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ABSTRACT

This paper is a conceptual, research-in-progress study of the nature and role of communication in IT implementation projects. The paper considers different approaches to the implementation of change and to communication, and argues that scant attention is given to the design of communication approaches and strategies suitable for IT projects and other change initiatives. Arguments are developed to suggest that the most frequently used approaches to both implementation and communication are the least likely to be perceived to be successful, and those approaches to implementation and communication associated with greater acceptance of change are less likely to be used. We then map different approaches to implementation against different approaches to communication and argue that designing participative approaches to both implementation and communication are likely to result in better outcomes. The resulting conceptual model of communication approaches is then discussed with reference to a planned action research study of an enterprise system (ES) implementation in a global manufacturing company.

Keywords

IT implementation projects, implementation approaches, communication approaches, insider action research

INTRODUCTION

Contemporary organisations often have to implement planned transformational or moderate changes as they respond to the dynamic and turbulent global business environments in which they now typically operate (Johansson & Heide 2008). Implementing appropriate information systems and technology (IS/IT) to drive and support these business change initiatives would be the norm in most organisations. Thus in referring to IT projects, one is more usually and correctly referring to business change projects with substantive involvement of IS/IT. Interest is more on the IS/IT components, business process change, and associated work flow and role change, but acknowledgement is also made that these IS/IT components cannot be regarded in isolation from the planned organisational change initiatives of which they form a critical part, and system users and other stakeholders. Subsequently in this paper, we will use the term IT project to denote this much broader interest in IT enabled organisational change initiatives.

Clearly IT projects cannot succeed without successful implementation. This seemingly innocuous objective however, proves remarkably difficult to achieve on occasions, with reports of somewhat alarming rates of failure in IT projects (Grainger et al. 2009). A variety of causes are seen as contributing to these less than encouraging outcomes, with a range of factors including human, organisational, political, cultural and normative factors often cited (Lewis 2006) but rarely is the cause attributed to technical problems (Al Neimat 2005). Of all the factors cited, poor communication amongst all stakeholders (Sartor 2008, Rosencrance 2007) is frequently cited as contributing to less than desirable outcomes. Indeed, Lewis and Seibold (1998) have argued that understanding the communication processes during implementation is pivotal to both understanding and predicting the success or failure of planned organisational change projects. It seems reasonable to argue then, that this would similarly apply to IT projects as we have defined them. If communication affects the outcomes of IT projects so substantially, understanding how best to communicate in various types of IT projects, the approaches to adopt and the communications media to select are all vital components of delivering business value from IT projects. While there is a substantial literature around organisational change initiatives and on approaches to organisational change, Lewis (2000, 2007), and Johansson & Heide (2008) all note that in comparison little research has been done explicitly on the communication processes in implementation projects, nor on how these approaches might relate to the outcomes of the change initiative. Thus our purpose in conducting this research is to build our understanding and gain insights into how to approach

communication in IT projects, and to propose ways of designing communications with the express aim of improving project outcomes.

This paper is structured as follows. The paper commences with a review of some literature on the implementation of organisational change, and will then consider recent developments in understanding of approaches to communication in change projects. From this we will then propose a conceptual model of intervention approaches and communication approaches in IT projects and suggest that certain communication approaches are more suited to particular implementation approaches. The paper will then present the research approach of our planned research and give the expected implications of the planned research study for theory and practice

APPROACHES TO IMPLEMENTATION OF CHANGE

In a study of the processes involved in the implementation of organisational change in 91 discrete organisations, Nutt (1986) identified four broad categories of implementation approaches. The approaches were grounded in data collected via long-term case studies of what was actually done in an organisation to effect desired change, and the level of perceived success (or lack thereof) when using these approaches. Similarities in approach were grouped and from this process, the four categories (persuasion, edict, intervention, participation) emerged. The *persuasion* approach is a comparatively 'hands-off' approach, whereby managers essentially seed control of the change program to 'experts' (sometimes internal staff perceived to be expert in process and/or content matters, but also involved external consultants in many occasions) and thereafter generally do not do much by way of monitoring the change process nor reviewing the actions of experts. The change concept may have been articulated by the project sponsor, but could also have been suggested by the expert(s) as something the organisation needed. The development and implementation of the change is controlled by the expert(s) who then also 'sell' the concept to stakeholders by persuasion, usually communicated by the expert. Some monitoring of performance may take place after implementation. The persuasion approach is characterised in the main by a lack of involvement of end user stakeholders. The *edict* approach is likewise a top-down approach to change implementation, where essentially the sponsor has control and power to enforce the change initiative, and there is little or no participation of either end users or experts. The sponsor rarely discusses the change initiatives with participants, but expected compliance to issued directives. The *intervention* approach involves the sponsors making it clear that they have control, but then become advocates for change by communicating a clear rationale for the proposed change initiative widely across the organisation. Having established the need for change, the intervention approach then involves users in the development of specific change initiatives and new norms of performance, which are then embedded and monitored in the organisation. The final approach is the *participation* approach, which as the name suggests involves greater delegation of and participation in the development of change proposals. The need for change is clearly articulated by the project sponsor and high level objectives for the change are set. Thereafter working parties and the like are used to represent different perspectives of the problem, and may take responsibility for developing specific change initiatives and action plans. Acceptance of the change is therefore argued to develop through the user being co-opted into and supported through the development of specific action plans.

Nutt's (1986) study revealed some fascinating findings (see Table 1). The two most commonly used approaches in Nutt's (1986) study (persuasion and edict) were the two least likely to be perceived successful for implementing the desired change. By contrast, the two approaches least used, were the two most likely to be perceived successful (Nutt 1986, Lewis 2000). Successful implementation then would seem to be associated with higher levels of participation, which is in keeping with empirical research findings (Leonard-Barton & Sinha 1993). Both the intervention and participation approaches would seem to involve significant communication up and down the hierarchy, and across working parties, project teams and the like. Nutt (1986) did not specifically study IT projects, although technology-driven change initiatives were included in his cases. It begs the question however, of whether thinking about the management of IT projects in terms of these different types of implementation approaches may not provide useful insights into project success and failure. In addition it is insightful to consider the sorts of communication approaches that might be associated with different implementation approaches.

Implementation Approach	Frequency of Use (rank order, 1 = most frequent)	Perceptions of Successful Implementation (rank order, 1 = most likely to be perceived to have been

		successful)
Persuasion	1	3
Edict	2	4
Intervention	3	1
Participation	4	2

Table 1. Use of Different Implementation Approaches

APPROACHES TO COMMUNICATION IN IMPLEMENTATION PROJECTS

Communication is widely regarded as the key to successful implementation of organisation change (Allen et al. 2007, Lewis 2007). Indeed, Russ (2008) suggests that it is via communication and dialogue that people make sense of change, construe the reasons for change, and that change is implemented and sustained only through humans communicating. Ensuring adequate communication in all IT projects thus seems imperative. While the Project Management Body of Knowledge (PMBOK) (PMI 2008) offers high level, rational advice to project managers, there are few specifics of how to proceed, nor even heuristic guidance in the form of 'what works in what circumstances for what purpose with what audience'.   Much of our understanding of communication in organisations and in projects has evolved from the functionalist Shannon and Weaver 'conduit' or 'transmission' model of communication which focuses on information flows, without consideration of context, content, intention, interpretation and meaning (Johansson and Heide 2008). However, McKay et al. (2010:4), in their review of the inadequacies of models of communication of this type in the domain of IT project management, found that viewing communication as involving the transmission of information was an oversimplification, limited in its applicability and helpfulness and that other perspectives on communication needed to be appreciated and embraced, and then enshrined in our practices.

In their seminal study, Lewis and Seibold (1998) attempted to review and analyse the literature on communication, some of which focussed on communication approaches during change implementation projects. Subsequently, two broad approaches to communication during implementation projects have recently been recognised in the literature: the programmatic approach and the participatory approach (Russ 2008, 2010, Johansson and Heide 2008), which are an attempt to simplify the overall thrusts of previous work. Programmatic approaches promote the sorts of communication enshrined in the Shannon and Weaver model: they are essentially monological (one viewpoint expressed, and usually uni-directional flow of information), top-down communication, intended to build stakeholder acceptance of and compliance with a planned change initiative, including IT projects (Russ 2008). They are an attempt to 'sell' the pre-programmed change, emphasise corporate images and values, and aim to build positive reactions and commitment to making the proposed changes (Armenakis et al. 2002) through a downward cascade of information about both the content and process of the implementation project (Russ 2008). Activities that typify programmatic communication are presentations to large audiences, broadcast emails from the leadership, websites, podcasts, newsletters, and the like. Irrespective of choice of media, these approaches share the characteristic of being a one-way, linear transmission of information, with decisions made about how specific audiences should best be targeted. (Russ 2008). Such approaches are thus relatively efficient in the sense that large amounts of information can be widely disseminated. In this way, programmatic communication seeks to achieve quite specific predetermined change objectives and thus predictable outcomes, rendering them most effective in the dissemination of information or tangible skills (Lewis 2006, Russ 2010). The strengths of such approaches are firstly, that the leaders' vision and objectives can be clearly communicated, and hence messages around roles, responsibilities, expectations and outcomes will be consistent. Programmatic approaches are also associated with centralised, top-down controls, hence with the identification of definable proxy measures of progress and success (Russ 2010). Programmatic approaches however provide little opportunity for widespread input, collaboration or participation, and may limit any room for personal judgement, creativity or spontaneity to be exercised by those actually implementing and making the changes. The latter are often the ones possessing the relevant expertise and knowledge of context: controls can thus become stifling to the performance of frontline staff (Russ 2008, 2010). While programmatic communication can help ensure change is implemented, they do little to build a shared understanding of, or engagement with the change, and hence, such change implementation is often relatively short lived as employees regress to the former status quo when controls are lifted at the so-called 'end' of the implementation project (By 2007). Interestingly however, this is the most utilised strategy but one that invokes poor responses from participants in the change process and is argued to deter success (Lewis 2006).

By contrast, participatory approaches emphasise dialogical communication (many viewpoints are expressed and considered), in which broad stakeholder inputs are genuinely sought and considered about the planned change initiative and the implementation process, with multi-directional information flows. The underlying viewpoint in these approaches is that stakeholders should be active participants in the change initiatives affecting them, and that through participation, greater shared understanding, consensus and commitment to change will ensue, resulting in more successful and long term change implementations (Lines 2004, Russ 2008). The broad vision and objectives of the change may still be centrally determined by the change sponsors, but the knowledge and skills of stakeholders are respected in that they are then actively encouraged to express viewpoints, participate, shape and fine tune the proposals to help ensure successful implementation, thus resulting in change being seen as a joint social construction by all stakeholders. In this sense, participatory approaches to communication do not seek to achieve specific, pre-determined outcomes, but aim rather to encourage participants to learn about their own contexts and shape the process and outcomes appropriately (Russ 2010). The sorts of activities which characterise participatory approaches to communication include working parties and project teams, open forums, surveys to gain feedback and opinions, focus groups, teleconferencing, blogs, and the like (Russ 2008).

In Table 2, we consider the four approaches to change implementation, and map those against the predominant communication approach. Thus we argue that programmatic approaches are most likely to be associated with more top-down change strategies as found in the persuasion and edict approaches, whereas participatory approaches are more likely to be found in the approaches where participation is encouraged (intervention and participation).

Implementation Approach	Programmatic Approaches	Participatory Approaches
Persuasion	*	
Edict	**	
Intervention		*
Participation		**

Table 2. Mapping Communication Approach to Implementation Approach[5]

Each of these approaches has its strengths and weaknesses, suggesting that a better understanding of which approach works best in what situation may be helpful. It also needs to be remembered that these two approaches are neither mutually exclusive nor immutable: a fusion of these approaches is both possible and indeed encouraged in some quarters (Lewis 2007), as communication in implementation projects is sufficiently diverse to benefit from a range of approaches throughout, assuming that each approach has its own benefits. A major weakness in our view is that the literature on communication approaches contains very few concrete examples or specific advice for practitioners on how a project manager might adopt and embed these approaches within IT projects and thus 'use' communication to support the change process (Johansson & Heide 2008).

RESEARCH APPROACH

The ideas presented above are being investigated via an action research (AR) study. The approach to AR adopted is that articulated by McKay and Marshall (2001), in which dual cycles of action and research are made explicit and pursued. The action or problem solving cycle concerns the successful implementation of an enterprise system (ES), while the research cycle is focused on investigating the efficacy of different approaches to communication throughout the implementation project. One of the authors was engaged by a large, global company as the project manager of an ES implementation, and this has enabled a broad program of research around project management, ES implementation, and communication within projects to be conducted.

The context of the study is as follows: the large international company (CorpeX) acquired a small, previously family-owned company (Company Z), and wished to implement its corporate enterprise system (ES) in the acquired business, bringing it into a common regional instance of the ES and thus fully integrate Company Z into CorpeX's

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[5] We use asterisks in this table to denote the strength of the use i.e. ** denotes much stronger reliance on an approach than does *.

Asia Pacific systems and business. The benefits of this would be to enable integration of manufacturing resources, purchasing, distribution, billing, and infrastructure with consequent market and efficiency gains. Although a modest project for CorpeX in financial and organisational terms by today's standards (in $ terms, the overall budget was estimated between A$1 and A$1.5 million), Project McLaren posed some complex challenges for the project manager, especially in the area of communications. These challenges arose partly due to the global spread of the project team members and sponsors, thus spanning huge distances, multiple time zones and wide cultural differences and partly due to there being a certain amount of global competition for IT resources in the company, and substantial pressure not to repeat the experience of a recent IT project failure. Whilst challenging, we are not suggesting that the PM is in a particularly unusual situation today, but this case does highlight the level of communication complexity that PMs today are facing in even quite modest international ES implementation projects.

At the basis of the research approach was a view shared amongst the authors that experience builds knowledge of practice, and that by accompanying the experiencing with deliberate inquiry into and reflection on that experience, rigorous practical knowledge, theory and heuristics can be articulated which can then inform and shape the actions of future practitioners but also can result in learning from those involved in the context of interest (Raelin & Coghlan 2006). Although technically, as an employed academic, the project manager was an outsider to the organisation implementing this system, he had previously spent many years in the employ of that organisation, had kept in touch with developments since joining academia, and was very familiar with the culture, history and political landscape in which this ES implementation took place. Thus the form of action research utilises Coghlan's (2001) insider action research model involving the role of management researcher (Raelin & Coghlan 2006). Participants in the study will include the project manager, all the key players involved in the implementation project, and a selection of end users will also be included. A number of approaches to data collection are being employed. A critical component of the process involved a reliance on hindsight (narrative reflection). Freeman (2009) argues that hindsight can serve as a basis for developing insight, understanding and knowledge into particular situations and experience. Hindsight/narrative reflection is based upon current constructions of previous experience, and offers opportunities to learn and move towards more effective ways of operating in the future. Thus our interest in this paper is to share the sensemaking of an experienced project manager (and author) and key project participants from different levels and perspectives as they reflect on their experiences with project communications in this ES implementation project. The researcher authors helped guide that process of reflection so that data (stories) about the approach to implementing the ES, the communication strategies during the project, and their learning throughout the process is being captured and analysed. Conclusions will be drawn, and theories built about how to intervene in these sorts of contexts, and the sort of communication approaches that might be suited given the approaches to implementing change adopted, and the satisfaction with the communication approaches and levels of participation from most of those involved in the project. Throughout the 6-7 month period the project manager/researcher was engaged with this particular ES implementation project, he maintained regular contact with the researchers, and regular interviews and discussions were held to allow the project manager to use hindsight and experience and knowledge of context to reflect on his actions and the progress of the project, and also at times to deliberately shape those reflections in the specific ways outlined above.

IMPLICATIONS FOR THEORY

Given the importance of projects to the work of most IS practitioners, developing cogent theories about the management of projects, the management of change, and the management of communications during change projects seems of utmost importance. Improving the effectiveness of IT projects through sound theoretically grounded practice in all facets of IT project management, potentially would offer substantial benefits to organisations. The authors argue that this paper has demonstrated the need to develop sound theories around both appropriate approaches to systems implementation and also of communication approaches appropriate to various implementation approaches. Currently, there is little theoretical development or empirical work to support the articulation and selection of communication approaches in IT projects. Further, we assert that these communication approaches need to be linked to implementation approaches as we have suggested in Table 2, and this also remains a relatively under-developed and under-theorized area in IT project management.

IMPLICATIONS FOR PRACTICE

The results of Nutt's (1986) research suggest that many project managers should be considering changing their implementation approaches from persuasion and edict approaches to the more consultative approaches of intervention and participation. This, of course, can be difficult in authoritarian cultures used to edict style approaches,

but if done well and authentically can pay dividends in terms of commitment to change and lower levels of user resistance. The communication approach that seems to fit intervention and participation approaches is a participatory approach rather than a programmatic approach. Indeed, managements in firms with a history of problematic projects, especially those that have been using edict or persuasion approaches might be well advised to firstly seek project managers with a demonstrated background in using an intervention or participation implementation approach, and secondly allow them the space to adopt and pursue such an approach.

CONCLUSION

This paper has attempted to start a discussion around how best to design communication approaches during the implementation of IT-enabled change in organisations. Through the proposed research, we intend to build theory around appropriate approaches of communication when implementing ES in organizations. However, this research does support earlier claims by Johansson and Heide (2008) and Lewis (2006) who advocate the greater use of dialogic, participatory approaches, in suggesting that these may be particularly apposite in ES implementations. Further research is clearly warranted to develop the concepts introduced in this paper

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