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User Involvement in Organisational Decision Making

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Type of Article: Theoretical, with Case Studies

This article will make critical comment on the role of expert consultants and the contribution of communication in organisational decision-making, through reference to theory and case studies. The 3 case studies analyse factors in decision making processes at different stages and relating to different aspects of facilities management, including re-planning, relocation and development in IT use. Although there are clear differences in the organisations and the foci of the projects, the issues of expert intervention and the nature of communication cross cut the different cases.

The analysis relates to the nature and outcomes of expert interventions in organisational change, in which the expectation was that the expert would assess the situation and deliver appropriate solutions for internal implementation. This shifts responsibility on to the external expert who is cast as 'hero' (Kanter, 1989), but has the impact of not only removing responsibility, but also power, from the domain of the end user, who is seen as passive implementer of expert solutions.

Through reflection on 3 iterations of expert intervention, the basic model of power/knowledge/communications is criticised and developed in such a way as to redistribute responsibilities and power, and hence to encourage knowledge-focused communication. The emergent model is not one which will be comfortably accepted by all the parties, since it challenges the mystique of the expert as provider of knowledge inputs, the role of the manager as holder of power, and the user as being devoid of responsibility.

1.0 Introduction

This article challenges the practice-based concepts of change in the business (Kanter, 1989) and physical (Vischer, 1996) environments within organisations, which are considered to take an approach based upon the power of 'expert systems', in that solutions to organisational problems are developed within the mind of the expert or external consultant, commissioned by the internal manager, and passively implemented by the internal users. The popular models of change agents promoted within this literature see the role (internal or external) as one which is 'heroic' (Kanter, 1989), focused on deciding and acting, and pushing forward the organisation and the people within it. (Clark and Salaman, 1996; Beech, 1998a)

The hero is expert and leader, and the appropriate action of others is to give the hero what they need in the way of resources and information, and then to allow them to carry out the work they have been hired to do. Ultimately, the followers may decide not to adopt the outcomes of the change agent's work, but there are strong cultural barriers to questioning it and usurping it while it is in progression. By nature, this relationship entails deferral to the change agent, and it is justified by their special skills and expertise which are purchased (and therefore valued) by the organisation.

In the 'expert-systems' model, the key knowledge drivers of change to the business processes and environment are seen to be primarily external to the organisation, and to be based upon generic models developed by the experts, derived from their cumulative knowledge and experience in organisational interventions. Managers within the organisational setting may be key power drivers of

change, but they are seen to be dependent upon commissioned external expertise for provision of solutions to internal problems. The development of the expert solutions is based upon a sequential, 2-way flow of communications. Information flows firstly from the user through the manager to the expert. The data is assimilated and analysed by the expert. The solution to the problem is developed by the expert, and information on implementation flows back through the system to the operational delivery systems of the user. [Figure 1]

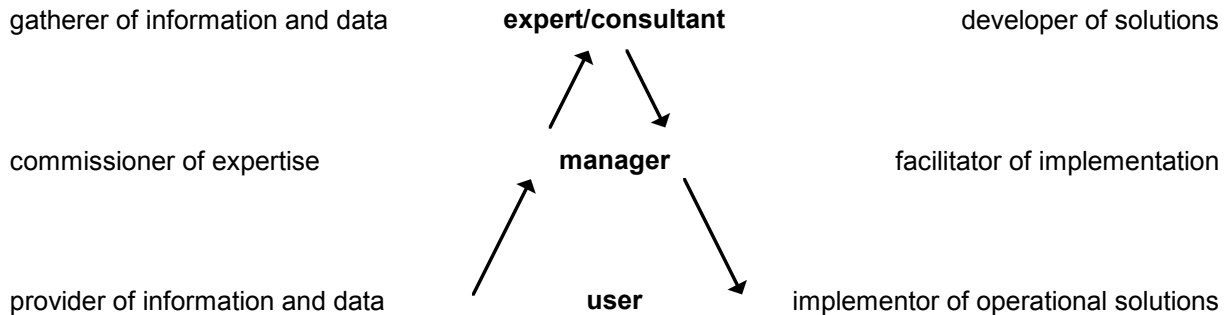


Figure 1 - knowledge/power/communications relationships in 'expert systems' model.

Within the practitioner model of organisational change, it is necessary to consider each of the elements; knowledge, power and communications; separately. The change process will frequently involve the user explicitly in the communication cycle, and will acknowledge the user as the source of information and data. Much of the practitioner literature, however, might be held to imply, by omission of any critical discussion of hierarchies of knowledge and power, that user involvement in the communication process is, in itself, indicative of user influence and power over the decision making process. The writers would argue that it is in the transformation of information to knowledge, and in the location of power with regard to ultimate decision making, that real influence is found. In addition to the lack of explicit discussion of the control of power and knowledge, the practitioner literature on change frequently dwells upon the positive outcomes, rather than promoting critical discussion on the mismatch of beliefs, perception and reality.

H1. - The 'expert-systems' model, which separates the bases of power and knowledge and assigns them hierarchically, places primary emphasis upon linear communication as the key to successful change implementation. Communication is not problematized and it is assumed that information can flow in a transparent way.

2.0 Theory and Literature

2.1 Decisions and the Physical Environment

The decisions discussed in the case studies presented in this paper relate primarily to changes to the physical environment and IT within organisations. The expert-driven and heroic approach to decision making in the design of the physical workplace environment can be seen in the works of many key writers on change in the facilities arena. Whilst supporting the view that "the 'good' building is defined by how well it works in use from an operational viewpoint", Franklin Becker (1990, p178) provides reference to a model of decision making (ibid., p126) which is supportive of a hierarchy of influence; key strategic decisions on location resting at the 'executive' level, whilst the 'staff' have access only to the later, detailed and operational levels of decision making. This contrasts with the creative, some would say 'dangerous', model of involvement of all staff in ratifying and closing down the strategic decision on location, which is promoted and implemented by Semler (1993).

The model shown in Figure 1 is supported by writers such as Vischer (1996, p203), who see the users' input to design decision making arising from the experts "asking occupants for their input, acknowledging that input, managing it according to the resources and opportunities available, and

then using that input and letting people know it has been used.” There is no indication that the users will provide expertise in generation of solutions, only that they will provide data and information input to the experts’ creative process, and be invited to comment upon the expert-generated solutions.

The theoretical, expert-driven approach to facilities design exemplified by Vischer is illustrated in examples from practice (Duffy, 1997, pp163-165), whereby key decisions about provision of a sealed, air-conditioned building and on lighting levels to employee workspace were taken at management/consultant level, with the result that there has been “some criticism since the building’s occupation.” Despite staff reservations about some aspects of the completed workplace, the management and consultant accounts of the process take on the heroic aspect, in formulating the opinion that “the consultation process appears to have produced the desired results.” Discussion of a degree of user dissatisfaction with the internal environment is countered with the view that “you can never please everyone - if we had opening windows, people would disagree about whether they should be open or shut.” The agenda here is that the managers and experts pre-suppose a certain type of communication from the users, and exert legitimate and expert power in application of a solution which removes them from the decision making process on use.

The ‘expert systems’ illustrated above are, at best, exemplified by the model in Figure 1 and, at worst, by Zeisel’s (1981, p35) ‘User-Needs Gap’ model, in which the expert (designer) and the manager (paying client) hold open communication, but in a climate in which the user is excluded from the communication process and “has no choice and no control.” The expert and the manager communicate freely, in the belief that (Cairns, 1996, p137):-

user needs are met by the majority of design briefs (programs) and are fulfilled in the completed projects, even where there is little or no user involvement in the development of the brief and where there is little consultation with the users on the success, or otherwise, of the project on completion.

The writers propose that, regardless of the inclusive or exclusive nature of the communication system of a project, the expert-systems model promotes exclusion of users from the decision making process. This, despite the fact that “not to know what people are using the building for, not to understand how well they feel it supports their needs may be the start of making the wrong decision.” (Eley and Marmot, 1995, p38)

H2. - Communications are frequently limited, either intentionally or unconsciously, to mitigate against effective user input to the decision making process.

2.2 Power and Culture

There are different ways of conceiving power which can impact on the roles and relations of the actors involved in consultancy change interventions. Most practice and practitioner writing on change is derived from a systems theory perspective. In this perspective, power is conceived as destructive, constraining and dysfunctional (Morgan, 1986; Brown, 1992). Systems theory assumes that organisations are based on inputs, processes and outputs. With regard to consultancy, inputs and processes are what is supplied by the expert, and the outputs are those required by the brief, and approximated by the consultant. There are, however, alternative theoretical constructs on power which can be brought to bear on an analysis of the consultancy process.

French and Raven (1959) argued that there are five sources of power:-

- legitimate power, which derives from occupying a recognised position
- reward power and coercive power, which derive from the ability to control rewards and punishments
- referent power, which derives from the desire of others to emulate or join the group of the powerful actor
- expert power, which derives from specialist knowledge or ability which is in restricted supply

Similarly, Mechanic (1962) argues that people have power to the extent that they control access to information others desire, people who can get things done, and instrumentalities, or the things people

want. The crucial thing about these theories is that they characterise power as relational. One person has power over another, to the extent that they both perceive that the relationship between them is characterised by one of the bases of power.

This relational understanding of power has been developed further in the postmodern rejection of systems theory. (Derrida, 1973) This argues that the idea of social institutions and interactions as systems is a metaphor imposed by the observer, not a matter of fact in the interactions themselves. Interactions and institutions are regarded as the interplay of various actors' efforts to define and make sense of the complexity they perceive. In order to make sense of perceptual phenomena, labels are attributed to things (ranging from physical objects to expert opinions expressed in jargon) and, in so doing, we are giving the thing identity and classifying it. This entails placing it in a relative structure, or hierarchy, in which things have relative value and levels of importance (Beech, 1998b). This process is inevitable given that information is never raw, but always processed, that our perceptions are partial and selective (Hanson, 1981), and that we are more likely to perceive and remember phenomena which fit with, or contradict, our current cognitive frameworks.

An example of the above can be seen in the way in which the language of accountancy has come to dominate managerial discourse. Control over the limited supply of knowledge of the specialist language and processes empowers some and depowers many. Expertise is powerful in creating and establishing the use of 'discursive resources' (Watson, 1995) which are ways of categorising people, objects and events. The discursive resources operate in a discourse which carries with it presumed roles and statuses for the participants. So, particular behaviours are reinforced on the part of experts, managers and users.

Even in client-centred consultancy (Cockman, Evans and Reynolds, 1992) the laudable aims of "starting where the clients are" and "helping clients gain commitment to the plan of action" (p5) miss out the issue of power embedded into the language, position and function of the various parties. Therefore, there is a need to analyse and use the various bases and processes of power, such as agenda setting, translation and attribution of value (and reward), and the adoption of monitoring and evaluating roles in an overt (that is, pseudo-contractual) way.

H3. - Power can be ascribed either a controlling or an enabling role in the decision making process. In either case, its role supersedes that of communication and can result in divergent interpretations and understandings.

3.0 Methodology

In support of the hypothesis that communication, knowledge and power are independent variables within the change management process, and that practitioner concentration upon the first detracts from understanding of the key contribution of the other two, the writers draw upon case study investigation within 3 organisations. Each has been the subject of multi-attribute investigation by members of the research group, at different chronological times, and at different stages of development and implementation of change processes by the management team.

Investigation of each organisation has been conducted by means of at least 3 of the following techniques:-

- questionnaires - by which data and information has been derived from a large sample of the organisation, but with limited opportunity for analysis of the underlying reasons for the outcomes
- focus groups - in which representative groups have been given the opportunity for raising, discussing and analysing information and perceptions in relation to the change process
- interviews - in which the motivations, perceptions, feelings etc. of key members of the change teams have been discussed and analysed on a one-to-one basis
- observation - by which the researchers have been able to gather direct experience of the environmental and behavioural responses of the organisation members to the change process

By adopting such a multi-attribute approach to the research, the writers have been able to identify and confirm areas of congruence between the expert, managerial and user perceptions. More importantly, they have been able to identify and investigate the areas of divergence between the different groups

and, in particular, to focus upon these areas where, despite the best of intentions of management to achieve open and effective communications, the result has been to promote or reinforce the 'them and us' perception of users.

4.0 Case Studies and Findings

The following case studies, for 3 major UK organisations, are presented in chronological order of implementation of change projects. Whilst the industries from which they are drawn differ substantially, as do the project aims, objectives and implementation strategies, they have a common theme of management commitment to involvement of users in the change process from an early stage. Each of them involves different degrees of 'expert' intervention in the change process, at different stages. It is from comparative analysis of the extent and timing of the interventions that conclusions are drawn.

4.1 National Savings 'Model Office'

National Savings is the UK government agency which supports government borrowing through issue of bonds, and through individual savings. A change management project at National Savings' Blackpool site culminated in development of the 'Model Office' concept (Cairns, 1995; Jordinson and Cairns, 1995), as an all-embracing, user-focused and empowering change process. Model Office was, however, preceded by two independent change projects relating to re-design of the physical and the social business environments. These projects both failed to achieve employee commitment to the change process, despite management intentions to support positive culture change at all levels of the organisation. Both of the earlier projects had, however, been management driven, and 'expert' designed.

One of these projects; for re-planning of the physical environment; had been implemented by external space planning consultants, and was based upon extensive communication and consultation within the organisation. The project entailed alterations to the layout of desks, chairs, storage and other aspects of the physical work environment, in order to rectify unplanned growth and resultant overcrowding in some areas, whilst other areas were almost devoid of occupants. Due to the limitations of time and budget, and the size of the organisation, these consultations had, however, been conducted with senior and middle management staff members only. Planning was carried out at a detailed level and, in order to minimise disruption to the work processes, the layouts were altered over a single weekend. On arrival at work on the Monday morning, staff were met by guides who were able to direct them to their new workstation, where their computers, paperwork and personal belongings were laid out ready for an immediate start. On evaluation of the new layout, several weeks after the change process, it was found that the users, far from being delighted by the careful planning and egalitarian decision making, were alienated and demotivated by it. Despite the genuine and explicit determination of the management and consultancy teams to address user requirements during the design process, the feedback following implementation of the space planning solution was that:-

the ideals of equality of space allocation, reduction in visual supervision and empowerment of the workforce were not seen as being manifested in the workplace. The grades of staff who, over a long period of time, had become accustomed to management by direction, supervision by watching and communication by telling, were sceptical of the motives of change. Since they had not been involved in the design of the change they viewed it as being implemented by management in support of an management agenda of which they were, as yet, unaware. (ibid., p169)

In support of Herzberg's (1966) model of environmental analysis, the physical environment was seen as being a 'hygiene factor', rather than a promoter of respect for the contribution of the individual.

A similar outcome, of employee scepticism and inertia, had resulted from the business change process; the Customer Service programme, initiated in 1993. Again, the 'top-down' approach to design of change, whilst initially greeted with enthusiasm by the workforce, achieved only limited success over a very short timescale. Following reversion to the norm, in which managers managed and clerical staff completed the work, there was a realisation that:-

the programme had not addressed the basic bureaucratic and hierarchical culture of the organisation and, in consequence, nothing changed. What was needed was something that challenged the culture of the organisation head on, and involved everyone in the process. (Jordinson and Cairns, 1995, p169)

The Model Office concept adopted a radical approach to the devolution of power and to the recognition of knowledge at the level of the user, based upon involvement of the users in real decision making. The approach was not, however, based upon anarchy. Rather than the users providing the information inputs for 'expert' decision making, the 'experts' provided the information on options, in order that the users could develop their own knowledge base, and make their own decisions on operational management of both the business and physical environments. In this case, "the key comparison is not one of 'expert solutions versus non-expert solutions' but one of 'imposed solutions versus negotiated solutions'." (ibid., p174) [Figure 2]

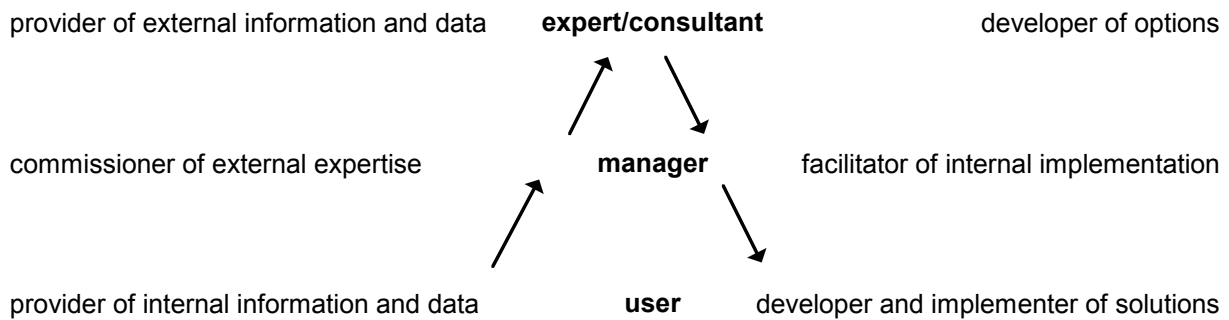


Figure 2 - knowledge/power/communications relationships in 'negotiated solutions' model.

4.2 Reuters

This case, which was researched in 1996-97, concerns the establishment of an internal consultancy / change agent role within Reuters. Reuters is the world's largest news agency providing information in a range of media to 42 000 customer locations in over 154 countries and have 327,100 user access points. It is market leader in supplying financial data to dealers in all the main financial centres across the world; which includes pricing and market information, and economic and investment reports. The information needs to be accurate, up-to-the-minute and accessible to finance experts. Reuters supply terminals and software, with the software and data provision being designed by experts, and the information being gathered by journalists. Both experts and journalists are based around the world.

In 1993 the Usability Group was established to act as an internal change agent, involved in improving the Reuters information products from the viewpoint of the end-users. Their aims were to minimise user learning time on new products, achieve product compatibility so that new tools would fit into the existing environment, establish a Reuters brand image and provide customised solutions for users. In order to achieve these goals they established 'customer-centred design' (CCD), which reflected the company culture: "Our company culture demands two key things from us: to be close to the customer, and to be open and accountable." (Reuters, 1995)

As new and modified products and services are being designed they are subject to 'expert review' in which specialists, for example in interface design, identify problems. The essential part of what the group do is 'usability testing'. This seeks to get the users involved in the process in a way which will get them listened to by the experts. Users are selected from a range of ability and use-levels to reflect the market. They use the product in the usability laboratory which contains computer terminals in an observation room. Experts from the Usability Group video and observe the test from an adjoining room as the customer uses the product. The observers include ergonomics experts, software designers, interface designers and cognitive psychologists. They record verbal comments on the video track as it is recording the reactions of the user. In addition to the computer-based session the

users provide qualitative and quantitative information from questionnaires and interviews with members of the Usability Group.

The data gathered in these ways are used to interact with specialist designers around the world. The user interface is examined and the cognitive psychologist analyses the mental models at play in the problem. The results are transmitted to the designers in written reports, but also via video-conferencing. This was seen as the most significant factor, in that:-

there is something psychological about a developer sitting in a cubicle in New York watching a customer in London using their product. When they see it in real time they are less biased. At first they can't believe what the customer is doing with their product, they can't believe how long it is taking. But when the second customer and the third have the same problems, they start to recognise the fact that the customer has a difficulty. This is the psychological breakthrough in getting buy-in for change. (the manager of the Usability Group)

The success of the process lies in getting the experts to challenge their own belief structure, which is based on maximising performance. They believe in getting the best out of the technology, and their work is typically their hobby. For the user, however, the technology is merely a tool; a means to ends which they value highly. The designers had high degrees of power, controlling what was produced, and the criteria that were used to judge it. The Usability Group has enabled a change in the criteria, through recognition that the customers do not have the expertise (or the interest) to understand the technological criteria. Previously, the problems were seen as being 'owned' by the users. Designers argued that once the users had learned how to use the products properly they would see the advantages. The presentation of data first hand was seeking to transfer ownership of the problem to the experts. The concept was that it was not the users having to learn enough to be able to understand what the designers thought was good for them, but the other way round; that designers should be concerned to understand the problems they have caused for users and adapt as a result. This entails a transfer of power, but this alone is necessary but not sufficient. The role of the Usability Group as a mediator and controller was vital in making the transfer of understanding happen, and without the strong backing of the organisational hierarchy (i.e. the granting of legitimate power to the Usability Group) the designers would not have had any interest in changing. In fact, they would have had vested interests in not changing, because they were valued for pushing the boundaries of the technology, and only they knew what was possible. But with the change in power balance, what was usable became more important than what was merely possible. The roles taken, and the focus on enabled communication is represented in figure 3.

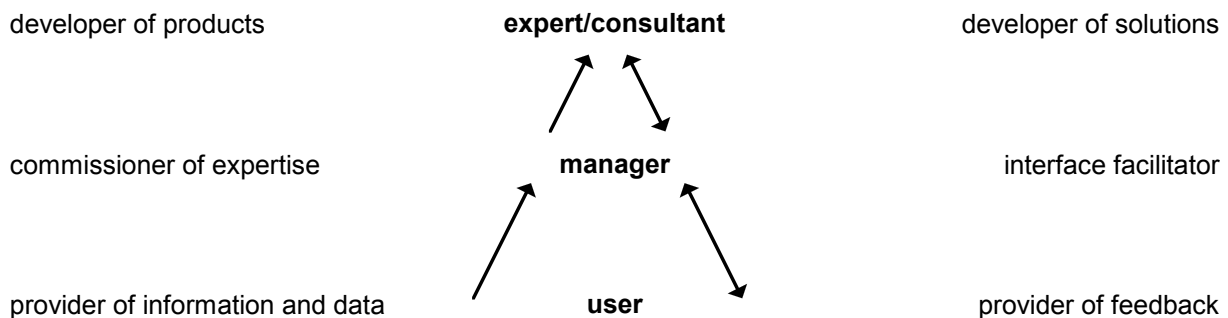


Figure 3 - knowledge/power/communications relationships in 'customer-centred design' model.

4.3 British Airways

British Airways, as one of the world's major airlines, handles enquiries and sales from the travel trade, and from corporate and individual customers, through its Telephone Sales operation. The Manchester business unit of BA Telesales currently occupies 3 floors of a 1970's office building, the lease on which expires in 2000. The building is now viewed as being inappropriate for the business; with

limited IT capability; and for the users; with very poor environmental systems and high levels of reported sickness amongst staff.

Investigation of options for relocation of the unit was initiated through development of a corporate- and property-driven Business Case, and an operational- and user-driven Workplace Vision, each of which was facilitated by different members of an external consultancy team. On completion of these exercises, it became apparent that there was a mismatch of perceptions of the key operational needs between the business unit and the corporate property department. Investigation of the causes of this conflict led to understanding of how the previous experience which was being applied at corporate level, in re-defining the Manchester need in terms of current BA best practice, failed to take account of a transfer of business from Manchester to other Telesales centres in Newcastle and Glasgow. As a result of this transfer, the Manchester unit now deals with a different set of customers, and delivers a different set of products and services from the other centres, on which the model for defining spatial need and characteristics was to be based.

In addition to the internal perceptual mismatch which was identified within BA, the consultant team themselves identified a mismatch between their initial understanding of the organisation and the reality of user perceptions. In seeking as many inputs as possible to the initial information and data gathering exercise, in order to avoid the problem of limited consultation as seen in the National Savings case, the team issued a questionnaire, which sought views on levels of importance and of current satisfaction in relation to a wide variety of issues. These included location and access, external shopping and recreation facilities, internal environment and support facilities, layout and design of the individual workplace, and support for the individual and the team through communication, training etc. From issue of questionnaires to 105 of the 210 employees, 70 valid responses were returned. Analysis of the responses indicated general consensus on a number of key issues, of which two were indicative of high levels of importance and low levels of current satisfaction; with levels of parking provision, and with chair comfort and design.

In order to validate the responses to the questionnaires, and to seek further clarification of the underlying causes, a series of 4 focus groups were held, involving 20 staff from across the organisation. Whilst the focus groups confirmed much of the questionnaire analysis, the two items highlighted above were both subject to reinterpretation within the focus groups. It became apparent that the issue relating to car parking was not one of quantity, but of cost and location and, most importantly, of concern for personal safety of the primarily female workforce outside the building. The issue of chair design and comfort was found to relate, not to the quality of the chair itself, but to lack of adequate maintenance, with many examples of broken gas lifts, chair arms etc. By attempting to gather wide-ranging inputs to the process at the outset, using a carefully designed, but fairly generic, questionnaire, the consultants had failed to gather context-specific responses. Even the section which invited Any Additional Comment had failed to elicit the relevant responses.

With strong organisational commitment to user participation in the strategic briefing process, the consultants have developed a Statement of Requirements document, which combines the key elements, both negotiable and non-negotiable, of the corporate needs and the operational needs and aspirations. In order to develop this document, however, the consultants have had to accept that their own initial 'expert' input has been challenged and modified to provide context-specific knowledge. Additionally, the organisation has had to accept that the corporate strategic, and the operational business unit fields may have different interests and, also, different areas of expertise, both of which provide valid inputs to the overall programme. The model which might be applicable in this context is shown in Figure 4.

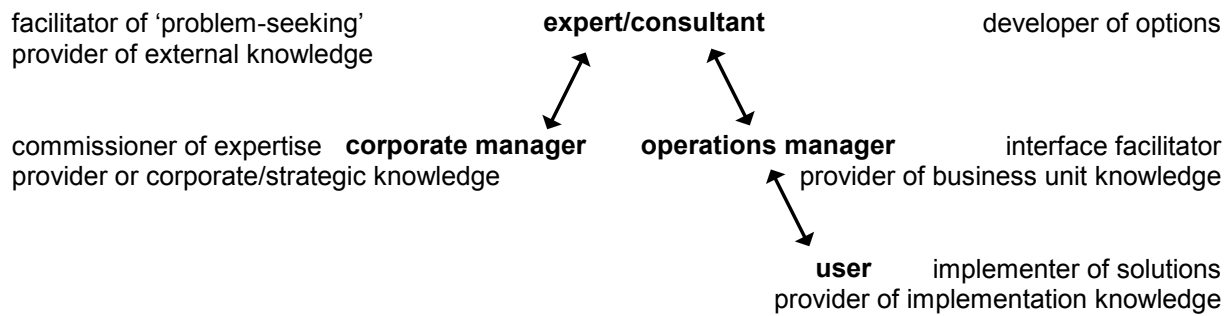


Figure 4 - knowledge/power/communications relationships in 'corporate, multiple-input' model.

If, however, the 'expert' input had not been provided, one might challenge, as with National Savings, whether the internal manager and user teams would be able to explore innovative and creative options, beyond the realm of their own experience to date. The model of knowledge and power relationships here is complex, but all aspects must be considered if the project is to meet the minimum non-negotiable requirements of all parties, and as many higher-level needs and aspirations as possible within the complex constraints which will apply.

4.4 General outcomes

In the first two cases cited above, success has been followed from enhanced user power. In National Savings, the users exerted power over changes to both the physical and business environments, in some cases implementing change which had previously been proposed by management and consultants, and rejected by the users as being 'inappropriate' to their own needs. In Reuters, the external experts attempted to exert intellectual power over the users, in order to promote change to their work processes in adapting to the new 'expert systems'. In this case, the managers exerted power over the experts in order to force reconsideration of the expert-driven solutions, to adapt them to meet the real needs of the users.

In the British Airways case, the external consultancy 'experts' themselves promoted and supported the power transfer to users, in seeking to maximise the range of knowledge inputs to the project inception phases, and to make explicit the aims and agendas of the different actors.

5.0 Learning Points

The natural and expected roles and responses to consultant-related change, in line with the practitioner literature, are that the real content of change is expert-initiated, manager-driven and user-accepted. Universal solutions are envisaged and, with slight modifications, applied to varying clients by consultancies, large and small. Typical user responses range from acceptance, through modification, to rejection. But all of these are essentially reactive.

What is needed, in contradiction to the 'natural', is users who have an input to designing the commission and brief, the contractual relationships and reward power. This replaces many of the traditional roles of the manager, who under the proposed model becomes a facilitator and balancer, in the mode of Reuters Usability Group. The role of expert/change agent is, therefore, transformed to provider of information and participant in, rather than detached leader of, the project. This has implications for the type of team roles adopted, which will be specified in the next section.

Transforming processes and relationships to this proposed state of affairs means altering mindsets and could entail a degree of conflict. Changing mindsets requires communicating, not just openly and clearly, but in the cognitive framework of the receivers. Hence, Reuters needed to present technical data and video evidence to persuade their designers that the problems were not just in the users, who would be OK once they had learnt the products. There was a problem with the 'learnability' of the products. It also means engaging with deep-level assumptions rather than surface messages (Schein, 1985; Hawkins, 1997). Typically this means allowing the target group to experience and work through

the problems directly rather than vicariously, or presenting them with ready-made solutions, as in the National Savings case.

In most cases, the various actors are mutually reliant and, typically, they try to disguise this from each other, because the threat of change can easily reduce trust, particularly where outsiders are involved. Each party has something important to contribute, but this needs to be overtly valued and accepted by the others involved.

The role of experts should be to provide theoretical and extra-dimensional expertise; to widen the users' perceptions beyond their experience, and to define the immediate limits of possibility and practicality. They should encourage divergent thinking. The users' role should be to provide operational, intra-dimensional expertise. They should leverage contractual power from the expert and legitimate power bases by setting up real or pseudo-contracts, with influence over reward power of the other two groups. The managers' role should be to provide strategic, intra-dimensional expertise, to facilitate the expert/user interface, and to act as the 'interpreter' between mindsets. They need to manage the power relationships of the experts/consultants and set up legitimate power for users, as a counterbalance to expert power.

H4. - Acknowledgement that knowledge and power are distributed, rather than concentrated, challenges the traditional roles of participants to decision making. It lessens the controlling influence of managers and experts, and prevents the user from considering themselves as being a passive implementer, without responsibility.

6.0 Conclusions and Areas for Further Research

The writers have proposed that the 'expert systems' model of project implementation, with its emphasis on communications as the key to successful implementation, is flawed in failing to address the significance of different power and knowledge bases. There is a necessity to make overt, and equalise, the relationships by specifying the different, but equally valued, power bases to be used by the actors in the project scenario. The proposed model [Figure 5] sees each of the participants as having expertise in their own area, whether that be as a user, a manager, or a consultant.

In light of the research and experience, a model is proposed which:-

1. formalises the points which led to success, through the equalisation of power.
2. goes a step further in linking rewards for experts to the perceptions of users.

The expert user drives the commission and has an input to rewards, occupying the roles of 'monitor-evaluator' and 'shaper' (Belbin, 1981). The expert manager becomes a facilitator and balancer of the process, using legitimate power and taking on the roles of 'chairman' (chairperson), 'completer-finisher' and 'teamworker'. The expert consultant then becomes a team member, occupying not only the roles of 'resource investigator' and 'plant', but also that of 'company worker'. Ideally however, if the collaboration works effectively, all members will start to take on aspects of all roles, in a mutually-adjusting way, dependent upon the particular tasks to be undertaken at specific stages of the project implementation. In this way, power is transferred, and it becomes in the interests of consultants to understand and collaborate with users.

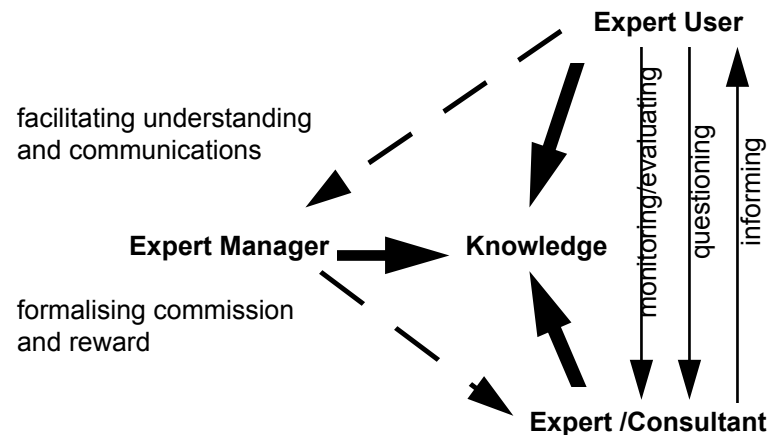


Figure 5 - knowledge/power/communications relationships in 'knowledge-focused model'

The formalisation of the power/knowledge relationships under such a regime requires modified mindsets and behavioural responses in the actors, in order that:-

1. user feedback is integrated into an iterative cycle of communication, and is transposed into 'feedforward', acting as a positive influence (could be negatively critical) on the design process, instead of informal feedback acting as a negative influence on perception of the design product
2. expert and consultant approaches to the initial stages of the design process are based upon 'problem-seeking' (Pena, Parshall and Kelly, 1987), rather than problem-solving or, at worst, post-rationalising a design process in support of a preconceived solution
3. manager intervention is directed towards intra-dimensional facilitation of extra-dimensional expertise, and towards formalisation of the cycles of commission and reward, through exercise of legitimate power over processes in which the users control reward and coercive power

In order to translate intent into reality, the investigation process must be structured around the application of multi-attribute investigation techniques, in which the initial stage is one of divergence and investigation, prior to that of convergence and confirmation. The primary danger of unchallenged application of the expert-systems model is that the initial stages of the process are not those of conscious investigation of user perceptions of a business problem, but of unconscious confirmation of expert preconception of a design problem. Similarly, subsequent stages are not those of conscious convergent problem-solving, but of unconscious imposition of preconceived solutions.

The writers suggest that further research is required in making critical comparison between the effectiveness and life-cycle of externally- and internally-derived change. Also, to determine whether internally-derived change can be made more effective by the input of external knowledge on options which lie beyond the internal knowledge base. Such research could explore the impact that status, restricted knowledge, and other forms of power have on communication, for example, by examining which actors are allowed to ask what questions, and by asking what assumptions remain 'unquestionable' in such situations. This would entail in-depth, observational research, and could relate to the interactionist methods of Goffman (1961)

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