

PeopleFit

Australasia

presents:

‘Business Systems technology and the Workplace’ by Barry Deane

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“I have been working from a ‘change management’ perspective on my company's SAP project here and am looking for some approaches to address the "whole organization" change aspects.

No one seems to be able to get their arms around it (the blind men and the elephant analogy comes to mind...).”

SAP client project manager, California February 2002

A discussion about.....

Business systems technology and the workplace

Update at February 2010

I wrote this paper in 2002. Each year I re-read it and reflect on what, if anything has changed. Although IT products have changed and there seems to have been more ‘elaboration’ of tools in IT implementation, there seems to have been no change in the basic appreciation of the fundamentals of the organization-IT system interface.

Why should business systems project leaders develop such an understanding? Well, when one thinks about the powerful *integrative* intention of such applications, it stands to reason that there must be organisational consequences which go beyond what might be thought of as the conventional scope of any given IT project. Arguably, business systems projects are proxies for organisation-wide reform. There is significant uncertainty and risk in proceeding without a full understanding.

What we call *organisational consequences* are, in the IT industry often referred to as *people issues*. It is common to hear experienced IT project professionals saying something like this:

“Scoping, designing and implementing the system hardware and software is fairly straightforward, but projects fail mostly on the people issues.”

Recognising that ‘there’s something about people’ that brings IT projects undone is a good first step. However, what follows from this insight is far less insightful and not sufficiently informed.

Scanning the ‘change management’ and ‘people management’ offerings associated with, and often deeply ingrained in IT project services, I am left feeling that these are loose collections of bits and pieces of potted wisdom; of ‘feel good’ ideas; of hypotheses; of so-called ‘common sense’.

Far from constituting a reliable framework for understanding working organisations, these various ‘pick lists’ of ideas often lead their users to a distorted perspective, and even to the creation of an alternate, ‘shadow’ organisation that competes with the existing organisation and its leaders.

Discordant relationships arise between the existing staff and projects staff. In such situations, the client company’s line managers may be seen as a threat to the IT project. The following example quotes from an IT project leader give a sense of the discord and polarity that can result:

“You can’t trust managers to do what’s needed. The project must control change management. The project must drive implementation. We are accountable for the project outcomes.”

“My long experience is that managers can’t possibly know enough to assist process analysis and functionality development in order to completely design and to configure thoroughly ahead of go live.”

“Inevitably, there will be failure when we go live; this is a fact of life. We need to drive the project in, and probably, let it fail. The company will then spend time learning to use the new system as we have installed it. Along the way, some will get on board and make it work and those who resist will go.”

I said at the start that there appears to me to have been no change since 2002 in the appreciation of the fundamentals of the organization-IT interface. What is more concerning – if the quotes above are in any way representative - is the possibility that current IT project leadership beliefs about these matters have become entrenched and hubristic.

Barry Deane
Melbourne
February 2010

Some notes 9 months on from February 2002.....

Some of the ideas in this paper have been interesting to quite a number of people during the last 9 months. However, none of those people have been IT practitioners, which is a pity.

The ideas in the paper have survived the not insignificant test of many intense conversations across the world, by telephone and e-mail. I think of the effort in this paper more as intellectual mud wrestling rather than the application of the scientific method. But it will suffice. It will suffice because this paper was not intended as an academic offering. It was intended as help to a person struggling to make sense of her job (*i.e. SAP client project manager, California*)

I recall from my engineering days in the sixties and seventies that we engineers used to freely share practical, workplace experience. Occasionally, we would share speculation about integrated or extrapolated ideas, yet to be tested. This was the spirit in which I wrote to the person who contacted me for advice.

....And I didn't write very well. So here are some notes that may help:

1. The main point of this paper is to argue the criticality of understanding organisational science – and, therefore, the ‘whole of organisation’ change issues (e.g. leadership issues) – as part of the design and implementation of any ERP project (this includes ERP-related process enabling technologies).
2. I complicated the whole thing by discussing the related but more arcane subject of a company's high-level development work; the high-level processes of investigation (i.e. ‘study’), risk attenuation, Board approvals and development study /project leadership. Many people I have talked to were initially, unsure about the relevance of this. It may seem to be something of a distraction to the main point, but it seems to me highly relevant to the effectiveness of senior executive decision-making, project initiation and corporate governance.
3. If I had complicated matters by introducing the development discussion, I think that I caused almost complete confusion by starting the paper with this discussion. Perhaps I should have placed this discussion at the rear of the paper. To avoid this confusion, the reader should start the paper at the point of the principal theme, first read the overview page (page 6) then go to page 16.

In the event that the reader might think the ideas in this paper to be overly theoretical, or impractical, I can point out that they are being applied. Many of the organisational concepts have and are being applied in the general work of organisation (and leadership) development, without a ‘designed’ or deliberate linkage to ERP/business systems work. It is the linkage that seems to fail as systems projects are initiated.

With regard to applying this organisational know-how to ERP/business systems work, we have some news.

My partner and I are currently nearing completion of some work that we have been doing that uses the ideas in this paper. We have designed and implemented an organisational alignment process to prepare the workplace immediately ahead of a major ERP roll-out. It's going well so far. We received the following e-mail from the 'front line' a few days ago:

Hi Sheila,

*We are all ready for the SAP cut over this weekend.
The Planning Alignment is a blessing.*

Thank you both.

Clare

Many CEOs like to say that the productivity and success of their companies arises primarily from the effort of employees, not technology. They say that technology is an enabler of human effort.

Saying this is one thing, but delivering this principle is proving to be very difficult. Firstly there are the motivation-retardant feudal behaviours commonly exhibited in the *dis*-ordered workplace, which are depressingly commonplace and which we seem to too readily accept as normal. Secondly, and more recently, there is a clear tendency for vendors and project managers to force ERP technology into unprepared workplaces; imposing changes, not only to people's work processes, but also to their working relationships; their relationships with their managers as well as their 'lateral' relationships.

It seems that IT project people know very well that there is a high probability their project will cause chaos; that it is most often part of the job to 'crash through'. This is not a characteristic of a 'capable process' (in Deming's terms) and is therefore a process out of control. In Elliott Jaques' terms, this would be behavior characteristic of a paranoiagenic (i.e. fear inducing) system, the consequences of which are utterly counter-productive (e.g. conflict, silo behavior, back-stabbing).

There seems to be a great need for CEOs to ensure a much better understanding of the risks associated with these projects; one that is shared and agreed with the IT vendors and project managers. For the IT side of a project to withhold risk experience might eventually test as fraudulent.

Some CEOs might have been getting close to creating the circumstances for getting the best out of their people before this latest evolutionary step in IT. ERP technology, sold in an '*Inside the Tornado*'*, hard, market-making manner and attended by unending technical complexity, adds complexity – and asserts itself above the employees as *the* thing that will drive success.

Compare the e-mail above with the e-mail portion on the front page of this document. You may see from this that the subject being argued in these pages is precisely to do with putting people first. Which is as it should be.

Barry Deane
Melbourne
December 2002

* '*Inside the Tornado*' Geoffrey A Moore, HarperCollins, New York

Fair use of this paper and its contents

The purpose of this paper is to provide a personal viewpoint about, and discussion of, selected organisational and business issues related to the purchase, design and use of so-called 'ERP' or business systems' technology.

It does not give advice.

This paper and/or its contents may be used as reference with proper attribution.

Overview

The recently developed class of client server-based ERP, net-based and related technologies (referred to collectively as ERP in this paper) have enjoyed fabulous sales success across the world. These technologies have been promoted as offering the potential to radically improve productivity and to transform the way that business is done.

Some few years into their use in the workplace, we are now seeing large-scale failure of these technologies to meet the point-of-sales claims.

This discussion starts by suggesting that at least as a matter of corporate governance, IT projects must be subjected to the due process that is generally applied to other major capital development proposals.

There then follows an examination of the relationship between ERP technologies and the workplace as a 'socio-technical' system. I argue here that because the technology is intended to be embedded in the workplace, there must, surely, be a clear understanding of the dynamics of the workplace, as a pre-requisite condition.

Unfortunately, no such understanding of the workplace exists as a *commonly accepted* model or set of models. What generally accepted level of understanding exists, clearly lags the level of development of ERP technologies. I suggest that this is the dominant reason for their failure.

There is, however, one holistic schema that deals extensively and thoroughly with the dynamics of the workplace as a socio-technical system. This comes from the work of Professor Elliott Jaques and is known variously as 'Stratified Systems Theory' and 'Requisite Organization'.

Jaques' work significantly improves the understanding of the workplace that is demanded of us by ERP technologies. It helps business leaders to more effectively address the high-level, *'whole-of-enterprise'* change management work that needs to be done.

You may have heard it said that, *"If you don't understand the work that you are trying to do without the IT application, the application isn't going to help."*

This statement can be related to different areas of organisational work. I will start with the work involved in making a major IT systems purchase.

Why treat IT projects differently to other capital projects?

ERP information technologies can be described as ‘whole-of-enterprise’ technologies.

Attempting to install such technologies without understanding whole-of-enterprise work is a high-risk strategy.

Try to think about this in terms of setting out to build a new \$1 billion chemical plant without understanding, say, the reactions that will go on in the core process (i.e. it is proposed to use new processes that, whilst theoretically sound, have not been proven to work at production scale).

You may just get very lucky and identify and solve the chemical process problems in the course of executing the project. However, across the globe the track record for this approach is a lot of very expensive failures.

Many have said that setting out to build a project that still has “*one or two small problems to resolve..*”, is nothing more than good old fashioned optimism and, God knows, there’s precious little of that around. Such an optimistic approach will not work and will be damaging to the business.

One reason for this is that the drivers of ‘concept development’ work and the drivers of ‘project execution’ work conflict badly.

A second important consideration is that of understanding risk. In the early stages of concept development, it is often the case that “*we don’t know what we don’t know*”. . In such a state of fundamental ignorance, how can we know the difference between a small problem as distinct from, say, a show stopper?

Strategic development work

This draws attention to the general question of strategic *development* processes and the associated capital expenditure processes in companies (including related risk studies).

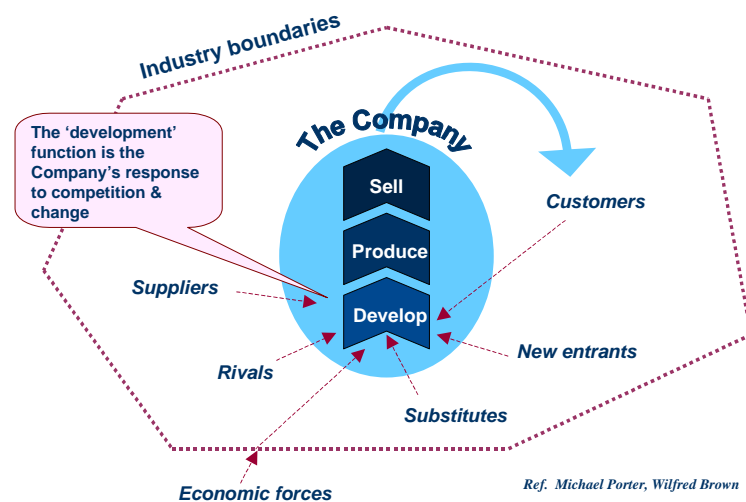
As well as being necessary to discipline opportunistic capital expenditure, these processes are vital to good corporate governance and shareholder protection.

Development can be regarded as the *future focused* work that all companies need to do. This work includes:

- product development for new markets
- major capital plant building and/or expansions
- exploitation of new technologies
- acquisitions

It is also the work that focuses a company's *response to change* in a general sense. This derives from the idea that commercial organisations can be seen to do three general types of work, i.e. Development, Producing and Selling. See Figure 1 below:

Figure 1
'Development' is the response to change

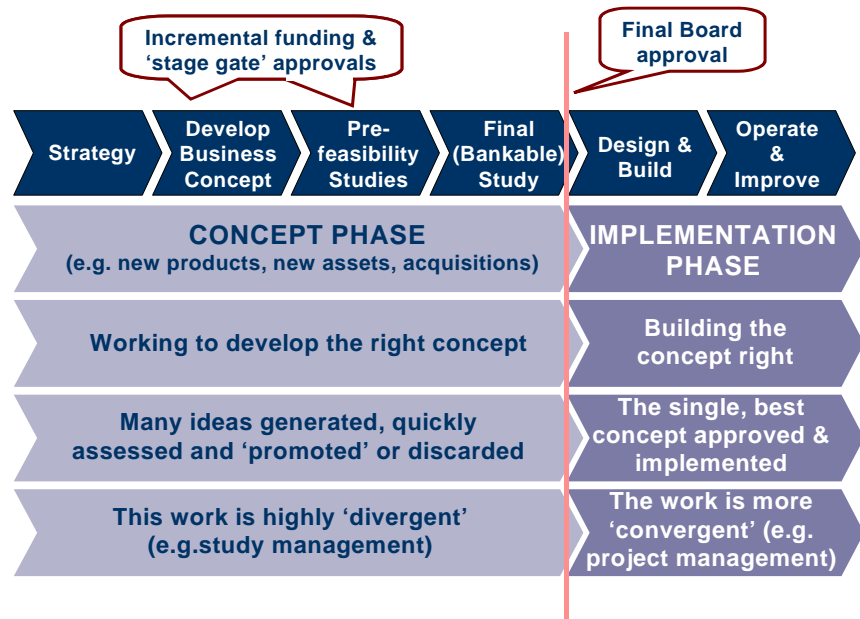


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- Too few companies have in place 'capable' management processes to deal with development work.

As with *selling* and *producing work*, *development* work has its own characteristics, as illustrated in the outline process map in figure 2 below:

Figure 2
A company's strategic
'development' process



By any reasonable measure, the recently developed class of business systems applications (ERP) should be regarded as strategic developments.

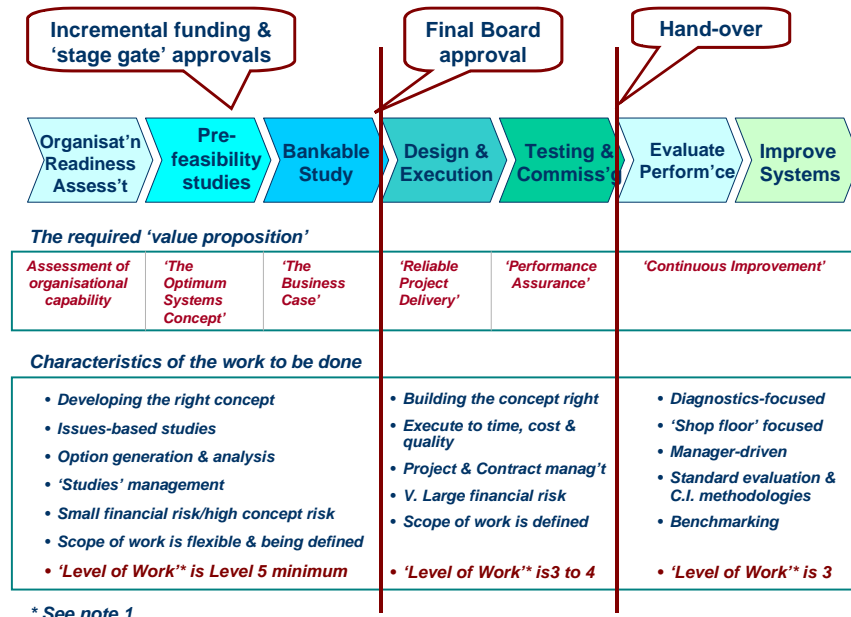
Their high cost alone qualifies them to be regarded as strategic and deserving close scrutiny from the Board.

Additionally, their obvious, but often puzzling impact on organisations and their low track record of success are clear indicators of high uncertainty and risk.

These are further reasons to regard implementation of these systems applications as development projects that demand a disciplined process.

Figure 3 below shows the strategic development process as it may be applied to ERP systems proposals:

Figure 3
A business systems
assessment &
implementation process



Observation

ERP applications are high cost and high risk. They have too high a level of uncertainty to simply be scoped and to be implemented without due study process.

Disciplined, high-level development processes must be in place to manage this work correctly.

Concept development is complex work

Doing development work correctly is not simply a matter of putting a process into place. It is done by *capable* people following a process. In this regard, it is important to understand that the capability of people to do work is not adequately defined by their *knowledge, skills and experience*. People must have the *mental processing ability* appropriate to the *level of complexity of the work* to be done.

In Figure 3 above I have described the ‘Levels of Work’ for each of the different phases of the project development process. This is my assessment of the different levels of complexity of the work to be done.

Understanding the implications of the type of work performed at each of the levels is important to understanding why development work does not get appropriate attention or the application of appropriate capability.

In the workplace, ‘doing’, or action-oriented work is often rewarded more readily than deliberative or analytical work. It is a common experience to observe that a project manager in charge of a major systems implementation project (or, in other industries, major engineering projects) is given more regard and has more cachet and monetary reward than equivalent but non-managerial staff.

A moderately sized ERP project may have a budget of US\$100 million, a team of 50 or 60 people and a time frame of 2 years. The focus is on building project right and on time. The project management role would be assessed as a Level 3 role.

Interestingly, the work involved in building a concept that has been established is far less complex than the work involved in developing the same concept. The role of leading this work, at an absolute minimum would be assessed as a Level 4 role. This implies a time span for the work of two to five years. This time span can be seen to be required to properly deal with the organisational impacts of ERP on, say, a small to medium-sized business (about 1500 employees).

Whether looking at building major ‘physical’ plants or major IT systems, I have noticed a tendency to put otherwise successful project managers in charge of concept development work. It often seems as though the concept development work is being regarded as pre-cursor *design* work to implementation rather than the multi-disciplinary risk mitigation work that it must be.

Although implementation project managers may be capable of leading concept development work, they can often be quite unsuited to it. It is likely that a person who *values* a project management role may simply not *value* doing

concept development work.

Poor selection for concept leadership may result in a project management approach being adopted. This can result in inappropriately short (hurried) concept stages and consequently, poor concept development.

We know now that this is a common experience in the ERP world.

(There is an irony here that I can't pass over. What seems to be happening, on a large and expensive scale, is that *lots of earnest people have been very busy building the wrong concept very well...!*)

Whilst discussing failure to pay proper attention to concept development, it also worth noting that the business and revenue models of the large IT consulting firms operating in this industry are almost completely 'implementation-centric'.

This tends to bias the interest of the customers' and consultants' project staff further towards implementation at the expense of adequate preparation.

There are clear parallels here with the client experience of the heavy engineering projects industry. *"They (the engineering companies) want to build big things, costing big money, and they aim to make big revenues. They have little tolerance for concept development and can't wait to build something - anything"*

Observation:

The complexity of concept development leadership must be properly assessed. Leaders selected for this work must be appropriately capable of the level of work to be done.

Lessons from similar workplace interventions

I now want to take a small detour here to explore a nagging doubt. I have that seen this type of failure before, although not on this scale. I want to look back at the 'Quality' (TQM) and 'Continuous Improvement' (CI) industries.

There were many books written, there were seminars and training courses. This was a new wave.

At the time, for both TQM and CI, there was a clear requirement to embrace the new idea without question. Resistance could be career threatening. And so it is with ERP.

There was also the language of the movement. People felt 'in' or 'out' depending on their command of the new language. The language, its tortured acronyms and gobbledygook, often obscured the business or workplace meaning of what was going on. And so it is with ERP.

TQM or CI interventions grew detail like you wouldn't believe as people attempted to re-interpret the business and its workplace through the lens of the new idea. And so it is with ERP.

A subtle feature of the TQM and CI ideas that prevented them from becoming whole-of-organisation solutions was that they could only deal with the lower orders of business processes in any given company.

The higher-order processes (e.g. concept development work) remained inaccessible.

However, the fundamental limitations of TQM and CI didn't stop a whole range of consultants, converts and other advocates from vigorously selling the ideas and techniques as ways of analysing and improving businesses and their organisations.

It seems hard to credit now but in their day, TQM, CI and their derivatives, were heavily promoted as panaceas for organisation effectiveness i.e. ideas being used as a general theory of organization.

Can you see the similarities with how ERP is being sold and deployed?

ERP technologies ‘penetrate’ relationships in the workplace

ERP technologies share some ideas similar to those of TQM and CI. Essentially these technologies are focused on business processes.

A critical difference is that ERP technologies take a further step forward and provide the capability to almost instantaneously integrate information and information transactions across the company or enterprise. Hence the emergence of the evocative term, ‘enterprise-wide solution’.

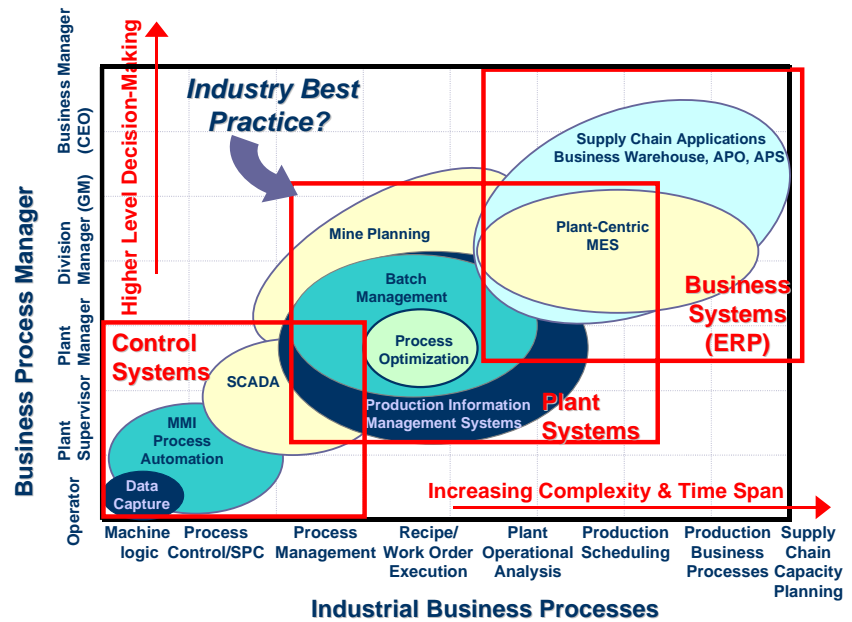
No matter how complicated the language of the ERP technologies and no matter how many consultants try to sell the ‘cockpit’ idea of this technology (i.e. “*You can run everything from the CEO’s screen.*”), the fact remains that it is technology that can only *enable* lower-level work processes.

ERP begins to penetrate the social fabric of the workplace as it enables the work processes. It does this by changing the work and the working relationships of the individuals associated with the work processes.

By comparison with earlier IT applications, the integrative power of ERP technologies makes a far greater organisational impact. It further penetrates the workplace through the integration of work processes, drawing into play the ‘vertical’ and ‘horizontal’ organisational relationships associated with them.

ERP can be regarded as the most recent stage in the evolution of supervisory and process information integrating technologies. As it has evolved, the potential ‘reach’ of the technology across an organisation has taken it into higher orders of work complexity – about which there is far less understanding! See Figure 4 below:

Figure 4
The evolution of
integrating IT



ERP cannot make the working relationships between roles functional when other factors render them dysfunctional, such as, poor leadership, poor supporting systems, poorly designed structure.

The finer detail of ERP system design is often carried out without regard for broader organisational design considerations. This will cause confusion as the ERP process requirements compete with the established lines of communication and working relationships.

If we are to have any hope of realising the larger claims made for ERP technologies we must understand the fundamental nature of and the requisite rules for the working relationships in organisations.

Observation:

ERP technologies penetrate the workplace. They impact working relationships in ways that are not sufficiently understood.

A better understanding of organisation

So, what is the work to be done that clearly is not being done? What's missing that is producing so many failures in the ERP-type technology projects? What is the connection between ERP technologies and the workplace?

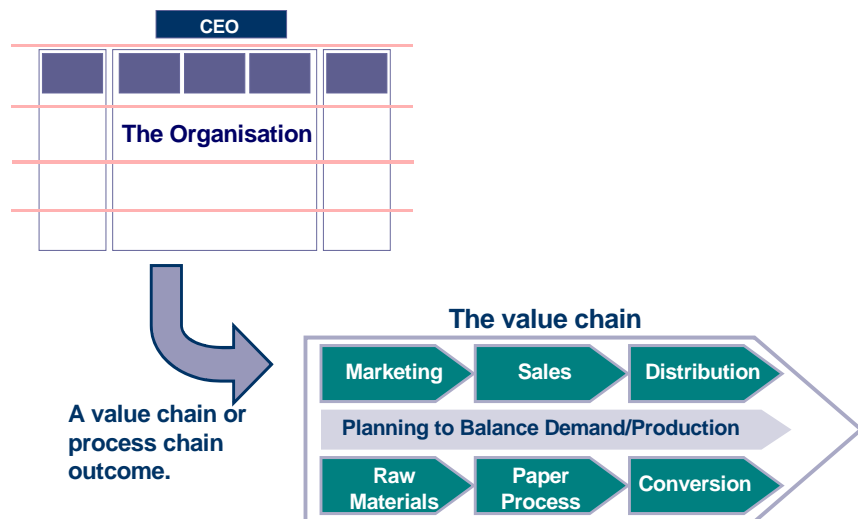
The first connection is that ERP technologies are meant to enable value chains or process chains.

We need to be clear about what a value chain is and is not. Michael Porter has described the value chain concept very well, so I won't regurgitate his work. However, I have come across some subtle misunderstandings that I think are worthwhile exposing.

Value chains et al have been around for as long as there have been people organised to work together. They are not (as some of our young IT folk seem to think) a product of ERP technologies, nor do they depend upon any particular technology to exist.

Many people think that a value chain is a form of organisation. It is neither accurate nor helpful to think of the value chain in this way. A value chain (and related process chains) are *outcomes* of effective organisation, i.e. they are outcomes created by people in the organisation working together. See Figure 5 below:

Figure 5
A value chain outcome



It's time to go back to the statement I started with:

“...if you don't understand the work that you are trying to do without the IT application, the IT application isn't going to help”

At the whole-of-organisation level, this means that if the CEO doesn't understand how to reliably and repeatedly achieve a value chain outcome from his or her organisational efforts, then technology is not going to do it. Organisational topics involved in understanding how to achieve value cross-organisational or value chain outcomes include:

- The nature of 'vertical' and 'horizontal' relationships in the workplace and the rules governing these
- Role definition and role alignment
- Managerial leadership authorities and accountabilities
- Task assignment
- Performance management
- Systems of work

.....as well as an understanding of the business processes involved.

For complete integration of ERP technologies there needs to be a clear understanding of how organisation and organisational leadership works. (This is the '*whole of enterprise change management work*' that I mentioned on page 1.)

One might also expect that the topics related to value chain outcomes (above) should be subsets of a larger organisational and leadership schema.

Unfortunately, there is not yet a *commonly agreed*, holistic schema dealing with effective organisation, or of the related idea of managerial leadership.

However, there is a schema, albeit not universally known or accepted. This schema is a research-based, rigorously developed and integrated set of ideas. It represents a refreshing, fundamentally different and sometimes controversial approach; challenging what has become, through processes of 'folk wisdom', a counter-productive orthodoxy. The following quotation will serve as an introduction:

“There exists a widespread assumption in management circles that effective managerial organization development can be achieved in one of two ways. The first way is to improve given processes, as in re-engineering or work-out programs, or in broad band-grading processes.

The second way is to improve each and every manager individually, as for

example by: finding the so-called core competencies in a company and teaching these competencies to everyone; or by developing “learning organizations” by helping individual managers to learn how to learn; or by teaching managers how to handle and react to authority; or by teaching employees how to work together in “self managed teams”; or by exhorting everyone to be more trusting.

Both these approaches have led to a restless flow of wasteful and futile fads and panaceas. This failure comes about not because of human sloth, greed or stupidity, but because the organizations and the managerial procedures in which the various cures that are tried, are so badly designed. Overcoming this problem requires not slogans and gimmicks but the development of a thorough-going understanding of the nature of the organizations we use to get our work done. There is hardly a corporation anywhere that does not have the potential for a surge of upwards of fifty percent and more.”

Jaques E., Requisite Organization, Cason Hall, Arlington VA, 1998

Jaques has developed a suite of theories and concepts that go to the heart of the matter of effective organisation and managerial leadership.

Broadly, Jaques’ work is recognised as ‘Stratified Systems Theory (SST)’ and ‘Requisite Organization’.

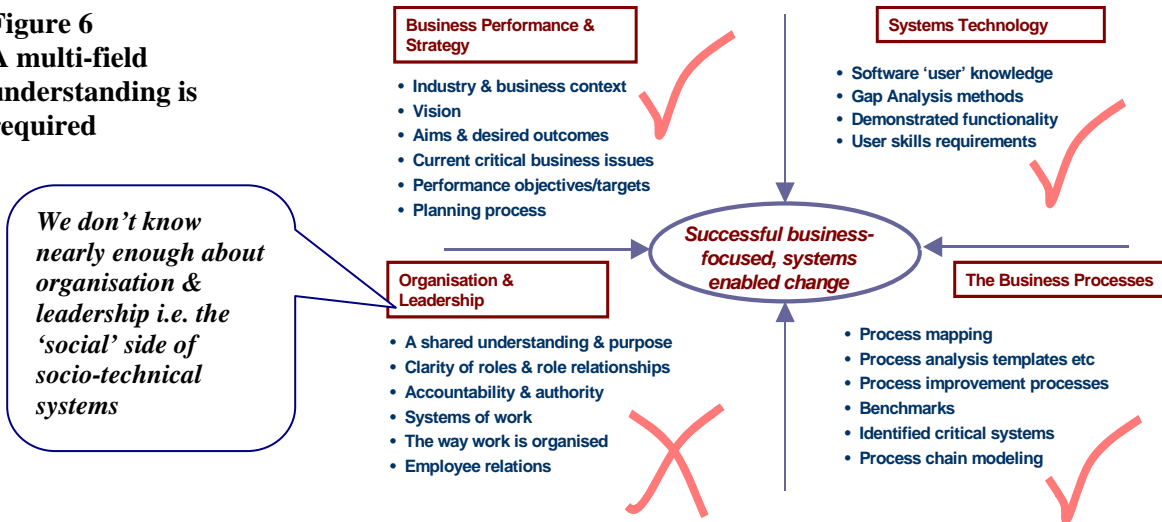
A number of companies and non-commercial organisations around the world (some in the US) have adopted the ideas of this work. These include CRA (now Rio Tinto), United Stationers, Commonwealth Aluminum, the Bank of Montreal, Hydro One Inc., the police departments of Oakland, Calif., and Washington D.C. and the US Army.

I was fortunate to have applied Jaques’ theories over a period of some 17 years as a practicing senior manager in one of these companies (i.e. CRA of Australia) and have experienced at first hand the power of its application in the workplace.

I followed on from this experience in CRA with an interesting range of work with SAP AG. During this time it became clear to me what the promise of ERP technologies might be. However it was also clear that the buyers needed to be better prepared to use it.

I would argue that effective assessment and use of ERP technologies requires a thorough understanding of a number of fields of knowledge that are brought together in business. These are shown in Figure 6 below:

Figure 6
A multi-field
understanding is
required



There have been arguments about organisation and leadership, at least in a semi-scientific way, since the industrial revolution, and in other ways long before that, e.g. Tsun Tsu. So what's new and why should we take a further interest in this area of study now?

I drew attention to the TQM and CI ideas earlier. Pre-dating, and supporting these ideas was the original work of Edwards Deming and the whole 'Japanese Miracle'.

Significantly, these ideas relate very closely to the purpose and design of ERP technologies that is, to process enabling, process re-design, process improvement etc.

These earlier ideas of TQM and CI were promoted for use beyond their fundamental value. As panaceas, they have all failed.

This does not bode well for ERP technologies.

It is true that many organisations have been able to survive at some level with less-than-perfect organisation and leadership effectiveness. Many are temporarily propped up by the talents of a very capable leader who intuitively finds the right way to organise and lead. Many survive for a while on good fortune in an attractive market segment that has little competition.

However, ERP technologies demand that the rules of organisation and working relationships be absolutely clear. This technology cannot be applied in situations where managers simply don't know what the basic rules of the workplace should be.

As the technology is implemented, there is a serious risk of 'de-coupling' of the leadership of the organisation as the ERP project creates a virtual organisation and de facto leadership. There is then the risk of serious organisational

breakdown.

The development of a working understanding of organisation development, together with a well-aligned approach to using this technology seems to me to be the only way that we are going to realise its exciting potential.

Observation:

ERP technology is a powerful 'litmus test' for the level of understanding of what makes effective organisations

A Management Framework approach

If you sense that there is an ‘elephant’ hanging around in the vicinity of SAP, you’re right. The elephant is the vast and confused field of organisational science. Jaques provides much needed clarity and direction in this field and my long working experience tells me that nobody else has come close.

However, whereas Jaques’ work provides the foundation arguments and ideas, its application in the workplace requires further interpretive steps.

From our long experience in the use of Jaques’ ideas in our senior management roles, my partner and I have developed a range of interpretive methods designed to assist a productive approach to organisation and leadership development using these ideas. Key among these is our ‘Management Framework’ approach.

The ‘Framework’ approach, makes it relatively straightforward to identify the issues and to develop strategies for resolution. We see this as the starting point of organisational change management.

Although an ERP initiative will bring into focus a range of problems with the existing organisation, change cannot move forward effectively from a systems starting point.

The so-called change management work associated with ERP systems projects is largely associated with business process re-engineering and the design of roles associated with the ERP-enabled transaction processing. This is insufficient for to effectively address the ‘whole organisation’ change requirements.

Achieving organisation and managerial leadership effectiveness are the super-ordinate goals to which IT systems issues must be subordinated.

Observation:

A Management Framework provides an interpretive tool to help business leaders to assess organisational readiness for ERP systems design and implementation. It is a reference framework for checking the scope and design of an ERP and the productive integration of the technology and people in the *workplace*.

Barry Deane

February 2002

Note 1:

'Level of work' refers to the degree of complexity of work to be done at different levels in organisations. In order to be carried out competently and in addition to the required knowledge, skills and experience, the tasks in each (and different) level of work must be carried out by a person with matching cognitive ability.

The levels of work referred to in figure 3 are illustrated by the following examples:

Level 3

These are jobs in which the most complex task requires a time horizon of one to two years maximum.

Jobs at this level would include department heads, workshop managers, police captains, owners of multistore franchises.

Level 4

These are jobs in which the most complex task requires a time horizon of two to five years maximum.

Jobs at this level include a plant manager, editor of a large media operation, or any line manager with responsibility for diverse groups.

Level 5

These are jobs in which the most complex task requires a time horizon of five to ten years maximum.

Jobs at this level include large-company divisional executives, business unit heads, production directors and CEOs of 5,000-employee organisations.