Missing Millions: Unlocking Strategic IT Value
An Effective Framework for Business Applications Planning

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As executives explore opportunities to innovate and maximize business value through technology, most are missing out on their greatest opportunity for value creation: understanding, leveraging, extending and rationalizing their existing business applications, through a structured and ongoing business applications planning process. With the average Global 2000 company spending approximately $234 million annually on existing applications, companies can no longer afford to view business applications as a sunk cost.*

In Missing Millions: Unlocking Strategic IT Value: An Effective Framework for Business Applications Planning we explain how companies can exploit and unleash the power of business applications by applying a flexible industry-agnostic model, the Application Investment Management (AIM) Framework, which aligns business value with application spending to achieve immediate IT cost savings and reduce ongoing costs by creating a simpler and more disciplined environment. The framework is illustrated by a case study of a major captive finance firm, which provides financing to buyers of its parent company’s products. Additionally, the research was informed by in-depth interviews with senior executives at BP, British Telecom, Harrah’s Entertainment, Morgan Stanley, NiSource and a FORTUNE® 500 bank holding company. To obtain additional copies of this white paper, please visit www.sapient.com.

About Sapient

Sapient helps businesses innovate to achieve extraordinary results from their customer relationships, business operations and technology. Leveraging a unique approach, breakthrough thinking and disciplined execution, Sapient leads its industry in delivering the right business results on time and on budget. Sapient works with clients that are driven to make a difference, including BP, Citadel Investment Group, Essent Energy, Harrah’s Entertainment, Hilton International, Janus, National Institutes of Health (NIH), Nextel Communications, Sony Electronics, the U.S. Marine Corps, and Verizon.

Founded in 1991, Sapient is headquartered in Cambridge, Massachusetts, and operates across North America, Europe and India.

More information about Sapient can be found at www.sapient.com.

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* According to research from Forbes.com and Forrester Research. See page 1 of the report for full citation.
An Effective Framework for Driving Enterprise Value

“One of our challenges is to drive more efficiencies in our operating costs including infrastructure and application support—and reallocate those savings to investments in new capabilities.”

Heath Daughtrey, VP of IT Services, Harrah’s Entertainment

As executives explore opportunities to innovate and maximize business value through technology, most are missing out on their greatest opportunity for value creation: understanding, leveraging, extending and rationalizing their existing applications portfolio through a structured and ongoing business applications planning process. In 2004, the average Global 2000 firm allocated approximately $234 million to existing applications, or 74% of its total technology spending for the year.* Thus, spending on existing applications—licenses, maintenance fees, administration, services, patches, workarounds—constitutes a superior opportunity for value and cost optimization than does new development spending.

Market leaders are already capitalizing on the tremendous cost savings and strategic insights afforded by business applications planning. From BP, which reduced duplicative systems by 20% in a critical business area; to British Telecom, which models and assesses all projected IT spending; to Harrah’s Entertainment, which uses application data to inform property and market expansion decisions, global companies are moving rapidly to exploit the power and possibilities of business applications planning.

In this paper, the Kellogg School of Management and Sapient propose a practical model—the Application Investment Management (AIM) Framework—to help corporations streamline their application portfolios and mature their business-technology alignment processes. Sapient developed and refined this tool using insights from more than 25 business applications planning and IT strategy engagements with global corporate clients.

To test the industry-agnostic AIM Framework, Kellogg and Sapient interviewed senior executives at six market leaders from the energy, telecommunications, entertainment, utilities and financial services industries. Participants included senior business, finance and technology leaders from BP, British Telecom, Harrah’s Entertainment, Morgan Stanley, NiSource and a FORTUNE® 500 bank holding company. Executive interviewees provided critical feedback on the framework and shared best practices of their current IT investment decision-making approaches.

As one example of the power of the new approach, a leading captive finance company, which provides financing to buyers of its parent company’s products, used the AIM Framework to create a technology vision and strategy; develop a multi-year IT roadmap; and fund a rationalization and innovation program to reduce IT cost per loan by more than 50%, consolidate 49 redundant systems and implement selective offshoring for competitive sourcing. The full case study is provided on pages 5-6.

Using the AIM Framework, a global captive finance leader developed an IT roadmap to slash their IT cost per loan by more than 50% and consolidate 49 redundant systems.

* Statistics computed from research found on Forbes.com and in Forrester Research’s “US IT Spending Benchmarks for 2005,” May 24, 2005. According to Forbes.com, the average revenue for a Global 2000 company is $9 billion, while Forrester calculates IT spending to equal 3.5% of annual revenues, with ongoing IT operations comprising 2.6% of the total revenues.
The principal purpose of technology organizations is to build, maintain and evolve a suite of business applications which implement the corporate strategy and support the enterprise. To protect the tremendous value created by these applications, corporations allocate the bulk of operational IT spending to application support and maintenance. As companies build capabilities, infrastructures can become overwhelming, with siloed systems and cross-organizational processes limiting companies’ ability to identify redundancy and inefficiency. As one interviewee said, “We have so many different applications that touch so many different processes tied together with a fair amount of spaghetti.”

As a result, most corporations are hard-pressed to map applications costs to business value. The Standish Group reports that nearly two-thirds of the features built into technology solutions are not used. The reason why? Key business and technology executives seldom have a clear and shared understanding of the value, costs and risks associated with their existing business applications.

Without the visibility that would allow them to make focused investments, executives making technology investments are loathe to extend, decommission or replace existing systems. Most favor a “do no harm” policy: maintaining and extending all their applications, regardless of the value they produce.

Perhaps not surprisingly, executives focus the majority of their time on new application needs, where the elegance of modern project portfolio management tools facilitate cost, risk and ROI projections. While new initiatives promise exciting new functionality and capabilities, the applications they create increase the operations budget as soon as development is complete. In addition, evolving compliance and regulatory requirements sap new development budgets, while adding little in the way of business benefits. Our findings indicate that in some large organizations, actual spending on new capabilities is less than 10% of the IT budget, yet the majority of executive time during budget season is spent here.

Based upon the needs of our clients, the AIM Framework was developed to help companies accomplish the following business objectives:

- Understand the value, cost and dependencies inherent in the application portfolio
- Identify areas of over- and under-investment
- Focus spending on applications and initiatives that support strategic goals
- Enhance IT-business alignment on an ongoing basis
- Evaluate enterprise technology for regulatory compliance
- Make informed decisions to eliminate duplication and redundancy
- Reallocate non-essential operational spending to new development to fuel innovation and efficiency
- Enable long-term agility and efficiency by implementing a disciplined application roadmap
- Reduce the risk of outsourcing and offshoring decisions

The reward for tackling application complexity is great: Not only will the effort yield immediate cost savings, which can be reallocated to new development initiatives, but it also reduces ongoing costs by creating a simpler and more disciplined environment. Our experience with multiple clients suggests a savings of upwards of 20% on an ongoing basis by implementing a disciplined applications investment management strategy. If IT spending continues to stay nearly flat, or increases at 2-6% on an annualized basis, application investment management will quickly emerge as the most powerful lever that IT managers can use to grow and innovate while keeping their total budget flat. Implementing the AIM Framework, in conjunction with existing project portfolio management efforts, allows companies to create a holistic approach to mapping IT costs to value, creating agility and advantage from investments most enterprises choose to carry as dead weight.

“In talking to my peers, what we find challenging is making sure that we’re able to communicate the value of IT to the business. How do we describe that value in business terms? Sometimes it’s not clear.”

Pat Lawicki, CIO, NiSource*

* Now CIO of another major energy services company.
Introducing the Application Investment Management (AIM) Framework

What is the AIM Framework?

The AIM Framework (shown schematically below) is a flexible industry-agnostic approach to systematically understand and align business value with spending on applications. Conceptually, the framework involves understanding business value and specific IT application costs. The IT application portfolio can be analyzed by mapping individual applications on the dimensions of total cost of ownership (TCO) and the business value of the process the application supports. This IT application portfolio map provides executives with insights into optimizing business value and minimizing TCO.

Business value is defined by metrics such as transactions per second, inventory turns or softer metrics such as customer satisfaction. These metrics help quantify the value of the underlying business process that is enabled by the IT infrastructure. The framework involves first understanding business processes and how value is realized (the right of the diagram below), then mapping these processes into IT applications and their related TCO defined by metrics such as personnel, software licenses and hardware lease payments (see the left of the diagram).

“A benefit of the framework is that you can actually quantify and qualify your value to the business.”

Senior IT Executive, Morgan Stanley

Using this framework, corporations drill down from system-level spending (which is typically known) to the individual application level (which may not be known) to understand the TCO for individual applications. The framework requires companies to connect application investments to the business processes they touch, identifying the most significant technology-enabled results accomplished within each business process. By connecting the dots between cost and business value, companies can uncover and reward high performers, phase out resource hogs and optimize future spending.

In large corporations with diffuse infrastructures, it may not be possible to achieve a 100% accurate picture of individual application costs. Interview participants said they focused on gaining clarity into business processes and IT cost centers with the highest possibility for generating value and reducing redundancy.

The Application Investment Management (AIM) Framework

A Business-driven Approach to Optimizing IT Spending on Application Management
Implementing the AIM Framework

Companies seeking to implement the AIM Framework should work through the following key steps:

1. Understand the business: Identify the list of key enterprise-level business processes in the scope of the analysis. Consider only the highest-level activity groupings as enterprise business processes.

2. Determine the most important, measurable business metrics associated with the business processes, in conjunction with business sponsors. Choose a relatively small number of metrics that effectively capture process performance. If desired, use appropriate categories, such as transactional, operational, strategic or nondiscretionary business results.

3. Analyze how business applications support and enable the business: Understand the relationships between business applications and business processes. Specifically, identify which applications are providing support to the business processes, whether that support is adequate or inadequate, and which processes require manual effort or workarounds. In short, the analysis should document how existing applications affect the measurable business metrics identified in step two.

4. Understand business application costs: Allocate costs to individual business applications using a suitable cost allocation model. This is easier said than done, because cost centers may not be aligned with individual applications. However, existing data sources, such as time tracking databases and help desk ticket counts, can be used to allocate labor costs for instance, while application profiling and mapping tools could be used to fill in blanks and make educated assumptions where no data exists.

5. Create management views: It is extremely challenging to make management decisions based solely on spreadsheets matrices. Effective management dialog is facilitated by visualizing the data collected. Top-level business process maps—effectively business on a page views—may be overlaid with supporting application, cost and value data.

6. Facilitate the business-IT dialog: Use the management views created to anchor conversations between senior business and IT executives grounded with real data and insight. For instance, the cost vs. metric overlays can quickly highlight areas of over- or under-investment in technology, while clusters of applications serving a single business process may highlight duplication, redundancy or complexity. Views can also be created to understand which business processes are prone to rapid innovation or industry change, which combined with cost data, can be used to inform outsourcing and offshoring decisions. [See case study on next page.]

“With our Health Security, Safety, and Environment (HSSE) function, we conducted an exercise to analyze the application portfolio by business process. And then based on that, dug deeper to find out to what extent duplication occurred. Over all in 2004, about 20% of the applications were retired, which is really significant. We’ve been able to take real dollars out of the cost base by doing so.”

Brian Ralphs, Applications Director, BP
How does the AIM Framework move from theory to addressing real-life enterprise problems? Sapient worked with a global captive financing leader to tackle problems inherent to many companies:

- Global enterprise operations that included a great deal of complexity and redundancy, with IT functionality varying greatly among regions. Our client managed 150 major applications that had 2000 users in more than 30 countries, who spoke more than 20 languages
- Business process unit costs that varied as much as 170% across geographies for the same process
- Differing regional objectives that conflicted with each other and didn’t map to enterprise goals

Sapient used the AIM Framework to help the client move towards a value-based model of decision-making and achieve the following objectives:

- Develop and build consensus on a three- to five-year IT vision and strategy
- Create a global roadmap to achieve enterprise objectives while solving regional challenges
- Enable IT to leverage scale, reducing redundancy and consolidating development and maintenance efforts across all geographies
To accomplish the client’s objectives, our team worked with regional and corporate IT leadership to move through the following AIM Framework steps:

**Identifying Key Business Processes**
We created regional business process maps, using regional data as internal benchmarks for the organization. With needs varying considerably across geographies, technology leadership wanted to consider regional pain points and goals, before factoring them into the enterprise IT strategy.

**Determining Critical Business Metrics**
After studying regional business issues and metrics, Sapient and the client identified two critical metrics—the cost to process a loan (transactional metric) and the time to process a loan (operational metric)—which were consistent across all regions and could be used to guide decision-making at an enterprise level. This allowed Sapient to compare IT costs across all geographies and specific applications, such as online consumer loan origination systems.

**Understanding Relationships Between Business Applications and Processes**
We mapped business processes to applications, capturing the importance of each application to key processes and assessing how well it was meeting business needs.

**Allocate Costs to Individual Business Applications**
Using limited vendor-supplied data, we compared IT costs across all geographies and specific applications. Our team allocated aggregate cost data among applications using assumptions based on metrics such as transaction volumes and maintenance requests.

**Create Management Views to Visualize Key Relationships**
To provide global and regional executives with a better understanding of their processes, the team produced an array of management views, including regional and corporate versions of business on a page, system context diagrams, and application architectures. Depicting the link between application spending and process results, the views clearly highlighted redundancy, duplication and inefficiency across the application portfolio, while identifying strategy disconnects.

**Use Management Views to Guide Conversations**
Using the AIM Framework views, executives realized that inconsistent regional infrastructures and functionality were inflating global maintenance costs. Deciding to standardize both applications and functionality, they analyzed applications in each business process area to determine which applications could best serve global needs. Additionally, executives flagged stable, high-cost processes as suitable candidates for commodity offshoring. Sapient and the client used standard project portfolio evaluation techniques to create a consolidated roadmap with milestones to reduce the overall IT cost per contract by 58% and consolidate 49 redundant systems. This accomplished the client’s goals of leveraging scale to reduce cost and waste, improve agility and flexibility, and align all geographies in support of the business strategy.
Outcomes of Value-Based Decision-making

“We’re up to 100% in understanding our application management costs, and we’re probably 65% there with the business process mapping.”

Martin Bevan, Financial Controller, BT

By using the AIM Framework, we estimate that the average enterprise will be able to focus executive attention on the top 80% of business applications in terms of application value and spending. BP, for example, manages its smaller applications through annual housekeeping, with each portfolio manager expected to reduce their applications portfolio by 10% each year. With new applications being added at a faster rate, the portfolio often grows. However, constant pruning eliminates deadwood and unnecessary complexity.

As we interviewed BP, British Telecom, Harrah’s Entertainment, Morgan Stanley, NiSource and a FORTUNE® 500 bank holding company, we found that the interview participants were achieving similar results to those found in our case study by implementing principles of the AIM Framework to achieve value-based decision-making.

Highlights included:

• Supporting the Business Strategy: Using its understanding of costs and value across both business and technology portfolios has helped Harrah’s Entertainment make informed decisions such as whether to increase the number of rooms at a hotel, move into a new market, or expand its presence in an existing market.

• Enhancing Corporate Decision-making: BT is now able to make cost comparisons across more than 2,000 applications. Operating at a size at which many organizations would throw up their hands and target

only broad efficiency and service goals, BT uses these data to determine which systems to expand and decommission as well as model the cost and value impact of new investments versus expansion of current systems.

• Increasing Efficiency: BP reduced 20% of the applications in its Health, Security, Safety and Environment Group by mapping applications to business processes and eliminating duplicative systems.

• Improving Cost Transparency: BT uses its application data to charge IT services back to the lines of business. “In the early stages of the process, we often faced opposition, but it only took two or three years to get to the position where people felt sufficiently confident with the data that they took the charges without querying them,” says BT’s Martin Bevan. While this may seem like a long time to work to gain customer acceptance, it is important to remember that using usage data as the basis for chargeback costs represents a seismic shift for most companies. It also allows companies to more equitably apportion resources and allocate costs.

• Reducing Risk: Harrah’s Entertainment performs risk management analyses at both the application and portfolio level, and translates mitigation strategies to dollar figures to create highly accurate estimates and guide decision-making.

“A framework like this would help you rationalize a lot of your sourcing decisions and what you consider your core strategic competencies and your non-core, non-strategic competencies.”

Heath Daughtrey, VP of IT Services, Harrah’s Entertainment
A Phased Approach to Implementing the AIM Framework

Organizations seeking to move to a value-based assessment model can ease the pain of transformation by making incremental investments and pursuing a phased approach.

**Phase One: Understanding the application-business process linkage**
Using the AIM Framework as a guide, an organization should work to understand and evaluate IT investments at a business process level. As companies map processes, they should pick the low-hanging fruit, focusing on the opportunities for the greatest value creation. “When you as a business stop doing the mapping, it’s not because it’s difficult, but because there are diminishing returns and you can extrapolate from what you’ve got,” says Martin Bevan of British Telecom. Concurs the IT Director of a FORTUNE®500 bank holding company: “If you build that ideal model, it’s going to be overwhelming, almost unusable. You have to use the 80-20 rule to assess those applications that are mostly associated with a specific business process, or the business process value that is driven mostly by the applications. Then you can connect the dots.”

One place to begin is with regulatory compliance, which accounts for more than 5% of the average IT budget in 2005, say analysts. Since IT systems undergird regulatory processes such as Sarbanes-Oxley requirements, applying the AIM Framework can result in quick wins around achieving cost savings and identifying opportunities for value creation, in addition to meeting compliance mandates.

Organizations successful at implementing Phase I of the AIM Framework can realize significant support and maintenance savings by consolidating and retiring applications, and also identifying some opportunities for value creation.

**Phase Two: Focusing on organizational change**
Implementing the AIM Framework is obviously simpler in a process- or product-aligned company than in a highly siloed enterprise. While tracing the impact of processes across numerous verticals can be complex and costly, interview participants who tackled this challenge found significant return on their investment. However, they recommended that companies following a similar path ensure that the following organizational commitments and processes are in place: a single steward for each business process, an effective governance body that focuses on high-level decision-making but delegates more granular decisions to a lower-level council, and value-driven business sponsors who have bought into the enterprise plan and report back on results on a regular basis. Says an IT executive from Morgan Stanley: “Our capital committees hold our business sponsors accountable for coming back to communicate what value was realized and on some sort of frequency. We have a shared interest and accountability.”

Organizations successful at implementing Phase Two of the AIM Framework will establish a solid foundation for business-IT alignment and create breakthrough opportunities for driving value through technology.

**Phase Three: Refine valuation methodologies**
With key processes and organizational structures in place, companies can now focus on implementing techniques to refine cost and business value quantification. Characteristics of this stage include routinely using IT ERP processes and systems to track application and process costs and value. For example, Harrah’s Entertainment leverages data warehouses, instrumented applications and analytics to assess operational costs. Harrah’s Entertainment also drills down ROI projections to the individual property level, measuring them on an ongoing basis.

Organizations successful at implementing Phase Three of the AIM Framework will maintain and improve the flexibility and performance of their technology portfolios, while avoiding benefits erosion due to inevitable changes in the business and technology landscape.
**Conclusion**

In developing and testing the AIM Framework, we have come to believe that the current trend to manage development and support investments as two different categories is short-sighted. Only by understanding operational costs at a deep level can companies make informed investment decisions about the entirety of their technology spending. While many Global 2000 companies are using sophisticated guesswork to track up to $234 million in average annual IT operational spend, industry leaders are already moving aggressively forward to implement value-based decision-making practices to optimize their application investments. As findings from interview participants and our case study show, using practices put forth in the AIM Framework enables companies to create leap-ahead advantages from investments previously written off as sunk costs. Whether it’s reducing waste and cost like BP, guiding IT investments like BT, or informing corporate decisions like Harrah’s Entertainment, all industry leaders can benefit from value-based decision-making that considers the entire technology lifecycle.

In a business climate where business-technology alignment is routinely cited as the single-most significant technology management challenge for most companies, the AIM Framework provides IT organizations with a robust tool for measuring and maximizing value from their application spending. When paired with traditional project portfolio management tools, the AIM Framework provides unprecedented insights into application portfolio complexity and potential value, allowing companies to harness the power of legacy investments to create competitive advantage and accelerate progress towards achieving strategic goals.