

ERP INTEGRATION PROJECT

Assessing Impacts on Organisational Agents through a Change Management Approach

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Abstract: This paper investigates the effects of a large ERP deployment project on the organizational agents who use it within the framework of their activities. In this article, we first present some material showing that, in our case study, this project aims to standardize the company's Information System (IS), and represents a change on both individual and organizational levels. Second, we go into detail of project management and more specifically, of change management within the framework of projects. Third, we advance some argument showing that "structured" change management approaches could be an efficient way to make project team deal with individual change in order to succeed in ERP deployment.

1 INTRODUCTION

Enterprise resource planning (ERP) systems is covering a variety of activities with the help of software that assist businesses in managing different functions like product planning, purchasing, inventories, supplier, customer service and order tracking (Klaus et Al., 2000; Lee et Al., 2003). In order to do so, some business' employees have to use this software on a daily basis to insert in the system some data related to their activities. Employees can be considered as the main input source of ERP, as they compute and "translate" real life data in the system. Consequently, to ensure benefits of ERP utilization, the company must help employees to actually pass from their former way to do thing to this new way. For Afitep-Afnor, a project is "*a specific approach that methodically and gradually structures a future reality and (...) that implies a goal, and needs to tackle on with determinate resources*" (Afitep-Afnor, 1992). This study, based on an ERP deployment project, focuses on defining how to accompany employees during this phase. In our opinion, ERP deployment

represents a typical case of organizational and individual change.

Consequently, this PhD in progress research paper is written to address the notion of individual change during ERP implementation. Due to the diverse nature of ERP systems, the author is only concentrating on factors related to end users during deployment phases. This position paper involves a 6000 employees international aeronautical French company.

2 ERP DEPLOYMENT

2.1 An Information System Standardisation

The case study for this paper involves a multinational ERP deployment project in every industrial and commercial establishment of an aeronautical company. 4 out of 14 sites have already the ERP implemented for several years, and a global deployment project is in progress in order to set this

Information System (IS) in other sites. Our contribution aims to provide improvements axes and feedback for further ERP deployment, based on the experience of previous implementations.

At this point, the ERP is set in the 3 French sites of the company (which also are the main sites), and in a recently created American site. Due to a specific context in this latter (This ERP is the only IS this site ever had), the material presented in this paper will solely be based on the analysis of deployment in French sites; indeed, this situation is similar with what will happen in other sites, in that a previously used IS could be found.

An interview with the international IS responsible reflects that implementing an ERP is a way to standardize company's IS. According to him, *"this (SI) standardisation makes easier communication, synergy, and practises sharing between sites. It also allows limits configuration management-related problems"*. Moreover, an interesting point has emerged from this discussion; when saying *"we don't control yet data security [...] Standardizing allows us to guarantee data safeguarding."*, he underlines that standardisation changes something. For MacKay et Al., *"each standard represent a desirable state to reach"* (MacKay et Al., 2004), and change process is started by the definition of a state to reach (Norrgrén et Al., 96); this vision implies that the process which implements the standard in the organization can be regarded as an organizational change.

The next section presents some material detailing the impacts of ERP setting on company's employees.

2.2 Impacts Assessment

According to Jaujard *"individuals systematically emerge as the main actors of change, whatever this change is"* (Jaujard, 2007). In order to measure how these actors perceived the impacts related to IS change, an intern survey has been carried out. An anonymous questionnaire has been sent to 490 randomly chosen ERP users (out of 4000 actual users). They were asked to evaluate on a four level scale what ERP setting changed according to four categories of impact: organization, jobs, tools and culture. For each impact category, ERP users were asked to rate the impact level between 1 and 4 (1 stands for no impact, 2 stands for average impact, 3 stands for high impact and 4 stands for very high impact). A final question asked them if, yes or no, they perceived a moment when using the ERP became more comfortable.

A 10 % global answer rate has been recorded. The following table presents the results.

Table 1: ERP implementation's impacts assessment survey.

Based on a 49 answers sample	Mean	Standard deviation	Variance
Organization: <i>within the framework of your activity, has [the ERP] changed the work organization?</i>	2,55	1,06	1,12
Job: <i>within the framework of your activity, has [the ERP] changed your job? (activities addition, change, or removal)</i>	2,39	0,97	0,95
Tools: <i>Has [the ERP] changed your working tools? (informatics or other tools)</i>	2,71	0,98	0,97
Culture: <i>within the framework of your activity, has [the ERP] changed your behaviours, or your frame of mind?</i>	2,37	0,94	0,89
Has there been a moment when you felt more at ease with [the ERP] utilization ?	81,5% answered "Yes"		

The two strongest measured impacts are relative to organization and tools. Although no structured change management approach had been used during this ERP deployment, training about new informatics tool and communication on how the new organization was structured had been realized. Gomez et Al. confirm that *"ERP integration can be regarded as a change in IS and in process management"* (Gomez et Al., 2002). Employees perceive that this organizational change made them change something. In addition, more than 8 out of 10 perceived a moment when using the ERP became more comfortable. With every proposed change's impact category being rated between an "average" and "high" level, and a majority of user perceiving a change in their ease with using the ERP, our results tends to confirm that ERP deployment is perceived as a change by end users.

In this chapter, we established ERP deployment being an organizational change impacting individual, and making them change habits and behaviours. As this ERP is currently being implemented through project in case study of company, next section will present literature's contribution on organizational and individual change management within the framework of projects.

3 MANAGING CHANGES

3.1 Project Actors and Change Levels

As told by Partington (Partington, 1996), “*project is increasingly used to manage organizational change*”, mainly because project is future oriented, generates more collaboration, more learning, and allows dealing with manageable levels of time and complexity. The core of project is *project team*: this group of employees (generally operational managers) is composed specifically for each project, taking into account the needed competences and the required taskforce to reach the goal on time, with determinate resources. In our case study, project team is run by a manager called *project leader*, and the project itself is initiated by a top manager or a director, identified as the *project sponsor*.

Actual project management implies dealing with changes from organizational to individual levels. As project management approaches already provide a framework for dealing with organizational change, our main concern here is change induced by project solutions on individuals; employees are indeed asked to change their practises, their behaviours to enforce whatever the team project has designed or decided to be the way to reach their goals.

As said by Nonaka, “*middle hierarchy actors hold down a job ideally located to translate and communicate important information between hierarchic leaders and operational teams*” (Nonaka, 88). In agreement with Pettigrew (Pettigrew, 96), we think that change mustn't be pulled out of its initial context in order to keep making sense. As project is at the cross-road of organizational and individual change, we think that project team is an appropriate entity to manage individual changes. Having their goals defined by high level managers, project leaders and managers from project team have to design an operational solution to reach them. We assume that succeeding in reaching the project's goals can only be achieved if operational teams use the designed solution, and consequently if they effectively change.

3.2 Individual Change Management

For many authors, organizational change main failure cause is organizational agents' resistance to change. For Morin (Morin, 96), these resistances are restrictive forces that go against working situation transformations, and new competencies acquisition. Furthermore, the Health and Safety Executive (HSE, 2001) identified change as one of the seven main

stress factor; thus, change can be a problem for organizational agents who live it. In order to reduce these risks, many change management approaches have been developed.

Change deal with phenomenon that differ a lot by their scopes and sizes. The uniqueness of each company, each project, creates each time unique change conditions. Charpentier (Charpentier, 98) underlines on this point that “the one best way” hypothesis about managing change is false. On the other hand, Siebenborn (Siebenborn, 05) proved that a very methodical approach is needed to precisely define the different definition, implementation and ending steps of change phases.

A paradox takes shape here between the impossibility to draw a permanently good way to deal with change, and the need to dispose of a concrete and precise approach

An answer can be found in Perrin-Bruneau's work (Perrin-Bruneau, 2005), who identified a type of CM approach that follows either a process or action keys and levers, called structured approaches. The main interest is that a specific organizational structure is set in order to deal with change during evolution phases. This structure defines a way to action the different keys and levers to use in relation to the context.

One of these approaches attracted our attention. Autissier and Moutot (Autissier & Moutot, 2003) propose a set of tool and a generic process in order to structure individual change during organizational change phases. The first step consists in analyzing how populations are impacted by change, in term of resistance to change. The next step is a characterization of the change's nature, in order to determine, in the third step, how to use each of the 3 following levers; communication (called “*internal marketing*”), accompaniment, and training. The main interest in our point view is the user-oriented nature of these principles; this approach takes into account the uniqueness of the change context, in order to build a specific end-user oriented change management solution.

4 CONCLUSIONS AND FUTURE WORKS

We have presented in this article some materials showing that ERP deployment project, besides being an organizational change also represents a change for some organizational agents. IS transformation being managed with a project in our case study company, we suggest that project team and project

leader assess impacts on end user and help them during change phases. The main argument in favour of managing change is the resistance to change phenomenon: this reaction can be an obstacle in organisations' evolutions if not properly addressed. In order to do so, we suggest using a structured change management approach. Indeed, these approaches are flexible enough to take into account the uniqueness of change, and provide a structure and a set of tool to build a human-oriented change management solution.

Further researches will be done on correlation between organizational agent responses and received change management actions; indeed, we think impact perception could be influenced by received training, communication and accompaniment.

Three main fields of investigation will complete this study in our future works. The first one is the readiness for change assessment, which importance in the first phases of a change project has been underlined by Zephir (Zephir et Al., 2007; Zephir, 2009). We think that this capacity evaluation should be considered as a very important parameter in CM process, as it helps to anticipate the potential impacts of the change. The second field of investigation we identified is the co-construction as presented by Jaujard (Jaujard, 2007). This CM practise consists in dealing with change at three levels: individuals, groups and organisation. For each level, Jaujard suggest to focus and work on a different part of the occurring change. The third point we'll need to analyze is the possibility and the pertinence for the company to implement action toward individuals; the question is relevant because dealing with individuals is more time consuming and more complex than focusing on groups. The benefits of building a customized change management solution have to be assessed in regard with its costs.

Our main focus through this paper was to show the importance of taking into account end users of a standard in the deployment process, as this process is in our opinion a change process for both organizations and individuals. Our main concern is to make easier standard deployment process for organizations by increasing the comfort of their employees during change phases.

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