Chapter 21
A Change Management Framework to Support Software Project Management

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ABSTRACT

In today's global marketplace, organizations are continually faced with the need to change their structures and processes to attain a competitive advantage. Implementation of new technology and information management systems results in inevitable changes in organizational procedures impacting on the people involved. Resistance to change may impact on this process and contribute to failure of this system. Managing change in an effective and efficient manner may negate this impact. This paper compiles a set of guidelines to support change which involves the incorporation of technology in an organization. These guidelines were mapped to a model, the GIC (Guidelines Implementing Change) model comprising all identified factors. These guidelines are utilized to guide the implementation of a new system, while simultaneously evaluating the success of these set guidelines. This research is cross disciplinary, affecting the areas of organizational behaviour, software project management, and human factors.

BACKGROUND

As the global marketplace becomes more competitive, organizations are increasingly utilizing software development to help them gain a competitive advantage. However, in spite of technological advances, the increased level of interconnectivity, distribution and processing, creates vast challenges involving a wide spectrum of software-related activity management and organisational issues. In fact, complexities and risks of software project development continue to increase and drive software failure (Marchewka, 2003). Over the past years, the development of software projects have regularly failed to meet user expectations, were commonly delivered late, and mostly exceeded

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the set budget. Much of this still holds true today, which is why these issues have to be addressed in concrete terms (Cokins, 2005).

Copious amounts of information on the management of change can be found in literature, indicating that change practitioners are nor failing due to a lack of information, but more likely they are failing to sort through all available information and extract fragments that are meaningful, useful and likely to be effective in the context of their own practice (Bodea et al., 2010). Since organisations continue to invest time and resources in strategically important software projects, the possibility of failure of the project should be minimised.

The field of SPM, with the focus specifically on the management of change, is receiving increasing attention and various methods and techniques are utilised to optimise the implementation of a new information system. The introduction of any information system causes change in the organization (Krovi, 1993). Literature reveals that it is inevitable that when an information system (IS) is successfully implemented in an organisation there will be some change to the organisation. Implementation of an IS has the potential to impact upon an organisation's structure, necessitating the redesign of business processes, individual tasks and job descriptions, as well as the attitudes of individual employees and the distribution of power (Sharma et al., 2010). User's working practises may also change as a result of this implementation – in ways that had not been expected (Doherty et al., 2003). Hence, with the implementation of an IS, users can expect to be affected by the changes introduced by the new system. A survey of the literature indicates that the human impacts of this trend are not negligible and could influence the outcome of the project (Chatzoglou & Macaulay, 1997; Doherty et al., 2003).

The aim of this literature study is twofold: To find evidence in the literature which attests to the positive relationship between effective change management and project outcome. Furthermore, the study seeks to formulate practical guidelines for incorporation into software project management practises in order to maximise the likelihood of a positive project outcome. Thus the authors formulated a set of practical guidelines to guide the implementation of change and tested them against a measure of reality to determine if they would be applicable and effective in real-life situations. The authors explored the importance of managing the process of change during the implementation. The set of change management guidelines were compiled from existing literature and implemented on a case study reflecting a true-life situation. From these guidelines we compiled a model (GIC model) to support the process of change.

The first part of this study explores the impact of change management on project failure. This is followed by an investigation identifying the role-players in the change process and the possible reasons for resistance to change. The following section comprises a set of principles to underpin and support the process of change involving the incorporation of technology in an organization, compiled by the authors from literature. These guidelines were mapped to a model, the GIC (Guidelines Implementing Change) model comprising all identified factors. These guidelines are utilized to guide the implementation of a new system, and thus simultaneously evaluate the success of these set guidelines. The third section is devoted to a discussion of the implementation of these guidelines on a case study.

CHANGE AND PROJECT FAILURE

In today's world of globalisation and innovation, change is just about the only constant (Vales, 2007). According to the Standish group (2005), only 28% of projects succeeded, of which 23% failed and 49% were challenged. Those projects that were classified as challenged were completed and operational but they were either over budget, exceeded allocated time or they were delivered with fewer features and functions than what was originally specified.