Acumatica
The Cloud ERP

Return on Investment (ROI) Analysis for ERP Replacement

Section 01

Synopsis

This paper is for companies considering an ERP replacement looking to justify the investment in new technology. This paper will provide methods to identify and define the full spectrum of costs and benefits associated with an ERP implementation, as well as the calculations needed to determine a true return on investment analysis.

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Learn what methods exist for calculating ROI estimates

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Determine initial, ongoing, and "hidden" project costs for ERP

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Identify direct and indirect benefits of your ERP project

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Use ROI analysis to predict and measure future business success

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Section 02

Introduction

The Importance of Return on Investment Analysis

Most companies will do at least a rudimentary cost/benefit analysis before making a significant investment for new production equipment, plant expansion, or computers/software to identify how the investment will "pay for itself." Before company owners or board of directors will approve a capital expenditure, they want to know that the money being spent will enable improvements that are worth more than the investment. Otherwise, they would be better off putting the money elsewhere or not borrowing the money, if that's the case.

Cost/benefit analysis is simply delineating the costs on one side and the return (money value of benefits) on the other. From there, it is simply a matter of calculating how long it will take to earn back the investment (payback period) or the equivalent percentage "interest" the benefits represent (internal rate of return). This return-on-investment (ROI) analysis should make it easy for decision-makers to compare projects and other uses of the money so they can make the best investments and avoid those that are not worthwhile.

The idea behind cost/benefit analysis may be quite simple and straightforward, but the reality is more complicated.

The idea behind cost/benefit analysis may be quite simple and straightforward, but the reality is more complicated. Many costs are clear and apparent – just look at the vendor quotes and project budget – but there may be "hidden" costs that are easily overlooked. On the benefits side, it's even more difficult because you will essentially be making a forecast of the impact of the new equipment or systems on company operations including sales, production costs, labor costs, inventory, and more. In addition, many of the benefits may be "indirect" – quality of life for employees, for example, might improve productivity (direct savings) but also reduce absenteeism and employee turnover. That's pretty hard to predict.

It's important to measure success, not only to document the outcome of the investment, but also to measure progress and manage the project effectively.

Measuring benefits can also be problematic because many (the indirect benefits in particular) are difficult to quantify. They can be even more difficult to separate out as the result of the investment and not something that might have happened anyway, without the new system or equipment. Measuring success is also made more difficult by a lack of baseline measurements. If you expect a decrease in inventory or an improvement in productivity, for example, you can't measure your success if you don't know what those levels were before you made the investment. And it is important to measure success, not only to document the outcome of the investment, but also to measure progress and manage the project effectively.

ROI analysis is almost always a requirement to get the project funded – it provides the justification that company decision-makers need. Done right, this peek into the future can also provide a framework for the project team as well as the CEO and the board to monitor progress and steer the project to successful completion.

Section 03

ROI Methodology

ROI Methodology: How to Calculate Return on Investment

The balance of this whitepaper discusses defining and documenting costs and benefits. This section will introduce the math.

Suppose you are considering a new ERP system and the total cost is $100,000. Let's assume that the system will save the company $150,000 over the next 5 years. What's the expected return on this investment (ROI)?

There are a couple of ways to calculate the ROI. One method is that the return on this investment is 150% and a second method would be a 50% gain, if you prefer to look at it that way. Remember, though, that the $100,000 is the total cost of the system for the entire 5-year period and the $150,000 return is the sum of all the benefits for that same 5 years.

Method 1 is to divide Total Benefits by Total Costs

- Return on Investment (ROI) = Total Benefits / Total Costs
- Total benefits = $150,000
- Total costs = $100,000
- ROI = $150,000 / $ 100,000 = 1.5 or 150%

Method 2 is to divide Net Profit by Total Costs

- Net profit = Total Benefits – Total Costs
- ROI Gain = (Net Profit / Total Costs) x 100
- ($150,000 - $100,000) / $100,000 = .50 or 50%

You may prefer to look at the annual return which, in this case, is 10% per year on average. Be aware that the return will not be the same each year. A majority of the costs will likely be "front-loaded" meaning that more costs are incurred in the first months or years while the benefits can be expected to start small and grow over time. The return in the first year might well be negative, and it may take another year or two to "earn back" that initial benefit before a real gain is realized.

Payback methodology

Another way to look at ROI is the payback period – how long it takes to "earn back" the costs. If the cost for your new system is $100,000, and the benefits are $50,000 per year, the payback period is 2 years.

- Payback = cost / annual return

Benefits of $25,000 per year yield a payback period of 4 years. In our previous example with $150,000 in benefits over 5 years, the average benefit is $30,000 per year resulting in a 3.33 year payback period. The benefits after 3.33 years are "profit." Keep in mind that costs and benefits will not be equally distributed over the projected life of the investment, so any annualized payback period based on total cost and total return will be misleading.

One final note on return and payback: not making the investment also has a cost.

Final comment on ROI

Note that there are more sophisticated ROI calculations than these, which include the time value of money, recognizing the effect of inflation from year to year. You may want to start with these simplified ROI estimates for first-cut analysis, then work with your accounting team to develop more detailed and complete budgets and return analyses.

One final note on return and payback: not making the investment also has a cost. Many companies decide to replace an existing ERP system at least in part because the cost of maintaining hardware and software is high – and getting higher – as equipment and programs age, become unreliable, and cannot support the growing demands of the organization and new technologies. Even if that's not the case, your old system may be costing your company lost business (from customer service deficiencies) or inefficiencies that increase your cost of doing business or prevent you from effectively competing online or in other evolving market opportunities.

Determining Project Costs for ERP Implementation

Section 04

ERP Project Costs

The ROI analysis should try to identify and account for as many of the associated costs as possible in order to be fair and accurate.

Implementing a new ERP system is a major investment in money, time, and attention. The ROI analysis should try to identify and account for as many of these costs as possible in order to be fair and accurate. The majority of direct costs will appear on the proposal or quote from your ERP supplier but there are sure to be other costs involved from third-party providers (hardware, consulting services, etc.) and from the company's own resources.

Direct costs continue after the initial purchase and implementation. Be sure to include continuing costs in your analysis. If you are replacing an existing system, you'll want to recognize additional costs for maintenance, upgrades, staff time, training, etc. but also consider the savings (cost reductions) for the on-going costs you will no longer be paying for support of the prior system. Most new replacement systems will demonstrate a net reduction in operational costs because they are more reliable and easier to use and maintain.

If you are moving from an on-premise system to cloud SaaS, the nature of on-going costs will change dramatically as you outsource virtually all of the hardware and software maintenance. Be sure to include a fair assessment of the reduction in on-going maintenance and management costs (on the benefits side of the equation) that offset part of the SaaS monthly fee.

Please note: initial costs (capital expense) for a cloud-based Software-as-a-Service (SaaS) ERP system are much lower than they are for a traditional on-premise licensing situation, but on-going (operating expense) costs can be higher. Nevertheless, the following discussion applies to either on-premise or SaaS implementations. Major differences or considerations are mentioned.

First year's costs

Your cost estimates should include:

1. Hardware and system software for an on-premise installation

- Purchase and annual maintenance of hardware
- Purchase and annual maintenance of operating system and data base software
- Replacing old workstations with modern ones
- Adding storage capacity
- Security, security, security
- Disaster recovery services

Most of the up-front costs for the above will be included in the proposal from your selected or short-list vendors, but they may not have included everything – the last two items in particular.

Be sure that the hardware (processing power and storage) are sufficient for the size of the installation and the number of users who will be relying on the system's functionality and responsiveness. After successful implementation, expect use of the system to increase so plan for additional hardware and licenses to support increased demand.

Software-as-a-Service (SaaS) contracts will include much if not all of the above costs in a single monthly service fee. Be sure to closely examine the contract to clearly identify any of the above that are not included so that you can budget accordingly.

2. Application software

- Purchase or subscription costs
- First year's maintenance
- User license fees

The number of user licenses must be sufficient for the number of users who will need access to the new system. After implementation is completed, expect use of the system to increase so plan for additional licenses to support increased demand.

3. Additional complementary systems or services (third-party purchases)

- Licenses
- Integration and programming services

You may need additional software or services from additional (third-party) suppliers to complete your system and its implementation, like sales tax services or shipping services.

4. People costs

- Internal costs in the time required by key operational employees
  - > Procedure development and documentation using the new software
  - > Testing and problem solving the total solution before going live
  - > Initial training for all users
- Internal costs in the time required by IT or consultants
  - > Integration to legacy systems that will not be replaced by the new system
  - > Integrating mobile devices

The biggest reason that ERP implementation projects stall or fail is because companies ignore or severely under underestimate the internal people costs.

The biggest reason that ERP implementation projects stall or fail is because companies ignore or severely under underestimate the internal people costs – the time, effort, and additional expense from existing resources including the operational employees as well as the IT department

Consultants or contractor are supplemental staff to help in these tasks. However, to optimize your business processes, the best people to do that are your key operational people. They need to be heavily involved with the implementation.

On-going Costs

In addition to the initial costs, be sure to estimate the on-going support and maintenance over the projected life of the system.

- IT departmental costs for utilities, personnel, consultants and support
- For SaaS:
  - > Software annual subscription licensing
- For on-premise:
  - > Annual maintenance fees
  - > Budget for system expansion and enhancement
  - > Cost of implementing periodic upgrades (software releases)
- Ongoing training and procedure development – due to promotions, attrition, new release functionality, integration to other systems
- If third-party applications are to be included, be sure to allow for integration programming and additional support for maintenance over the planned life of the system for maintaining the custom integration through successive upgrade cycles for both the ERP and the third-party apps.

Section 05

ERP Project Return

Valuing the Direct and Indirect Benefits of an ERP Project

Most ERP projects are justified (in an ROI analysis) on a few easy-to-see direct benefits – things like inventory reduction, eliminating the cost of maintaining outdated and poorly functioning hardware and software, and reduced expediting and backorders. Many justifications will also attempt to put a value on improved customer service (higher sales and profit), and higher efficiency in the plant or warehouse (lower costs, higher throughput, reduced overtime, higher quality).

There are many more possible returns, but some are difficult to predict and hard to measure. It's also a challenge to give the system full credit for improvements like higher sales and more revenue. Many other factors contribute to sales success. The same can be said for most indirect benefits. Nonetheless, it's not unreasonable to assign some measure of value to the system for its contribution to such improvements and savings. Be very conservative so as not to damage the credibility of your ROI analysis.

Direct benefits

- Cost savings, cost avoidance
  - > Inventory reduction, including materials, parts, finished goods and work-in-process
  - > Increased productivity and throughput in the plant
  - > Reduced scrap, rework, expediting, and wasted materials
  - > Less overtime, expediting, premium freight, and additional set-ups due to last-minute schedule changes
- Improved visibility across the entire business to make faster and better decisions

- Increased revenue and profit
  - > Increased sales due to better customer service, improved quality, better on-time delivery and shorter lead time
  - > Sales and margin improvements due to faster time-to-market for new products and product variants, cost reductions

Indirect benefits

- Improved retention and higher productivity from employees who are less frustrated and more effective in their jobs
- Less panic, disruption, and chaos in the plant and in the office due to fewer last minute changes and surprises; more stable schedules; less expediting
- Smarter moves in the market – pricing decisions, specials, product releases or changes, inventory deployment, to name a few – due to better information and insight into market conditions, customer needs and competitive activity

Section 06

Use ROI Analysis to Predict and Measure Future Business Success

Summary

Most companies will require some kind of ROI analysis as part of the process of allocating funds for capital expenses. But cost/benefit ROI analysis should be a part of every performance improvement project to clearly establish the "why are we doing this?" statement that frames project planning and motivates participants to dedicate their time and efforts to completion of the project.

Measurements noted in the ROI analysis become a key part of project management and progress monitoring that can help keep the project on track. Measuring the results and comparing them back to the ROI can teach valuable lessons that will benefit the company on future projects.

You'll want to get your accounting folks involved in helping you complete the cost/benefit and ROI analysis. They will know the formulas, can complete the more complicated discounted cash flow (adjusted for inflation), and will provide valuable help in assigning values to improvements and benefits.

ERP investment is easily justified through a fair, balanced, and conservative cost/benefit analysis. Successful implementation will deliver the expected benefits.

Experienced consultants from your accounting firm, IT consulting resources you may be working with, and/or from an ERP system supplier like Acumatica can help you through the process – they have all done it many times before and may even have samples or templates to help you put your ROI together.

ERP is always a good investment, easily justified through a fair and balanced, conservative cost/benefit analysis. Successful implementation will deliver the expected benefits. Companies that fail to achieve the benefits identified in the ROI analysis should not blame the system. A proper cost/benefit analysis will clearly detail what to expect for an outcome. As long as the chosen system is appropriate for the company

Section 06: Summary
Use ROI Analysis to Predict and Measure Future Business Success

implementing it, provided and maintained by a reputable supplier, and the implementation is done right, the improvements, savings and financial return will come to be.

It is exceptionally valuable to have the future state of the company and its processes detailed on a cost and benefit basis to keep morale high, motivate project participants to stay committed to timely completion of the implementation, and to satisfy the owners, stockholders and executives that it is a valid and valuable use of the company resources that will pay dividends for years to come.

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