Reduced Costs, Improved Outcomes

What separates winners from losers in the global marketplace? It’s the ability to take quick, confident action in a constantly changing and highly competitive environment. Good business planning and analysis help companies capitalize on emerging opportunities, allowing them to make value-driven decisions quickly as the needs of markets and customers change. But without the support of an agile and flexible enterprise, making smart and timely decisions is virtually impossible. To achieve this flexibility, mature businesses need a clear picture of...
where their capabilities are today, so they can begin making improvements.

When properly implemented and managed, enterprise architecture and project portfolio management initiatives can offer just this sort of analysis. Essentially, you get a “blueprint” of your organization’s business infrastructure as it exists today, as well as a map toward the changes you need to meet critical goals and address market and economic challenges. A 2007 McKinsey survey and analysis of 100 companies in France, Germany, the United Kingdom, and the United States found that “aligned IT and business result in double the productivity gains of isolated business and IT efforts.”1 But where do you start?

ALIGNING IT AND BUSINESS

Enterprise architecture (EA) is the practice of creating and maintaining a dynamic, interactive blueprint of an organization that represents the business operations, locations, processes, and supporting technology. This blueprint allows analysis of opportunities, risks, dependencies, and relationships of the people, operations, strategies, and technologies of an organization. Typically, two blueprints exist—a “current state” to view how the organization is operating today, and a “future state” to view how the organization will operate tomorrow.

Project portfolio management (PPM) is a related discipline that helps executives and teams make the right decisions to deliver business, customer, and market value. PPM provides visibility into each project’s total expected cost, consumption of resources, expected time line, benefits to be realized, and relationship or interdependencies with other projects in the portfolio. PPM analysis allows you to capture input from customers, analysts, market research, etc. and prioritize according to what provides the most value to the business. It also helps you use visualization, prioritization, and unique road mapping and planning capabilities to ensure that plans are innovative, valuable, and achievable. And it is centralized information that speeds your ability to respond to changing market and business conditions.

Using an integration of EA and PPM techniques, organizations can plan business change and transformation more effectively and reliably. They can ensure that technology investments reflect the growth needs of the organization—expanding into new markets while retaining current ones. This provides the quintessential alignment of business and IT.

But what is new here? After all, CEOs and other executives understand that they need to change—and change constantly. The difference is, with EA and PPM, business leaders gain more powerful forward-looking analysis, which can become part of an integrated, flexible, and transparent approach to improving business operations.

THE NEW ERA OF INTEGRATED PLANNING AND ANALYSIS

Business leaders have often resisted structured approaches to systematic

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1. Source: London School of Economics—McKinsey survey and analysis of 100 companies in France, Germany, UK, and U.S.
planning (such as business intelligence and decision support systems) for a variety of reasons, including tool complexity and lack of clear need. Indeed, planning initiatives from the 1980s and 1990s were often focused exclusively on technology concerns and steeped in discussions about methodology and standards. Today’s practices and technologies focus instead on solving business challenges and embracing users who do not have deep technical or planning domain knowledge.

What’s more, achieving results requires more than technology. Endorsement by management as well as the thought leaders and key influencers in the organization is key to success. The most successful businesses take an integrated approach that looks at the organization holistically—its strategies, business structure, and organization as well as its technology and information.

Integrated planning and analysis, as provided by an enterprise architecture and project portfolio management platform, consists of:

1. **Strategies, goals, objectives, and vision of the organization.** Quantitative items (cost, revenue, new products or services) get the primary focus as they help the organization create plans that impact the bottom line of the organization.

2. **Business structure, organization, and processes.** Referred to as the “business architecture,” this is the organization’s structure (such as central corporation with several business units), key processes, services or value-chains delivered, and the processes that deliver these functions.

3. **Information and applications.** This component shows how information and software automate and support the organization’s business functions and processes.

4. **Technology.** The technology component links the underlying technology (servers, computers, networks) to the business processes and functions and their supporting information and applications.

Understanding these elements can reveal waste and redundancies. In analyzing the business structure, the organization might find duplication of effort or other inefficiencies, as shown in figure 1:

This business illustrated in figure 1 could clearly improve efficiency by standardizing on processes; a single shared process throughout the organization would allow consolidation of resources that support the process and for the standardization of training and support for the process. Not only does the organization need better control and management of processes, but the resources needed for information, applications, and technology can be reduced, which would result in better operations and lower costs.

From a bottom-up perspective, technology, applications, and information investments can be verified and quantified regarding their ability to support key business functions, goals, and priorities. For example, table 1 clearly shows that two of the four servers, although required for some processes, are not needed for the process of customer service call logging (the process could be consolidated on just two servers).

In viewing results of this sort of analysis, the solution appears obvious. But prior to holistic integrated planning and analysis, the redundancies were hidden.
Planning creates the iterative steps an organization might take to implement new business technology while removing old technology and its costs. With a blueprint of the current state and future state, the organization can create project road maps that detail a progression of change from today to tomorrow, revealing a progression toward the future state.

**AN INITIAL STRATEGY**

Businesses must often justify enterprise architecture initiatives with quick wins, which can result in self-funding of future EA initiatives. The following are samples of key focus areas for launching a business planning and analysis effort, representing a rapid course to realized value, based on specific needs:

- **IT Planning and Consolidation**: Remove assets that don’t support any business functionality (application, products, hardware).
- **Business Efficiency**: Learn where the organization does not operate effectively and identify the best course of action for new business initiatives, services, and programs.

- **ERP Governance**: Understand and verify the need for costly incremental and recurring expenses related to their packaged (ERP) applications. Many organizations have little insight into the tremendous cost of their packaged applications.

Planning that reveals risks and impacts while providing multiple scenarios yields the best outcomes, and planning precision requires powerful tools for business and technology management and staff to navigate to the best outcome. The blending of two proven capabilities—enterprise architecture and project portfolio management—provides organizations with the means to truly integrate, automate, and instrument reliable business and technology planning.

**ROBERT SHIELDS**, senior manager, strategic offerings, IBM Rational, has more than 20 years of product management and strategy experience in technology management, compliance and information security.

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Two techniques, future scenarios and critical success factors (CSF), can augment strategic planning efforts by more deeply illuminating an organization's present situation and potential future. Future scenarios are used to explore potential futures and generate robust strategies along with early warning signs that help clarify how the future is unfolding. Critical success factors represent key performance areas that are essential for an organization to accomplish its mission.

In addition, both CSFs and scenarios provide processes that help an organization establish strong ways of thinking, communicating, and making decisions. While both methods have extensive histories with operational and strategic planning, neither method, on its own, constitutes a strategic planning effort, results in a strategy or strategic plan per se, or even has a direct, explicit interface with strategic planning. However, when used together within a strategic planning process, they noticeably enhance the process and the resulting strategic plan.

STRATEGIC PLANNING

Strategic planning is the process of defining an organization’s intentions for achieving its mission. There are many ways to conduct strategic planning, most of which result in a plan or set of plans that articulate organizational goals and a high-level strategy for achieving them. Division-level and organizational unit-level planning should be tied directly to the organization’s strategic plan.

Strategic planning is not only an important foundation for executing work; it also sets the stage for enterprise architecture, process improvement, risk management, portfolio management, and any other enterprise-wide initiatives.

There are many documented approaches to strategic planning (e.g., Fogg 1994).

IT STRATEGY

Information technology is a resource for organizational and mission-specific requirements (Bernard 2005). In addition to being viewed as a resource for an organization, IT is commonly viewed as an enabler of the nonfunctional requirements, or quality attributes, of a system (e.g., reliability, availability, usability). IT strategy refers to a global level of thinking about IT and its integration with the rest of an organization. The ultimate goal of IT strategic planning is to provide a broad and stable vision of how IT contributes to the long-term success of the organization (Gunasekaran 2004). In today’s environment, an organization’s existence depends on the effective application of IT. As a result, organizations increasingly look to technology not only to support business opportunities, but also to create competitive advantage. IT planning has coincidently been elevated from a tactical management tool to a strategic decision-making vehicle (Ward 2002). As with organizational strategic planning, there are documented approaches to IT strategic planning (e.g., Cassidy 2006).

FUTURE SCENARIOS

A scenario is a tool for ordering perceptions about alternative future
environments in which decisions might play out. Future scenarios allow organizations to explore multiple potential futures and generate robust strategies and a set of early warning signs to understand how the future is unfolding. Where a vision articulates a “preferred future,” future scenarios describe how an organization might achieve its mission in different circumstances or environments. Scenarios encourage the consideration of multiple “futures” and the perceptive development of decisions or strategies that will serve the uncertain future well (Schwartz 1996, van der Heijden 1996).

**CRITICAL SUCCESS FACTORS (CSFS)**

Critical success factors are defined as the handful of key areas where an organization must perform well on a consistent basis to achieve its mission. CSFs are typically derived through a documented review of the goals and objectives of key management personnel and interviews with those individuals about their specific domains and the barriers they encounter in achieving their goals and objectives. Levels of management introduce different types of operating environments and thus different levels of CSFs. Commonly identified CSF levels are: industry, organizational, division, operational-unit and individual.1 There is a direct parallel between CSF hierarchy and a typical strategic planning hierarchy.

**ADDRESSING THE STRATEGY PARADOX**

A common criticism of strategic planning is that it is overly involved with extrapolation of the past and present and can create the illusion of certainty regarding the future (Heracleous 1998). The strategy paradox is the conflict that arises from the need to make operational commitments in the face of unavoidable strategic uncertainty (Raynor 2007). One solution to the paradox is to separate, and align, the management of commitments from the management of uncertainty so that the work of delivering on organizational commitments is aligned with, but distinct from mitigating the risks associated with future uncertainty and providing exposure to promising opportunities.

Because uncertainty increases with the time horizon under consideration, decision making should be allocated to the managerial levels responsible for each approximate time horizon. Executives tend to be well suited for managing strategic planning, scenario planning, and risk, while managers are well equipped for operational planning, the identification of critical success factors, and product or service delivery. With executives focused on managing uncertainty (strategic positioning), operating managers can focus on delivering on commitments (operational effectiveness). Operational effectiveness is akin to efficiency and means performing similar activities better than one’s industry peers. Strategic positioning means adopting activities that are different from one’s peers or performing similar activities differently (Porter 1996).

Expanding the breadth and depth of knowledge and thought that are available for making strategic decisions can only strengthen the decisions and strategies themselves. Both the scenario planning method and the CSF method support strategic thinking and decision making by strengthening perceptions and assumptions that lead to information-based decisions. They also address the strategy paradox by forming a bridge between strategic and operational activities. CSFs identify operational activities that serve the achievement of the mission. Future scenarios help form strategies that lay the groundwork for operational activities.

**USING CSFS AND FUTURE SCENARIOS FOR IT STRATEGY**

Organizations often have difficulty developing and implementing IT strategies because they do not maintain an explicit focus on high-level business drivers. As a result, IT strategies often fail to reflect what is important to the organization, the accomplishment of the mission, and long-term resilience. Scenarios can be used to explore IT options, or IT-specific scenarios, in alignment with organizational scenarios. The key to an IT strategy is that it explains how information technology will align with and support an organization’s overall business strategy. It should reflect a global level of thinking about IT and its integration with the rest of the organization.

The success of an enabling resource, like IT, relies heavily on aligning IT-strategy with higher level, organizational strategy. Because CSFs can be derived at each level of an organization, they can facilitate alignment. They link organizational strategic interests and the information-planning function. In fact, a good IT strategic plan must include an understanding not only of its own CSFs, but of the CSFs for the divisions of the organization it supports as well as the higher-level organizational CSFs.
Organizational CSFs are critical to IT strategic planning because they reflect the business goals of the organization and the field of vision of top management (Caralli 2004).

In addition to supporting strategy development, CSFs and scenarios also enhance one another to some degree. In particular, CSFs can provide an organizationally tailored filter for identifying driving forces for scenario development.

This method has been piloted in several government strategic planning efforts with positive results. Not only has the integration of these techniques produced robust strategic plans, it has fostered strategic conversation among organizational leadership, inspired data-based decision making, and increased communication across the organizations. This approach can be implemented in stages, at any level, and still realize gradual benefits.

CONCLUSIONS

Critical success factors and future scenarios are particularly well-suited augmentations to IT strategic-planning efforts. They illuminate an organization’s present situation and potential future, respectively, and facilitate the alignment of IT strategy with organizational business drivers. Each technique can be used to strengthen both strategy setting and operational activities. When the CSF method and scenarios are used together and integrated with a strategic-planning method, they also reveal the value of an overarching strategic thinking and strategy development process. They contribute to the strategic thinking and planning process and the development of robust strategic planning information assets.

References


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It’s official: EA has graduated.
The emergence of the first North American EA university degree program is a sure sign of a maturing discipline. Similar to international programs in The Netherlands and Australia, Pennsylvania State University in University Park, PA, has recently begun a well-funded initiative to create undergraduate and master’s EA degree programs. The programs, supported by a consortium of corporations and institutions, will begin closing the supply-and-demand gap for EA professionals by 2013 for graduate students and 2015 for undergrads.

To delve into this trend further, A&G interviewed Dr. Brian Cameron, professor of practice and the executive director of The Center for Enterprise Architecture in the College of Information Sciences and Technology (IST) which is spearheading the Penn State initiative, and Scott Bittler, research vice president of Gartner, a global IT research and advisory services firm. For an industry perspective, we also spoke with David Hood, chief executive of Troux, a leader in business technology management and EA software.

A&G: Tell us about the background of the initiative and why it’s happening now?

Cameron: The Enterprise Architecture Initiative was conceived more than two years ago. I continued to hear from my EA industry colleagues that well-trained EA professionals were in short supply and that, as EA shifted to be recognized as a strategic component of IT and business planning, the profession needed to support this with like-educated professionals. I took my business case to our dean and suggested the creation of a corporate and government advisory group to see if my big ideas would resonate with a broad cross-section of organizations. We asked corporations for a one-time $15,000 donation to sit at the table and give us the start-up resources to develop the various components of the initiative.

I think that the dean thought I was crazy to require $15,000 to be part of this group in the middle of the great recession. I felt that the time was right for EA to mature as a discipline in academia, and the money was needed as much for validation as it was for the actual expenses.

The initiative gained much momentum and has exceeded everyone’s expectations, and we are well validated. Each week, I get new inquiries from somewhere in the world and was recently invited to talk about our work to the Federal Chief Architects Forum at the White House Conference Center.

Bittler: The discipline of EA is maturing. When this happens in any field, we see certification and degree programs emerge. In the last three years, we’ve seen an explosion of EA frameworks, like the popular TOGAF. In fact, there are something like 70 of these EA frameworks. Many of these providers have tried to monetize their work by offering EA certification programs. An increase in certification activities in other fields has been a precursor to the emergence of new degree programs.

On another level, basic demographic shifts, including the retirement of the baby boomer generation, are creating a need for a new generation of EA professionals. These future professionals have grown up in a world with a much different set of technology-based devices, with apps at their fingertips and widespread access to...
Information. As they move into the workforce, EA must prepare accordingly.

Cameron: With industry going through the recent financial crisis, companies look more and more to EA to help streamline IT and bring agility to operations. Corporations see EA as a way to prepare for growth and are investing in it accordingly, creating a real need for a new breed of well-trained EA professionals. It's time we recognized that, as older EA professionals retire, we have an opportunity to make a fresh start and create a new generation of graduates who understand how EA can add business value. Enterprise architecture also offers a possible future for failing and dated MIS programs but will require a new generation of nontraditional, industry-focused faculty.

Bittler: It's hard to find well-trained EA professionals, and this supply problem will only grow more acute as the current professionals retire. The Penn State program, and hopefully others like it, will help supply organizations with EA professionals tuned to the needs of today's world.

Hood: My travels take me into the executive offices of some of the world's largest corporations. They are leaning more and more on business technology management and EA to help them optimize IT for the next surge in corporate growth. They're looking for EA professionals that understand how to combine the mechanics of architectural engineering with the broader business issues that drive corporate operations. Most importantly, they are looking for professionals who have an implicit understanding of how their work delivers business benefit. I'm 100 percent supportive of this effort by Penn State, and I hope that it will provide a blueprint for other universities to follow. The building of this program is an immense undertaking that will result in immeasurable value for our industry.

A&G: Tell us about the structure of the program?

Bittler: To guide creation of the Penn State program, we've brought together an advisory committee of more than 70 organizations, including for-profit corporations, governmental agencies, and professional associations with representatives from around the globe. Our advisory board now includes approximately 135 individuals representing 72 organizations from seven countries. These institutions are providing the financial support we need to get the program started, and beyond that, they are providing invaluable insight, advice, time, and energy. In September 2010, we had our second meeting of this group, and based on these ongoing discussions, we are putting together a long-term operating plan under the umbrella of our new Center for Enterprise Architecture.

Bittler: It's extraordinary how Penn State has created an advisory board that is contributing both financial support and time amid a worldwide economic slump. To convince these organizations to spend time and money on something like this, in this economy, is unprecedented and indicative of the driving need behind this program.

Cameron: We launched the Penn State Center for Enterprise Architecture in mid-January 2011, and it provides the long-term structure for the program, including ongoing research and educational initiatives. The goal is to create an undergraduate program, a master's program, a research and development structure, and an EA Certificate Program to offer professional development to practicing professionals. The bachelor's degree with an EA focus is intended to launch beginning in fall 2011. The master's degree program is also slated to launch this fall and will be an online program focused on delivering an interschool, interdisciplinary degree crossing information sciences and technology and business. Currently, under way is a pilot phase of the EA Certificate program, offering online instruction to 35 students from the U.S., Latin America, and Australia.

A&G: What's the long-term impact you see for the program?

Cameron: We will be producing students in sync with a wide variety of needs from business and government. Our aim is to produce a renaissance person with a broad range of understanding, who is adaptable to many different skill sets, and who can thrive in an environment that is increasingly stretching across IT into all realms of the business.

Bittler: I don't expect the Penn State program to be unique in North America for long. I expect other universities to follow suit. Throughout this weak economy, the EA discipline has survived and even thrived. This bodes well for EA and for the Penn State program. The outlook for the program, and for EA in general, is bright.

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