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Robert D. Galliers

London School of Economics and Political Science, r.d.galliers@lse.ac.uk

Sue Newell

Nottingham Trent University, sue.newell@ntu.ac.uk

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Electronic commerce *within* organizations: lessons from two cases

Robert D Galliers, Department of Information Systems, London School of Economics,
r.d.galliers@lse.ac.uk

Sue Newell, Nottingham Business School, Nottingham Trent University, sue.newell@ntu.ac.uk

Abstract

This paper describes research concerning two companies that have been seeking to improve collaboration and communication internally across functional and departmental boundaries through the introduction of intranets. In one case, the development and introduction of the system lead to unintended, negative effects; in the other, there is preliminary evidence to suggest that the results have been much more positive. The experiences of the two companies help to reinforce lessons that have been known for some time – in relation, for example, to socio-technical systems and Information Systems (IS) failures (e.g. Bostrom & Heinen, 1977a,b). The fact that these two cases are contemporary and that there appears to be evidence that some of the lessons of the past have been forgotten or have remained unheard, suggests nonetheless that the comparison may be enlightening.

Key words: Electronic commerce; Intranets; Knowledge management systems; Socio-technical systems; Information systems implementation; Management of change; Case study research.

Introduction

It goes without saying that electronic commerce has been a major topic of interest in recent years, with considerable importance being placed on the opportunities provided by information and communication technologies (ICT) to improve communication between businesses and with customers. Electronic commerce resonates as a potential means of finding solutions to some of the inter-organizational communication issues that confront modern-day businesses. As the Call for Papers for this Mini Track suggests, however, we might usefully broaden and unpack the concept of electronic commerce to include *intra*-organizational collaboration and partnerships.

The importance of breaking down functional barriers has long been recognized in the Information Systems world. In academia, our roots in systems thinking provide

us with a conceptual base for viewing organizational issues from a *process* orientation, with information requirements being associated with those activities necessary to achieve a desired purpose (e.g., Checkland, 1981). This so-called *infological* approach has been paralleled by what might be called a *datalogical* perspective, where the focus is on an analysis of the data entities – and their relationships - required to provide necessary information (e.g., Martin, 1982). These concepts have found practical form in such phenomena as database technologies and approaches, and more recently in Business Process Reengineering (BPR), and Knowledge Management and Knowledge Management Systems (KMS) (see, for example, Davenport, 1993; Alavi & Leidner, 1999).

This paper describes research concerning two companies that have been seeking to improve collaboration and communication internally across functional and departmental boundaries through the use of ICT. In one case, the development and introduction of the ICT-based system lead to unintended, negative effects; in the other, there is preliminary evidence to suggest that the results have been much more positive. The experiences of the two companies help to reinforce lessons that have been known for some time – through, for example, the work of those associated with the socio-technical school of thought (e.g. Mumford, 1983; 1987), particularly in relation to Information Systems (IS) failures (e.g. Bostrom & Heinen, 1977a,b). Such lessons include the point that a more balanced, non-technologically deterministic and emancipatory approach to IS development and implementation is worth pursuing (e.g. Bjerknes, *et al.*, 1987). The fact that these two cases are contemporary and that there appears to be evidence that some of the lessons of the past have been forgotten or have remained unheard, suggests that the comparison may nonetheless be enlightening.

The paper is structured as follows. Following this introduction, we will briefly outline important aspects of each case, the first concerning the experiences of a major multi-national bank in implementing KMS, and the second describing the somewhat more emergent and holistic approach adopted by a major international airline. In the next section, we will attempt to extract from the two cases those features that appear to be key. The concluding section provides something of a reflection on more general lessons - in terms of what remains to be

done in the current research effort, and of potentially useful directions for future research in this area.

Case 1: The Bank

A problem that was exercising the minds of top management in this bank was that they had recently lost a key account thanks to the perceived inability of the bank to adopt similar procedures and provide similar services in the countries in which the global client company was operating. Exasperated by the bank's apparent inability to present a 'common face' world-wide despite this being a stated strength in its marketing literature, the client company took its business to a rival. The bank's reaction to this event was to set up a pilot intranet project. This pilot project was a key part of its Vision 2000 strategy, which was aimed at creating The Networked Bank. The strategic intent of this project was thus to create a network across the bank so that knowledge and information could be shared more effectively across functions and geographically dispersed sites. This, it was assumed, would lead to the common adoption of defined 'best practices' and so stimulate the integration of procedures and services across the bank. However, in direct contrast to the stated strategy, the actual impact was that the existing boundaries between functions and dispersed business units were reinforced. This was because, during the 18 month life of the pilot, in excess of 150 known intranets had been set up by individual departments in individual countries!

Once this became evident, the bank called together representatives (both banking and IT) from its major national sites world-wide with a view to investigating how to co-ordinate this emerging web of intranets and achieve the stated strategic objectives. The idea was that this might help reduce response variety in the different countries. The meeting took place over two days at the bank's headquarters. Two problems emerged almost instantaneously:

- 1) The banking representatives were "too busy" to attend both days - having attended the first "strategic focus" day, they left their IT colleagues to "sort out the technical details" on the second day;
- 2) The IT representatives on the second day focused exclusively on technical solutions and came to the conclusion that the way forward was to create a corporate portal through which individuals could navigate the myriad of intranets.

However, these national IT representatives were so energized as a result of these discussions that many of them set about designing their very own 'corporate' portal! Within 10 days the Bank was the 'proud owner' of 6 or 7 'corporate' portals, each with its own characteristics and idiosyncrasies – and there were more on the way! In other words, the bank's KMS turned out to be many KMSs and the original objective of presenting a

common client interface was lost. Additionally, while making available a considerable quantity of apparently useable and useful data, few of the bank's employees found their KMS to be particularly useful in their dealings with clients – or anything else for that matter! In one department in one country – and this appeared to be the most established of the intranets - the best that anyone could come up with when asked how the KMS was being used, was "to look up the company bus timetable"!

A key problem in this case was that the vision of a 'global' bank was in stark contrast to the existing culture and structure of the bank. The bank had grown largely through acquisition and merger, and each of these acquired banks had been left very much to operate using their home-grown procedures, offering the particular services they had historically provided. There had been no attempt to standardize, and indeed the culture of decentralization was built into the distribution of resources and the performance management measures used. Thus, when the pilot intranet project was started, each nationally located bank and department recognized the potential usefulness of this technology for improving its own internal efficiencies. However, there was no reason for each to consider the potential of the technology for communicating and sharing information and knowledge across the existing internal boundaries since there was no real incentive for them to do so. Thus, while all were aware of the stated vision, and indeed during interviews related their own intranet initiatives to this globalizing vision, each unit was most concerned with using its own resources for establishing internal efficiencies. Collaborating with other units would take time and resources away from this focus, at least in the short-term. The result was that a strategy aimed at coordinating knowledge and information across the bank actually resulted in a great deal of reinvention as each unit developed its own applications for sharing across its own uniquely developed intranet. There were examples given during interviews of how significant sums of money (e.g., \$500,000) had been spent on developing intranet applications for knowledge sharing in one department - only for those involved to find later that similar sums had been spent by other units in developing very similar if not identical applications elsewhere.

Case 2: The Airline

The issue confronting this airline was that many of its central departments were housed in different buildings with consequent inefficiencies and complex communications. A new headquarters was therefore planned, presenting an opportunity to upgrade systems and communications, utilizing the very best in modern ICT, and to house the c.3000 employees involved. A project team was set up, with representatives from each of the departments affected by the proposed office move.

The chair of the project team reported to a steering committee comprising senior executives and chaired by a Main Board member. The initial major objective was for the move – a \$320m investment – to reap annual savings of at least \$25m through streamlined procedures, reduced paper usage and reductions in headcount. The project was quickly perceived (by both the steering committee and the project team members) as representing an opportunity not only to save money but to improve communications across departmental boundaries and to enable creative, innovative thinking to take place. And yes, savings have been achieved with, for example, 89 tons of paper having been saved in the first five months of operation in the new building.

Primarily a partnership between those responsible for office design, and the IT and Human Resource Management departments, the project's scope soon expanded to include new ways of working, streamlined procedures and extensive training programs for *all* involved in the move – including the CEO. Everyone was expected to participate and ideas about potential innovations were actively sought after: the very process of preparing for the move set the tone for the new working environment with knowledge sharing and knowledge *creation* being both encouraged and rewarded. Those involved recognized the potentially disruptive and unsettling experience of a major office move. This would be especially so when combined with new procedures, new technology and systems, and downsizing. They also realized, however, that such change could be perceived in a much more positive light were the approach to be inclusive and participative, with excitement being generated about the new opportunities available in the new working environment. The fact that the media also took considerable interest in the project added to the sense of excitement being generated by the move. Communication was seen to be key throughout and this was achieved through face-to-face briefings, discussion groups, training programs, videos, newsletters and the like.

The new headquarters was designed to allow for informal *ad hoc* meetings to take place in, for example, coffee bars located either side of the main thoroughfare. Individual offices and meeting rooms are few and far between (even the CEO does not have his own office), with 'hot desking' being the norm, and mobile cell-phones being used to ease mobility and communication. The intranet is used extensively, for example, for booking travel (and for claiming the related travel expenses!), for gleaning information on both corporate and individual customers - either in response to enquiries or proactively for direct marketing purposes, and for communicating with company offices and major client organizations world-wide in addition.

It is too early to judge the longer term benefits (and disbenefits) of the move which has not been without its teething problems of course. For example, humans are only human and tend to enjoy their home comforts: the hot desking concept has not been entirely successful with individuals deliberately leaving their belongings behind on 'their' desk in an attempt to reserve their own space. In addition, others have been somewhat unsettled by the lack of a 'home' given their need to 'belong', while the continuing need to drive down costs even further has raised tensions. From the systems perspective, it is clear that further modifications to user interfaces may be required since infrequent use leads to forgetfulness, which in turn has a tendency to raise frustrations about 'the technology'. Further, the initial euphoria attaching to the move to the new building which, as already indicated, attracted considerable media interest and critical acclaim, has died down considerably over time. Notwithstanding, however, many of the sought-after benefits have been achieved and communication appears to be more open and streamlined, with informality having been retained despite the new formal procedures. Morale remains high despite the company's somewhat disappointing financial results and the continuing intense competition it faces.

Reflections: Key Issues

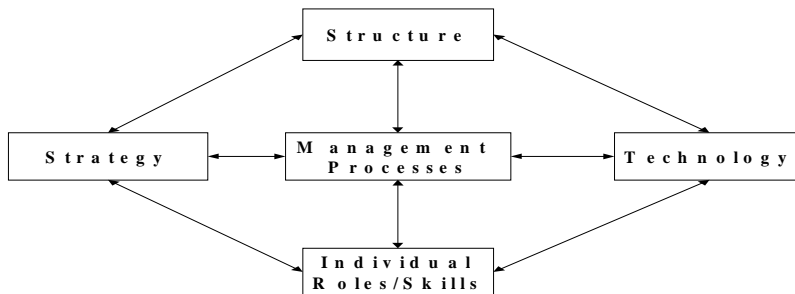
The two cases are clearly rather different. For example, the bank's vision was to implement an intranet on a geographically dispersed, world-wide basis. The focus of the airline was primarily on improved communication and knowledge sharing within its new headquarters. Having said that, both organizations were attempting to use e-commerce to transform intra-organizational relations, in particular by encouraging greater co-ordination and collaboration across departments and business units. In both cases, top management were committed to change and saw each project as being strategically important from the point of view of the business. While both change projects were to be enabled by ICT, both were essentially 'business-driven'. In the case of the bank, however, it would seem that the project was initially conceived, and remained, one of *superimposing* an ICT on to an existing organizational structure, with little in the way of changed work practices. For example, departmental boundaries and authority remained untouched, with each department remaining responsible for its own "slice of the action". An ICT-based KMS was perceived to be the answer, with it being 'parachuted' on top of the existing organization.

Making apparently useful data available for everyone would lead to the common client interface that was considered essential to retain key customers. For the airline, what was initially an office move, conceived for the purposes of cost reduction and greater efficiency, soon became an opportunity radically to streamline office procedures, reduce paperwork and to improve communication – both internally and externally. What *emerged* was what we might view as a socio-technical design for the new building *and the people in it*. Perhaps the irony in this comparison is that while the bank actively sought improved customer relationship management and internal communication, the airline achieved it without planning to do so. We might characterize the bank’s approach as a case of ‘top-down’, business-driven planning, while the airline’s management gave their project team broad guidelines (and tough financial targets), but the freedom to be creative and the ability to allow ideas to *emerge* from knowledge sharing.

It has often been said that it is easier to effect change when there is a sense of crisis. Paradoxically, however, it was the bank that saw itself as facing a crisis, while the

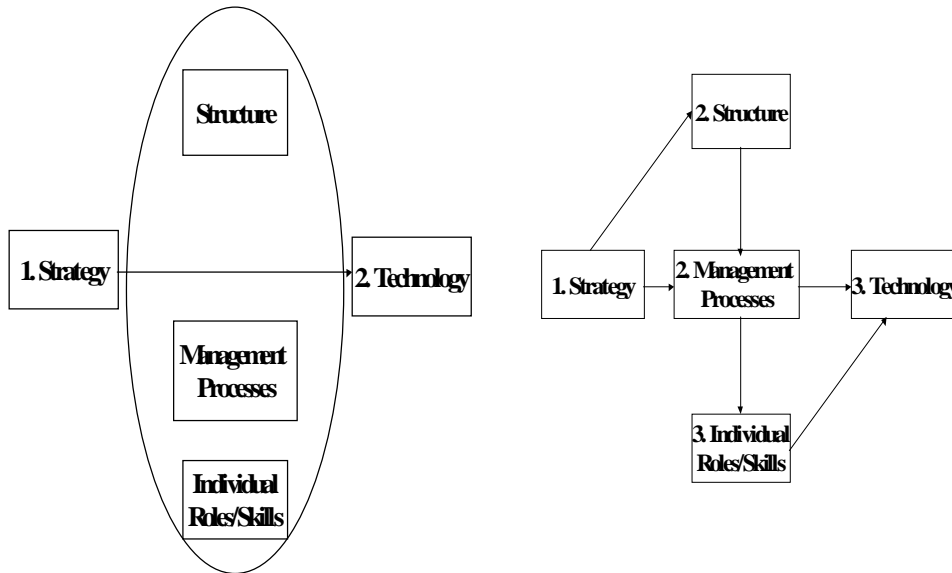
airline simply wanted to become more competitive by being more efficient – it saw the issue as one of competing in what is a cut-throat industry. In addition, it is clear that while the bank expected that the mere provision of a KMS would lead to the improvements they sought, the airline took considerable steps to inform, motivate and energize those concerned, both before the move and afterwards.

Utilizing the MIT “Management in the 1990s” model (Scott Morton, 1991), we can map the alternative approaches adopted by the two case companies. Figure 1 illustrates the MIT model in outline, while Figure 2 provides a comparison of the paths followed by the bank and the airline. Essentially, the original model attempted to illustrate the nature of strategic change and fit. It emphasized that (after Leavitt, 1965) a change in any of the five elements will have an impact on the other four elements, and that there is more to the management of change than the early advocates of Business Process Reengineering would have had us believe, given their emphasis on process innovation on the back of ICT alone. (e.g., Davenport, 1993)



Source: Sauer, Yetton & Associates, 1997; 281; adapted from Scott Morton, 1991; 20.

Figure 1. The MIT Model of Strategic Change and Fit



Source: Amended from Sauer, Yetton & Associates, 1997; 284-287

Figure 2. The two approaches compared

While Figure 1 might be seen as an idealized version of an holistic approach to organizational change and fit, Figure 2 represents the stark reality of the approaches adopted in the two case companies. Essentially the bank’s approach was little more than identifying a technological solution to a perceived business problem. The existing organizational structure remained in place; no attempt was made to alter the major business processes, and no attention was paid to any implied role/skill changes. The airline, on the other hand, initially converted their strategy into required changes in structure and business processes but then saw both the opportunities afforded by ICT (in this case an intranet/KMS) and the pressing need to develop new roles and skills. What is more, and this is not adequately illustrated by the MIT model, the *process* by which they went about the change project was key, with participation and inclusiveness being the watchwords. While both initiatives, in a sense at least, were backed by senior management, there were crucial differences. The bank’s senior executives had the *vision* of a globally-networked organization but they lacked any real sense of what this might mean in practice or how to implement their vision. Given this, the technological

‘solution’ proposed by the IT representatives was grasped enthusiastically. Conversely, the airline’s top management recognized that their leadership and involvement was key throughout what was essentially a business transformation project.

Conclusions and Future Research

In many ways, the message from this comparison is not new – i.e. that we should not expect business improvements to come from ICT alone but that we should see such change projects as being essentially about human beings, about social systems ... albeit with a technological component. After all, this has been the mantra of the socio-technical school for the past 50 years and more. Having said that, the fact that we can observe such differing experiences in implementing change on the back of ICT at the beginning of the 21st century suggests that much has still to be learned in this respect. This is perhaps particularly true now, given that such flexible ICT as intranet technology is both commonplace and accessible, and its promise is well known amongst even the most troglodyte of business executives. In selling

solutions as the IT industry is prone to do, it is not unreasonable to expect that executives might be lulled into a false sense of security when investing in those solutions. We have seen here that a business-driven, top-down approach, even with top management commitment, may well be necessary but not sufficient to effect change that brings about business benefits. We have also seen that a broader conception of an IS change project (taking into account people and their modes of working and communicating) seems more likely to bring about beneficial results – even unexpected ones. Creating the conditions for emergence and serendipity appears to hold considerable promise in this context.

More specifically, on-going research in the two case study companies is taking place with a view to ascertaining more clearly the repercussions of the two initiatives, over time, both in terms of intended and unintended effects. We cannot assume that the only outcomes in the case of the bank are entirely negative, nor that in the case of the airline, they are entirely positive. Pennings (1998) has highlighted the lagged effects of ICT investments and Pettigrew (1990) counsels longitudinal research in the context of change projects.

There is some additional learning that might potentially be gleaned from this comparison in addition – learning that is very much in line with the broader conception of e-commerce described in the Call for Papers for this Mini Track. The lack of a cumulative tradition in IS has been highlighted and criticized for some time (e.g. Keen, 1980). More recently, in a similar vein, one of the authors of this paper has expressed his concern regarding our propensity in the IS field to study emerging phenomena in isolation, highlighting the case of KMS and electronic commerce at this point in the development of our subject area (Galliers, 1999). It would seem, certainly at face value, that the experience of the airline would lend some weight to further research in which electronic commerce and KMS are considered as related phenomena in the context of organizational change of the kind reported on here.

References

- Alavi, M & Leidner, D E (1999). Knowledge Management Systems: Issues, Challenges, and Benefits. *Communications of the Association for Information Systems*, 1(7), February. <http://cais.isworld.org/articles/1-7/article.htm>
- Bjerknes, G, Ehn, P & Kyng, M (Eds.) (1987). *Computers and Democracy: A Scandinavian Challenge*. Aldershot, UK: Avebury.
- Bostrom, R P & Heinen, J S (1977a). MIS Problems and Failures: A Socio-Technical Perspective, Part 1: The Causes. *MIS Quarterly*, 1(3), September.
- Bostrom, R P & Heinen, J S (1977b). MIS Problems and Failures: A Socio-Technical Perspective, Part 2: The Application of Socio-Technical Theory. *MIS Quarterly*, 1(4), December.
- Checkland, P B (1981). *Systems Thinking. Systems Practice*. Chichester, UK: Wiley
- Coakes, E, Willis, D & Lloyd-Jones, R (Eds.) (2000). *The New Socio-Tech: Graffiti on the Long Wall*. London: Springer-Verlag.
- Davenport, T H (1993). *Process Innovation. Reengineering Work through Information Technology*. Boston, MA: Harvard Business School Press.
- Galliers, R D (1999). Towards the integration of e-business, knowledge management and policy considerations within an Information Systems Strategy framework. *Journal of Strategic Information Systems*, 8(3), September, 229-234.
- Keen, P G W (1980). MIS research: reference disciplines and a cumulative tradition, *Proceedings: 1st International Conference on Information Systems*, Philadelphia, PA, December, 9-18.
- Leavitt, H J (1965). Applying Organizational Change in Industry: Structural, Technological and Humanistic Approaches. In J G March (Ed.), *Handbook of Organizations*. Stokie, IL: Rand McNally.
- Martin, J (1982). *Strategic Data Planning Methodologies*, Englewood Cliffs, NJ: Prentice-Hall.
- Mumford, E (1983). *Designing Human Systems: The ETHICS Approach*, Manchester, UK: Manchester Business School.
- Mumford, E (1987). Sociotechnical Systems Design: Evolving Theory and Practice. In Bjerknes, *et al.* (Eds.), *op cit.*, 59-76.
- Pennings, J (1998). Innovations as Precursors of Organizational Performance. In R D Galliers & W R J Baets (Eds.). *Information Technology and Organizational Transformation: Innovation for the 21st Century Organization*. Chichester, UK: Wiley, 153-178.
- Pettigrew, A M (1990). Longitudinal Field Research on Change: Theory and Practice. *Organization Science*, 1(3), 267-292.
- Sauer, C, Yetton, P W & Associates (1997). *Steps to the Future. Fresh Thinking on the Management of IT-Based Organizational Transformation*. San Francisco, CA: Jossey-Bass.
- Scott Morton, M S (Ed.) (1991). *The Corporation of the 1990s: Information Technology and Organizational Transformation*. New York: Oxford University Press.
- Yetton, P W, Johnston, K D & Craig, J F (1994). Computer-Aided Architecture: A Case Study of IT and Strategic Change. *Sloan Management Review*, 35(4), 57-67.