

Testimony

Commercial Activities Panel

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INTRODUCTION

My name is Daniel W. DeHayes and I am a Professor in the Kelley School of Business at Indiana University in Bloomington.

Indiana University (IU) is a large, state-supported research university, enrolling over 35,000 undergraduate and graduate students on its Bloomington campus. The Kelley School of Business, operating at both Bloomington and Indianapolis, enrolls over 3000 undergraduate students and nearly 1000 graduate students. Its undergraduate and graduate programs are consistently ranked among the best in the country.

I joined the faculty in 1969 and was promoted to full professor in 1979. I have held several administrative assignments at the university, including the Chair of the MBA Program, the first vice president for information technology, and the founding director of the Johnson Center for Entrepreneurship and Innovation. I teach and research in the areas of entrepreneurship, strategic management, and the management of information resources.

I have been teaching business process re-engineering (BPR) to MBA students and in executive programs since the early 1990's at IU and in executive programs at Louisiana State University since 1998. I also led a project team in the re-engineering of the personnel hiring process at the IU School of Medicine and the University Hospital complex in Indianapolis in 1995 and 1996.

INVOLVEMENT WITH RE-ENGINEERING AT CRANE

I was involved in analyzing the business and process re-engineering effort at the Crane facility from early 1999 until mid-2000. During that study, I visited the Crane facility over a dozen times, interviewed over 15 people, some of them several times, and read numerous reports. As a result of that work, I published two lengthy business cases for use in Business and Public Administration courses at universities. Business cases depict a decision situation of an executive, provide an extensive amount of background information, and ask the reader (typically MBAs, MPAs, or executives) to recommend a decision. One of the Crane cases was used in Spring 2001 in a MBA class at IU and the other case will be included in a textbook on Managing Information Technology of which I am a co-author, to

be published later in August 2001. The text is used in several dozen business schools in the US and in other parts of the world.

OBSERVATIONS

Since business process re-engineering was first identified as a method for business to improve efficiency in 1990, it has proven to be a successful alternative to outsourcing IF certain key success factors are properly addressed. If these success factors are not followed, BPR, like other powerful methods, can fail. Much has been learned in the last decade about making BPR successful as it is now a part of the implementation process for Enterprise Resource Planning (ERP), one of the most significant efficiency improvement ideas to be undertaken during the last decade. Because applying the BPR process often involves significant organizational change, some of these key success factors relate more to dealing with the change process. Others relate more to the actually carrying out of the BPR process.

Before evaluating the experience at Crane, it should be noted that there are several levels of difficulty in the application of BPR to an organization. At the most basic level, a certain process, say order processing, is identified, an analysis of the current ("As Is") process is conducted, a new process ("To Be") is defined, the work to effect the new process is conducted (often including a new information technology (IT) system), and the process is monitored for compliance with the expected results. At the second level of difficulty, a single process is identified and the level one analysis is conducted BUT fundamental changes in the assumptions about how the organization operates are made before the new process is implemented. This second level of difficulty encounters much more resistance and takes significantly longer to implement. The third level of difficulty identifies several processes to study rather than one and as well recognizes that fundamental changes in how the organization operates must be made. A good estimate of the increasing level of complexity in applying the BPR process is that between each level identified above, the difficulty goes up by an order of magnitude. Crane chose the third level!!!

Based on my experience and a reading of the literature, I have identified my "Top 10" key success factors for carrying out business process re-engineering and the associated organizational change. For each KSF, I have made some comments about how well the effort at Crane dealt with the factor.

(1) Rigorously Performing the "As is" and "To Be" Analyses

BPR can be carried out at the "30,000 feet" level or at a very detailed level. Experience has shown that precision in analysis is critical if the proper insights for change are to be made. Typically a cursory analysis does not yield a very good vision of what is possible. In conducting a rigorous analysis, the typical approach in industry is to create a process flow diagram (PFD). Crane used the IDEF language for describing the As Is

process for each of the processes studied. I found the IDEF tool to be much superior to PFD in detailing the process steps and in helping the analyst identify potential improvements in the process. In addition, my review of the overall analysis process at Crane rated them very high in terms of using experienced people for the analysis, a judicious use of consultants to help in the process, and in the quality of support for the process improvements suggested by the analytical teams.

(2) Searching Thoroughly for Best Practices

It is important when doing BPR to find how other organizations perform the task being studied. This effort helps identify radically different ways from how it is currently being done at the organization being studied. When searching for best practices, it is important to not only look at similar organizations but also at other types of organizations for insights into how things could be done better. In each of the five processes that I reviewed at Crane, the teams did indeed look at other institutions, not only within the federal government but also at not-for-profits and at private industry. I believe that this broad scan for new ideas led to more radical insights than if they had only looked at other NAVSEA or Navy or DOD installations.

(3) Dealing with Labor Positively

Improving efficiency usually means reducing head count. BPR projects often do not determine in advance how they will deal with the excess people when certain functions are eliminated or made more efficient due to the re-engineering. Not dealing with the issue in advance often causes additional strife and/or morale issues among the workforce, resulting in reduced efficiency. Crane dealt with this issue directly and early. They worked cooperatively with union leadership and made their process of dealing with redundancies explicit.

(4) Sustaining Top Management Support

Large, multi-year projects in BPR and in other areas often “run out of steam” due to lagging support from senior management of the organization. Management focus often gets diverted to other priorities over time because the environment changes or the people at the top change. The result is often the inability to implement needed improvements in processes. I was very impressed with Crane's ability to sustain interest and attention on this project during changes in both the top civilian and top military positions at the base. Likewise, they were able to sustain interest in BPR during a change in the NAVSEA command. The appointment of the Deputy Executive Director as the champion of the

project served to sustain focus and intensity toward achieving the results they wanted.

(5) Anticipating Middle and Senior Management Resistance

The implementation of efficiency changes in organizations is typically resisted most strongly by those in management ranks. Change can often diminish a manager's power or influence. Middle managers also often see current processes as fine from their point of view. It is important to anticipate this resistance and to deal with it directly. The BPR project at Crane faced this resistance in 1999. While they dealt with the issue, I was disappointed that they did not seem to anticipate the intensity of such resistance.

(6) Selecting an Experienced Project Manager

Managing a BPR effort on a daily basis requires anticipating difficulties and efficiently dealing with the myriad of questions and issues. Organizations have found that there is no substitute for experience in managing large BPR projects, even if the experience does not include BPR specifically. Crane did well in this regard. Their project manager had many years of experience at Crane so knew the people and the organization. He had most recently managed the BRAC process for Crane and had also handled A76 evaluations. I believe that his experience and devotion to the effort is a major part of the success of the project to date.

(7) Engaging the IT Organization Early

Many BPR efforts require the implementation of an information technology (IT) system to replace the manual processing of data. Other than the elimination of certain functions, the creation of new IT systems is the key to gaining efficiencies. Due to the leadtime in gaining the attention of IT staff to work on these systems (given their other priorities), the benefits of re-engineering can often be delayed. I believe that the project team at Crane could have spent more time earlier to alert the IT organization to begin work on the systems proposed by the process study teams. Most of the recommendations I reviewed included some systems work. Efficiency benefits could have been achieved faster via more anticipation of this outcome.

(8) Being Willing to Deal with Changes in the Business

BPR often, when done well, alerts management to the need to make fundamental changes in how the business is run if radical improvements in efficiency can be achieved. It is very common to see good but not substantial improvements possible merely by performing existing

functions faster. Rules by which the business operates often add unneeded steps to processes or require the involvement of too many people in processes. Crane management was alert to this need and addressed the issue directly. They identified that certain business rules had to be changed for major improvements to be possible. They dealt with the resistance to making these changes.

(9) Communicating, Communicating, Communicating

As in any major organizational change project, communication is one of the largest areas for possible failure. Those in charge of the project must be sensitive to not releasing information prematurely. The chain of command must be observed. Yet it is easy and typical for rumors about impending changes to get started, setting in resistance prior to any announcement. It is also possible for BPR teams to turn inward, concentrating their attention on the tasks to be accomplished, not listening to the concerns of the employees and management. Creating this two-way communication system is one of the most difficult processes when conducting BPR. Crane did a reasonable job in this arena but could have improved its effort. Rumors were allowed to fester. While some employee attitude monitoring was done, it could have been done more often. Once a concern was identified, however, the issue was dealt with quickly and positively.

(10) Retaining Project Control Internally

Few organizations are willing to invest the time and training resources to conduct BPR internally. As a result, outside consultants are hired to conduct the process and report the results. In these situations, it is easy for the "not invented here" syndrome to take root, making the likelihood of effecting real change low. Crane was wise in its approach by appointing a seasoned deputy executive director to champion the process, assigning an experienced day-to-day project manager, tasking internal people on a full-time basis to head the teams, and searching broadly for internal individual to serve on the teams. While consultants were used, their focus was to provide advice based on their experience elsewhere, to conduct training of the internal people, and to help document needed outputs. When the people at Crane met with the BPR teams, the interface was with other internal Crane employees rather than a stranger.

Overall, I would conclude from my study of the BPR process that the Crane effort was conducted very well and therefore has the potential to effect real improvements in efficiency at the facility.

Submitted by,

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