The Importance of Measuring ROI: The Indicator of Business and IT Performance

Why a disciplined IT performance measurement program is critical not only for business growth but also for economic viability. This paper provides a framework for a Return on IT (ROIIT™) methodology and discusses how to deploy it within a company’s business processes.

An Alinean White Paper
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ROI: The Critical Measure of Business & IT Performance

Information Technology (IT) has long been a critical success factor in driving a successful business. However, on many an occasion, it has been asked: "Does spending more on IT result in superior financial performance for the business as a whole?" Unfortunately, there is no clear cut answer. In fact, the impact of IT can vary significantly from one company to the next as well as between industry sector, geographic region, company size or even time periods. So how best then to judge whether IT investments are having the effect desired by business leaders?

It is generally accepted that "well-directed IT spending” can lead to competitive advantage. So while research suggests that the level of IT Spending does not demonstrate conclusive results, it should be no surprise that research proves business performance improves based on how IT Spending is allocated. But how does an organization identify opportunities and then direct IT Spending toward projects that will deliver the greatest advantage?

Measurements provide a feedback mechanism critical to continuously improving any activity. Without a reliable measurement, there is no objective way to evaluate whether goals have been successfully met. In contrast, activities that do not get measured often do not get done. Hence, measuring the impact of IT on business will guide investments as well as the choices organizations make on IT projects. But this begs the question of what to measure. What key metrics can help businesses to understand the macro economics of their IT Spending and allocation in a context of their own industries, size, and geographies? And how should a business interpret these metrics during periods of rapid growth or significant downturns in the larger economy?

Return on Investment (ROI) defines the payback of investment against its benefit to the business. It continues to be the best measure to articulate the impact of technology in financial and business terms while providing an objective means for comparing competing project opportunities. Furthermore, when ROI is taken in aggregate across all projects and IT activities, it delivers measurable ROI across the entire organization. This obscures the variations associated with individual projects to present a holistic view of performance. More importantly perhaps, ROI acts as the tool to evaluate the successes or failings across the various business practices and processes.

When an organization compares its own ROI and related metrics against other organizations in its industry or geography at critical points in time, this exposes the effectiveness of its investments versus competitors. Where the target organization is outperforming others, this indicates an opportunity to capitalize on that success and extend investments. When the target organization is underperforming with equivalent investments, this warrants an examination of the processes of delivery. When results are inconclusive, further drill down into the key factors of ROI, specifically the focus areas for investment or expected return, can illuminate alignment with strategic goals or inefficiencies to be addressed.

So when evaluating IT investments either at a project level or across the entire enterprise, ROI provides a measure which can translate the benefits of IT into terms the business understands and values. Measuring specific IT project ROI is a generally understood and accepted practice. This paper explores how to examine the Return on Investment of IT across the enterprise. We call this ROIT™ or the Return on IT. This paper will discuss ROIT™ and associated metrics that can be tracked and analyzed with the goal of helping organizations understand the strengths and weaknesses of their current IT and business operations. Better alignment with strategic goals and industry trends delivers the best possible results in the context of current economic conditions.

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1 Project results are impacted by many discrete changes both large and small, and inside or outside an organization. That is to say that an individual project may successfully meet all its qualitative objectives but still not reach its financial contribution goals due to other changes related to company products, customer demand, or the entry of a new competitor.
Which financial metrics a business owner or financial analyst should track

This section outlines the relevant metrics for an ROI assessment at the business level and how the aggregated ROI of individual project ROIs can contribute to the interpretation of the results.

**ROI™ Metrics**

To measure IT’s overall **ROI or Return on IT (ROI™)**, use the traditional ROI formula to evaluate the overall company benefits from IT investments (or relative cost of IT). Benefits are measured in the ROI™ formula using Net Income -- an overall corporate performance metric by which many executives and business units are measured. Although IT is not wholly responsible for positive or negative Net Income results, it is an important and vital contributor, and Net Income is the overall net benefit or result of corporate investments and spending, including IT. As such, it is a good measure of the end result of IT Spending. The first two key metrics are:

- **Net Income** (Return) – measured benefit
- **IT Spending** (Investment) – measure cost

These in combination then allow the calculation of ROI™, a variation on ROI:

- **ROI** = Net Benefits / Costs
- **ROI™** = Net Income / IT Spending

But this value in a vacuum does not help compare differing businesses of significantly different sizes. Therefore, normalizing IT Spending by some indicator of gross size is meaningful. Using **Sales Revenue** as that metric allows comparative analysis. Thus, a fourth key metric should be added:

- **Sales Revenue**

To demonstrate the value of using Sales Revenue to normalize performance, the following charts reflect historical analyses of IT Spending Relative to Sales Revenue across a broad sampling of over 22,000 companies².

In Figure one, by segmenting the top and bottom performers based on ROI™, it is clear that organizations with the best ROI™ have been able to better control AND leverage IT Spending to deliver returns. The middle performers (in terms of ROI™ success) spend more heavily to achieve positive returns. The worst performers, while spending less on IT relative to Sales Revenue are unable to use that to drive Net Income and ROI™.

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2 The Alinean ValueBase™ is a proprietary worldwide IT spending and performance database of 20,000+ companies in over 37 different industries, across 16 worldwide geographic regions. The ValueBase™ contains all key IT spending and allocation, IT performance and Total Cost of Ownership (TCO) benchmark metrics.
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IT Overview Metrics

**IT Spending** has been introduced as the key measure of Investments in the ROIT™ formula, but care must be taken to reflect a true total across the organization. TCO (Total Cost of Ownership) research consistently demonstrates that the official Central IT Budget of an organization falls well short of any organization’s true cost of providing Information Technology. Thus, to get a complete picture of the total IT investments, IT Spending must reflect the sum of the following key sub-components:

- **Formal (or Central)** IT Spending (allocated and controlled by the CIO and IT group)
- **Business Unit Control** (controlled by business units and leaders)
- **Indirect (Shadow)** IT Spending (hidden expenditures of business units and users)

The average breakdown from the database for 2008 across all companies for these categories follows. Comparisons to this baseline provide overall insights into how an organization manages its IT investments.

**Figure 2 – Uncovering all the sources of IT Investment involves ensuring that the Total Cost of Ownership for all IT assets be explored**
Furthermore, breaking down this IT Spending into the “purposes” it is spent for includes:

- IT Spending on Ongoing Operations and Maintenance (Operations)
- IT Spending on Migration and Upgrades (Migrations and Upgrades)
- IT Spending on Innovation (Innovation)

The average breakdowns are presented below:

And finally, a measure of effectiveness in IT Spending can be derived from the breakdown aggregated across all project results:

- Successful and Meeting ROI goals
- Successful but not to ROI Standards
- Cancelled
- Issues with Budget, Schedule and Functionality

Figure 5 – IT Project Risk Analysis presents a breakdown of those projects based on delivery characteristics

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This set of metrics will provide tools to measure **Return on Investment** as well as analyze and deduce recommendations from it.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Income</strong></td>
<td>The overall corporate performance metric by which many executives and business units are measured and the overall net benefit or result of corporate investments and spending. Used as the Return component for ROI in ROIT™.</td>
</tr>
<tr>
<td><strong>IT Spending</strong></td>
<td>The sum of Formal IT Spending, Business Unit Control and Shadow IT Spending. Used as the Investment component for ROI in ROIT™.</td>
</tr>
<tr>
<td><strong>Return on IT (ROIT™)</strong></td>
<td>A single key performance indicator that helps measure the efficiency and effectiveness of IT Spending against overall company performance. The metric is a top-down measurement of IT Spending productivity correlating IT Spending with financial performance into a single, concise comparative metric for current performance assessment and planning. Calculated as Net Income / IT Spending.</td>
</tr>
<tr>
<td><strong>Sales Revenue</strong></td>
<td>Direct revenue from the sale of a company's goods and services. Often referred to as Top Line revenue. Used as the Revenue Component in subsequent metrics.</td>
</tr>
<tr>
<td><strong>IT Spending / Revenue</strong></td>
<td>Used to normalize investments across companies.</td>
</tr>
<tr>
<td><strong>IT Spending Controls</strong></td>
<td>Defines method by which IT Spending is directed and accounted including Formal IT, Business Unit, and Shadow IT Spending to get a complete picture of the total IT investments.</td>
</tr>
<tr>
<td><strong>Formal IT Control</strong></td>
<td>The IT budget allocated and controlled by the CIO and IT group.</td>
</tr>
<tr>
<td><strong>Business Unit Control</strong></td>
<td>The IT budget controlled by business units and leaders.</td>
</tr>
<tr>
<td><strong>Shadow IT</strong></td>
<td>The hidden expenditures of business units and users that occur informally in the business units, out of the control or oversight of the Central IT function. This often results in additional long-term Central IT support requirements. This is in direct contrast to formal Business Unit (BU) Control and Formal IT Control.</td>
</tr>
<tr>
<td><strong>Innovation Index</strong></td>
<td>A breakdown of IT Spending on Ongoing Operations and Maintenance, Upgrades and Migrations, and Innovation.</td>
</tr>
<tr>
<td><strong>Ongoing IT Spending on Operations and Maintenance</strong></td>
<td>Managing and supporting existing systems and applications, optimizing infrastructure TCO; so called “Keeping the lights on.”</td>
</tr>
<tr>
<td><strong>IT Spending on Upgrades and Migrations</strong></td>
<td>Migration and change costs, including soft costs such as security impacts on business and productivity, business evolution, and agility. In frugal economic times, companies seek to delay hardware and software upgrades.</td>
</tr>
<tr>
<td><strong>IT Spending on Innovation</strong></td>
<td>The percentage of IT Spending allocated to new projects and initiatives that provide new capabilities to users, new products to customers, and new business opportunities. This is in direct contrast to spending on IT Spending on Ongoing Operations and Maintenance or routine Upgrades and Maintenance of existing capabilities. IT becomes a strategic enabler for business growth. It consists of a framework in which processes, communications, IT functions and technology decision making are further synchronized and aligned to ensure a full integration of the business goals and objectives with the IT strategy.</td>
</tr>
<tr>
<td><strong>IT Project Risk Analysis</strong></td>
<td>A breakdown of those projects successfully delivered and value realized, projects successfully delivered but short on promised value, projects behind schedule, over budget, short on functionality, and projects canceled before completion.</td>
</tr>
<tr>
<td><strong>Projects Successfully Delivered And Value Realized</strong></td>
<td>The percentage reflecting the subset of projects that have been completed successfully and which have achieved their stated ROI goals for the organization.</td>
</tr>
<tr>
<td><strong>Projects Successfully Delivered But Short On Promised Value</strong></td>
<td>The percentage reflecting the subset of projects that have been completed but which have not achieved their stated ROI goals for the organization.</td>
</tr>
<tr>
<td><strong>Projects Behind Schedule, Over Budget, Short On Functionality</strong></td>
<td>The percentage reflecting the subset of projects that have not yet been completed and which furthermore are known to have schedule, budget, or functionality issues. It is important to note that incomplete projects without issues are excluded from this metric's calculations.</td>
</tr>
<tr>
<td><strong>Projects Canceled Before Completion</strong></td>
<td>The percentage reflecting the subset of projects that have been cancelled prior to completion.</td>
</tr>
</tbody>
</table>
How often financial metrics should be tracked and estimated trending periods

Every attempt should be made to incorporate collection of the suggested metrics into a business’ recurring accounting of IT Spending on Ongoing Operations and Maintenance. At a minimum, a quarterly estimate of metrics should be provided with a rigorous annual validation of any interim assumptions. Beginning with an ad-hoc process that collects the key IT Spending metrics and combining them with readily available accounting values for a least 3-4 quarters will provide insight into the company’s overall ratios, consistency of spending patterns, and trends.

Quarterly data going back three years would provide the best picture of a company's progress against IT Spending goals and ROIT™ performance improvement. This will smooth out wide variations that may result from large one-time project costs or unexpected revenue events. Smaller companies may also see wider variations due to the smaller number of innovation projects they undertake versus a large company with a significant number of simultaneous and overlapping initiatives.

Today's IT dashboard systems convey the impression that key data can be incorporated to reflect key metric data in real time, allowing instantaneous alerts and drilldowns into root causes. In practice, ROI measurements of business as a whole require Sales Revenue and Net Income values that are difficult to collect more frequently than on a quarter-by-quarter basis.

Best practices, industry averages, and red flags

Comparisons to peers or by industry based on IT Spending versus performance characteristics will provide direction, while comparison of a company’s own historical performance over time will ensure that gains are made in line with strategic priorities.

Using ROIT™ to perform an IT performance analysis on corporations, Alinean’s ValueBase™ found the (correlation) result for all companies was inconclusive. The data indicated that, on average, companies that spend more on IT are not achieving higher results (ROIT™ of 250% or more), while companies that spend less on IT are not seeing lower performance (ROIT™ below 100%). However, by subdividing into logical industry sectors and peer groups, many sectors show a strong correlation between IT Spending and Net Income – the ability to generate a strong Return on IT.

Alinean research indicates that ROIT™ performance for particular companies is not driven exclusively by how much each company spends, but rather by how they spend and how well the spending is managed. Therefore, a company with sustainable profitability and frugal IT investments will have a higher ROIT™ than companies with lower profitability and higher IT investments (lower ROIT™). With any increase to IT investment, there needs to be a positive impact on Net Income in order to generate a measurable ROIT™ improvement. Conversely, reduced spending without a negative impact on business profitability will improve ROIT™ as well.
For purposes of this paper, four key industry sectors were focused on that have a mix of positive correlation between IT Spending and Net Income. These include Discrete Manufacturing, Process Manufacturing, Professional Services, and the Retail and Wholesale Trades industries. The following table summarizes two of the key metrics.

<table>
<thead>
<tr>
<th>Industry</th>
<th>IT % of Rev</th>
<th>ROIT™</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discrete Manufacturing</td>
<td>2.1%</td>
<td>240%</td>
</tr>
<tr>
<td>Process Industries</td>
<td>1.4%</td>
<td>612%</td>
</tr>
<tr>
<td>Professional Services</td>
<td>1.8%</td>
<td>300%</td>
</tr>
<tr>
<td>Trades</td>
<td>2.5%</td>
<td>262%</td>
</tr>
</tbody>
</table>

An individual organization can thus compare themselves against the above averages or more detailed metrics to be presented in subsequent papers, to determine if their own expenditures exceed or lag the averages for their industry. At a macro level, the following indications would act as red flags to highlight where an organization is failing to meet its goals.

- Lower than average IT Spending / Revenue and lower than average ROIT™ suggests that despite a frugal approach to spending, the organization is failing to deliver the returns necessary to compete. An organization in this circumstance should look at their Innovation Index and TCO costs to ensure they are not spending so little on Ongoing Operations and Maintenance that they are negatively impacting the business.

- Higher than average IT Spending / Revenue and near Average ROIT™ suggests that despite aggressive spending, the organization may be failing to deliver revenue generating projects. In this situation, the IT Project Risk Analysis might be explored to see if successful, ROI delivering projects are lagging the average.

Additionally, to gain visibility into current spending and make better decisions on future investments, it is recommended that organizations categorize their strategic approach to IT Spending and planned investments. That is, does the organization see itself as an “Aggressive Investor” or a “Frugal Spender.” Using this methodology, the team can document which investments are tactical (delivering the core infrastructure) and which are more strategic (helping to deliver competitive advantage).

By selecting projects in line with this dominant strategy, spending can be optimized such that IT costs can be reduced on infrastructure investments, while business operating efficiency and strategic advantage can be continuously improved. For example, organizations might establish the following goals:

- Higher than average IT Spending / Revenue with a goal of higher than average ROIT™ to drive continued growth and gain market share. This would involve investing in both the highest returning innovation projects and the processes to ensure they are successfully delivered.

- Lower than average IT Spending / Revenue while maintaining near average ROIT™ to ensure viable business and remain competitive. This would involve evaluating non-innovation project costs and streamlining TCO without reducing business effectiveness.

More detailed analysis would seek to establish a smaller peer group of very similar companies based on size, geography, and industry and use it as a basis for a comparative analysis. The more closely aligned the benchmark community, the greater the value that will be derived from this process.
**Market drivers and industry trends for financial and performance improvements**

To provide insight, each year we analyze over 21,000 companies in 37 different industry segments across 16 worldwide geographic regions. The results of this analysis, mid-year in 2008, show that there are several significant findings to examine in relation to IT cost justification:

1. Frugal spenders appear to be the best IT performers (those with the best ROIT™) and actually underspend laggards and the average.
2. Innovation spending, although still less than 20% of the total annual spending, is up sharply -- by 70% since 2003 -- and will likely continue to grow.
3. IT efficiency has increased by more than 20%, allowing companies to do more with less.
4. Almost half of all IT projects cancelled prior to completion or failing to meet schedule, budget or feature requirements. Only 1 in 4 projects are reported to launch successfully and deliver on promised benefits.
5. IT Spending is still up year after year, but when examined in relation to Sales Revenue growth, overall IT Spending has lagged for the third year in a row, declining to only 3.3% of Sales Revenue.
6. Modest Return on IT (ROIT™) performance leaves room for improvement but is driving superior and quantifiable corporate performance in the majority of industries, improving 67% since 2003.
7. More stakeholders are involved in each IT decision, making it harder to gain approval and consensus.
8. IT executives are focused on proving and improving the value of IT, but progress has been slow in actually quantifying and articulating value in terms that the business appreciates.

Technology investors must engage with quantifiable proof of business value in order to be considered. Further analysis of each of these conclusions within specific industries will be discussed in other papers.

**How technology can help**

Today’s technology offers a wide array of potential projects to impact business ROIT™. One example would be customer-facing applications, delivered under a Software as a Service (SaaS) format, that drive more Sales Revenue more easily while maintaining customer relationships. Another would be the leveraging of server virtualization technologies to reduce operating expenses to clearly impact the bottom line. Often the process of IT itself and the way projects are selected, managed, and completed needs improvement via governance initiatives or portfolio-management discipline.

The following table presents three significant points to consider when selecting projects like those cited above, or when enhancing the processes of managing those projects to completion. Each organization should consider the nature of the individual projects that they undertake and ensure they align with the strategic goals of the organization in light of current conditions and business objectives.

<table>
<thead>
<tr>
<th>Frugal Spending / IT Efficiency</th>
<th>Cost saving projects that leverage IT labor resources range from Server Virtualization to Telecommuting / Work At Home options that also reduce or eliminate travel costs. Outsourcing, Off-shoring, Server Virtualization, Configuration Management, Portfolio Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation Spending</td>
<td>Enhanced customer-facing technologies (e.g. Web 2.0), Software as a Service (SaaS) offerings, Cloud Computing and other variations are making sophisticated innovations more readily available.</td>
</tr>
<tr>
<td>Project Success despite Multiple Stakeholders</td>
<td>IT Governance, Agile Development, Project and Portfolio Management (PPM) disciplines, and ITIL/CMM standards bring about greater control.</td>
</tr>
</tbody>
</table>

However, in all cases, the macro concepts of ROIT™ must be applied as traditional ROI analysis on a project-by-project basis. With well-defined assumptions, goals and targets, management better positions the positive overall contribution of IT to the business by delivering successful projects. To evaluate whether a project or portfolio of solutions will provide a worthwhile return to an organization, project planners and financial analysts must utilize ROI analysis as a means of quantifying the potential gains from
proposed solutions. Purchasing decisions come down to a micro-economic financial analysis; if the benefits outweigh the overall costs and the returns are substantial and delivered in a reasonable time frame, the project can be seen as a positive financial business case. From the project to the portfolio, ROI analysis can be used to compare the returns from all proposed solutions and enable you to select only the best. And from project selection to project management, ROI analysis can be used to assure that the individual project and portfolio of solutions is delivering as planned throughout the lifecycle.

ROI analysis can be used to improve the discipline of IT investments. This will assure that projects are well researched, aligned with corporate business goals, selected objectively, and yield a measurable and demonstrable value to the organization. Combine that quantitative framework with established and improving IT governance and development processes referenced above and any organization can begin to bring its overall ROIT™ in line with the top performers in its industry.

**Conclusion**

In both booming economies and economic downturns, IT Spending directly impacts business results. The key is to understand what approaches have been most successful in each scenario. In times of economic expansion, IT can enable a business to introduce new capabilities and acquire new customers by leveraging available investment dollars. In tough economic times, IT matters, but only as much as it can help the organization capitalize on scant revenue opportunities, maintain customer relationships, reduce operating expenses, and itself be scaled back to conserve critical cash.

Based on Alinean research for the past three years, over 65% of IT Spending went to managing and supporting existing systems and applications, constraining the ability to scale back IT for many organizations. The most frugal of companies moved to the front of the pack regarding performance vs. spending — ROIT™.

Prior to this more recent economic downturn, leading companies represented less frugal, more prudent companies that are utilizing IT to both improve operations and begin tackling growing markets and revenue opportunities.

This has two important strategic implications:

1. Companies that remain the most frugal risk falling behind the competition as the economy gains positive momentum. Managing to competitive advantage as opposed to cost will yield the highest return on IT.
2. Companies need to remain prudent and not open the spending floodgates as the economic recovery can falter. Building an adaptable infrastructure, scalable organization, and flexible planning are essential.

In order for any individual company to assess how they are currently performing and where they might best improve, it is imperative that Return on Investment in the form or ROIT™ be embraced and supported as the key measure of performance on an ongoing basis.

- Measurement, particularly on a progressive and continuous basis, can help companies develop superior understanding and a solid basis for strategic planning and performance improvement.
- Being too frugal as the market recovers will lead to missed opportunities and lagging competitive performance.
- Spending too much too soon ahead of the recovery, particularly if the recovery falters, can lead to wasted investments.
- IT Spending and performance are correlating in key sectors making it imperative that companies understand their current spending and performance compared to the competition.

Without a set of ROIT™ metrics, there can be limited discussion of IT’s contribution, and IT’s value will continue be questioned by senior executives of the business. By using ROIT™, IT executives will have a critical tool to demonstrate their own successful performance and contribution to the business, or at least have a tool to identify what must change to ensure a positive contribution.
Appendix A

The Alinean ValueBase™ is a proprietary worldwide IT Spending and performance database of 20,000+ companies in over 37 different industries, across 16 worldwide geographic regions. The ValueBase™ contains all key IT Spending and allocation, IT performance and Total Cost of Ownership (TCO) benchmark metrics. Peer Comparison and Benchmarking tools employ data on an array of metrics from ValueBase™ including the following, where metrics referenced in this paper are highlighted in blue:

- **Business Overview Metrics**
  - Sales Revenue & Sales Revenue Growth
  - Net Income & Net Income Growth
  - Net Operating Margin
  - Sales Revenue per Employee
  - Net Income per Employee

- **IT Overview Metrics**
  - IT Spending
  - IT Spending Growth
  - IT Spending / Revenue
  - IT Spending / Employee
  - IT Spending / Knowledge Worker
  - IT Spending / Overall Spending
  - Return on IT (ROIT™)
  - Number of Knowledge Workers / Number of IT Staff

- **PeerMap™ (quadrant analysis) of IT Spending versus Financial Performance**
  - Sales Revenue
  - Net Income
  - Sales Revenue Growth
  - Net Income Growth
  - Net Operating Margin
  - Return on IT

- **Innovation Index**
  - IT Spending on Innovation
  - IT Spending on Upgrades & Migrations
  - IT Spending on Ongoing Operations and Maintenance

- **IT Hierarchy of Needs**
  - Knowledge and Performance Management Investments
  - Business Productivity Infrastructure Investments
  - Application Platform Infrastructure Investments
  - Core Infrastructure Investments

- **IT Spending on Front Office versus Back Office**

- **IT Spending Controls**
  - Formal IT Control
  - Business Unit Control
  - Shadow IT

- **IT Project Risk Analysis**
  - Projects canceled before completion
  - Projects behind schedule, over budget, short on functionality
  - Projects successfully delivered, but short on promised value
  - Projects successfully delivered and value realized

- **IT Spending Details (Total Cost of Ownership – TCO)**
  - IT Hardware
  - IT Software
  - IT Operations and Administration Labor & Services
  - Application Development and Test Labor & Services
  - Voice and Data Communications
  - Facilities and Overhead