

A Recurring Improvisational Methodology for Change Management in ERP Implementation

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Abstract

Change has become an ongoing phenomenon and business process re-engineering has become a necessity for survival of organizations as we approach the 21st century. As participants in this ever-changing working environment, we must be innovative in managing change as it affects both our professional and personal lives. One of the innovative ways to manage change in the implementation of an enterprise resource planning (ERP) system is to adopt a comprehensive change management methodology. In this research, we propose the use of the *recurring improvisational change methodology* for managing such change. This research is also aimed at implementing the improvisational change methodology at the University of Nebraska (UN) as it seeks to increase its administrative efficiencies. This paper describes and illustrates how the methodology can be used to manage change in the implementation of SAP R/3 at UN.

Introduction

Change management refers to the effort it takes to manage people through the emotional ups and downs that inevitably occur when an organization is undergoing massive change (Dunleavy et al., 1998). There are many methodologies for implementing change. One approach is rather traditional and stipulates that a team begins with a plan comprised of certain universal principles. There is considerable effort at ensuring every aspect of the project runs according to the plan. If the project is not successful, the fact that not every detail of the plan was followed is typically used as the rationale for the project's failure.

A more innovative perspective to the traditional approach is the improvisational change model presented by Orlikowski and Hofman (1997). Utilizing this approach, the team begins with an objective rather than a plan. Based on this model, the team enacts "an ongoing series of local innovations that embellish the original structure, respond to spontaneous departures and unexpected opportunities, and iterate and build on each other over time" (Orlikowski and Hofman, 1997). The team identifies its objective then sets off toward the objective, responding to conditions as they arise and in an ad-hoc fashion. Efforts are directed at reaching the objective rather than following a plan. The underlying theme is that the team will do what it takes to achieve the objective.

The Improvisational Change Model

The improvisational change model recognizes *three types of change*:

- (1) *Anticipated* changes are those that are planned ahead of time and occur as intended.
- (2) *Emergent* changes are those that arise spontaneously from local innovation and that are not originally anticipated or intended.
- (3) *Opportunity-based* changes are not anticipated ahead of time but are introduced purposefully and intentionally during the change process in response to an unexpected opportunity, event or breakdown.

There are *two assumptions* made by this model: 1) changes associated with technological implementations constitute an ongoing process rather than an event with an end point after which the organization can expect to return to a reasonably steady state, and 2) all the technological and organizational changes made during the ongoing process cannot, by definition, be anticipated ahead of time.

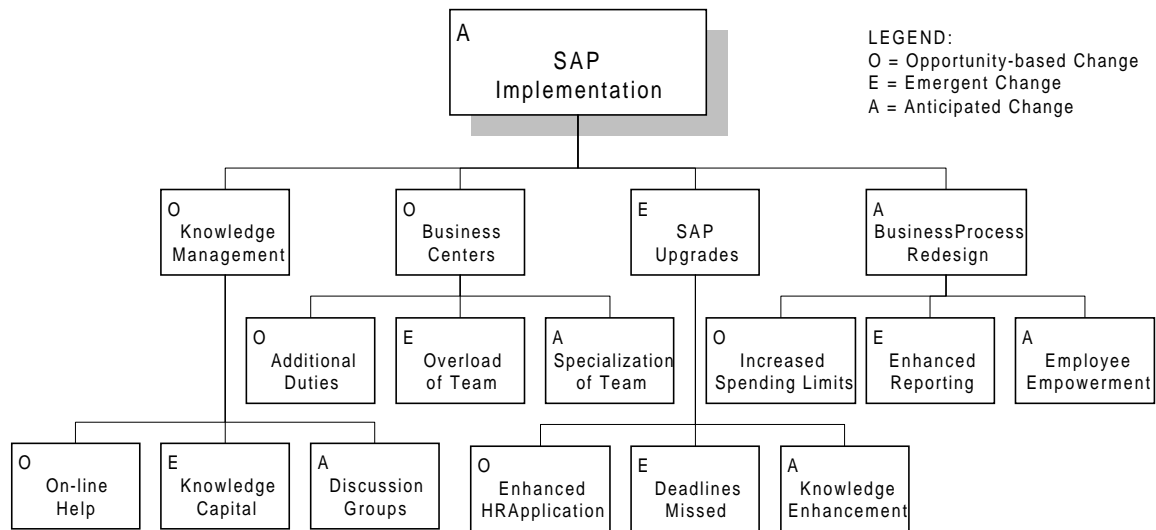
This improvisational model also assumes there will be road bumps along the way to reaching the objective. The *uniqueness* of the model is: 1) the flexibility to transform some of the obstacles into positive emergent and opportunity-based changes that will enhance the overall effectiveness of the organization, and 2) the acknowledgement that emergent changes exist and that they have a profound effect on enterprise-wide implementations (Orlikowski, 1996).

The Recurring Improvisational Change Methodology

The recurring improvisational change methodology, which is an extension of the improvisational model proposed by Orlikowski and Hofman (1997), is a useful technique for identifying, managing, and tracking changes in implementing enterprise-wide systems. It employs a diagrammatic technique to outline the recurring levels of anticipated, emergent, and opportunity-based changes that arise in the implementation of enterprise-wide systems. This diagrammatic approach will be illustrated in the context of the SAP implementation at UN.

An ERP effort was being undertaken at UN to improve the University's administrative processes through a customization process using the SAP R/3 software. A University-wide steering committee - the Financial Systems Task Force (FSTF) - was created and given the responsibility for the overall management of the project scope, funding, direction and business issues. The FSTF also served as the initial change agents. The FSTF later created Campus Transition Teams to serve as

liaisons between the ERP end users and the ERP development teams. The Transition Team members were empowered to lead the project as change agents. In this paper, we illustrate the use of the improvisational change methodology to manage the change process associated with the implementation.



The above diagram indicates some of the changes that have occurred at UN since the initial SAP planning phase that began in 1997. For instance, the University has realized *two major opportunity-based changes* emanating from the larger *anticipated change* of implementing the ERP system: the formation of business centers, and the development of a comprehensive knowledge management system. We also found that opportunity-based changes tend to lead to more opportunity-based changes, which should lead the organization to greater success.

From the diagram, one can discern the recurring changes and how one change leads to another. In general, each anticipated, emergent, or opportunity-based change is expected to lead to more (levels of) anticipated, emergent, and/or opportunity-based changes.

To further illustrate the application of this methodology, we will expand on the two opportunity-based changes emanating from the SAP implementation at UN: the development of a comprehensive knowledge management system, and the formation of business centers. These two opportunity-based changes have and will continue to lead to several levels of anticipated,

emergent, and opportunity-based changes (diagram shows only the first of such levels).

Development of a knowledge management system for supporting SAP implementation leads to providing opportunities for more efficient on-line help (an opportunity-based change), rather than traditional hard copy manuals. The UN has initiated a deployment to Lotus Notes, which serves as the mechanism for developing and disseminating the knowledge capital that is likely to emerge. On-line discussion groups, which is the initial intention of the knowledge management effort, will serve as an extremely helpful tool for end users as they convert to the new system.

A business center, in which specialists handle personnel, purchasing, and fiscal processes for a large unit or groups of smaller units, has been defined as “diverse units connected in such a way as to realize the benefits of specialization and economies of scale, to enjoy benefits from a diversity of talents among and between staff and unit administrators, and to experience continuity and synergy from all individuals working in consort as a team to provide services” (Carlson et al., 1997).

The formation of business centers, which itself is an opportunity-based change, leads to other opportunity-based change. Once developed and operating efficiently, the business centers may allow additional duties to be added to team members without adding additional members (an opportunity-based change). The creation of business centers provides UN an excellent opportunity to review their business processes, which may lead to even more anticipated, emergent, or opportunity-based changes. If the team members and administrators adopt an adequate business process re-engineering methodology, an overload on the current staff can be avoided or at least kept to a minimum. An anticipated benefit of creating business centers is that it allows specialization of staff members in each business function provided by the business center. This will be more beneficial as the users begin training and conversion to SAP. Each business center can then have a specialist in the fields of human resources, materials management, project systems, financial accounting and controlling.

Conclusion and Future Research

The implementation of an ERP does not follow a life cycle of having a beginning and an ending – it is a continual process. This study has shown that an anticipated change (SAP implementation) can lead to recurring levels of the three types of change associated with the improvisational model. The recurring improvisational methodology can be used by the change agent(s) and the SAP management team to: 1) plan for changes in implementing the ERP system, 2) identify and document any derivations from anticipated change, 3) help identify opportunities arising from the (anticipated, emergent, or opportunity-based) changes, 4) ensure that most of the changes (especially the critical ones), if not all, are being adequately taken care of, and 5) monitor both expected and unexpected changes in the implementation process. The methodology can, therefore, help identify problems and opportunities that need the attention of management and/or change agent(s).

In applying the recurring improvisational methodology, we made one interesting observation – because of the nature of the emergent changes, our study has indicated that they are less likely to lead to anticipated and opportunity-based changes. However, such changes can be essential, or even critical, in ensuring success in the implementation of enterprise-wide systems. Because the change agents were intricately involved in the change process, they served as the source for identifying emergent changes. Another notable observation was that while the change agents were participating in change process activities - including progress and planning meetings, observation, and brainstorming sessions - they realized and identified the emergent changes.

In subsequent research, we will apply the recurring improvisational methodology for managing the changes experienced by a specific UN business center – the UN School of Natural Resource Sciences (SNRS) Business Center – in implementing the SAP system. The SNRS Business Center will be implementing the concepts and techniques of the methodology to ensure its successful adaptation to the SAP implementation. The SNRS Business Center's objective is to successfully embrace changes associated with the implementation of SAP software to support and manage its human resources and financial functions, and to develop and maintain an internal knowledge management system. The change target, i.e., those who will be undergoing the change, will consist of six team members, with one serving as the change agent. The change agent will be appointed to act as the catalyst during the change process to help ensure successful adaptation to SAP. The primary focus of the change agent will be to communicate with the team to provide a smooth conversion.

Critical success factors will be adopted to serve as a guiding force for successful adaptation to the system. The factors include: 1) understand the organization's culture in terms of readiness and capability for change, 2) manage and mitigate unexpected problems, and 3) adopt continuous improvement methodologies to sustain change.

It is intended that information presented in this paper assist the SNRS Business Center as well as other UN Business Centers, which are struggling with finding a successful way to adapt to the ongoing changes associated with increasing administrative efficiency. More specifically, change agents and other individuals will be able to use this methodology, as a test model, to resolve problems in change management for the SAP implementation at UN.

To be successful, considerable energy must be exerted by the change target at identifying business process improvements. With the opportunities available through the implementation of SAP, it is critical that the business centers realize new ways of doing business. Keeping existing business processes will drag down the new system. If the improvisational methodology is successful it should also serve many interpersonal levels including promoting pride and success in each business center's ability to embrace change, serving as a useful tool, and encouraging and rewarding teamwork.

References

References available upon request from Michelle M. Sieber.