

**Paper submitted for the Systems Dynamics Conference,
Soft landing into the 21st Century
Tokyo 1995**

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Culture gap or Culture trap ?

Abstract

The so-called 'culture gap', between information systems professionals and organisational management, is often cited as, either a reason for system failure, or the cause of lack of perceived success. This paper presents the view that organisations get the systems they deserve, since information professionals in an organisation are no more able to buck the prevailing organisation 'culture', than any other professional.

This leads to the thinking that is not so much a 'culture gap' as a 'culture trap', suggesting that top management need to be considering the organisational climate for change, and the determinants of organisational culture which impact upon change, if success with organisational information systems is to be improved. This matter has become one of considerable concern as organisations seek to reengineer their business processes, using the power of information systems.

The case study which prompted the thinking is presented. The associated research was undertaken using action research with a soft systems approach, which itself prompted some useful learning. A method of extending the use of rich pictures as a means of developing influence diagrams is suggested. The aim being a 'rich' but 'soft' qualitative SD model.

Culture Gap or Culture Trap ? - Introduction

As IS & IT become more central to the success of organisations (integrating IT into the business strategy is seen as the second most important issue for IT managers in the 91/92 Price Waterhouse IT Review) so the need to understand the factors which impact on the success of IS throughout their lifecycle increases.

The eighties saw the arrival of the strategic information system - systems which provide the competitive advantage so eagerly sought by organisations influenced by Michael Porter (Porter & Millar,1985). There are many examples of these systems which gave the edge over the competition (see Madnick 1987, Ward et al 1990, or Galliers 1991). Thinking about the role that IS could play, developed further until the concept of a Strategic Information System (SIS), was extended to include those systems which directly supported an organisation's business strategy (Galliers 1991). This was a good time for IS people, previously accused of being responsible for the 'Culture gap' (ref. Price Waterhouse 91/92)

they were now being seen as central players in developing and enabling the organisations' corporate strategy.

Things improved further when 'Reengineering the Corporation' from Hammer & Champy became a best seller. Making radical improvements in business performance using IT, became top of the management agenda. The systems advocated under this 'don't automate, obliterate' (Hammer 1990) strategy were capable of supporting radical change in the organisational processes, with associated benefits. There must surely also be radical change in the organisation itself, some of it planned and intended, some unplanned and emergent. Newton's law of: **every action having an equal and opposite reaction**, in an organisational context.

In terms of organisational change, Venkatraman(1991) envisages further possibilities still, suggesting that the ultimate goal is that of 'business scope redefinition'. The organisation will be transformed and reconfigured using IT. The theory therefore suggests that glittering prizes are available, yet practice is very slow in delivering; Galliers(1991) admits that many strategic information systems are 'happy accidents' rather than part of a planned strategy. It is claimed that 70% of reengineering initiatives are failures. (quoted at the 1994, Cranfield BPR conference). Venkatraman sees reconfiguration as a long term goal rather than an immediate reality.

Using Information Systems

There is also the fundamental dichotomy, to consider, that some organisational information systems are extremely successful, with clear benefits (see Ormerod 1994 describing the situation at Sainsbury's), while others are equally unsuccessful in that they not only do not perform as expected, but have damaging consequences (London Ambulance case quoted in Which Computer, December 1992, Taurus quoted in Computer Weekly, 1992).

The tension increases as the demands from within the organisation for the possible benefits from information systems increases, but IS professionals are painfully aware that IS enactment is not a deterministic process. Understanding what contributes to success and what contributed to a perceived failure is a critical area of enquiry. In addition the role of IS within organisations is not clearly defined or understood, this must also be addressed.

Perhaps the role that is played by IS in organisations is the role that they are allowed to play. Is it realistic to assume that any particular system plays a defined role ? Is a system's role actually defined by the circumstances in which it is conceived, decided upon, developed, implemented and assessed, i.e. the whole enactment cycle ? At the point of initiation there will be a unique set of factors or parameters operating within the organisation, within its market sector, within the global business and technological environment - almost the birth chart for the new-born system. These parameters will shape its growth and development - stony ground from the unenthusiastic or intransigent, and growth is stunted. Warmth and enthusiasm gives food and nourishment and a healthy child develops. The way in which the immature system is introduced to its foster family is critical. Does it look like them ? (are the metaphors taking over?) not such a silly question - looking and feeling 'comfortable' to the foster family is crucial. Will it fit in ? Will they have to change - is it intended to make them

change ? The system needs a 'friend' to speak up for it - to fight its battles to see that it settles down and starts to fill a useful role. Done well and a healthy infant grows , performs well and fulfils expectations. Not done well and the reverse occurs - a misfit system that struggles and fails to fulfil expectations, it also creates a poor perception in its' space, of the capability of such systems, a perception that can become sedimented into the organisational mindset, making it incredibly hard to change, and creating a difficult organisational climate for IS in general.

The essence of understanding this situation, lies in understanding the dynamic interaction which is taking place, and systems thinking is ideally suited to this task. As Jay Forrester suggests, 'systems dynamics deals with change. Understanding and managing change are central tasks in both technological and social systems.'(Forrester, 1994)

Role of culture

Now let us define the basic parameters of the systems study being undertaken. The need for an IS to 'fit' has been mentioned - what does this mean in organisational terms. The term generally used to define that 'je ne sais quoi' which makes organisations special is culture. So for a system to fit it must be coherent with the organisational culture. What does this mean? It is often said that a major reason for the acquisition of inappropriate, or ineffective information systems is the 'culture gap' between the IS professionals and the organisational managers.

What is the culture gap ?

The culture gap is the difference in thinking regarding IT, which is dependant on the background of those involved. Grindley(1992) in the Price Waterhouse IT Review of 1991/1992 describes the situation. On one side is the business manager who does not appreciate the potential contribution that IT and IS could make to the business, resulting in lost opportunities. On the other side is the IT specialist who sees great opportunities, but fails to understand the impact that the proposed technology and systems might have on the people who make up the business.

Grindley also suggests that often the IT specialists are felt to belong to some invisible 'computer university', feeling more fellowship with other IT specialists than with their business colleagues. The potential for this syndrome to increase, is more likely than ever, now that the information super-highways of the Internet, and World Wide Web are with us. For many technical specialists 'surfing the net' is so much easier, than trying to communicate face to face, with real people.

There are those who think the problem is exaggerated, five per cent of the Price Waterhouse sample felt that the culture gap, in relation to IT specialists, is no more evident than with other specialist functions, such as finance, engineering or marketing. That does however, leave ninety five per cent who do see it as a problem, forty seven per cent of the IT directors surveyed felt it was their major problem.

A Picture of the situation

**I do not like computers & IT
because I do not understand
them & they threaten my
authority
(I thought a megabyte
was a large sandwich)**

**IT makes me a powerful
organizational player,
because I understand it
and others do not
I only use jargon to
maintain my image
as a technocrat**

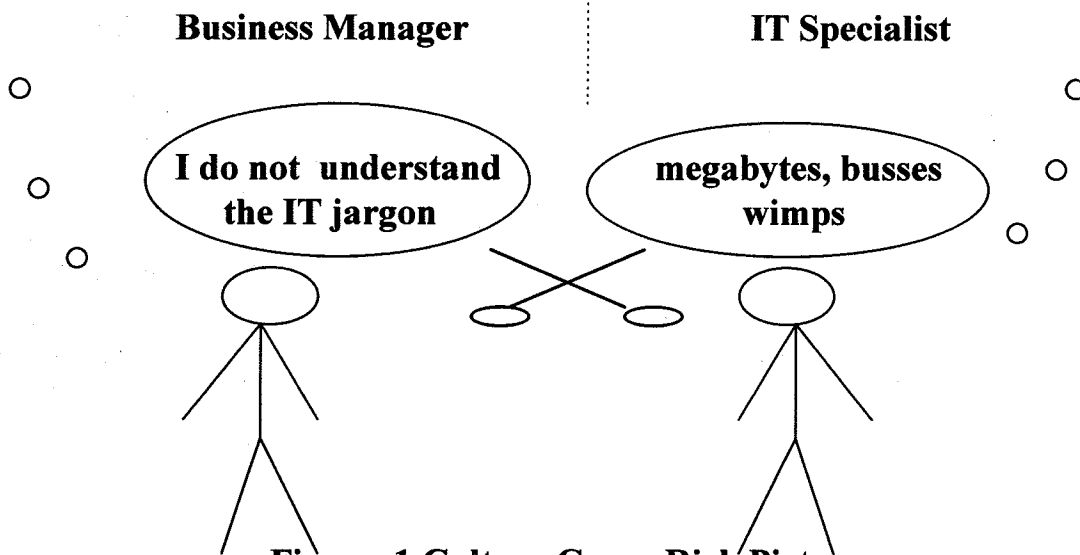


Figure 1 Culture Gap - Rich Picture

This is of necessity, a simplistic picture of the situation, and one that has changed since Angell's description in 1991. The huge amount of hype surrounding business process reengineering has meant that business managers are now very aware that IT has been used very successfully by some businesses. Many are keen to jump onto the bandwagon, encouraged by consultants and IT specialists alike, but have little idea of what they might be being persuaded to espouse. Similarly the perspective of the IT specialist may not be unbiased or holistic, or so it seems to those of us with a cynical world-view, as the claims made for the curative properties of this magic IT cure for ailing businesses, bears a strong resemblance to the claims made for the philosophers stone.(Jackson (1993) echoes similar sentiments.) The fact remains that there is still a large gap between the perceptions of the business manager and those of the IT specialist, with regard to the role and place of IT & IS in business.

Bridging the Gap and the Unintended Consequences

Now to consider a case study of an attempt to bridge the gap, and improve communication, which suffered from the unintended consequences that so often follow attempts at action in human activity systems.(see also Forrester 1971 & Senge 1990).

Case Study - The organisation in which the intervention takes place consists of a central management sector, known as 'the centre', and five divisions, each of which has its own management team. The management information system being studied, which will be referred to as (CMIS), is part of a suite of systems. The trigger for development of these systems was the devolution of control of the organisation from its previous political masters. In the case of (CMIS) there was also a perceived need, on the part of some senior managers within the organisation, for a system to monitor more closely the activities of the business. These involve the work of many, previously autonomous professionals, forced by changes in circumstances to allow much greater scrutiny of their actions.

The devolution of control necessitated the fast development of systems to enable survival. Financial systems were given priority and developed relatively quickly. These were perceived as satisfactory, primarily because they worked sufficiently well, to enable the organisation to survive financially. A personnel system was also developed. (CMIS) was the most difficult system to be attempted. (CMIS) could be considered as a customer database, plus a product database, the primary requirements as outputs, being the fast production of customer invoices, and provision of statistics to 'the centre' and to central government.

The development of (CMIS) followed the traditional pattern, first a feasibility study was commissioned, and a report submitted to the organisations' leader, approval was granted and systems analysis began. The human resources for the systems development consisted of a team seconded from one division of the organisation.

Development proceeded, many within the organisation were consulted about desired outputs from the system. Expectations were high that an important information tool was to be provided, which would benefit all. A manager from outside the organisation was recruited to oversee all the systems. This manager did not survive long, and was replaced by a member of the original development team. At this point it seems that a decision to consolidate on the work done to date, and commence production was taken. For various reasons it also seems that only a part of the originally envisaged system was to be developed, what could be seen as the central core, the part most useful to the 'centre'.

Approval for this decision and proposed method of proceeding was sought from the top management of the 'centre' and the five divisions. They were introduced to the intricacies of the data model at a series of meetings. This approval was forthcoming, so production and implementation commenced. A steering group of the top management from each division, plus other interested parties, was set up to oversee further developments and make decisions as required.

The Intervention

The author's intervention comes some way into the implementation process, when commissioned by one division to work on a project to design and build simple information systems to assist in their management process. Once work began, the existence of (CMIS) became known, a system which could already offer some of the required facilities, yet it was not being used. Worse still its reputation, in this particular division was catastrophic. It had become what Pettigrew(1992) describes as an organisational scapegoat.

The primary operational users and providers of data to CMIS are the administrative workers in the divisions. They perceive the system to be difficult to use, unfriendly and not particularly useful. Their immediate managers do not regard the system highly, seeing it as a tool of the centre which has little relevance for themselves. They do little to ensure adequate use of the system, which has resulted in a build up of poor quality data. The poor quality data is itself a contributory factor in the limited benefits which are available from the system. The managers have little appreciation of the key organisational role the system could play.

On the other hand those at the centre seem unaware of the very real problems in using the system, particularly since there is little help available, and those in the divisions are overburdened with other responsibilities. The unfriendly interface became apparent, with the introduction of the 'Windows' environment as a standard for other applications. Administrative staff, some of whom may not be very comfortable with IT, have to move from a multi-coloured WIMP environment one minute, to old-fashioned green text on a dark screen, needing complex function key use, the next.

Thus the problem which drove the research was very much a 'soft systems' style trigger, and was within the larger context of the divisional project to provide management support systems. Essentially there was a need to understand why the central system was perceived so badly, to determine if (CMIS) was really just a poor system, or if something more complex was involved. Whatever the problem, this contextual understanding was crucial to the planning of divisional systems, and understanding what constraints existed within the organisational culture in relation to using IT.

A major constraint on the work, is the centrally determined policy that organisational information systems in general, were within the remit of the manager who had ultimate control of (CMIS). Within this framework any local development was seen as an additional criticism of (CMIS), although even when it is fully implemented and working well, it will not be able to meet all local information needs.

A turning point

The poor use and support of (CMIS) had a serious impact on its possible use for its major original aim - providing central management information and statistics. This led to the issue of a major directive from the controlling, steering body. The divisions were to start using a section of the system and complete data entry within a defined timescale. The directive caused some consternation within the divisions, evoked a number of strongly worded responses, but overall caused little in the way of action to improve system use.

In order to further inform thinking about the situation the author, an experienced systems developer, undertook a project which required intensive use of (CMIS). This was to provide a 'users' view of the system, to offer a perspective of it as an information system. The conclusion from this work was that (CMIS) was a perfectly adequate management information system, which potentially offered considerable benefits to the division. It was not a particularly easy system to use, and was not supported as well as it might be, but nonetheless could be made to work reasonably well, once the user was familiar with its complex interface.

The real problem ?

The real problem seemed to be system ownership. To those at the centre this is an essential tool to enable them to provide statistical data to a central government body. They are perceived as the owners of the system. The system is dependant on the data which is provided by those in the divisions, but it does little for them - they feel no ownership. More than this they feel hostility - that it is an imposition, which prevents them completing the work that they need to do.

Why has this problem arisen ?

One possible cause is the manner in which the IS professionals tried to involve divisional managers in the development stages of the system. The design methodology required user participation at a series of meetings. At these meetings the developers presented some of the system documentation to the assembled managers - seeking approval or signing-off, of particular stages. This attempt at facilitating participation was seen by the managers as disastrous - they did not understand the diagrams and documentation presented - were unable to comprehend the decisions required and reacted with hostility to the IS professionals, and the concept of the system.

Several of the managers tell the same story of this episode, being presented with complex wiring diagrams, and being expected to make decisions based on incomprehensible data. As managers in this organisation of course, they only admitted to the lack of comprehension later, and never to the IT professionals. They were culturally unable to say 'I don't understand - please explain ?' Equally the IS professionals were apparently unable to understand or appreciate this lack of comprehension, and might well have been unable to explain meaningfully. Thus the vicious circle of negative perceptions began, the unintended consequence of a well meaning attempt at encouraging user participation and involvement.

It would appear that the inability of the IS professionals to communicate with the managers at this point is a classic 'culture gap' scenario - but there is more to the story than this. The steering group which was set up to oversee the continued system development and make decisions as required, was another attempt to improve communication, to overcome the 'culture gap', once more not very successful. Once technical items start to appear on the agenda, senior management attendance fell, soon those that attend, are those to whom the task is delegated as a chore, and a few who have a genuine interest. Yet the body is still a quasi-decision maker, and holder of some political power. Defining a suitable confederation of delegates to this group is the real challenge for the future. People who can act as a 'next friend' to the system, and facilitate its use, regardless of their hierachical position. Taking this idea on board however, would probably be a culture-shock for some conservative central managers.

Parallel Program

To sum up the situation:-

- Divisional managers, *
- * do not understand system capabilities
 - * feel no system ownership
 - * feel threatened by central control
 - * see the system as a central control tool
- Central managers, *
- * always under pressure from national body
 - * do not understand divisional problems
 - * maintain central control while paying lip service to de-centralisation
 - * fail to appreciate divisions real need for IS

Thus this is not a culture gap situation between IT professionals and business managers, but a conflict situation between central and divisional managers. The CMIS system caught in the midst of this conflict suffers, a victim of a political culture, where being seen to do the politically correct, is assumed to be sufficient for effectiveness. This is why it is more of a trap than a gap - the organisational culture, a memo-culture, mediates against realistic communication, and any real understanding of the other side's viewpoint - it traps both sides in a situation that cries out for metanoia. A dialogue could move the situation forward, on dialogue the words from Senge(1990) seem appropriate:-

'We are not trying to win in dialogue. We all win if we are doing it right. In dialogue, individuals gain insights that simply could not be achieved individually. A new kind of mind comes into being which is based on the development of common meaning'

Notes On Methodology

Initially the author made exactly the same mistake as the system designers, in trying to use a participative, soft, approach in studying the situation. Participative soft approaches do not work well in political cultures,(the bruises are healing well), the failure was in itself most instructive, and probably occasioned far more learning, in relation to using a soft systems approach, than a successful attempt. So the first lesson must be, that nothing is a failure if you learn from the experience. Secondly Checkland's rich pictures are an ideal way of starting on the practice fields, that Senge & Kim(1994) advocate so powerfully, but rich pictures do not necessarily have to be pictorial, and a complementary paper detailing the use of a fairy story, as an alternative rich picture illustrates the point. (Young 1995).

Senge's archetypes are after all, stories with pictures. A useful way of proceeding is to draw an initial rich picture, to experience the learning from the construction process. Follow this with an influence diagram, then use both to make a comparison with the Sengian archetypes to determine the similarities and differences, but most of all, to encourage the thinking and debate which is crucial to metanoia.

The final words though, must echo those of Peter Checkland(1981), the situation here, as in so many problem situations, is the search for that which is both '**systemically desirable and**

culturally feasible', the challenge perhaps, is to persuade both sides that this can be a shared vision.

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