A practical approach to the ERP implementation strategy

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Implementing an Enterprise Resource Planning (ERP) system demands a significant amount of effort from different areas in the company and also entails a profound change in the way that people perform their jobs as well as the company’s organizational structure. ERP is defined by Turban\(^1\) as “a process of planning and managing all resources and their use in the entire enterprise. ERP systems are highly integrated enterprise-wide information systems that automate core business processes”. As such, ERP implementations should be envisioned as a profound endeavor involving processes and people rather than as a software installation effort.

There are three phases in the ERP implementation life-cycle: Planning, Execution and Evolution. The Planning phase includes the selection of the ERP software vendor, the consulting partner, the project team, the project resources and the implementation strategy. The Execution phase involves initial project preparation activities, process redesign, configuration, testing and installation. The evolution phase is the continuous maintenance and improvement of the business processes configured in the ERP system.

Market studies show that more than 50% of ERP implementations fail to achieve its original business objectives\(^2\). Several articles have been written about the critical success factors in ERP implementations, but the outcome of most of these factors is a direct consequence of implementation strategy definitions adopted during the Planning phase. In this paper we analyze different factors inherent to the implementation strategy that should be considered during the Planning phase in order to make the ERP implementation project a company success story.

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1. MODULE APPROACH

ERP software comprises different modules that encapsulate entire business processes or a part of them. Once you decide what modules are going to be implemented, you should also consider the order in which these modules will be deployed. The most common methods for this approach are:

- **Big Bang**: this is the approach used when all the modules are implemented at once:
  - Longer time to go-live
  - High risk due to the scale of the business transformation
  - Intense but faster approach, all modules at the same time
  - Minimizes interfaces development effort
  - Provides data integrity as all the modules are integrated at the same time

- **Phased**: incremental implementation of the different modules. Module-by-module:
  - Quicker time for the first go-live
  - Less risky than Big Bang
  - Takes more time to implement all the different modules
  - Increments testing efforts (regression for prior phases)
  - Intensive in terms of interface development effort
  - Data integrity may be an issue due to the legacy systems integration and dependency

There are also hybrid approaches that could be generated as a combination of these two methods, as i.e. doing a Big-Bang with a set of modules then followed by Phased implementations of the remaining non-core modules.

All these approaches have pros and cons. Each business scenario is unique and, after carefully evaluating the pros and cons of each method, the selected one has to address the organization’s ability to digest the new ERP system. With this consideration in mind, you should plan to implement all the key central modules (financials, controlling, sales order processing, material management) using the Big-Bang approach. Peripheral modules like human capital, maintenance or production as well as industry solutions like retail, mills or health can be added later to minimize the impact of the initial business transformation.

2. GEOGRAPHICAL COVERAGE

This dimension of the analysis takes into consideration the scope as to which the organization wants to extend the ERP system usage across different sites, countries or business units. Different types of geographical coverage include:

- **Local**: one or multiple sites in one country. Usually companies that have significantly dissimilar business processes in different sites, countries or business units.
“It’s always savvy to start with a Pilot, beginning with one site or country whose implementation risk is considered low-to-moderate. After a successful deployment of the Pilot, then the remaining countries should be implemented by Geographical Regions or individually.”

- **Regional**: multiple sites in different countries within a regional market or business unit. Companies that operate in regional businesses with unique market requirements and that need to comply with statutory or legal requirements.

- **Global**: several sites or countries in different continents or regions across the globe. Companies that pursue standardization of business processes across different geographies and business units.

A summary of the main characteristics of the different types of geographical coverage is shown in Table 1 below (values for Regional implementations range in between values expressed for Local and Global):

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Local</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common and standardized business processes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Consolidated Reporting</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Cost of maintenance</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Operational efficiency</td>
<td>Poor</td>
<td>Good</td>
</tr>
<tr>
<td>Implementation challenge</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Country specific functionality</td>
<td>Adequate</td>
<td>Limited</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Simple</td>
<td>Complex</td>
</tr>
<tr>
<td>Impact of the changes in the user population</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

Table 1: characteristics of Local and Global implementations

The quantity and spread of the sites, countries or business units covered by the ERP system add to the complexity of the deployment strategy. It’s always savvy to start with a Pilot, beginning with one site or country whose implementation risk is considered low-to-moderate. After a successful deployment of the Pilot, then the remaining countries should be implemented by Geographical Regions or individually.

Besides, different hybrid implementation strategies can be obtained by combining the module approach with the geographical coverage. These combinations must be based on the organization’s tolerance for risk, technical complexity, time to market requirements, resource availability and applications roadmap.

In any case, always look to partner with a consultancy firm that can match your company’s footprint, and not just your current project’s geographical coverage.

1 Values are calculated in view of support languages, hours of operations, and culture but not technical difficulty
3. ALIGNMENT TO THE ERP – THE BPR vs. CUSTOMIZATION DILEMMA

This aspect is related to how much change will the ERP implementation bring to the way that employees perform their work (Business Process Redesign-BPR). Also, as a consequence of this analysis, another question that pops up is the extent of the ERP software modifications that need to be applied in order to match particular organization’s business processes (Customization).

The BPR scope of the change should be analyzed in two dimensions. One is related to the nature of the change and measures how much of the current process remains unchanged after the BPR. Options range between a refinement of the current process and a completely new process. The other dimension sizes the impact of the change in terms of quantity of users in scope. Big changes in the current processes or a large number of users affected by the BPR effort means that more complexity will be embedded into the project.

While some companies see the ERP implementation as an opportunity to do BPR, other companies are not willing to apply significant changes into their current processes.

During the planning stage it’s fairly common to hear questions like:

- BPR or ERP? What comes first?
- ERP-Independent or ERP-driven BPR?
- Should we customize the ERP system to match our “ideal” business processes?
- What would be the right balance between BPR and software customization?

Ever since ERP systems started to include best practices, debates around adopting them to enable process improvement versus adjusting the ERP to fit the organization’s processes began to benefit the BPR tactic. As a consequence of this, Organizational Change Management (OCM) gains a lot of relevance in ERP implementations.

Implementations with a lot of customizations require a high level of on-going maintenance and may demand significant time and budget. In addition, when ERP vendors provide patches or version upgrades, these changes to the standard system have to be thoroughly tested.

On the other hand, adapting the organization’s processes to conform to the ERP business logic may entail a huge effort and a lot of resistance from the users. Some companies don’t change the way they do business to adapt completely to the ERP software business logic, particularly in commercial processes, because sometimes differentiation is considered a competitive advantage.

The right tradeoff between BPR and ERP customization can be achieved by assuming that the company will not completely change their processes to adhere to the ERP software, but at the same time not trying to customize the
ERP software to fit exactly the ultimate organization’s processes. Ideally, you’ll do some BPR at the same time you start implementing the ERP, adopting as many ERP best practices as possible, and choosing from those that don’t erode competitive advantage.

4. USER’S RESISTANCE

Despite all the well known advantages and benefits that come along with an ERP implementation, it’s common to find user’s resistance during the different stages of the implementation. This resistance is considered by the literature to be one of the main factors for ERP project failures.

ERP systems change the way people do things but they don’t change the way people think or their perceptions about the change. One of the major challenges for the users is to forget about the old way of doing things and become open minded about new functionality embedded in the ERP system.

During the planning stage, it becomes critical to assess the intensity of user’s resistance that the project will face in order to prepare to include the right level of OCM practices along the life of the project. If this is not planned ahead, the project will experience severe energy drain caused by user’s resistance, and it may be the cause for the project failure.

To rate the level of user’s resistance, the proposed approach is to size the maximum level of user satisfaction that could be obtained. User satisfaction can be considered a factor that diminishes user resistance. The analysis has to be performed in light of several characteristics that are known at the time of the analysis:

- **Organizational:**
  - Top management support: considered the top critical success factor, it has a positive effect on user satisfaction
  - Culture: the possibility of eliminating risks associated with company culture. “Culture eats strategy for breakfast every day”
  - BPR: organizations that align their processes to the ERP practices experience an easier implementation with better customer satisfaction

- **Users:**
  - Involvement: a high level of user involvement in all the stages of the project will generate commitment and foster acceptance
  - Education: users with IT formal education will feel familiar with the new technology
  - Training: in the system usage enhances satisfaction
  - Age: younger users usually adopt IT earlier minimizing refusal to accept

- **External:**
  - Consulting partner: choosing the right partner that combines product skills, consulting experience, knowledge in industry

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business process and similar geographical footprint is key to user satisfaction
o Software product: that includes industry-specific best practices, modeling tools and a proven track record of success stories in the same industry will have a positive impact on users

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Always focus on people, not just IT and processes. Keep in mind that in an ERP implementation the most complex and difficult “component” to adapt is the people. Make sure that your consulting partner is aligned to this idea.

Spend plenty of time planning for communications and training. Implement engineering tools to map processes and use them to facilitate communications with the users. Consider training the key members of the project team to capture the “people component”. There is a psychological dimension that needs to be addressed.

A clear example of this is CEMEX, which during their ERP global implementation project trained a group of managers in philosophy and psychology. This group learned a technique developed by two Stanford professors known as the speech-act method. This method maps conversations transactions and categorizes communications as requests and promises in order to facilitate organizational communication.

The combination of “hard” engineering tools to facilitate interactions with the users and “soft” methods like the speech-act technique to facilitate organizational communications can dramatically improve user’s satisfaction.

CONCLUSION

This paper is based on several studies in this area and addresses the most relevant factors that should be considered during the ERP implementation strategy definition.

A good strategy definition during the planning phase will serve to keep away from potential problems that may lead to project failure.

Four topics have been analyzed: Module Approach, Geographical Coverage, Alignment to the ERP and User’s Resistance, the latest being frequently underestimated and one of the main causes for project failures.

A practical approach for each one of these factors is proposed, analyzing different alternatives and their characteristics with pros and cons. Also, some final suggestions and comments are posted for each of the topics covered, based on empirical studies and my own professional experience.
There’s no such thing as a common ERP implementation model, but rather different combinations of the alternatives and characteristics presented in this paper. A thorough examination of these combinations will pave the way to accurate decisions.

In this sense, the objective of this paper is to serve as a first step to guide senior management structured discussions around ERP implementation strategies and also to assist in the selection of adequate alternatives during the decision process.

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