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# Modelling the Dynamics Between Projects and Organisations

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## Modelling the Dynamics Between Projects and Organisations

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### Abstract

*Increasing pressure for quick delivery of IS based business solutions must be seen against increasing evidence that achieving timely value from IS solutions depends on organisational context and is often difficult to achieve. Project and value management methodologies use risk management and governance as the tools to control the relationship between the project and its organisational environment. However, these tools are not informed by the literature on organisational theory, and so only allow an ad hoc treatment of problems. In particular, there is no conceptualisation of the dynamics of risk removal or containment, and limited opportunity to understand how the same risks might impact different projects within an organisation. The contribution of this paper, therefore, is to provide a model of the dynamics between a project and the organisation in which it takes place. Six cases illustrate how the model could be used.*

**Keywords** *Project management, Competitive Advantage, Resource based Theory, Organisational Learning*

### INTRODUCTION

IS managers are under increasing pressure to deliver rapid business solutions, and rate it as one of their top six concerns (Luftman 2006). This is unsurprising in the context of very rapid business change, identified more than ten years ago and theorised as hypercompetition (D'Aveni 1994; Ilinitch, D'Aveni et al. 1996) and the “edge of chaos” (Brown and Eisenhardt 1997; Brown and Eisenhardt 1998). However, rapid delivery of solutions is not always possible: obtaining value from IT solutions depends on organisational assets which can involve time-consuming investment (Brynjolfsson 1993; Brynjolfsson and Hitt 1996; Brynjolfsson and Hitt 2003; Gregor, Martin et al. 2006). Indeed, a strategic initiative can successfully give a sustained competitive advantage to one organisation, if its competitors lack the underlying resources to copy it, and cannot acquire or develop those resources quickly (Mata, Fuerst et al. 1995; Ross, Beath et al. 1996; Piccoli and Ives 2005). Thus there may be situations where rapid, effective delivery of value from business solutions is quite simply impossible.

Solutions implemented without the necessary underlying organisational resources can experience severe cost blowouts: “The IT system cost... was out of control, so if we didn't fix it, the company was going to disappear very quickly” (CFO of manufacturing company after implementing an ERP system)

Alternatively, without the right resource base benefits may not be realised for some time: “The interesting thing about those systems is just how little they were used for so many years” (General Manager of medical practice, after implementing an integrated support system).

This paper investigates the dynamics of the relationship between a project and its environment, by asking the following research questions:-

*What are the organisational facilitators required to ensure value is obtained from strategic projects?*

*What project characteristics are associated with those facilitators?*

*What are the main processes which can be used to improve those facilitators?*

*What level of influence does the project have over those processes?*

Project and value management methodologies suggest that practitioners should manage the relationship between the project and organisation by risk management and governance (see for example (PMI 2004; OGC 2005; ITGI 2006)). Risks will typically be managed by establishing a risk log. It might contain such items as “Management Incompetence” or “Infrastructure failure” (OGC 2005) p 410-411. There is no systematic understanding of the way in which these risks can be ameliorated over time – will management competence be improved by managers learning on the job, for example, and if so how long might they be expected to take? If the infrastructure fails, what parts of the technology will be involved, what processes will be required to stabilise it and, again, how long might this take? Without a simple, systematic taxonomy of risks it is difficult to generalise between projects. Without conceptualising the processes involved in removing risk, they have to be addressed in an ad hoc fashion, and, in particular, the timing issues may be poorly understood.

The contribution of this paper, therefore, is to provide a model of project and organisational dynamics. This model draws on literature on IS-business alignment (Henderson and Venkatraman 1992; Chan and Reich 2007; Tallon 2007-8), the resource based view of the firm (Mata, Fuerst et al. 1995), technology in practice (Orlikowski 2000), “drift” in the use of IS (Ciborra 2000), and Enterprise Systems implementations, (Davenport 2000; Markus, Axline et al. 2000; Markus and Tanis 2000; Willcocks and Sykes 2000), as synthesised in (Piccoli and Ives 2005). It complements previous work on the contribution of IT to business value (Boynton, Zmud et al. 1994; Melville, Kraemer et al. 2004) by providing a project level analysis, with a dynamic interpretation of the relationship between projects and an organisation. The model can be used to give a better estimate of the time and difficulty involved in making the organisational changes necessary for the project to deliver value to the organisation, and to specify the changes required. The use of the model is illustrated on six projects in different organisations, and it is concluded that it helps to provide a contextualised, dynamic understanding of the way in which a project is impacted by, and impacts, its organisational environment, and the consequent effect on value obtained from the project.

## LITERATURE REVIEW

### Methodological approaches to projects

The two most widely used project management methodologies are PRINCE2 (Projects IN Controlled Environments) (OGC 2005) and PMBOK (The Project Management Body of Knowledge) (PMI 2004). Both stress the importance of defining the borders between the project, and the environment in which it operates. Indeed, the PRINCE2 methodology states clearly which aspects of the project environment it does not cover, namely tools, techniques, people and configuration management, and further states that it does not cover the mission, strategy, operations, benefits, expectations and programmes aspect of the business (OGC 2005) p9. PRINCE2 takes a project lifecycle approach, while PMBOK describes nine function-based knowledge areas (Wideman 2002; PMI 2004) p9. The project environment is described as cultural, social, international, political and physical, and the PMBOK methodology limits itself to stating that the project team needs to understand the effects of the project on these environments (PMI 2004) p 14. Both PRINCE 2 and PMBOK provide clear limits on the time frame of projects: the PRINCE 2 definition of a project is: “A finite process with a definite start and end date”p2. PMBOK defines a project as “a temporary endeavour undertaken to create a unique product, service or result” (PMI 2004). For both methodologies, problems with a project’s environment are dealt with by risk management. PRINCE2 (p 254) defines a risk management cycle which involves identifying and evaluating risks, identifying and selecting a suitable response, planning and resourcing the response, and monitoring and reporting on the risk. The PMBOK approach is similar (p 237). PRINCE2 defines risk categories as strategic/commercial; economic/financial/market; legal and regulatory, organisational/management/human, political, environmental, and technical/operational/infrastructure, and gives several examples in each category (p 409).

Project management methodologies, then, stress the importance of defining the externalities to the project as risks, and use the process of identification, documentation, reporting, and clear allocation of responsibilities as methods of reducing those risks. This approach does not use the underpinning of any organisational theory, and does not therefore describe generic approaches to ameliorating the environment. For example, PRINCE2 identifies management incompetence, poor leadership and poor staff selection procedures as organisational risks (p 410), but does not identify processes to improve competence of leadership, or ensure appropriate staff selection, and indeed retention. Similarly, technical risks include inadequate design, and infrastructure failure; again, the process to improve these is not identified. Without any understanding of the processes involved in ameliorating them, it is hard to estimate the effect of these risks on obtaining timely value from projects.

Methodological approaches focussing on the organisation’s ability to sustain projects in general include the ValIT framework for the Governance of IT investments (ITGI 2006), and the Capability Model Maturity Integration (CMMI 2007). The goal of the Val IT framework for the Governance of IT investments (ITGI 2006) is “to help management ensure that organisations realise the optimal value from IT-enabled business investments at an affordable cost, with a known and acceptable level of risk”. It is thus directed at improving the project environment, by defining such organisational requirements as committed leadership, clear accountability, clear roles and responsibilities, programmes for evaluating projects, and systematic investment treatment of business cases (p 17). Value Governance provides a framework, but again does not identify the specific processes that can operate to make improvements to the environment in which the project operates. Capability Maturity Model Integration (CMMI 2007) provides guidelines for improving software processes. Although specifically aimed at software houses, it can also be applied to organisations developing in house software. It identifies three critical organisational dimensions: people, procedures and methods, and tools and equipment, and asserts that the way in which these dimensions are brought together defines the capability maturity of an organisation as being at one of six levels. This model measures the rigour with which project management methodologies are used.

Project and value management methodologies, and capability maturity models, then, indicate what organisational factors may affect a project, but do not address how they can be ameliorated, nor do they account for the dynamic relationship between a project and its organisational environment

### **Projects in an organisational context**

Several different approaches have been taken to looking at the organisational context of IS. These include IS business alignment, the resource – based view of the firm, and the concept of technology in practice. In addition, there has been some theoretical work on Enterprise Systems implementation.

IS-business alignment is frequently characterised as the dynamic interplay between IS and business strategy, IT infrastructure and the organisational structure and processes within the business. The extensive literature in this area has recently been summarised in an annotated bibliography (Chan and Reich 2007). Recent developments include an alignment maturity model, and several alignment contingency models (Chan, Sabherwal et al. 2006; Weiss, Thorogood et al. 2006; Tallon 2007-8). This literature has the potential to help identify the main organisational facilitators required to obtain value from projects.

The resource based view of the firm is used to explain how an organisation can sustain a long term competitive advantage. While Porter's five forces model can explain why an organisation has a competitive advantage at a particular time (Porter and Millar 1985; Porter 2001), sustaining that advantage requires a resource base that is difficult for competitors to emulate (Mata, Fuerst et al. 1995). This view can be used to identify both the organisational facilitators required for value to be obtained from a project, and the processes which could explain why the development of these organisational facilitators could be delayed.

The theory of technology in practice examines how people interact with technology and describes its emergent and situated use (Orlikowski 2000). Based on structuration theory (Giddens 1984), and developing earlier IS based applications of that theory (Orlikowski 1992; DeSanctis and Poole 1994), it uses the concepts of agency and structure to describe the enactment of structures in practice, and gives examples of three different technology-in-practice enactments of Lotus Notes within one organisation. This theory gives us a third lens for looking at the relationship between the organisation and the project.

“The difficulties experienced in ERP implementations and with their business value are not atypical of most IT projects, especially when they are large, complex, expensive, and take over a year or more to install, use new technology, and impact significantly on the organisational culture and existing business processes” (Willcocks and Sykes 2000). These systems require considerable involvement of the organisation for their successful implementation and use, including process change (Markus and Tanis 2000; Kawalek and Wood-Harper 2002); integration across large sections of the organisation (Markus and Tanis 2000), and evolution (Markus and Tanis 2000). Appropriate organisational structures and roles need to be in place (Davenport 2000).

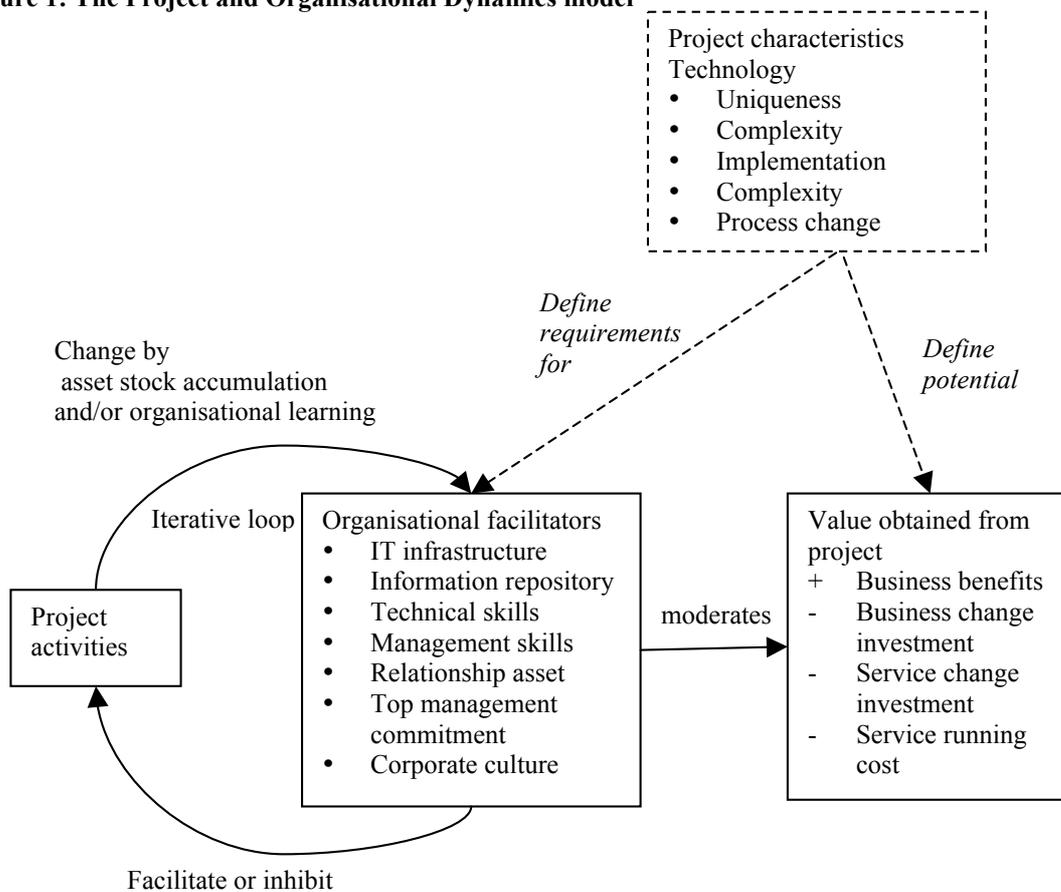
## **THE PROJECT AND ORGANISATIONAL DYNAMICS MODEL**

All four of the literature areas described above have recently been part of a review on the subject of strategic information systems and sustained competitive advantage, which defined a series of response lag drivers. These drivers are organisational characteristics which ensure that a strategic initiative undertaken by one firm cannot be emulated by others. They therefore ensure that barriers to the erosion of the competitive advantage of the “first mover” firm remain in place (Piccoli and Ives 2005). Two time dependent processes, namely asset stock accumulation and organisational learning can improve these facilitators (Piccoli and Ives 2005). The Project and Organisational Dynamics model uses a subset of the response lag drivers, appropriately modified, to define organisational facilitators which are required if value is to be obtained from strategic projects. The concept of value is a dynamic one, with the project as the unit of analysis, as developed by (Tiernan and Peppard 2004). The model of Project and Organisational Dynamics is described below, and shown in Figure 1.

The model proposes the use of a set of generic project characteristics to indicate the organisational facilitators that are likely to be required if the project is to succeed in delivering business value. It also indicates the nature of business value that is likely to accrue from the project. The project characteristics, derived from Piccoli and Ives “Project Barrier” p 761, are those features of the project that can be used to identify the extent to which organisational facilitators are likely to be required. The Project and Organisational Dynamics model is designed to show how and when an organisation obtains value from a project. Therefore, a dynamic concept of value has been used. Tiernan and Peppard have recently discussed the importance of defining, not only business benefits, but also all investments, in a dynamic sense. Elements from that paper have been used to define business value as the business benefits, net of the business change investment, service change investment, and service running costs (Tiernan and Peppard 2004). The extent to which an organisation could potentially obtain business value as

defined, would be informed by the project characteristics. A unique, complex technology, requiring complex implementation, and significant process change, will be more likely to depend on a series of organisational facilitators than a simple technology, where many processes remain unchanged

**Figure 1: The Project and Organisational Dynamics model**



Organisational facilitators can be improved by two processes: organisational learning and asset stock accumulation (Piccoli and Ives 2005) (pp751-752), and the Project and Organisational Dynamics model represent these processes in order to provide a more in depth understanding of not only what organisational change is required, but also the way in which those changes can be made, and the likely time frames that will be required to make them.

The Organisational facilitators are described below, together with their dependence on organisational learning and/or asset stock accumulation.

The IT infrastructure asset is defined as “the base foundation of the IT portfolio (including both technical and human assets), shared through the firm in the form of reliable services” (Broadbent and Weill 1999)p 163. Building IT infrastructure can take time; often as long as five to seven years (Bharadwaj, Varadarajan et al. 1993), and depends on asset stock accumulation: the ability to build a particular infrastructure depends on the infrastructure already in place.

The information repository asset is defined as “a collection of logically related data, organized in a structured form, that is accessible and usable for decision-making processes”. (Piccoli and Ives 2005) p 755. Depending on the information repository requirements of a project, there can, again, be considerable time required in order for the relevant information to be accumulated.

Technical skills such as systems analysis and design, infrastructure design and programming can sometimes be obtained on the labour market, but tend to also require some organisational learning.

IT management skills, such as providing leadership of the IS function, managing IT projects, evaluating technology, and managing change, also require organisational learning, which may often have been provided by experience on other IS projects.

The relationship asset is the mutual respect and trusting rapport built up between the IS function and the business, over time. It depends on positive interactions, and successful IS projects can help cement the

relationship further. The building of the relationship asset, then, is also a form of asset stock accumulation. (Mata, Fuerst et al. 1995).

Top management commitment has long been known to be critical to the success of IS projects – see for example (Keen 1991; Henderson and Venkatraman 1992). This is subject to organisational learning – as executive managers gain experience of IS projects they understand the importance of their commitment, and the nature of the commitment required.

Corporate culture, particularly in terms of an awareness of how information systems can support the organisation, and what is required of the business in order to ensure that support, is also a key facilitator, and, again, often the subject of time-consuming organisational learning.

### **Iterative loops**

At the start of the project, then, the organisational context can be represented by the actual status of each required organisational facilitator. As the project proceeds, the organisational learning and asset stock accumulation processes required to improve these facilitators can be planned and monitored as an iterative process. For example, if project characteristics indicated the need for organisational facilitators in the form of project management and change management skills, then this would be noted at the value realisation stage. The way in which these needed to be developed would be discussed, in the context of the whole organisation, and of specific time and path dependencies for acquiring them. Questions asked would include: are project and change management skills likely to be required permanently for the ongoing success of this initiative? Do they need to be built in order to ensure organisational facilitators are in place for other, similar projects? How long will it take to acquire these skills? Are there other activities, for example other projects, that need to occur for these skills to be acquired?

Value obtained from projects is then seen as a series of iterations, with the first iteration often being the original project time frame. For some projects, expected value from a project will be obtained during the first iteration: for others, further iterations of organisational learning and asset stock accumulation may be required – providing a systematic, time dependent way of discussing project “success”. In some cases, iterations of change to organisational facilitators will occur outside of any specific project.

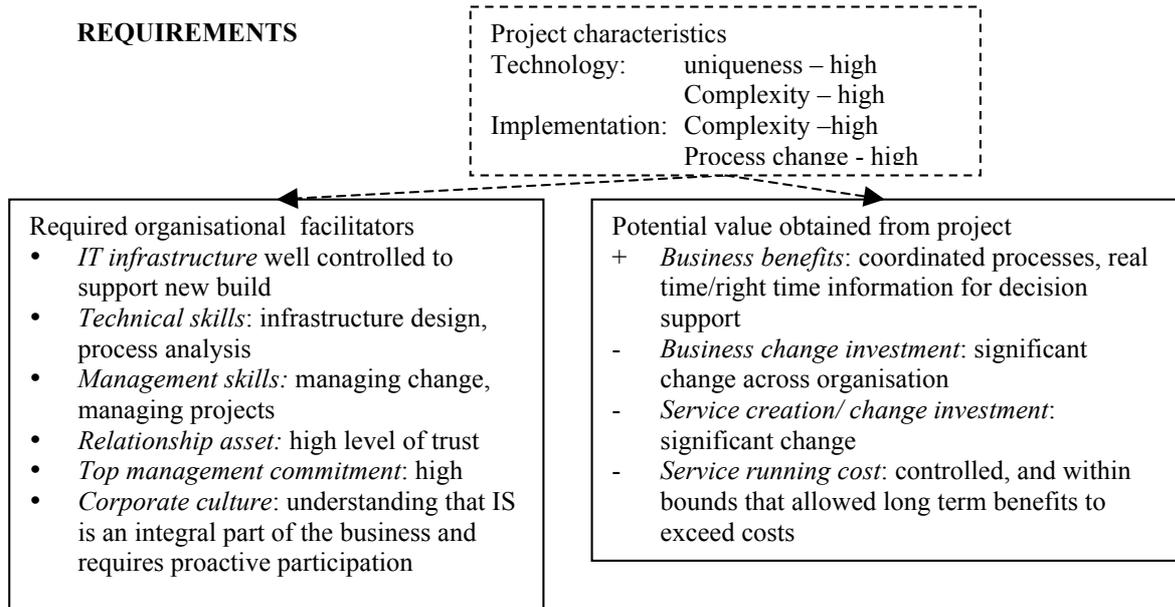
## **ILLUSTRATING THE PROJECT AND ORGANISATIONAL DYNAMICS MODEL**

In order to provide a first test of the ability of the Project and Organisational Dynamics model to address the research questions, some illustrative data was collected, by means of semi-structured interviews with senior executives in six different organisations. The executives all had significant responsibilities for an IS project, and were asked to describe how the project had progressed, and any positive or negative influences on its progress. They were also asked to describe the benefits and disbenefits that the project brought to the organisation. The results of the data collected in one organisations are discussed in detail here. – a manufacturing company, Manuco. Data collected in the other five organisations are discussed more briefly.

### **Manuco**

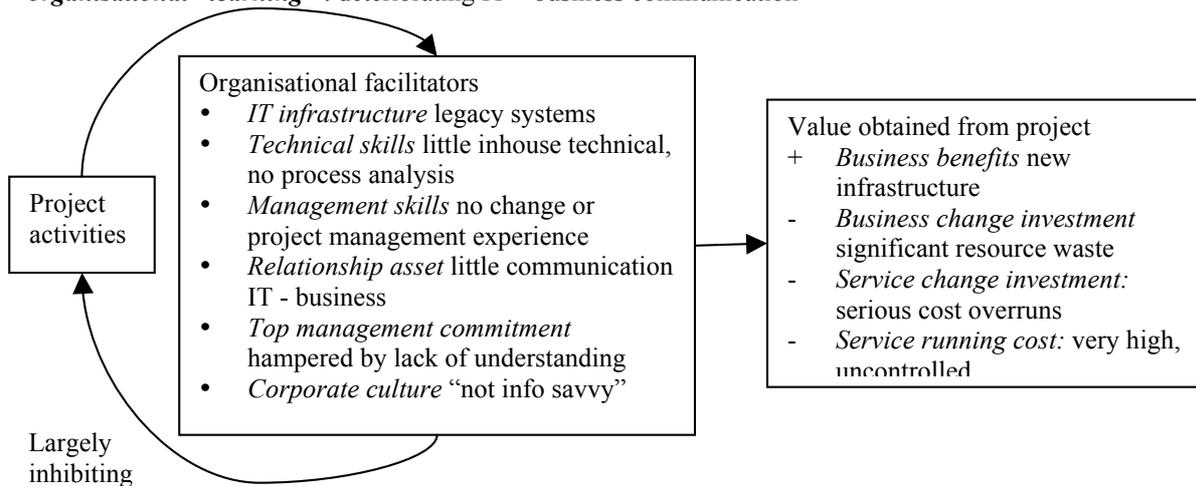
Manuco, a manufacturing company, has grown in the last ten years from an A\$500 million company to an A\$2.2 billion company. In the late 1990s it had a series of legacy systems that were no longer adequate to support it. With Y2K as a secondary motivator, the decision was taken to implement a new Enterprise system. The application of the Project and Organisational Dynamics Model is shown in Figure 2 below. The project involved implementing a technology which had unique features, in that it was an Enterprise System that would require configuration, and indeed customisation, to the specific requirements of the organisation. Technology was complex, and the implementation was complex and required significant process change. Therefore the infrastructure, in terms of technology and processes before implementation needed to be well controlled, appropriate technical and managerial skills for large implementations were needed, the implementation needed to be able to draw on a good relationship between IT and the business, top management needed to be committed to the implementation, and corporate culture needed to be aware of the potential of enterprise systems, and the requirements for businesses to become involved in the implementation. The potential benefits included the coordination of processes across the organisation, and the availability of real time/right time information for decision support. Significant business change investment was required, with service running costs expected to be controlled, within bounds that allowed long term benefits to exceed costs.

**Figure 2: Manuco: Project and Organisational dynamics model**



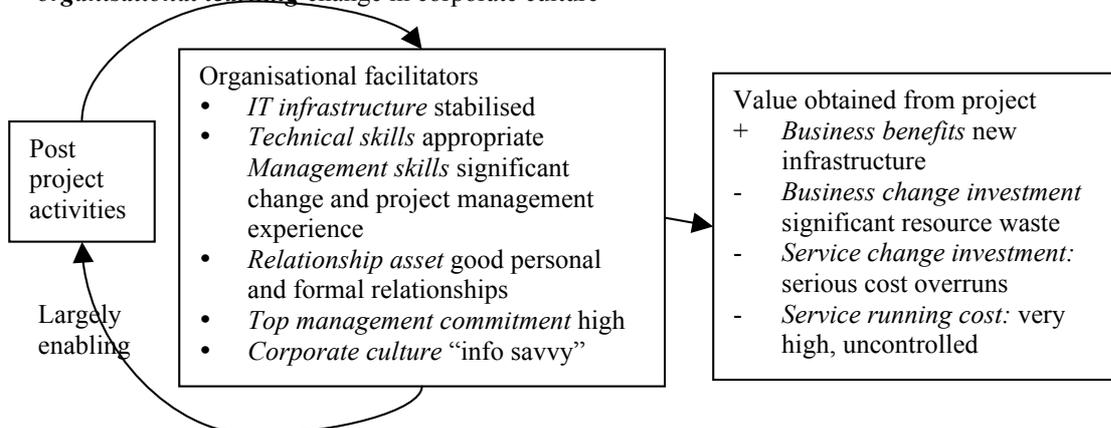
**ITERATION 1**

*asset stock accumulation*: infrastructure deployment  
*organisational “learning”*: deteriorating IT – business communication



**ITERATION 2**

*asset stock accumulation*: New senior exec and managers, development of relationship asset, infrastructure stabilisation  
*organisational learning* change in corporate culture



At the start of the implementation, most of the organisational facilitators required to obtain value from this project were insufficient to allow potential business value to be achieved. The IT infrastructure was “old, out of date, not supported, not maintained, run on a computer out the back, no strategy, no nothing” (Chief Information Officer - CIO). IT technical and management skills were poor, and a heavy reliance on external organisations meant that there was little organisational learning to improve these during the project. Relationships between IT and the business were also poor, and far from improving during the project, they, if anything, deteriorated. Steering committees were “a bit like the United Nations. There was lots of discussion, but not a lot of agreement on how to take things forward” (Chief Financial Officer - CFO). The project manager stuck to the timetable despite business managers saying that they were not ready, “we were rolling out systems before people were ready to accept them” (CFO). Top management commitment was hampered by a lack of understanding of technology. “The old CEO and the old CFO were not of that generation so they didn’t really have any appreciation.. they signed off this big project and away it went”. (CIO) The lack of understanding of information issues was widespread throughout the business (CFO).

Value obtained from the project was a problem. There were some business benefits in terms of new infrastructure: in these terms the project was “actually pretty successful: the amount of infrastructure that was implemented in a fairly short period of time for its size” (CIO). However there were serious cost overruns on both project and running costs: “costs almost doubled [from those expected] ... in terms of capital, and really [there was no] fix on operating costs” (CIO). “The IT system costs were a quarter of the market capitalisation cost of the company and were out of control, so that if we didn’t fix it, the company was going to disappear fairly quickly” (CFO). The cost overruns were attributed mainly to instability in the new infrastructure, and to an unwillingness to change business processes, resulting in complex system modifications. Ironically, because there was “no management control between the centre of the business and the network” (CFO) these complex modifications did not support processes anyway: “there was a big mismatch between what the system thought people were allowed to do and what in practice they were doing” (CFO).

Improvements have since been made in organisational facilitators, and business value is starting to accrue. The Chief Financial Officer (CFO – interviewee) came to the company in 2002 and, because of the problems, quickly found that he was “head of IT for the business, having had no real IT experience”. He started making improvements, spending more than half his time in that role, and the other half looking at business issues in finance. He was responsible for the recruitment of the Chief Information Officer (CIO – interviewee) in 2003. A new Chief Executive Officer arrived in 2004 and made it clear that stabilising the infrastructure was one of his highest priorities. “What did he say to me? You get this thing fixed for me and you’ll be on my Christmas Card list forever”. (CIO). Hence the IT infrastructure facilitator was now in place. Additionally, the CIO brought significant change and project management experience, and was able to ensure through recruitment and training that his staff had appropriate technical skills. The relationship asset has been significantly improved, both between the senior executive where relationships were described as “nirvana-ish” by the CIO, and between the CIO and business managers. Top management commitment is high – the CEO has instituted, and chairs, an executive management team that includes the CIO to oversee all the IS projects. The CIO sets great store by the change in corporate culture regarding attitudes to information systems – he associates this with the “information age” in which they have worked. He contrasted working with the new CEO and CFO who were “in their early forties and have probably never known work without a PC” with the old CEO, whose approach to problems was to “bump the table and say...’Fix it’. You couldn’t even explain to him what was wrong, was it a database, was it an operating system, was it telecommunications? He had no idea”.

In terms of value, the infrastructure has been stabilised using an effective, finite investment by the CIO. The business is now obtaining some benefits from integrated processes, albeit using significant resources for business change. The service running costs are now contained.

### **Other organisations**

**Uniorg**, a large University, also implemented an Enterprise System, consisting of finance, human resources/payroll and student administration. It had a similar Project Planning Domain to Manuco – although it also required a robust information repository of student records as an organisational facilitator. Regarding the project value realisation domain, the most striking thing about Uniorg compared with Manuco was that many of the required organisational facilitators were already partly in place, and that explicit processes were put in place to develop them further during the project. The old IT infrastructure was largely stable. Explicit strategies were put in place to develop the information repository. Technical and managerial skills were brought in, developed and placed in business areas as part of the project, thus improving already healthy IS business relationships. Top management commitment was retained. This system started to deliver benefits within the timeframe of the

project. The Registrar regarded the entire project as successful and asserted that the five year project was implemented within budget and on time.

**Mediorg** was a medical practice that had recently extended its use of an integrated support system, to include computerised patient notes. It did not require complex or unique technology, nor was the implementation process itself complex. However, process change was required – doctors had to change their mode of operating from using handwritten notes. As part of the project, a specific organisational facilitator was put in place: an information repository of patient histories was developed, by employing a nurse to summarise and data enter patient records. Once this repository was in place, it was possible to improve another organisational facilitator: corporate culture. Like the CIO of Manuco, the practice manager found that the “information age” of some staff could be a problem. Younger doctors had little difficulty using the system, in fact some of them contributed directly to the project by coding the notes. However: “the older ones were less keen; well, they’re used to going scribble scribble scribble and suddenly... they’re being asked to identify what to code it against and then to have to type, heavens above, very slowly, with two fingers” (practice manager). The organisational learning process here included peer pressure, to the point where “even the most old fashioned doctor” was typing up his notes.

**Standardco** implemented global standards in a number of areas. In contrast to the first two organisations, information systems projects in Standardco occurred within the context of a “grassroots” approach to systems development, albeit with some “forces to drive within” regarding standards and integration: The CIO would therefore wait until sufficient organisational facilitators were in place for any project to go ahead.

**Pubco**, a publications company, was able to implement strategic projects by drawing on a legacy of organisational facilitators, due to a previous visionary manager.

**Planorg** provided planning, valuations and economic and social analyses. The organisation is growing very quickly – from 44 people eight years ago, to 320 now. As a result, the company is in the early stages of evaluating document management systems, and is aware that it needs to put some organisational facilitators in place in order to do so.

## DISCUSSION

All of the projects described above could be represented using the constructs within the Project and Organisational Dynamics Model. Tables 1 and 2 summarise the constructs used in each case.

**Table 1 Project characteristics for each organisation**

Project characteristics	Manuco	Uniorg	Standardco	Mediorg	Pubco	Planorg
Uniqueness of technology	H	H	L	L	H	L
Complexity of technology	H	H	L	L	L	L
Complexity of implementation process	H	H	L	L	L	L
Process change required as part of implementation	H	H	H	H	H	L

H = Characteristic rated as “high”

L = Characteristic rated as “low”

**Table 2 Organisational facilitators for each organisation**

Organisational facilitators	Manuco	Uniorg	Standardco	Med prac	Pubco	Planorg
IT infrastructure	P * O *	P *	P *			
Information repository		P * O †		P *		
Technical skills	O * O †	P * P †				
Management skills	O *	P * P †			O †	
Relationship asset	O *	P * P †			O *	
Top management commitment						
Corporate culture: Information awareness/ information age	O * O †			P †	P † O †	O †

P \* asset stock accumulation processes occurred in conjunction with project

O \* asset stock accumulation processes occurred after project completion

P † organisational learning processes occurred in conjunction with project

O † organisational learning processes occurred after project completion

In each case, the model was able to describe the interaction of the project with its organisational environment. Defining project characteristics helped to indicate the necessity for particular organisational facilitators. Manuco and Uniorg implemented complex, unique systems, requiring complex implementation processes and considerable process change. For both these organisations, a series of similar organisational facilitators were required. The model allowed the problems with the implementation in Manuco to be described, not in static terms, but in ways which would facilitate an understanding of iterative organisational change which could lead to the realisation of business value. The success of Uniorg's implementation could be formally described in terms of organisational learning processes that improved organisational facilitators within the project lifetime. For some simpler technology solutions, business value can only be obtained if the project goes ahead after certain organisational facilitators are in place. This was the case in Standardco, and Planorg is still waiting for an opportunity. The value of the Project and Organisational Dynamics model in such situations is that it formalises the assessment of whether the "time is right" for an implementation. The model also has the potential to formalise path dependence in the development of organisational facilitators. For example, both Mediorg and Planorg developed information repositories. As those information repositories developed, so opportunities for organisational learning occurred. The potential of the model to indicate how organisational facilitators developed in previous projects can influence their successors was indicated, although not formalised, in Pubco. Here, a legacy of organisational facilitators developed by a previous senior executive is being utilised and developed further in current projects.

The illustrative cases, then, have indicated that the Project and Organisational Dynamics Model can be used to formalise and explain the organisational facilitators required to obtain value from a project, and the processes required to improve those facilitators.

## CONCLUSION

In this paper, a model has been developed which draws on an extensive literature review on information systems and organisational development. Initial tests of the model indicate its potential to improve our understanding of the dynamic interplay between a project and its environment. Compared with conventional project management methodologies, this approach allows a dynamic, organisationally focussed way of looking at the relationship between a project and the organisation. The current study is limited by the fact that data was illustrative of the concepts rather than testing them fully.

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