-rational to normative views, and was not following the path that a consideration of institutional theory or fads and fashions would lead us to expect, a partial explanation was obtained through the examination of the construction and usage of defensive routines as barriers to organisational learning. This partial explanation is not satisfactory, however, as it does not address the causes of those barriers. Therefore, for both theoretical and practical purposes, some further explanation is required.

The data provides evidence of complicity in the performance and rate of change at multiple levels; between the client and the contracting organisation, between the organisation and the project, and within the project hierarchy. This complicity is causal to the failure to remove defensive routines. During the transition phase in 2003, complicity was removed at all levels, and process improvement took place. Complicity was then re-established and no further changes were made. The proposition we derive is:

Processes and practices will remain within the defensive routines of the organisation where there is complicity for them to do so.

Complicity is an active state achieved where the parties to the complicity collude to allow it to be so. The state of complicity is evidenced by the statements supporting 'no change' that were made both pre- and post-2003. 'Active' indicates that whilst there is no change, the decision not to change had been consciously made and a rationale built for this decision. It is causal to the defensive routines.

The limitations of the 'theory of complicity'

With this proposition in mind, it is appropriate to see if it may have a wider currency. For instance, there is concern about the level of improvements that are being achieved in project performance. Standish's "Chaos" reports chronicle the outcome of IT projects (PM Network, 2003, The Standish Group International Inc., 2004). The project outcomes are also measured by their completion on time, budget and quality. The TechRepublic Study by the Gartner Group paints a similar picture. In 2000, 1275 North American IT specialists were asked about the outcome of internal IT projects in terms of their achievement of time, cost and quality objectives. The picture is consistently inconsistent – there are some organisations making great progress with improving process and performance, but the data from these studies does suggest that there are a considerable number who are making little progress. We speculate that complicity provides one possible root cause for such a situation, and that further research would demonstrate if this was in fact the case.

Our thinking about the observed phenomenon led us to speculate whether project contexts encourage the behaviours we had observed. Indeed we found that studies of mega-projects in transportation demonstrated that key stakeholders from owner organisations, government officials and contractors cooperated to use less than best practice project procedures (Flyvberg et al, 2003).

However, we also had investigated another ongoing mega-project case where many best practice/accepted/promising practices had been adopted – the construction of Heathrow's Terminal 5 (T5). BAA, the client and owner of Heathrow Airport, implemented a strategic programme of capability building to improve the management of its projects and in particular the management of T5, its biggest ever project. They learned from previous projects, individuals and organisations that contributed to the innovative approach used to manage the T5 project. Between 2000 and 2002, BAA conducted in-depth analyses of every major UK construction project (over £1billion) in the previous ten years and on every international airport that had been opened in the previous ten years. This research showed that none of them had been delivered on time and within budget or to the quality standards expected. BAA realised that the only way to deliver T5 was to change the rules of the game by creating a set of behaviours that allowed people to come up with innovative solutions to problems. Not only did BAA learn internally from its past projects, but it learnt externally as well from other airport projects, from other sectors and leading-edge practice in supply chain management and project management (Davies et al 2006). This exposure to the external environment (previously termed 'searching') and the resulting analysis removed possible complicity from a substantial part of the project.

At the time this was heralded as a great success and an example of a breakthrough innovation in project management. However, a year later the terminal opening was described as a national disaster when multiple problems emerged that resulted in the cancellation of numerous flights and thousands of pieces of baggage being separated from their owners. So here was another paradox: how does a major success become a major failure almost overnight?

The improvement paradox in project contexts

We had observed a paradox in our case study – what we saw now was that paradoxes were more commonplace in project contexts than in just our original case. For instance, it is one of the paradoxes that the project form of organisation is lauded as the one most likely to deliver innovative solutions whilst at the same time being resistant to changes in its own structure and processes. O'Neill et al (1988) suggest that organisations operating in highly uncertain environments need to be extremely flexible and able to adapt and change their practices rapidly to meet the demands of a changing environment. This would imply the rapid adoption of good or best practice was a necessary factor for survival (depending on the level of competition in the market). Thus one would expect project-based organisations, which typically work in an unstable and uncertain environment, to be flexible and open to rapid adoption of new practices. Our case is certainly not unique in demonstrating the opposite – what we have termed the improvement paradox.

Conclusions

This paper began with the identification of an observed phenomenon, that we termed 'the improvement paradox.' It occurred in a project-based organisation that was apparently in urgent need of improving its PM practices and performance. Whilst the need was evident, this wasn't matched by activity within the organisation to implement improvements. Only when the organisation reached a crisis were limited changes implemented. It then returned to a state where no further changes were likely. Such a scenario is not that unusual and is well documented in the change management literature. However, we were concerned that whilst this helped provide a description of what we had seen, it didn't provide greater understanding of this paradox in this context.

The existence of the paradox was the result of two logical processes coming to different conclusions on the scenario. One logic was that of the researcher. Using Harvey's (1988) terms, we 'uncovered the aberrant logic' in our initial assumption of the inherent goodness and desirability of improving PM practices. Indeed, the bias towards 'organisations self-

evidently must want to adopt promising / best / accepted practices' is widespread. Moreover, we (the researchers) are actors in an external environment that actively promotes improvement, and provides mimetic, coercive and normative pressures on an organisation to improve. The organisation, through complicity, had insulated itself from these pressures. This meant that the logic of the defensive routine prevailed. It was only when an external report caused a crisis in the project organisation that the complicity was temporarily lifted, the routines were suspended, and change could be made.

Project environments may be particularly susceptible to complicity, and this may contribute to understanding why the performance of organisations in project terms is so variable, and headline rates of performance demonstrate only limited improvements. Contrary to the literature, project environments, which are full of uncertainty, do not appear to be the locus of rapid adoption of new practice. We further suggest that this is due in part to the desire for stability in an uncertain environment. Where the technology is uncertain or where relationships with stakeholders are uncertain then project members seek stability in the processes they use. There is in-built desire not to 'rock the boat.' Even when crises arise that force a change, the change in underlying behaviour is only temporary, followed by a return to old ways of working. New defensive routines emerge to replace the old ones. It takes an enormous effort to make sustainable changes in this environment. The T5 project appeared to offer hope that such sustainable change in behaviour may be possible given the right environment. But, in another paradox, the good behaviours and practices that had served the project so well in the construction phase seemed to be abandoned as it moved into operation.

So, in starting with one paradox in a single project we have unearthed several others. We tried a number of theoretical lenses to try to make sense of the paradox. By itself each approach was inadequate to explain what we had observed. The combination of the 'theory of complicity', which led to the defensive routines we had witnessed, combined with our own

bias as researchers, did provide a credible explanation.

As we seek more intricate explanations for the phenomena we observe in project contexts perhaps we should try to adopt strategies based on the paradox framework. In our own continuing efforts to better understand the paradoxes we have come across, there is indeed some notion that whilst they don't provide 'the way forward', at least they do provide a clue to a way forward.

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