# Managing the Organizational Impacts of Information Systems

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## INTRODUCTION

Information technology is now a ubiquitous and increasingly critical part of the fabric of the modern organization, supporting its day-to-day operations and all aspects of the decision-making process, as well as its strategic positioning. It is, therefore, not perhaps surprising that the implementation of a new technology or information system is likely to result in wide array of impacts to the organization as well as the working lives of individual employees. There is a growing consensus within the literature that many such impacts are not deterministic and cannot therefore be easily predicted prior to a system's implementation (e.g., DeSanctis & Poole, 1994). The corollary of this is that many of the consequences of an information system's implementation will be unanticipated (Robey & Boudreau, 1999). While some of these unanticipated consequences, or incidental side effects, may be of a positive nature, negative impacts are also quite common, as IT-induced organizational change often results in user resistance and, in extreme cases, possibly even system rejection (Martinsons & Chong, 1999).

While there is strong evidence that information systems projects are not totally predictable, it can be argued that many of their organizational impacts only remain unanticipated, because systems developers are reluctant to tackle the human and organizational aspects of IT. Systems development projects have typically been viewed as exercises in technical change, rather than socio-technical change; *"most investments in IT are technology-led, reflecting too technical an emphasis"* (Clegg, 2000). This is a dangerous strategy, because unforeseen and unresolved negative impacts may increase the likelihood of systems failure. Moreover, beneficial impacts, of both a planned and incidental nature, may not be fully realised without an appropriate programme of organizational change. We would argue that if systems development projects are viewed as an exercise in organizational change, in which all potential organizational impacts are proactively and systematically analysed, then many previously unanticipated impacts could be predicted (Doherty & King, 2002). While the importance of treating organizational issues is now widely acknowledged (e.g., Clegg et al., 1997; Eason, 2001), little progress has been made in the development of practical treatment approaches that have succeeded in making the transition from research laboratory to widespread commercial usage. The primary aim of this article is to present an innovative new approach for their proactive treatment. However, in advance of this, it is important to establish the importance of treating organizational issues.

## BACKGROUND: THE NEED TO TREAT ORGANIZATIONAL ISSUES

The information systems' literature is very clear on two points; general levels of failure are far too high and the primary cause of this problem is the failure to adequately treat organizational issues (Clegg et al., 1997; Ewusi-Mensah & Przasnyski, 1994). In this context, the term *"organizational issue"* relates to those organizationally-oriented facets of systems development projects that need to be treated to ensure that the resultant impacts of an information system are likely to be desirable. A comprehensive checklist of important organizational issues, that was originally drawn from the literature, but then validated over a series of studies (e.g., Doherty & King, 1998, 2001, 2003), is presented in Table 1.

To treat a specific organizational issue, it is necessary to firstly evaluate the likely organizational impact associated with it, and then if necessary take steps to ensure that the resultant impact is likely to be desirable. For example, if it is found that a proposed system is likely to be poorly suited to an organization's working practices, then it will be necessary to either modify the system's technical specification, so that the mismatch is avoided, or redesign the working practices so that they are well aligned with the system. In essence, the treatment of organizational issues is the mechanism by which the project team should align

*Table 1. Checklist of organizational issues to address*

| Issue | Description |
| --- | --- |
| **Current business needs** | The system's ability to satisfy the organization's current business needs. |
| **Information systems strategy** | The system's alignment with the current information system strategy |
| **Prioritisation of needs** | The prioritising of development effort on those aspects which address the most important business needs. |
| **Future needs of organization** | The system's ability to satisfy the organization's likely future business needs. |
| **Process design** | The system's impact on the design of key business processes. |
| **Health & safety / ergonomic factors** | The likely ergonomic and health & safety implications of the system, such as RSI and eye strain. |
| **User motivation / needs** | The system's ability to satisfy user needs and support user motivations. |
| **User working styles and personal skills** | The implications of user working styles and personal skills for the system's design and ongoing use. |
| **Job redesign** | The proposed system's impact on the design of working practices. |
| **Timing of Implementation** | The interaction of the system's implementation with other planned concurrent changes. |
| **Organizational disruption** | The temporary organizational disruption that may be caused by the implementation of the proposed system. |
| **Organizational structure** | The system's effect on the organizational structure, and the lines of authority. |
| **Organizational culture** | The proposed system's impact on the culture in the organization (*i.e., the set of important assumptions (often unstated) which members of an organization share in common).* |
| **Organizational power** | The proposed system's political implications for the distribution of power in the organization. |

the capabilities afforded, and the constraints imposed, by the technical system with the requirements and characteristics of an organization and its individual employees.

System developers typically view the system development process as a science, rather than art, which requires the use of structured methods that focus upon the delivery of technically effective systems, on time and within budget. They are extremely reluctant to tackle intangible, ill-defined and politically-sensitive organizational issues (Doherty & King, 2001), for which they're ill-equipped, in terms of training, competencies and motivation (Clegg, 2000). Consequently, approaches to the treatment of organizational issues have typically been reactive rather than proactive (Clegg et al., 1996) – get the system implemented and then worry about its organizational impacts. There is, therefore, a pressing need to find ways

to encourage the systems development community to become more actively engaged in the treatment of organizational issues. One obvious strategy is through the creation of methods, tools and techniques, which are specifically designed to facilitate the treatment of organizational issues. A wide variety of organizationally-oriented approaches have now been proposed, which can be categorised as follows:

1. **Socio-technical methods:** Socio-technical methods attempt to produce information systems that are technically efficient and coherent, while also being sensitive to organizational and human needs, for example, Ethics (Mumford, 1996) or Multi-view (Avison, Wood-Harper, Vidgen, & Wood, 1998).

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