Chapter 4 : ERP Implementation Methodologies and Strategies

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Introduction

This chapter provides an overview of the various ERP implementation approaches, trends across industry, and their impact on organizations. Astoundingly, 65% of executives believe that ERP systems have at least a moderate chance of hurting their businesses due to the potential for implementation problems (Dey, Clegg, & Bennett, 2010). This major concern and increasing number of ERP implementations has brought about greater appreciation and attention to the challenges involved in implementing these complex technologies. ERP implementations are not just COTS (commercial off the shelf applications), but are radical changes to a company's business process, IT infrastructure, and strategic and tactical goals. The ERP methodology and strategy becomes critical to a company adapting new technology and bears substantial influence to how the organization manages the adoption and change process of the ERP technology solution.

4.1 Basic Concepts and Definitions

There are several key definitions and concepts that are important to help understand ERP implementation strategy and methodology. *The ERP Implementation strategy* is how an organization goes about planning and directing the deployment of an ERP application. Implementation strategies address mapping the company's business processes to a system in an organized and defined manner. ERP strategies are mainly driven by industry best practices and can be tailored to fit an organization's needs. *ERP implementation methodology* is where the company declares their strategic decisions regarding how to conduct the implementation, and selects a focused path for ERP deployment.

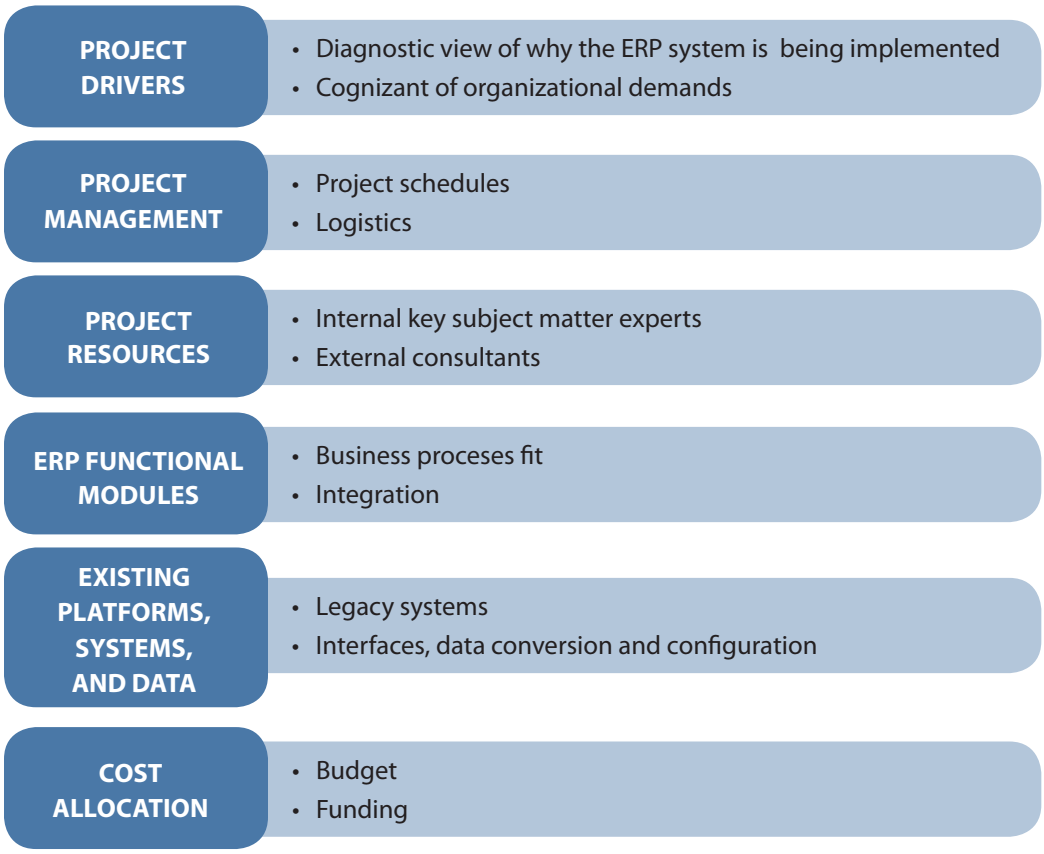
Company driven implementation strategy is when a company drives the leadership and direction for how the ERP system is implemented. Often, in order to support this type strategy a company has an established corporate implementation methodology that dictates how to approach their software implementations. A company's software development department generally has the expertise to accomplish this type effort. *Vendor led* implementation strategies are usually proprietary in nature and are a well-defined, structured approach to the ERP implementation. ERP vendors have turnkey implementation approaches based on best practices and lessons learned from each successive implementations performed. Usually, the ERP vendor has worked out most issues irrespective of the industry, and can provide a well-suited implementation. The ERP vendor typically has templates, tools, procedures, and knowledge experts readily available to jump start an ERP implementation.

ERP implementation encompasses the processes, activities, and tasks to implement an ERP system. The elements, variables, and actions are controlled during the execution of an ERP system implementation. An *ERP deployment* refers to the distribution of the ERP system to determined recipients. There is a distinction between these two terms where implementation is the building of the necessary structures to distribute, and deployment encompasses ERP system distribution based on company business criteria. Once the ERP system has been deployed, the practical term Sunset specificies when the legacy system is no longer in use. *ERP consultants* and *contractors* are expert ERP knowledge workers hired for a specific project or service. These individuals are usually trained professionals who chooses to perform important ERP functions for a client. The ERP contractor operates under the auspices of a working agreement with the company, and is available for a specified period of time in exchange for the completion of specific tasks. An emerging innovation used for ERP implementations is cloud computing, which is a type of Internet-based technology whereby shared servers provide resources, software, and data to computers and other devices on demand.

4.2 ERP Implementation Strategy

The ERP implementation strategy is a major decision for company executives and stakeholders to make. The implementation strategy describes the plan for change that ensures alignment with overall corporate objectives and goals (Al-Mashari & Zairi, 2000). The strategy defines the organizational principles and approach to executing the ERP implementation. **Figure 1** shows key aspects to be addressed in order to sustain strategic focus for the ERP implementation project.

Figure 1 - Key Aspects of an ERP Implementation Strategy



4.2.1 PROJECT DRIVERS

Project drivers are important, and many times are lost in the implementation effort. The reasons why the ERP system is being implemented and the expected benefits can shift due to other company priorities and demands. For project success, it is important that strategic goals include clear reasons for the implementation, and are kept at the forefront of the strategy. It is crucial that management executives and project stakeholders establish expectations for the project. Their role is to ensure broad business requirements are fleshed out, and project objectives are developed. Implementation methodologies that include project management processes are an essential mechanism to sustain and accomplish the ERP implementation process.

4.2.2 PROJECT MANAGEMENT

Project management includes the planning, organizing, timing, resourcing, and scheduling that define the beginning and end of the implementation. The establishment of project management prepares the project team for the structure and control needed to keep the project on track. The role of project management in implementation is critical. Many times, competing projects and unexpected issues arise that can derail the project implementation. Project management provides the process to monitor, derive solutions, and stay on track with the implementation.

4.2.3 PROJECT RESOURCES

Project resources are integral for successfully carrying out the work designated by the ERP implementation methodology. Acquiring appropriate resources is one of many key decisions in the implementation process. Whether individuals are internal key subject matter experts or external resources such as consultants or contractors, the right skills and experience are required to meet project objectives. Not having the right resources working on the implementation project can be a disaster. The project resources contribute to assessing risks that could impede or delay implementation.

4.2.4 ERP FUNCTIONAL MODULES

A company selects the ERP functional modules to implement based on their business process requirements. The aim is to implement an ERP solution that will provide a strategic advantage for the company. The ERP functional modules should fit the business processes and be transparent across organizations. Integration of the business processes and functions, real-time data, and information flow should appear seamless. Integration capability is the most recognized reason that companies choose an ERP system for implementation.

4.2.5 EXISTING PLATFORMS, SYSTEMS, AND DATA

A company's existing platforms, systems, and data are the life line of the ERP implementation. The implementation strategy should address how the legacy system environment will be handled respective of the new ERP system. Data may need to be converted for use in the ERP system, interfaces will possibly need to be developed to bridge data from the legacy system, and configuration rules established for operational transaction processing. Transition from legacy systems can be one of the most difficult challenges in the ERP implementation. Great detail, major planning, and careful execution are needed to ensure smooth changeover and to "sunset" systems.

4.2.6 COST ALLOCATION

ERP systems are one of the most costly technology initiatives that an organization can implement. The total cost of ERP ownership includes the packaged ERP software, hardware, professional services (consulting, on-going maintenance, upgrades, and optimization), and internal costs. Therefore, it is crucial to define the appropriate budget and funding sources for implementing the ERP solution. The duration of the project and payback periods is important to determine the expected return on investment (ROI). According to the 2011 Panorama report, the majority of implementations will "pay back" in less than three years. They also show that the average implementation project cost can range from $1.1 million to $5.0 million, depending on the type of ERP solution and vendor.

Funding sources should be well-developed to avoid major financial challenges along the way. A contingency or fall-back plan to address shortcomings or budget overruns should be in place to minimize project schedules and logistics. Budget overruns are certainly more of a reality than an exception. Most budget overruns are due to unanticipated or underestimated fees, staffing, or technical issues. Evaluating and developing contingency for these concerns prior to software implementation can minimize the cost and duration of the project.

4.3 ERP Implementation Methodologies

It is important for companies to analyze the ERP implementation method, since the risk of failure in ERP implementation is substantial and can be a highly expensive ordeal. Typically, companies will follow a specific methodology framework to deploy an ERP system. A methodology is used to structure, plan, and control the process of implementing the ERP system. The methodology may include tools, templates, specific deliverables and artifacts created and completed by the ERP project team. A methodology can be thought of as the roadmap where the real work for the implementation begins.

The most common implementation methodologies may be joint ventures with respect to industry, company driven, ERP vendor led, or a combination of company driven and ERP vendor led. An implementation methodology can be company driven utilizing internal software practices, or ERP vendor led where a designed methodology for the implementation is used. Company driven implementation methodologies generally govern all software implementations, irrespective of the type of project. The methodology is generally flexible and can be adjusted to suit the needs of a particular type of software project. ERP vendors have their own proven methodology that is used repeatedly for customer ERP implementations. The vendor led ERP methodology may also require minor changes or to be tweaked to satisfy a company's implementation requirements.

4.3.1 JOINT VENTURE

Joint ventures are collaborative implementation strategies among similar companies across a particular industry. Companies typically participate in consortiums with other similar companies to work in partnership to address economic concerns, performance impacts, technology, outsourcing, value creation, operations, and many other topics to enhance company performance. The consortiums are a source for benchmarking and best practices that can assist with creating the strategic advantage, and enable better support for clients by aligning with key industry stakeholders. Moreover, the interaction exchange facilitates the sharing of technology implementation strategies useful for ERP system implementations.

The Supply Chain consortium is a premier example of joint venture collaboration. The consortium provides a broad range of tools, events, and processes to members in order to drive world class performance. A key focus of the consortium is to help companies deliver necessary business processes that have proven superior results in real world implementations.

The consortium is led by executives from such Fortune 500 companies as Kraft Foods, Target, The Coca-Cola Company, Hallmark, and Miller Coors. Their collaboration efforts focus across many initiatives, industry segments, and topics. For example, this consortium has a data collection of over 11,000 benchmark and best practice data points, key information about near term priorities in technology, and a PeerNet where members can share functional expertise that fosters direct exchange of technology best practices.

4.3.2 COMPANY DRIVEN

Most companies have a department that performs development, support, and maintenance of its software applications. Typically, companies have a process in place to govern how software applications are developed, maintained, and deployed. The methodology is based on company established objectives and requirements. An ERP implementation is a type of project most likely included and governed by these processes. Usually, a company has standard processes that are well understood and can be relied on. Nevertheless, it is always possible to deviate from the standard process when necessary.

4.3.3 ERP VENDOR LED

Many ERP vendors have developed their own propriety implementation methodology. ERP implementation methodology includes extensive templates, roadmaps, blueprints, and tools. ERP vendors such as Oracle, SAP and Microsoft have established methodologies that are used for their ERP implementations. For example, the ASAP methodology developed by SAP provides an Implementation Assistant which allows a company to choose from several roadmap types and varieties to meet implementation needs. Oracle combines its implementation methodology and strategy into an approach known as Application Implementation Methodology (AIM). The methodology is a basic framework which includes a vast number of templates to support the tasks performed during ERP implementation. Their methodology can be tailored and applied to most any specific situation. Microsoft has developed Sure Step, a structured approach for implementing its ERP solution. The Sure Step methodology provides detailed guidance about the roles required to perform activities and proven best practices. It covers the complete implementation in addition to phases for optimization and upgrade.

Nike, Inc. partnered with i2 Technologies, Inc., a software integration vendor for its supply chain implementation. The implementation did not turn out as planned. The responsibility was on the integration vendor to provide the implementation methodology. They recommended that Nike "follow their guidelines for implementation" using their proprietary templates and roadmaps. Despite the vendors' proven success with 1,000 companies, the project failed.

4.3.4 COMBINED COMPANY DRIVEN AND ERP VENDOR LED

Considerable ERP success can be gained when both the company driven and ERP vendor led are combined for an implementation. The best practices of both types of implementation strategies are used to tailor the implementation needs best suited for a company. If a vendor led or a hybrid of vendor led and company driven methodology is used, considerations should be addressed to determine the specific resource roles and how they will be used. Establishing where the resources are obtained, their roles, and responsibilities is important for ERP implementation success. Company driven and ERP vendor led combine the best-suited components of each methodology to fit the project goals. This combination will formulate a methodology that captures the strengths in areas where weakness may exist.

Project management is a key area where companies like to use their own methodology and practices. For their ERP implementation, large telecom company Omantel, chose to capitalize on their strong matrix project structure, and assigned project management responsibility to its in-house project management office (Maguire, Ojiako, & Said, 2009). This gave the Omantel team leaders full responsibility for the overall project and supporting roles to the ERP vendor. This approach did not work as expected. The implementation efforts appeared to be working in parallel. The situation created conflict and was remedied by reorganizing into one team.

4.4 ERP Deployment Strategies

Companies typically choose the best approach to carry out the implementation, utilizing several well-known and popular implementation strategies which include big bang, phased-rollout, parallel adoption, and a combination of phased-rollout and parallel adoption. Deciding which strategy to deploy is typically based on a company's business objectives, budget constraints, available resources, and time sensitivity. Each implementation strategy has its strengths and weaknesses which are further discussed in detail.

Figure 2 - ERP deployment decisions

4.4.1 BIG-BANG

Just as the name implies, big bang can be described as a strategy to implement all enterprise functionality and ERP modules in a single instance as a major event (Mabert et al., 2003). All users move to the new system at a determined date, and are implemented across the entire organization at once during a planned go-live event. This can be a large implementation across multiple countries, multiple business divisions or product lines, and generally affects the entire organization. After implementation activities have been successfully executed, and "lights out" on the old system is achieved ; the new ERP system is launched. Reverting back to the legacy environment becomes quite challenging if at all possible. It is necessary to have documented fall-back plans just in case the initial changeover to the new ERP system is a failure.

The appeal of the big bang implementation strategy is that it focuses the organization for an intense and relatively shorter period of time than if the project were phased. This often helps to address long-term resource shortages, condenses the implementation project into a defined period of time, but the pain and challenge of the ERP project are more noticeable using this approach.

Enterprise visibility capabilities are more salient, therefore identify integration functionally issues early on with the use of the new system.

The downside of the big bang implementation approach is that the project is often rushed, details are overlooked, and changes to business processes may not be the best ones for the organization. The big bang strategy's significant "pain points" are due to its hectic nature. More often than not, projects that implement an overly aggressive big bang approach are more risky, and can result in less satisfaction with the system's abilities to meet important business requirements. The most common criticism of the big bang implementation method is the risk factor. The risk is significant due to the number of things that could go wrong with an instant changeover execution. However, the implementation can potentially be quick and less costly than a long, drawn-out phased approach.

4.4.2 MINI BIG-BANG

A variation of the Big Bang approach is to combine it with a phased implementation approach (discussed later). This entails a series of "mini-bangs" that affect logical functions of the business. One example uses the mini-bang methodology to deploy the ERP system division-by-division, where each division of a company uses a Big Bang to migrate to the new ERP system for manufacturing plant operations. A second example might use a functional approach ; where appropriately interfacing both systems running their parts of the company, i.e. finance goes first with the new system across all divisions at one time, followed by manufacturing and human capital management. Typically this type of strategy encompasses one to three modules at a time for the deployment.

Below is a list of pros and cons applicable to the *mini and big bang implementation strategy* :

PROS
• Implementation pain points and challenges are more pronounced post go-live • Implementation time is shorter • Cost can be much lower than a longer drawn-out implementation • All training is completed for users before the initial roll-out • ERP system go-live happens on a planned date

CONS
• Details may be overlooked in the rush to change • Employees are constrained to learn the new system for the designated implementation date • Fall-back to legacy system may be more difficult than originally perceived • A failure in one area of the system could affect others • Pronounced dip in performance after the implementation

PHASED-ROLLOUT

Another strategy which focuses on phasing in modules a few at a time for a slower implementation approach is the phased-rollout (Mabert et al., 2003). The phased-rollout strategy encompasses implementation of the ERP system that occurs in small increments over phases for longer periods of time. Users move onto the new systems in a series of planned steps. The idea is that project teams are allowed to take their time in the planning, business process mapping, customization, and testing of the system while continuing with day-to-day job responsibilities.

The downsides are that these types of phased projects often lack the intense urgency and focus of a big bang project. It can also lead to "change fatigue," which can cause employees to become burned out on new initiatives over a sustained period of time (Garside, 2004). Instead of completing the project within a shorter period of time, projects involve constant change over longer periods, which can be draining to employees. Of course there are several options, including many variations and combinations of these implementation techniques. Just like big bang, a phased-rollout strategy has advantages and disadvantages. A few of the common opinions are listed below:

PROS
• Lessons learned can be utilized for successive phased rollouts • Ample time for adjustments to planned deployment • More time for user to adapt to new system • Increased project team members implementation skills for continued rollouts

CONS
• Less urgency as a big bang rollout • Continous change over a longer period of time • Fallback to legacy system becomes more difficult if required • Temporary solutions to legacy issues are created to support phased-rollout • Employee change fatigue

Within a phased-rollout implementation ERP systems can be structured using a few different techniques such as by ERP module, company business unit, company business priority or geographical location. Each of these techniques is based on a company's strategic business goals, timeline, and resources.

PHASED ROLLOUT BY MODULE

The phased rollout by module is the most common phased rollout strategy. The structure of the ERP system is modular in nature, where each application module automates the processes within certain functions of the business. Common ERP application modules include accounts payable, purchasing, student enrollment, general ledger, inventory, and benefits administration to name a few. Phased rollout by module is by far the most popular technique where ERP modules are strategically implemented one at a time. Core ERP modules are generally integrated first, followed by other modules where business processes are highly integrated. This technique helps the company ensure that modules are working as per department needs.

This type of roll-out may delay the whole process and bring about complexities during implementation. Generally, interface programs are required to bridge the gap between legacy systems and the new ERP system until the new ERP system becomes fully functional. Typically, business process functions required for tactical operations are considered first, followed by adding each module and functionality with each phase. Many implementation experts recommend the General Ledger module, or perhaps less mission-critical modules to begin the implementation process.

PROS
• Provides the ability to meet the needs of departments • Step by step approach to implementation • Less risk • Change management impact potentially less than with a big bang implementation strategy

CONS
• Longer implementation timeline • Delayed integration of whole business processes • May generate more integration complexities • Large number of technical resources to create interface programs

PHASED ROLLOUT BY BUSINESS PRIORITY

This approach is similar to the modular approach, the difference being that the main consideration of the business priority phased rollout is the need for urgency. The business priority may turn out to be a modular implementation strategy once business priority is established.

Several reasons can create this type of implementation requirement. For instance, a company has certain time-sensitive legal requirements, planned product or service launch timelines, company acquisition commitments, or all of the above. Once the strategy is defined, one or more critical business processes that involve key business units are selected and the implementation will eventually grow into a full-blown ERP system implementation. This ERP implementation strategy is generally used by small to mid-sized organizations. This type strategy leans heavily on the business' operational aspects to dictate how priority for the rollout will occur. This approach is unique and specific to each company's business environment and plans for ERP implementation.

PROS
• Closely aligns to unique company's business goals • Potential for greater control by company • Greater focus on business process re-engineering objectives

CONS
• May lack the sufficient planning if used a reactive strategy • Increased integration complexities • Increased risk

PHASED ROLLOUT BY BUSINESS UNIT

Under this technique, the phased rollout happens for one or more business units or departments at a time within a company. This is also a method commonly deployed by large multi-national companies. The business unit is representative of a legal entity reporting structure within a company. Since business units often have a fair amount of autonomy, they can be quite successful. They have the funds, the authority to staff resources across the business unit, and have a direct responsibility to their stakeholders.

PROS
• Ability to leverage lessons learned from prior implementation rollouts • Focus more on business entity integration • Greater employee acceptance • Less risk

CONS
• Longer implementation timeline • May generate more integration complexities • Limits the scope of the implementation

For example, the ERP system implementation can begin with subsidiary organizations, specific business products or service functions, or joint business operations. Some companies put together a team that travels between each business unit and location to complete the implementation. As the team gains more experience with each implementation, subsequent rollouts become more efficient. This method has better employee acceptance, and despite a longer process time, the risk is lower.

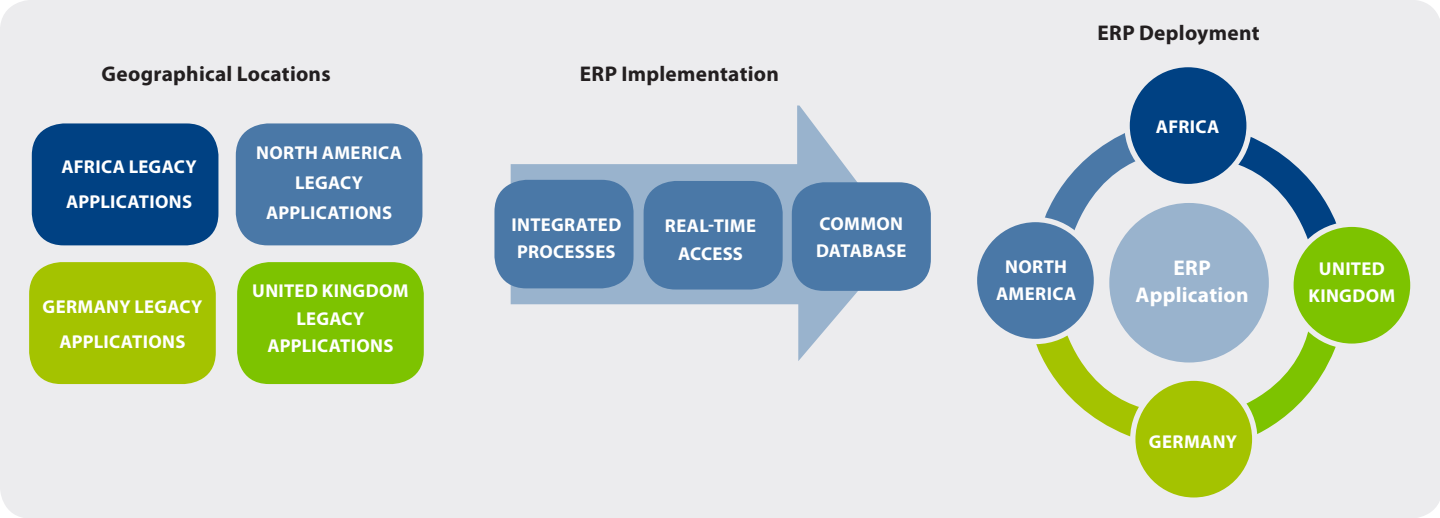
PHASED- ROLLOUT BY GEOGRAPHICAL LOCATION

For organizations with multiple locations, a phased-rollout by geography is a frequently utilized approach. As firms are more global in today's environment, certain geographical aspects are unique to how business process functions, which makes this type of phased roll-out required. This is very common for large organizations whose business is multi-national, regionally distributed, and has independent locations. This strategy is primarily used to standardize a company business operation by use of the ERP system to bridge organization, political, and cultural aspects of doing business.

Geographical global ERP implementations carry far more risk and challenge than domestic or single-site implementations, and need a simultaneous deployment of robust change management processes. Moreover, global rollouts also need to cater to local country or geographical specific reporting and statutory requirements, adding another dimension to the complexity of the implementation rollouts.

This type of implementation strategy needs a lot of time and commitment from the organization, but proves to be the safest and most successful approach for companies with complex business processes. **Figure 3** is a graphical representation of a phased roll-out by geographical location.

Figure 3 - Phased Roll-Out by Geographical Location



(Dunaway, 2011)

PROS
• Meets the requirements of global and multi-national companies • Greater standardization of business processes • Greater success for companies with complex business processes

CONS
• Requires significant planning and coordination • Most often a longer implementation timeline • Greater risk

PARALLEL -ROLLOUT

A parallel adoption encompasses both the legacy and new ERP system executing at the same time. Users learn the new system while working on the old legacy system. Many ERP vendors prefer this method since the issues of data integrity and migration are, for the most part, avoided (Xu, Nord, Brown, & Nord, 2002) . This method attempts to defy the old myth of "Garbage In, Garbage Out". This approach is not the most efficient, since each transaction must be entered into both the legacy and new system.

Due to the intensive effort required to double key information in two systems, mistakes are inevitable, causing all kinds of variance in the data. From a cost perspective, if extra costs are less than those incurred after a backfired big bang adoption, then it is a reasonable plan. However, parallel adoption has become decreasingly popular due to the perceived high cost. While potentially costly, the risk for this approach is moderate.

PROS
• Eliminates much of the data integrity and migration issues • Risk is moderate

CONS
• Double keying of data is very labor intensive • Greater risk for mistakes • Increased potential for higher cost

COMBINATION ROLLOUT

The combination of a phased rollout and parallel adoption encompasses a hybrid of each method. While one strategy may work for a majority of companies, it may not be the best strategy for a company's organization. Circumstances dictate the appropriateness of the implementation strategy. In some cases, a phased rollout may be the most efficient and effective implementation, in other cases it may not. Nevertheless, the implementation can be tailored to fit the scope and goals of the ERP implementation.

Pros
• Greater control of the ERP implementation • Moderate risk

Cons
• Costly to implement • Time intensive • The full intergration picture is compromised

PILOT ROLLOUT

In the pilot implementation, a particular functional area is implemented first. The concept is to prioritize the functional areas, and implement them in the order that provides the greatest benefit first. The approach requires more intense planning and administration to deal with interfaces and flow of data between the legacy and new module(s) implemented. It is one of the lowest risk alternatives, however takes the most time to rollout.

Pros
• Greater control over ERP implementation • Low risk • Lower cost

Cons
• Time intensive • Unable to fully gauge post implementation resource needs

SOFTWARE AS A SERVICE ROLLOUT

Software as a Service (SaaS), sometimes referred to as "software on demand", is the newest implementation methodology attracting small and medium size companies. The ERP software is deployed over the internet to run behind a firewall on a local area network, personal computer, or both. With SaaS, an ERP vendor provides ERP application licenses to customers either as an on-demand service through a subscription, in a "pay-as-you-go" model, or scalable fee structure.

This approach to ERP implementations is part of the "cloud computing" utility model where all of the technology is accessed over the Internet as a service. Due to the complexity of ERP applications, SaaS offerings are currently available for administrative and operational functions typically confined to one domain, such as payroll, customer relationship management (CRM), or one business process (Wailgum, 2008).

Important viewpoints emerging from the SaaS ERP implementation technique:

PROS
• Accessible with an internet connection • Free up staff to concentrate on more strategic, value-adding processes • Pay per use or subscription fee • Rapid scalability and reliability • Implementation with little or no intervention • Lower implementation cost

CONS
• Increased security risk for financial and operational data • Total cost of ownership encompasses "hidden cost" • SaaS expertise not yet reached a level of maturity • Potentialy limits some integration capabilities

As with any implementation methodology, companies should evaluate and prioritize their requirements, strategic goals, and timeline to determine the most effective implementation strategy for their ERP deployment.

While SaaS appears to provide a promising robust solution, careful consideration should be exercised. In general, SaaS is simpler to deploy from a technical perspective due to the hardware and software hosted by the vendor service provider. On the other hand, the high level of technical ease may create additional business complexities that you may not otherwise experience with other ERP implementation methods.

Some software customization flexibility may be lost due to the vendor hosted ERP application. In a traditional ERP implementation, the software application is installed on the company servers where it is actually owned. Companies have the right to modify, customize, or both as needed. SaaS is generally less flexible than the traditional ERP in that you cannot completely customize or rewrite the software. Conversely, since SaaS cannot be customized, it reduces some of the technical difficulties associated with changing the software.

Companies tend to find that they do not have the control over SaaS software they would like, relative to traditional ERP. This is especially true of mid-size or large companies with well-defined business processes unable to be changed to fit the software. Small to medium size companies generally have an easier time adapting their business processes to the software than a larger organization.

Accessibility can potentially be an issue when the internet is not available, since SaaS is entirely accessed through the web. If for some reason the internet goes down, then a company's business is constrained. Alternatively, a traditional ERP implementation does not require internet reliability, provided users are accessing the software from inside the company's network. For any company this could be a technical nightmare and operational disaster.

Generally the SaaS implementation can be deployed at much smaller initial costs, which can be attractive to small and medium sized businesses. Although the initial costs are much lower, companies have to be aware of the unexpected "hidden costs" to support change management, ongoing software maintenance, and data storage. These may substantially affect the total cost of ownership for the SaaS implementation. Much like leasing versus buying a car, the payment never goes away as long as the software is used, and can become costly as you grow and add employees to the system.

Neal (2010) survey results found that 89% of organizations choose "big bang", "phased rollout" or a combination of the two strategies. The number was split nearly evenly between phased rollout and big bang users; parallel adoption trailed far behind with only four users; other was used least. The chart shows that the number of phased rollout users compared to big bang users was split nearly evenly; parallel adoption trailed far behind four users represented; "other" came in last.

Figure 4
Adapted from Neal (2010)

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Further Readings on the Topic

Listed are readings that you may find useful as you continue to gain knowledge about ERP Implementation Strategies.

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Questions

1. What steps would you take if implementing a big bang approach ?
2. What would be the argument for selecting one ERP implementation strategy over another ?
3. What would be the argument for selecting one ERP implementation methodology over another ?
4. Give some examples of why ERP system implementations are still unsuccessful today.
5. What are some the key takeaways most important to ERP strategy and methodology perspectives, and why ?