



ERP IS A TOOL, NOT A SOLUTION!

“Realizing the Benefits of ERP”

by Phil Rodgers | March 25, 2005 |

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Overview

Businesses today are constantly being faced with the sudden, as well as, stark reality of the ever-growing demands of the marketplace. By this, companies must learn to anticipate, respond, and react to these demands or perish under them. In a fiercely competitive business society, the element of strategy not only dictates how success will be achieved, but also will govern how businesses will survive. Thus, an effective business strategy must center its resources on an aggressive, efficient use of systems developed through information technology.

The development of an information system has been depicted as a process that leads from a concept to a decision about the choice, design, and development of the final information system. To be effective as well as successful in developing this information system, everything depends on an array of factors, most importantly those relating to the following characteristics:

- The depth of understanding and knowledge of the complexity of the each business processes and their respective needs.
- The extent of user participation and their involvement in system development.
- The level of data integration designed into the system.

In a similar manner, accounting and management decision making processes have promoted a shared assumption that a better, more effectively designed information system would contribute to the efficiency with which organizational functions are executed in order to attain the desired outcomes. As a result, the factors that influence the information system development would have a significant impact on both organization performance and user perceptions about the system not only after implementation, but also during its use by the entire organization. These are the basic parameters that were utilized in the development of the Enterprise Resource Planning (ERP) systems.

The origins of the ERP systems can be traced through the various developments within standardized systems for planning and the control of manufacturing operations:

- Early systems were purely manual, labor-intensive activities which encompassed, but not limited to:
 - material ordering
 - various human resource functions – hiring and firing of personnel
 - expediting of orders on the production floor
- With the establishment of Reorder Points and Economic Order Quantities (EOQ) methodologies, the material ordering function was enhanced and systemized by these processes.
- The 1960's ushered in a technique to plan material requirements based on future product requirements, rather than reordering based on past usage – the development of Materials Requirements Planning (MRP).

- Master Production Scheduling was enacted to drive the MRP concept by relating material plans to products and various customer options.
- With the 1970's, the addition of Shop Floor Controls, Capacity Requirements Planning, and enhanced Purchasing techniques, a "closed loop" process was enacted – Manufacturing Resource Planning (MRP II) was developed. This process extended the planning and control activities to operate under one computer system which included:
 - Production Planning
 - Business Planning
 - Financial and Distribution Systems

The ERP systems have taken these experiences and have organized its structure around the basic economic rationale of the enterprise value chain, and designed its modules around a process view of business. Even with this understood, some environments interpret ERP as the solution to the problems within MRPII, and further view it as an MRPII system with additional features such as:

- Human resource management and salaries,
- Document control, and
- Maintenance.

The major advantages of ERP systems over other application software suites lie not only in their ability to standardize, but also integrate accounting transaction processing with workflow, design, and engineering management as well as to support their related decision making activities. Further, this enterprise-wide application promises seamless integration of all information flowing throughout a corporation in a real-time environment for the following areas:

- Accounting and financial data
- Human resource information
- Supply chain inventory and order status data
- Customer profile and order fulfillment information

In addition to these, ERP would enable the implementation of "best practices" in all areas of the business, trigger business process reengineering in each area, and support quality drives such as ISO 9000.

However, this scope can bring considerable complexity while the implementation process will often be lengthy, cumbersome, and costly. The critical factors required to begin an implementation, on an enterprise-wide span, are encompassed in the following:

- Total and inexhaustible executive management support.
- An effective and totally dedicated implementation team with cross-functional exposure.
- Organizational-wide commitment to the ERP system.

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- Effective resolution of misalignments between organizational needs and the ERP system functionality.

If one or more of these factors are missing or have been negated, the implementation is in peril.



Concept

"Enterprise resource planning software, or ERP, doesn't live up to its acronym," states Christopher Koch in The ABC's of ERP. He further states, "Forget about planning – it doesn't do much of that – and forget about resource, a throwaway term. But remember the enterprise part. It attempts to integrate all departments and functions across a company onto a single computer system that can serve all those different departments' particular needs."

The vision of ERP that Christopher Koch cited in The ABC's of ERP is as follows:

"Typically, when a customer places an order, that order begins a mostly paper-based journey from in-basket to in-basket around the company, often being keyed and re-keyed into different department computer systems along the way. All that lounging around in in-baskets causes delays and lost orders, and all the keying into different computer systems invites errors. Meanwhile, no one in the company truly knows what the status of the order is at any given point because there is no way for the finance department, for example, to get into the warehouse's computer system to see whether the item has been shipped. 'You'll have to call the warehouse' is the familiar refrain heard by the frustrated customer.

ERP vanquishes the old standalone computer systems in finance, HR, manufacturing, and the warehouse, and replaces them with a single unified software program divided into software modules that roughly approximate the old standalone systems. Finance, manufacturing, and the warehouse all get their own software, except now the software is linked together so that someone in finance can look into the warehouse software to see if an order has been shipped."

ERP systems provide a transactional backbone to the corporation by providing a means to capture and display the basic cost and revenue elements of its inventories as they move from raw to a finished goods state. Further, ERP systems afford a structured and efficient access to management information concerning its business activities, showing actual cost of sales in a real-time fashion. The architecture of ERP systems represents a return to the centralized control model of the 60's and 70's, where access to computing resources and data was totally controlled and dictated by a centralized IT department. This centralization of control results in a central corporate focal point. The popularity of ERP systems is based on its ability to solve specific issues created by disconnected and outdated applications that are no longer effective in the current business environment. The main rationale to implement an ERP system was the need to integrate the processes and information of a corporate into a single, unified database that will serve a diverse array of departments in their decision-making and reporting processes.

Further, various studies have shown that there are five specific reasons why corporations will install ERP systems:

- **Integrate financial information** – through a single, unified database, there can only be “one set of books” by which the financial welfare of the corporation can be evaluated and decision making will be enacted. Misapplication or misinterpreting of financial information that existed with standalone computer systems will be eliminated.
- **Integrate customer order information** – through a single, unified database, there is total visibility of each customer order from the time the order was entered until the order is shipped and invoiced. By this, each department can coordinate its activities to insure accuracy as well as timeliness in completing its related activities.
- **Standardize and speed up manufacturing processes** – through the implementation of “best practice” processes, waste created by redundancy and inaccuracy are eliminated; productivity will be increased by reducing the time to produce; and quality will be enhanced through the standardization of processes.
- **Reduce inventory** – through the increased visibility of each customer order, the manufacturing process is able to flow more effectively and efficiently. Planning of material requirements will be enhanced, thus reducing not only the Work-in-Process inventory levels, but also the Finished Goods inventory levels residing in the warehouses.
- **Standardize Human Resource information** – in the situation where a corporation has multiple business units, a single, unified database will enable the corporation not only to standardize its information on benefits and services to its employees, but also enhance and standardize the timekeeping capabilities for payroll purposes.

With this understood, it is imperative that companies assess their current business processes and practices to insure that the standard ERP package will align with your business model, before any checks are signed, and the implementation begins. If it is discovered that the software package cannot support specific business process(es), a determination must be made:

- The identified business process(es) could be amended to accommodate the parameters of the software package, thus impacting not only the current way of doing business, but also the roles and responsibilities of the employees required to complete the process(es).
- Or, the software package would have to be customized to meet the demands of the current business process(es), thus impacting not only the time to implement the system, but also exposing the software package to possible bugs which could

compromise and damage the software. Further, the next upgrade would be extremely difficult to develop due to the required customization.

When budgeting for the ERP system implementation, there are additional factors that must be considered and budgeted for besides the initial outlay for the software package. Each factor will have a direct impact on the total cost of the project, and each could have a direct effect on a subsequent factor:

- **Training** – personnel will be required to become proficient with a new set of business processes and practices, and not just a new software interface. A curriculum will have to be developed, and a training resource will have to be identified; each creates an additional cost.
- **Integration and testing** – verifying and insuring the accuracy of the links between the ERP modules with the current corporate software will be laborious. New or amended links may have to be built on a case-by-case basis. Each requires an additional cost.
- **Customization** – this can affect every module of the ERP system due to their integration and complexity. Further, each upgrade to the ERP system will require customization and verification to insure its accuracy. Each requires an additional cost.
- **Data conversion** – movement of corporate information pertaining to customers, suppliers, product design data, etc. will require modifications due to amended processes necessitated by the ERP implementation. Should the corporate data be found to be dirty or incomplete, additional costs will be incurred to correct the identified issue (s).
- **Data analysis** – data produced by the ERP system will have to be analyzed against a baseline to insure its accuracy, since processes have been amended and altered. Additional costs will be incurred.
- **Consultants and infinitum** – a project scope with specific deliverables and an identified timeline must be developed and implemented to achieve a timely disengagement. If not affected, additional costs could be incurred.
- **Retention or replacement of critical personnel** – develop a retention strategy to insure that the ERP veterans are maintained; if not, replacement of personnel with the required skill set will be extremely costly and time consuming to achieve.
- **Implementation teams can never stop** – there are too many initiatives that have to be maintained after the ERP implementation to allow the members of the

Implementation Teams to return to their previous positions due to their insight and experience with the ERP system.

- **Waiting for Return on Investment (ROI)** – this value will not be revealed until the appropriate behavior changes have taken place in the organization and the company has implemented the improvements in their business processes.
- **Post-ERP depression** – has been created by the changes to the business processes and practices that have been created. In order to overcome, additional costs will have to be incurred.

Benefits to be realized by implementation

Some of the benefits that can be harnessed by the tight coordination and integration afforded by the ERP systems are:

- Streamlining financial and administrative processes by utilizing “best practices” for these business processes and practices,
- Data entry has been reduced resulting in fewer input errors,
- Integration of production planning, material planning, and sales processing systems has allowed for quicker conversion of customer orders into production schedules as well as material orders,
- An enhanced, leaner production model has evolved through the utilization of total order visibility throughout the entire manufacturing process,
- Minimization of excess manufacturing capacity has been achieved through enhanced production scheduling,
- Raw material safety stock levels and finished goods inventory levels have been reduced to their minimums,
- Customer service will be improved due to increased responsiveness resulting from the integration of sales and production planning systems; total order visibility,
- Increased visibility and understanding of future material requirements will provide suppliers with more notice, thus improving their delivery performance.

Methods of Implementation

From various observations, there are three commonly used methods of installations. *The ABC's of ERP* provides the following characteristics of each:

- **The "Big Bang"** – "In this, the most ambitious of the approaches to ERP implementation, companies cast off all of (sic) their legacy systems at once and install a single ERP system across the entire company. Though this method dominated early ERP implementations, few companies dare to attempt it anymore because it calls for the entire company to mobilize and change at once."
- **Franchising Strategy** – "This approach suits large or diverse companies that do not share many common processes across business units. Independent ERP systems are installed in each unit, while linking common processes, such as financial bookkeeping, across the enterprise. This has emerged as the most common way of implementing ERP."
- **"Slam Dunk"** – "ERP dictates the process design in this method, where the focus is on just a few key processes, such as those contained in an ERP system's financial module. The slam dunk is generally for smaller companies expecting to grow into ERP. The goal here is to get ERP up and running quickly and to ditch the fancy reengineering in favor of the ERP system's 'canned' processes."

Critical Factors that dictate a successful ERP Implementation

Through the findings obtained from numerous studies of ERP implementations, it has been revealed that the following eleven - "S.O.S. – Save our System" – factors have been found to be not only critical, but also vital to the success of an ERP system implementation. Within the following, each will be discussed.

- **Top executive leadership** – this factor cannot be understated for its importance and priority status throughout the implementation of the ERP system. This project must be aligned with the strategic goals of the corporation. Commitment to this project will require senior management to provide the valuable resources – skilled personnel and uninterrupted time – to see the initiative through to its completion.

In addition, all levels of management must review and realign not only their reporting structures, but also their roles and responsibilities as dictated by reengineered business processes and practices. Policies must be enacted by senior management to support this reorganization.

Finally, all management bonuses as well as incentives must be tied to the implementation of the system - on time and within the pre-determined budget guidelines.

- **Business plan and vision** – this is the “rudder by which the ship will be steered’ and will provide focus throughout this project. The business plan should be structured to encompass the following critical elements - proposed strategic and tangible benefits, resource requirements, anticipated cost estimates, risk analyzes by area, and timeline for major deliverables required for completion.

In addition, there has to be a clear and concise operational plan on how to conduct business while the implementation is underway. This should alleviate any critical situations that might arise during the implementation.

- **Effective communication** – as with any change, especially one of this magnitude and complexity, communication is critical to its success. Communication begins with a formal announcement as well as presentation to all employees of the project scope, objectives, activities to be undertaken at all levels, and anticipated timeline to completion. Next, periodic updates of the project progress have to be scheduled on a regular basis. Should there be any significant modifications to the original presentation, this also needs to be communicated.

Further, expectations at every level need to be communicated to dispel any and all misunderstandings as well as to seek the support of all employees by acquiring their requirements, comments, reactions, and approval.

- **Change management program and culture** – change management is important to the success of the implementation and should be started within the early portion of the project as well as maintained throughout the life cycle. The corporation should have a culture that has a strong identify and is open to change in order to succeed.

In addition, change management needs to insure that the users are involved in design and implementation of the business processes. Training and professional development of the user workforce should be emphasized. Employees need training to understand how the system will change business processes and practices throughout its life cycle.

- **Business process reengineering and minimum customization** – aligning the software package to the business processes is critical in order to realize maximum benefits and return on investment (ROI).

Extensive process reengineering and alignment should begin prior to the selection of a software package. Throughout the implementation process, reengineering should be ongoing in order to take advantage of improvements. In a similar manner, when the system is in use, reengineering should be carried out on the new capabilities that are provided.

- **ERP teamwork and composition** – this factor must be maintained throughout the entire life cycle of the ERP system from the Chartering Phase through Maintenance. The composition of the team should be cross-functional with the selected membership being “the best of the best” in each of their respective disciplines as well as being familiar with the business functions and products in order to develop the business and technical knowledge requirements for design and implementation.

Further, the ERP project must be not only their fulltime job, but also their only priority; all other work assignments will be delegated to other responsible employees. If at all possible, the team should be co-located together to facilitate knowledge-sharing as well as enhancing the teamwork ethic.

Finally, the ERP team should be given compensation as well as incentives for successfully implementing the system on time and within the pre-determined budget guidelines.

- **Project management** – the factor that will be held accountable to deliver the project on time and within the budgetary guidelines will be Project Management. The driving force to oversee the project management will be a dedicated team of trained individuals with specific responsibilities.

Initially, a clear and limited project scope needs to be established which identifies the systems to be implements, the business units to be involved, the extent of business process reengineering that will be required, the specific timeline milestones to complete. From this, a critical path can be developed to insure that timely decisions relating to the project can be made.

Further, the project management tool should have clearly defined tasks with accurate estimates of resources – time, personnel, and cost. Throughout this process, there must be a constant focus on tracking of schedules and budgets against established targets.

- **Project champion** – should be a senior executive who can oversee the project, resolve conflicts, and manage resistance throughout the implementation of the ERP system. Further, the designated individual should have the power to set goals and legitimize change.

- **Appropriate business and legacy systems** – are important during the initial chartering phase of the project. These factors are needed to provide a stable business setting which is critical to effect the desired change environment.
- **Software development, testing, and troubleshooting** – as with the aforementioned factors, these initiatives must be started in the earliest possible phase of the implementation in order to avoid any reconfiguration or customization delays and costs. At this same time, a decision will have to be made as to the level of functionality and the approach required to link the ERP system to selected legacy systems.

Troubleshooting software errors as well as vigorous, sophisticated software testing eases the implementation process and positions it for success.

- **Monitoring and evaluation of performance** – during the final phase of implementation referred to as “shakedown”, these factors take a prominent position. Milestones and targets are important to keep track of progress. Achievements should be measured against project goals. The progress of the project should be monitored actively through the established milestones and budgetary targets.

Management needs information on the effect of ERP on business performance, thus reports or processes for assessing data need to be designed. These reports should be produced and evaluated against pre-determined metrics that meet the business needs of the corporation.

With the installation of these eleven factors, management will be able to make critical decisions and re-allocate resources that are required to insure a successful ERP implementation. By this, corporations will no longer be required to hang out the “S.O.S. – Save Our System” flags; instead, they will be streaming full-speed ahead and realizing the benefits of the ERP systems.

Key Takeaways

In the *ERP (Enterprise Resource Planning) Survival Guide*, Phil Robinson provides selected “food for thought” items that should be considered throughout the ERP life cycle.

- “An ERP system is only the tool you need to achieve that step change in business performance, it is **not** (despite what is says on the box) **a solution in its own right**.
- **For change to happen people have to do something different**, a change of culture and people will not change until they understand what’s in it for them.
- **To change culture you have to change performance measures**.
- To change performance measures you have to first **develop a shared vision**, a new way of working together.
- No-one should be expected to know the best way to change their way of working, **they need help and guidance from people who have done it before.**”



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