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INTEGRATING PROJECT MANAGEMENT AND CHANGE MANAGEMENT IN AN IS CURRICULUM

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Abstract

Because many new information systems (IS) projects involve business process reengineering, project managers need the necessary skills to manage organizational change. The purpose of this tutorial is to familiarize the participants with the fundamental principles of project and change management and show how these concepts can be integrated and taught in a graduate level IS course. The tutorial presents a broad overview of current project management and change management trends and practices and provides guidance for developing an IS project and change management course.

Introduction

Business firms today are developing new information systems that help them redesign and transform their business processes. In essence, information systems are becoming powerful instruments for organizational change as evidenced by the widespread adoption of various types of enterprise-wide information systems. This means that the core competencies for IS project managers must change. While the traditional project management skills are still essential, the management of organizational change is becoming an equally important skill.

This new focus on change management is clearly recognized in the Model Curriculum for the Graduate Degree Programs in Information Systems (Gorgone et al., 2000), which lists Project and Change Management as one of the core courses for an MS degree program in Information Systems.

IS Project Management

Project management emerged over the years as a major new form of management to deal with the complexities of technology and knowledge-based teamwork in organizations facing rapidly changing business environments. Project Management Institute (PMI) defines it as "the application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed stakeholder needs and expectations from a project." Project management is particularly important in information systems because most IS work is organized as projects.

The traditional purpose of project management is to provide focus for using the resources to achieve a specific objective. In short, the fundamental objective of project management is to "get the job done," to reach the objectives within time, cost, and performance. These three variables are the critical project dimensions that require continuous project management attention.

In the current business environment, project management must also focus on a fourth dimension: good client relations. The ultimate measure of project success is the client. If in the process of meeting the three critical dimensions the manager or the project staff alienate the client, the project has failed. A project can be considered a success only if the client, whether it is a group of internal users or a client in another company, is satisfied with the results. That means that the project team's responsibility is to assure that the system works satisfactorily after it is delivered (Frame, 1995).

Client interaction is particularly important for IS projects. As an increasing number of new IS projects become more strategic and involve business process reengineering, management of stakeholder expectations and organizational change is becoming an important and integral part of project management.

A detailed treatment of IS project management, written from a managerial rather than from a technical point of view, can be found in the Communications of the AIS (Jurison, 1999).

IS Implementation and Change Management

A major challenge for which many project managers are ill prepared for is the implementation phase of an information system. McKersie and Walton (1991) define IT implementation as a set of three subtasks:

- Designing the IT system and organization that will operate it
- Developing enabling human resources policies
- Managing the implementation process

They conclude that the full potential of IT can only be realized if its implementation is accompanied with appropriate changes in the organization, business processes, and human resource practices. One of the key features of IT is its ability to integrate various business functions, crossing organizational boundaries, changing perceptions of power and status, and the way people work. People often view new systems as a threat to their established positions and interests. IT requires people at all levels in the organization to change their behavior significantly. Such a change can lead to resistance if the system implementation is poorly managed. In short, effective IS implementation is a task of managing change.

Because change management issues are largely behavioral and organizational, many managers who have advanced to project management positions through a technical career path are not well prepared to deal with these issues. To be effective, they must be aware of the people and organizations that are affected by the potential change in the work patterns, power balance, culture, and conflicts of interest. Project managers must also understand the basic theories in change management and be able to apply them in a business setting.

The fundamental concepts in organizational change that are relevant to IS implementation are:

- The Lewin-Schein framework of social change
- Organizational alignment model
- Innovation diffusion theory
- Resistance theories

The Lewin-Schein three-stage model of social change is the most widely used framework for describing IT-enabled organizational change. The first stage, unfreezing, creates a climate for change. The next stage is change - this is the phase where the system is introduced and change takes place. In the final stage, refreeze, the system is institutionalized (Lewin, 1947).

The fundamental concept in the organizational alignment model is that effective implementation requires alignment of the technology and the organization. All basic components of an organization, strategy, structure, management processes, and individuals and their roles, are interrelated and must be brought into alignment with the new technology to realize the full potential of a new system (McKersie and Walton, 1991; Benjamin and Levinson, 1993).

Innovation diffusion theory (Rogers, 1983) is appropriate for systems that cannot be mandated by management but must be adopted on a voluntary basis by those who use them. The major components of the theory are:

- S-shaped adopter distribution
- Innovativeness and adopter categories
- Individual adoption process
- Perceptual characteristics of the innovation
- Diffusion networks and opinion leaders

Resistance theories deal with the causes of resistance and counterimplementation issues and offer guidance for strategies to overcome them (Keen, 1981; Markus, 1983).

Implementation research suggests that the most critical problems are not technical, but are related to organizational and managerial issues. It indicates that implementation outcome is influenced mostly by user involvement and influence, the level of management support, the level of complexity and risk of the project, and the management of the implementation process.

Integrating Project Management and Change Management

The primary focus of an IS project and change management course still has to have a strong focus on project management principles: organizing, planning, scheduling, budgeting, monitoring and controlling. The control aspect should encompass not only schedules and budgets, but configuration and quality control should be given equal consideration.

The role of the user over the system life cycle and change management issues need to be integrated throughout the course. In fact, the whole system development process can be treated as a planned organizational change. The role and importance of key stakeholders, which has grown more central in recent project management literature, should be introduced early and reinforced throughout the course. The need for an influential project champion, prototyping and piloting to determine user needs, and getting early feedback are other important topics that warrant strong emphasis.

The most effective method of teaching these concepts is through the use of case studies. A number of cases are available from the Harvard Business School on IS project management and as well as on change management. Shorter cases can be found either on-line or in print form in professional journals (e.g. CIO, Computerworld).

The list of topics covered in the tutorial presentation is outlined in the Appendix.

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Appendix: Tutorial Outline

1. Introduction and overview
 - The changing role of project management
 - Key dimensions of project management
 - Project life cycle
2. Project Organization
 - Project environment, stakeholders
 - Project management skills
 - Project team design
3. Project planning
 - Scheduling
 - Cost estimating methods and budgeting
 - Risk assessment, contingency planning
4. Project control
 - Cost and schedule control
 - Performance and quality control
 - Change control
5. Project leadership
 - Communications
 - Motivation, team building
6. Organizational change
 - Organizational change process
 - IS role in organizational change
 - Implementation challenges
 - Dealing with resistance
 - Organizational influences on project success
7. Suggested case studies and reference material for a typical IS project and change management course.