



ACCELERATE VALUE CREATION

THE VIRTUOUS CYCLE OF USING
TECHNOLOGY TO MAXIMIZE BUSINESS VALUE



Corporate IT spending continues to grow. Since 1994, the IT spending per worker has more than doubled, from US\$3,500 to US\$8,000 per worker. Annual productivity growth in U.S. companies roughly doubled in the same period, after experiencing 1.4% growth for 20 years (Harvard Business Review, July–August 2008). But in today's economy, competitive advantage is short-lived, and leading companies recognize that continued investments in the virtuous cycle of technology are required to stay ahead.

Understanding how IT can drive value and competitive advantage for your company is important for executives in all industries. This SAP Executive Insight explores the relationship between IT investment and performance and productivity gains. Further, by answering the following questions, it describes how companies can best maximize value from their IT investments and can partake in the virtuous cycle of IT:

- Is there a virtuous cycle that drives and accounts for the increase in IT spending?
- How do companies leverage IT investments to drive competitive advantage?
- Do all companies extract equal value from their IT investments?
- How are leading companies maximizing the return from IT investments?

EXECUTIVE AGENDA

AT A GLANCE

The Virtuous Cycle of IT

Research has demonstrated the existence of a “virtuous cycle” in IT adoption. Firms that implement enterprise systems and reinvest the realized benefits into complementary, next-generation IT projects derive accelerating benefits in terms of productivity and performance. This cycle typically gets started with an investment in core enterprise software that simplifies a disparate application landscape into a homogenous integrated platform. Investments in applications that extend to processes beyond the enterprise, such as customer relationship management (CRM) or supply chain management (SCM), come next. Once the core processes have been implemented, the enterprise has a sound basis to introduce analytics and build specific composites to address very company-specific processes that maximize the potential value creation. When you purchase is just as important as what you purchase. By linking the IT strategy to the business strategy at the outset of the business, your IT infrastructure can better enable growth.

Best Practices Maximize Value Creation

Investing in technology is only half the game. Investing in IT without analogous improvements in the management practices around IT will lead only to a slight increase in productivity. Leading companies that invest in IT while enhancing management practices and governance have experienced sustainable results in increased value and improved productivity, in some instances as much as a 20% boost (reported in Stephen J. Dorgan and John J. Dowdy, “When IT Lifts Productivity,” *The McKinsey Quarterly*, www.mckinseyquarterly.com, November 2004).

Agility in management practices combined with flexible business processes drive the increased value creation for your project. Enabling these changes with IT can amplify the speed at which you can do business too. Coca-Cola Enterprises and Valero Energy Corporation are two best-case examples of how companies can move to more effective and efficient operations through investments in IT and business process innovations.

Implementing the Full Value Life Cycle

Companies that successfully invest in the virtuous cycle and leverage best practices to drive value manage their IT projects along a value life cycle. Companies identify key benefit areas and benchmark themselves against comparable firms in the **value discovery** phase. They understand that an IT project needs to be not only on time and on budget but also on value. Similar to any other capital investment, the project is not done when it goes live. By tracking the **value realization** and leveraging techniques such as benchmarking and organizational best practices, firms can optimize the value-creation potential and further drive the virtuous cycle. This critical step of developing the structure and processes to align people, processes, and technology is essential in the **value optimization** of an organization’s business-driven IT investments.

THE VIRTUOUS CYCLE IN IT

OPTIMIZING PRODUCTIVITY AND PERFORMANCE

Firms that implement enterprise systems and realize the benefits make next-generation IT investments and business process changes to derive even greater benefits in terms of productivity and performance. Top-performing companies invest in a value life cycle that includes the following.

Enterprise System Investments

What are your company's IT needs to drive profitable growth in the business? By focusing on the alignment of business needs and how IT can support these outcomes, your company will be better positioned to take advantage of the value drivers that IT, and specifically enterprise and related software, delivers. A company that decides to implement enterprise software to standardize operations and increase efficiencies in the business is on the path for success. A company that pursues an enterprise software strategy focused on line-of-business needs based on a common platform and with governance practices in place is in solid position to achieve profitable growth.

Research conducted by faculty at New York University, Massachusetts Institute of Technology, and Georgia Institute of Technology shows that companies that implement enterprise resource planning (ERP) systems aligned with the overall business strategy enjoy performance gains unknown to firms who do not implement these solutions.

Extended Enterprise Software

CEOs clearly see IT as an ultranecessity that will sharpen their competitive edge by accelerating innovation and enabling agile strategy execution, two of the most important success factors to succeed in a changing business environment. Those companies focused on minimizing latency between business strategy and execution and increasing the speed of value from innovation will come out ahead.

IT has become increasingly central to every business strategy, and with the rise of business networks, the case for aligned IT is stronger than ever. Networks are a driver of greater compet-

itive advantage and increased agility to meet customer demand, and those companies with a broader footprint in related enterprise software, including SCM and CRM, can maximize more value from their investment. Aligning IT and business strategy around a maturity model of investment results in moving up the value chain to applications that extend your enterprise. According to the faculty research mentioned above, firms that implement extended enterprise software after having adopted ERP systems experience additional benefits.

Performance Optimization and Measurement

According to a report by the Harvard Business Review (July–August 2008), companies only achieve about 60% of the potential value of their strategy because of gaps between planning and execution. As the pace of business continues to increase, the modularity of business processes will enable you to remain agile to best execute your strategy. For companies to maintain market status or emerge as the new market lead, this open IT infrastructure must enable the exchange of information, processes, and innovation to capture the collective intelligence of the entire business network.

Employees must be empowered to make informed decisions by converting raw data into tangible information, ensuring better decision making and execution aligned with strategy. The enablement of closed-loop business performance optimization allows a firm to get real-time insight into its business processes to adapt its strategy to changing business conditions.

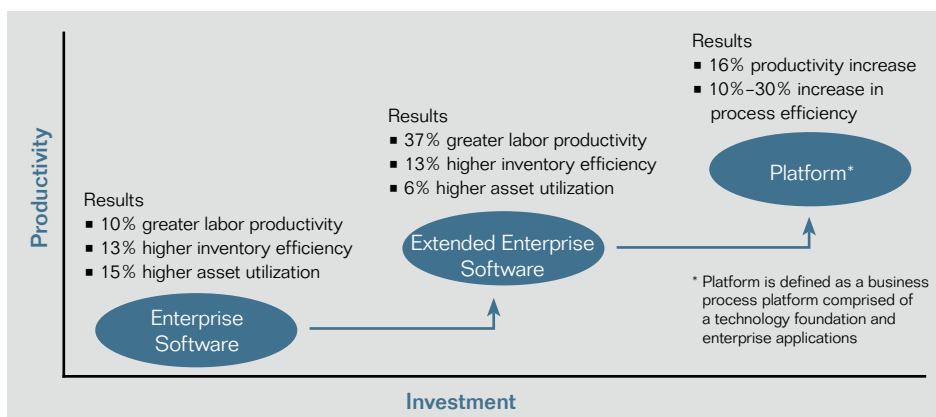


Figure 1: Investing in IT to Drive Competitive Advantage

Sources: Research by Massachusetts Institute of Technology, New York University, and Georgia Institute of Technology, 2007. SAP cooperated with the University of St. Gallen, Institute of Information Management (IWI-HSG).

BEST PRACTICES MAXIMIZE VALUE CREATION

COMMON, ALIGNED BUSINESS PROCESSES ARE ESSENTIAL

Through the alignment of IT and the business units, companies build out common processes aligning on one platform for maximum value return on their investments. These companies are well versed at the following.

Planning for Growth

Are there trends in your industry that you need to capitalize on? Are you making significant changes to your business model? To maintain your competitive edge, understanding why you need to make an investment at a specific time is critical to your success. With increased competition and dynamic, market-driven requirements, com-

panies across almost every industry are adapting new business models for delivering and monetizing their products and services to develop broader competitive advantages. As the model of the enterprise changes, the IT infrastructure must change with it.

Timing is critical at this stage. Those companies that purchase too late in their growth cycle are at a disadvantage as the business ramps up; so as the strategy is being developed, it is critical to align the business and IT needs to build out common processes aligned on one platform where your IT infrastructure contributes to the overall profitable growth and drives faster achievement of competitive gains.

dollar by increasing the productivity of each worker the software touches.

Maximizing Value: In Practice

By changing business processes to align with new advances and investments in IT, a firm can dramatically change the value derived from the new technology and efficiently scale operations profitably.

Coca-Cola Enterprises (CCE) significantly improved the efficiency of its order fulfillment by innovating processes in conjunction with new investments in technology. After its brand portfolio rapidly increased from 150 to more than 450 beverages, the company's order fulfillment process became more complex and warranted redesign. Coca-Cola Enterprises implemented an interactive order-picking system with voice recognition technology tied to SAP® software. The new automated process, which gives CCE real-time, fully integrated access to orders, drove order accuracy to 99.8%.

Valero Energy transforms new acquisitions with investments in IT and business process improvements, converting those resources into healthy profits through rapid modernization and more efficient operation of undervalued assets. Valero can absorb an acquisition and integrate its processes into the corporate structure within 90 days – a task that takes many firms 12 to 24 months. Valero has the lowest IT cost structure in the entire refining industry – 0.14% of sales, well below the refining industry average of 2.0% – an achievement it attributes to unparalleled business process efficiencies.

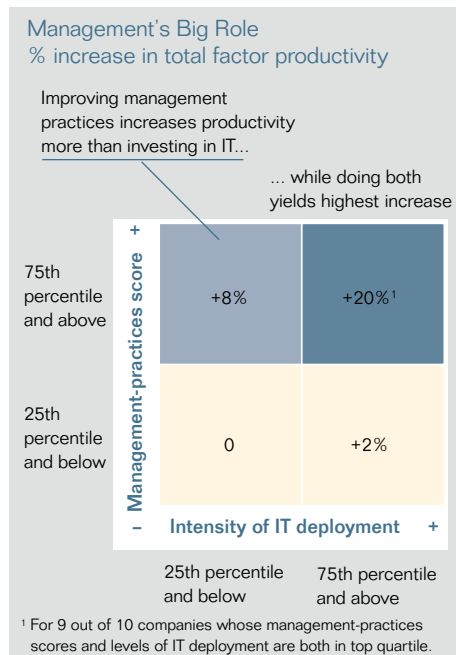


Figure 2: How IT Affects Productivity

Sources: Exhibit from "When IT Lifts Productivity," November 2004, *The McKinsey Quarterly*, www.mckinseyquarterly.com. © 2008 McKinsey & Company. All rights reserved. Reprinted by permission.

Investments in Complementary Process and Management Changes

Technology investments are one source of productivity growth, but to make the desired impact on the performance of the company, it should be combined with complementary investments in human capital and organizational change management. There is inherent value in these additional investments in new business process and other organizational practices, and without them the investment in IT would be a moot point.

Firms that adapt organizational processes to increase information flow across business lines will achieve greater success with the IT investments than if they only launched the software alone. Additional investments in change management enables firms to generate more business value per IT

IMPLEMENTING THE FULL VALUE LIFE CYCLE

MEASURING SUCCESS FOR IT INVESTMENT

In the 1990s, projects were measured on time and on budget. In today's business environment, executives and shareholders care about the value of investments. On time, on budget, and **on value** are the measures of success for an IT investment and project.

The implementation of IT is an opportunity to follow best practices for your industry and to reengineer and optimize business processes. The road map to value focuses on the following.

Value Discovery

It is most important to understand what issue you are trying to solve in your business and how an investment in IT can help. What are the solutions that will best support your business strategy, and what value can be achieved? Quantifying IT decisions and the anticipated returns can be the hardest hurdle to overcome. Setting the stage for management investment approvals includes a thorough review of risk mitigation and deployment challenges and an understanding of best practices and the desired "to be" state, as well as benchmarking business processes, both inside and outside your industry. All of these items contribute to a solid business case and return on investment, and they are necessary to achieve the consensus and resource allocation for the project.

Once you comprehend where you need to get to at a minimum, you can engage in the next level of review, which includes deriving the value of the solution. This is the stage where the best-practice data can give you a strong idea of what cost efficiencies

you can achieve as well as productivity gains that are possible with the implementation.

Value Realization

Realizing value from IT investments is paramount, but how does a company best attain this? Studies have shown that there is a critical disconnect between projected benefits in business cases for IT investments and actual value achieved, because so many firms focus on going live with a project rather than its value delivery. An SAP/ASUG best-practice survey on the ability to capture the projected benefits of an IT project found that 73% of companies do not quantitatively measure value postimplementation.

It is critical to develop transformational strategies to mobilize, deliver, and measure business results based on insights into leading practices and benchmarks. Best-practice value identification, transformation, and measurement approaches include:

- Incorporation of business case objectives throughout the project life cycle
- Communication and documentation of process objectives and project success criteria
- Use of both existing and new program-specific financial and operational key performance indicators, based on the business case objectives, to measure project success

Value Optimization

Optimizing the applications after going live is a critical stage in any project from a value-capture perspective. This phase includes the development of

structure and processes to align people, processes, and technology toward maximizing the value of an organization's business-driven IT investments. Firms also need to assess how the implementation and processes compare to best practices. It is imperative to look for opportunities where the business can derive more value from current investments through shared services and centers of excellence and reduce costs while increasing customer service and organizational effectiveness.

Budgets sometimes stop after a project goes live, but you need to be able to make changes to the infrastructure to run your investments at full capacity. This optimal level of strategic operation needs additional investment to fine-tune the system and to maximize value.

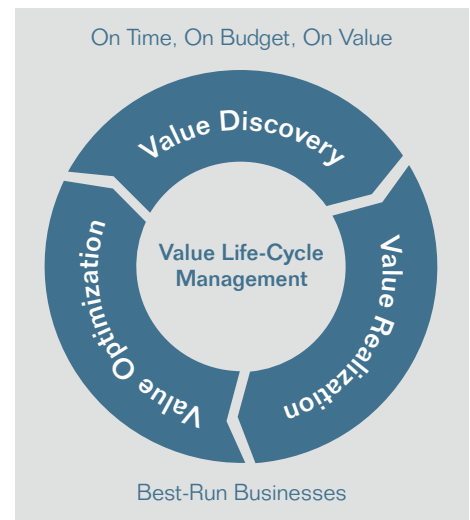


Figure 3: Achieving Business Value: On-Value, On-Time Performance

HOW DO YOU GET THE MOST VALUE FROM IT?

MAKING THE VIRTUOUS CYCLE WORK FOR YOUR COMPANY

Getting the most of IT is not a one-time shot but a continuous and evolving process that includes not just the investment in IT but how you address and review the opportunities for improvement – to your management practices, your business processes, and your value assessment. Companies that implement enterprise business software in pursuit of a value-driven strategy can create a stream of business benefits. What factors will propel a company to the next level of competitive advantage?

Build on your current platform.

- **Use ERP to expand your business processes and integrate your business.** It is essential for IT to express its relevancy in business terms.
- **Leverage your core processes to drive innovation.** A portfolio approach, driving standardization of processes, frees up time and resources for more strategic innovation.
- **Continue to invest in talent and change management.** Additional investments in your workforce and change-management practices result in more business value per IT dollar by increasing the productivity of the firm.

Design your strategy to maximize your business value.

- **Build and communicate a three-year road map that aligns business and IT.** It is essential to treat your IT investment as a “portfolio,” complete with infrastructure and transactional, informational, and strategic assets, and to look at it for the long run, not just for the immediate situation.

- **Benchmark yourself and compare your performance.** Identifying areas with the greatest business opportunity by benchmarking your organization’s processes against a comparative group of companies is a critical step.
- **Develop your business case with well-known business metrics.** Building an ironclad business case for your IT investments is a powerful means to create alignment in your organization around common goals, quantifying both the tangible and intangible value proposition of the project.

Organize your project around value delivery.

- **Institute a value management office.** Key components for success include input from the business, management buy-in, and prioritization of projects to maximize the value of the opportunity.
- **Integrate dashboarding into management practices.** Over time, benchmarking allows you to track your performance gains and measure your improvements, documenting the value that you achieved from your investment.
- **Ensure every project is not just on time and on budget but, most important, on value.** Closing the loop on your original business case is a critical task. Value identification, transformation, and measurement approaches are key to tracking success.
- **Develop the right rewards to drive the right behavior.** Showcase your project success internally and externally; it is critical for the executive sponsors to know the eventual outcome of the project in business terms.

Further Reading

To learn more, please visit www.sap.com/usa or contact your SAP representative about the following:

- *Tasty Baking* – Business Transformation Study
- *Wolverine World Wide Inc.* – Business Transformation Study
- *Valero Energy* – Business Transformation Study
- *SAP Value Realization: Achieving Business Value from Your IT Investments* – ASUG/SAP Benchmarking and Best Practice Survey

About the Authors

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About This Research

Research for this paper was conducted by faculty at New York University, Massachusetts Institute of Technology, and Georgia Institute of Technology. Addressing the question "Does IT cause productivity, or are productive firms spending more on IT?" the researchers examined the effects on productivity and performance of enterprise system investments in 698 companies in all market segments. The noted benefits inspire future adoption of extended enterprise systems and investments in organizational capital, resulting in increasing performance improvements.

SAP also embarked on a research program with the University of St. Gallen to hear directly from organizations about how they approach service-oriented architecture (SOA) to adapt to rapidly changing market needs and how they calculate business cases to justify investment in SOA. This study shows that many SOA projects start without an explicit business case, but the need for proving value increases rapidly down the road. Further areas of potential benefit explored in the research include user productivity and business process innovation as well as time to market, support for mergers and acquisitions and out-sourcing, and IT productivity.

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