SAP White Paper
Enterprise Architecture

Building Effective Enterprise Architecture

Developing a Business Case and Road Map for Mature EA Practices to Maximize Value in IT Investments

The Best-Run Businesses Run SAP™

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Summary

About the Author

Surendra Gupta, principal enterprise architect with SAP, has over 20 years of experience in the industry. Before joining SAP, he was an IT strategist at Dell and a master architect at Hewlett-Packard.

Gupta became involved in the enterprise architecture (EA) practice in 2003 and received TOGAF certification in 2006. He has helped large organizations develop and mature their EA practices and create a capability road map for EA maturity. He recently conducted the EA Best Practice Survey with SAP and the Americas' SAP Users' Group (ASUG). With a strong background in high tech and the end-to-end value chain, he leverages his EA, IT, and business knowledge to maximize enterprise value.

Surveys show that enterprise architecture (EA) programs often lack support from business and IT stakeholders due to lack of:

- A business case demonstrating their value
- Architecture governance and execution
- Business support for aligning business goals with IT strategy and architecture
- Understanding and adoption of best practices

In July 2010 SAP and the Americas' SAP Users' Group (ASUG) launched the Enterprise Architecture Best Practice Survey to examine the impact of EA initiatives on business performance around the globe.

EA Maturity Tied to Alignment of Business and IT Goals

Initial results of the ongoing survey strongly confirm the positive impact of best practices in EA. The survey is intended to help organizations identify gaps in their EA best practices, build business cases and road maps for improving those practices, gain executive support, and maximize the returns from their EA investments.

Responses from more than 60 participants across the globe and all industry segments showed that:

- Companies with mature practices invest 1.3 times more of their IT budgets in innovation to develop new business capabilities.
- Companies with mature practices have 36% fewer system interfaces per billion dollars of revenue and thus a more simplified IT environment.
- Companies with mature practices have about one-third fewer emergency projects, and their IT portfolios are better aligned with their business strategies and goals.
- Companies with higher overall enterprise architecture maturity have 64% lower IT spend as a percentage of revenue versus companies with lower levels of maturity.

Survey participants receive detailed, company-specific reports that compare their performance and practices against other participants' in their industry and their own targets.

Developing maturity in EA is an iterative process. While keeping an eye on the target, EA organizations must build capabilities that also consider current business priorities and requirements and deliver immediate value.

Defining Best-Practice Maturity in Enterprise Architecture

SAP has developed a comprehensive model for enterprise architecture maturity for the survey. It captures three types of data in determining the relationship between EA maturity and company performance:

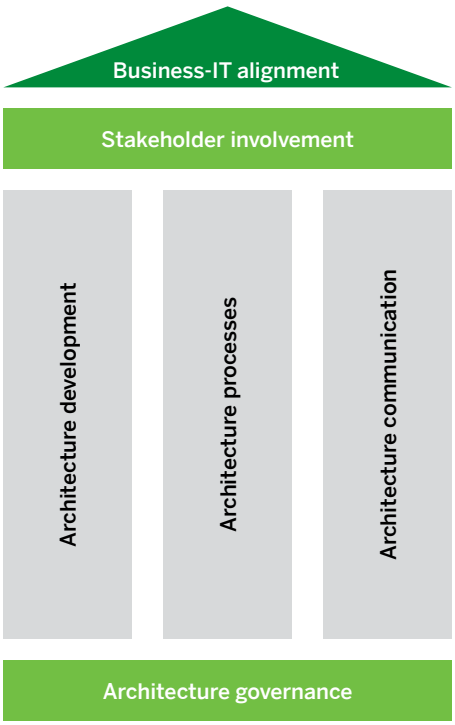
- Company information (including the country, industry, lines of business, and currency covered by the survey)
- Performance benchmark (such as total IT cost, total staff and costs related to innovation and maintenance, the portion of cancelled or emergency IT projects versus total projects, and the percentage of expected value attained)
- Best-practice coverage and importance

This model is based on six major categories of best practices (see Figure 1). Survey participants rate their current practices on a maturity scale of 1 to 5, with 1 being the lowest level of maturity and 5 being the highest. Participants can also specify on a scale of 1 to 5 the target levels of maturity that are appropriate for their organizations.

The survey recognizes that each best practice is not equally important to all organizations, and that all organizations do not necessarily want to be at the highest level of maturity within each practice. The six categories of best practices include:

- **Business-IT alignment** – Aligning business vision, strategies, drivers, and goals with IT vision and architecture
- **Architecture development** – Documenting products, architecture, strategy, vision, standards, principles, migration strategies, and specifications
- **Enterprise architecture processes** – Using effective frameworks, processes, methodology, and templates for EA
- **Stakeholder involvement** – Supporting the EA program throughout the organization, including senior executives and stakeholders
- **Architecture communication** – Educating EA stakeholders and sharing EA artifacts – including specifications, standards, principles, and guidelines
- **Architecture governance** – Ensuring that the strategic intent of EA aligns with organizational performance

Figure 1: Major Best-Practice Categories of Enterprise Architecture



A Road Map for Effective Enterprise Architecture

Developing maturity in EA is an iterative process. You can't always move directly to the target maturity level. While keeping an eye on the target, EA organizations must build capabilities that also consider current business priorities and requirements and deliver immediate value. Key steps in developing a road map for high-performance EA organizations include:

- Creating EA goals and value propositions based on benchmark performance
- Identifying EA best-practice gaps and opportunities for improvement
- Developing a maturity road map that supports your business strategy, priorities, and requirements

Results from the Enterprise Architecture Best Practice Survey can provide key inputs for developing a mature EA organization – from discovering the value of EA to realizing that value and then sustaining and optimizing it. As part of the discovery phase, the survey can help you:

- Map your EA goals to your business and IT goals
- Establish your EA scope
- Identify gaps and opportunities
- Create an implementation road map

The survey finds that companies with greater overall best-practice maturity in enterprise architecture spend an average 1.3 times more of their IT budget on innovation versus companies with lower levels of maturity.

Building a Business Case for a Matured Enterprise Architecture Practice

There is lot of pressure on EA practitioners to demonstrate the value they add to the enterprise. In a paper titled *The Value of Enterprise Architecture* (2011), Simon Townson cites a study noting that the value of EA to an organization can be measured over time using key performance indicators (KPIs). Townson discusses an EA effectiveness model that links EA products (as-is architecture, target architecture and road maps, architecture patterns and standards, and portfolio governance, for example) to enterprise value and KPIs. The Enterprise Architecture Best Practice Survey uses some of the same KPIs to understand the impact of mature EA practices.

The survey finds that companies with greater overall best-practice maturity in enterprise architecture spend an average 1.3 times more of their IT budget on innovation versus companies with lower levels of maturity (see Figure 2).

The survey also finds that companies with greater overall enterprise architecture maturity average 36% fewer interfaces per billion dollars of revenue and thus lower IT system complexity (see Figure 3).

Figure 2: Impact of EA Maturity on IT Cost Allocated to Innovation

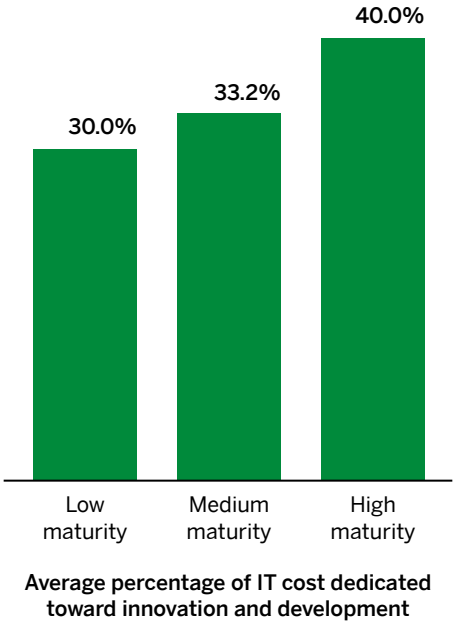
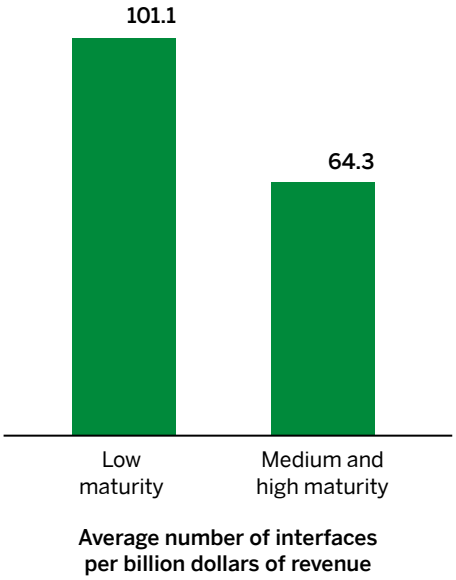


Figure 3: Impact of EA Maturity on Reducing IT Complexity



In addition, survey results show that companies with greater overall enterprise architecture maturity average 36% fewer emergency projects (as a percentage of total projects). Thus they have IT project portfolios that are better aligned with business strategy and a reduced need for emergency projects (see Figure 4).

Finally, companies with higher overall levels of EA maturity have an average 64% lower IT cost (as a percentage of revenue) versus companies with lower levels of maturity (see Figure 5).

Additional in-depth analysis of survey results revealed further strong correlations regarding the impact of individual EA best-practice categories on performance. Among the findings:

- Companies with greater maturity in business and IT alignment have fewer emergency projects and spend a higher percentage of their IT budgets on innovation.
- Companies with greater maturity in architecture development have lower IT costs as a percentage of revenue.
- Companies with greater maturity in EA processes spend a higher percentage of their IT budgets on innovation and have less system complexity.
- Companies with greater stakeholder involvement have fewer emergency projects.

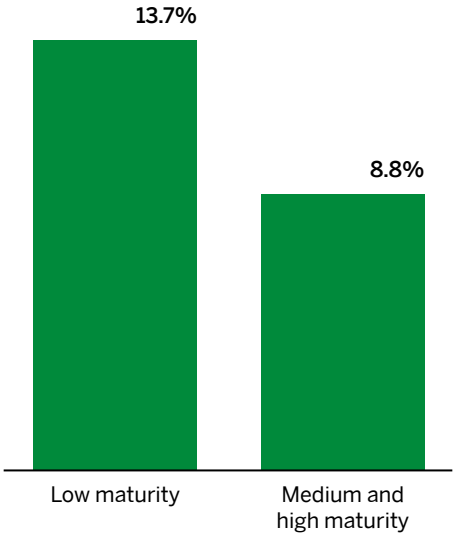
You can use the benchmark data to set realistic performance goals based on your organizational strategy, priorities, challenges, ability for change, and culture. The data will also help companies estimate the value potential of mature EA practices and develop business cases for evolving toward greater maturity.

You may find it useful to communicate benchmark results with business and IT stakeholders, as well as top executives, and gain their support. Benchmarking can help companies better understand their IT strengths and weaknesses. It can also help them become open to new methods, ideas, processes, and practices to improve effectiveness, efficiency, and performance.

Companies that perform the benchmarking study can gather valuable data that will stimulate thought-provoking discussions with key stakeholders. Benchmarking creates a sense of competitiveness and a real desire to improve. It challenges people to "work smarter" instead of "working harder" and removes emotion from the discussion.

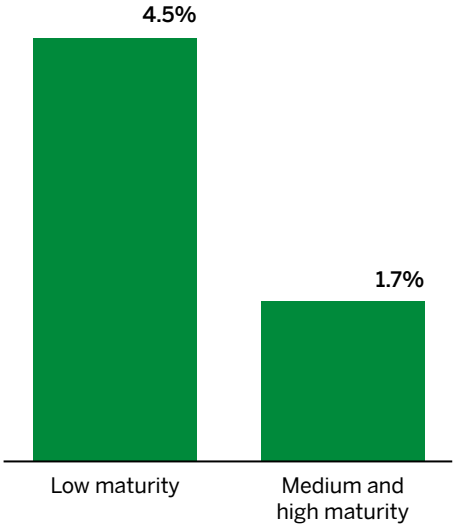
Companies with successful EA programs focus intensely on clearly defined business, IT, and EA goals. They base their EA goals on what matters most to their business.

Figure 4: Impact of EA Maturity on Project Portfolio Alignment



Average number of emergency projects as a percentage of total projects

Figure 5: Impact of EA on IT Cost



Average IT cost as a percentage of revenue

Benchmark Performance and Enterprise Architecture Practices

The Enterprise Architecture Best Practice Survey provides a detailed comparison of your maturity in EA best practices versus the highest level of EA maturity for each best-practice category level and for individual best practices within a category. It provides four data points for each category:

- Average maturity level (coverage) for other participants in your industry
- Average importance (desired level) at the industry level
- Current maturity level of your company (company coverage)
- Desired level of maturity by your company (company importance)

Figure 6 shows a sample graph of best-practice gaps at the EA best-practice category level.

Figures 7 and 8 provide details of the gaps for individual best practices. As above, coverage is ranked on a scale of 1 to 5, where 1 is no evidence of a particular best practice and 5 is the highest maturity level for that practice. Importance is also ranked on a scale of 1 to 5, where 1 indicates a practice that is not relevant for an organization and 5 indicates that it is targeted at the highest maturity level. A company's internal maturity gap is the difference between where the company is and where it wants to be.

The bars in Figure 7 represent the following best practices related to alignment of business and IT goals:

1. **Business strategy and vision** – Business drivers, goals, and objectives that drive EA strategy are understood, formalized and kept up-to-date, and linked to other business drivers, goals, and objectives.

Figure 6: Example of Average and Company-Specific Gaps in EA Best-Practice Maturity

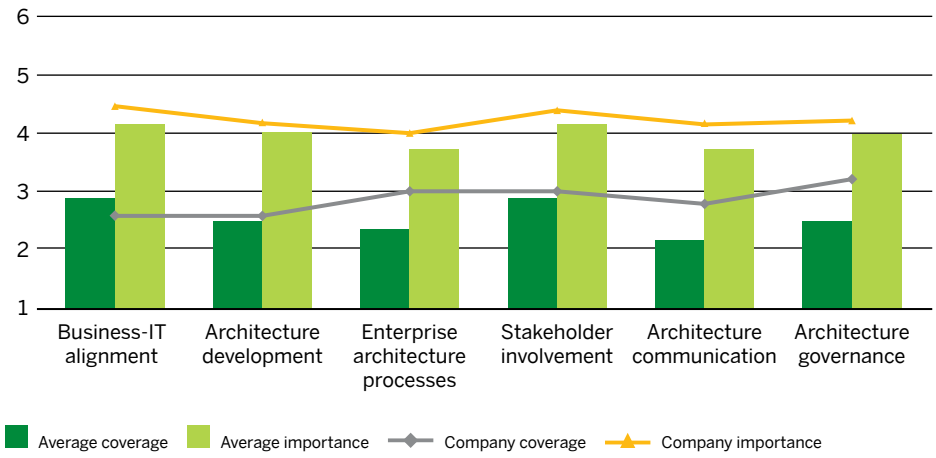
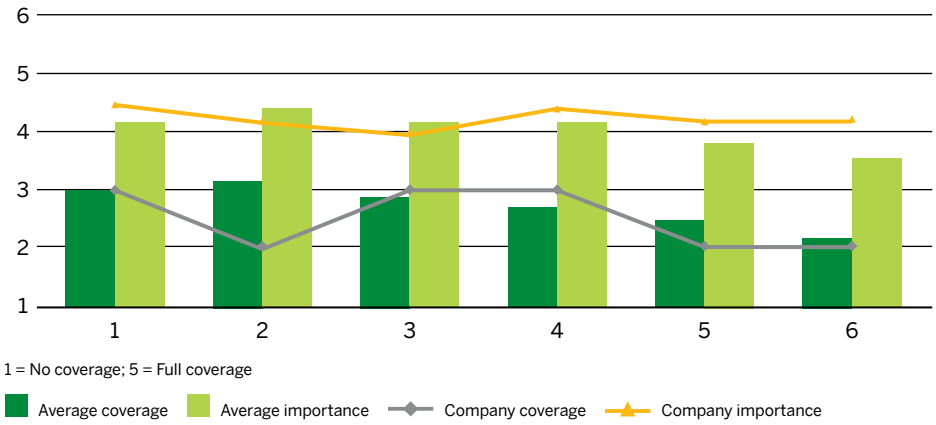
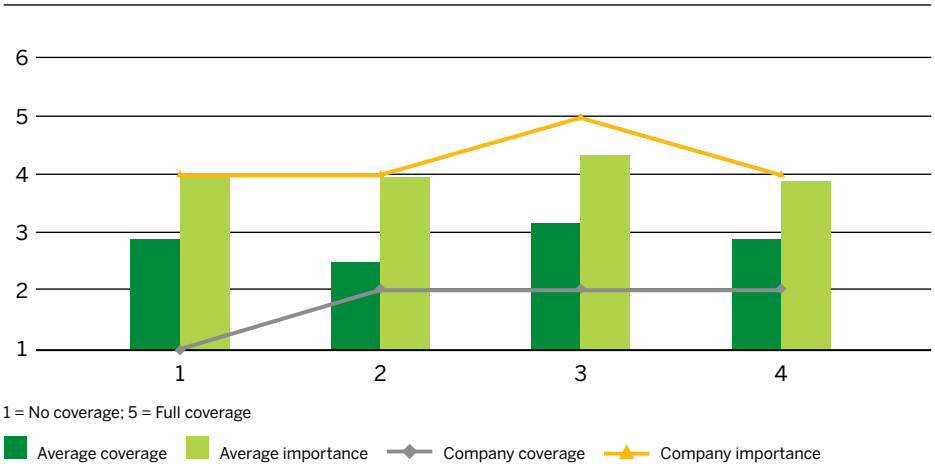


Figure 7: Best-Practice Gaps in Alignment of Business and IT



2. **IT strategy and vision** – IT strategy and vision have been clearly defined and linked to business strategy and vision.
3. **Business and IT simplification** – Systems and processes are standardized and optimized across all business units and groups. Local differences are allowed within global standards.
4. **IT project portfolio management** – The IT project portfolio is linked to an IT road map and adheres to IT architecture and standards.
5. **Linking EA standards to business strategy** – EA standards and guidelines are linked to IT and business strategies and visions.
6. **EA models and business strategy** – EA models are linked to business drivers, goals, and objectives.

Figure 8: Best-Practice Gaps in EA Stakeholder Involvement



The bars in Figure 8 represent the following best practices related to stakeholder involvement:

1. **Executive management support** – Executive management participates in promoting and optimizing enterprise architecture processes.
2. **Line-of-business staff support** – Line-of-business staff participate in promoting and optimizing enterprise architecture processes.
3. **IT management support** – Senior executives of IT operating units participate in promoting and optimizing enterprise architecture processes.
4. **Support for architecture review processes** – Stakeholders actively support the architecture review process and champion the approach outside the organization.

Benchmarking internal best practices gives companies the metrics to measure their performance and drive continuous improvement. Knowing where other companies are and where they are moving will also help you understand the improvement opportunities on which you should focus. By understanding these gaps, you can identify and prioritize improvement opportunities that align with EA goals and scope and move closer to your performance targets.

A Road Map for EA Best-Practice Maturity

For most enterprises, the journey to establishing enterprise architecture has had its difficulties. Many companies have experienced rapid growth that has often been supported by expedient one-off software products. Shortening timelines for new products, and the immediate priorities of scaling up and minimizing costs, have resulted in highly disparate business processes and a complex IT environment.

Typically, each line of business and department has focused on its own goals, budgets, and systems – resulting in a patchwork of legacy systems with overlapping capabilities, the proliferation of disparate processes, and a "spaghetti" architecture. This has resulted in a high-cost IT environment that is inflexible and slow to change.

The pressures of today's business environment are creating a need to apply discipline when planning changes in business processes, information systems, and technology platforms. Successful companies have overcome challenges and increased value from their IT investments by following EA best practices such as:

- Defining an operating model to guide the architecture
- Aligning IT strategy with business goals
- Defining business capabilities, target architecture, IT components, and value to govern portfolio management
- Defining standards, principles, and target architecture to guide project implementations
- Identifying effective methods for change management and architecture governance

Using the survey results, SAP enterprise architecture practitioners can help develop a highly customized, company-specific road map that shows how you can incrementally develop EA capabilities over time – from discovery through realization to optimization and innovation. It incorporates your key business strategies, current priorities, and IT requirements and addresses stakeholder and change management.

The road map can help you create EA best practices that are most effective for your organizational needs and culture. It can help you assess organizational maturity to determine an appropriate EA operating model. Because EA should deliver value to business leaders, whose support is critical, the road map should engage the business side in increasing EA best-practice maturity. It should consider both enterprise and individual business-unit needs.

SUMMARY

The Enterprise Architecture Best Practice Survey results and report card can bring an outside perspective to your company as you build business cases for change and design a road map for EA maturity. While an outside-in approach drives the maturity of our EA practices, it is important that a road map to maturity is value driven – continuously providing both long-term and immediate value to the business and IT sides of an enterprise along the way.

Additional information about the survey is available at www.asug.com/Benchmarking/ASUGSAPBenchmarkingBestPractices/tabid/177/BenchmarkID/67/TaxonomyId/-1/Default.aspx.

LEARN MORE

For more information about the value of enterprise architecture practice, and to see a copy of the survey, please see the following references.

SAP and ASUG, *Enterprise Architecture Best Practices Survey October 2010 – Aggregate Findings Report*.

Simon Townson, *The Value of Enterprise Architecture*. March 2011, http://scn.sap.com/docs/DOC-14453.

www.sap.com/contactsap

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