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Building value through enterprise architecture

A global study

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Executive summary

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The economic crisis has taught organisations a critical lesson: Only by focusing on long-term value can they ensure their survival during difficult times — and be ready to change when the opportunity or the need arises. Among the capabilities required to create value now and in the long term is mastery of enterprise architecture (EA) — the effort to align an enterprise's operations, including business functions, processes, and information systems, with its business goals and strategic direction.

To determine how much value EA can contribute to the business, Strategy& recently surveyed executives across a mix of financial-services and government organisations. The results are revealing.

- Respondents across the board viewed EA as a key capability for building long-term business value, and are making significant investments in advancing their EA capabilities.

- EA maturity levels vary greatly among the organisations surveyed.

- The amount of value captured through EA was clearly linked to EA maturity level.

Companies looking to improve their EA maturity must work to develop their capabilities in five critical areas: strategic alignment, staff competency, performance measurement, organisational structure, and formal EA processes. That can be difficult for any organisation, but the rewards are clear: better value from investment decisions and improved strategic advantage, now and in the future.

Why enterprise architecture matters

Business lessons learned during recessions are often learned painfully. Organisations that had focused their planning efforts and capital deployment on short-term indicators, appealing to the psychology of market speculation, learned that survival depended on short-term actions — across-the-board budget cuts, massive layoffs, reduced capital investment — that set them back as they reentered the growth cycle. Only by building the right capabilities for generating lasting, long-term value can organisations survive, and even thrive, during the inevitable downturn, and be agile enough to benefit from new market opportunities as they arise.

Now is the time, we believe, to make the shift from speculation to real, long-term investment in the enterprise. Service-oriented organisations in particular must create value across the entire enterprise, from front-office, customer-facing activities through business operations and processes to the underlying technology.

A critical element in the process of creating value involves enterprise architecture (EA), the effort to align an enterprise's operations — its core business functions, processes, information systems, and services — with its business goals and strategic direction (see Appendix for a more complete definition of enterprise architecture). For service-oriented organisations throughout the financial-services and government sectors, it is becoming increasingly evident that maturity of an organisation's EA efforts can have a significant positive impact on business value in several areas, including decreased operating costs, improved speed-to-market, reduction of complexity and risk, and greater overall technology effectiveness.

We are aware that many organisations have questions about the value of EA: Does investment in EA really deliver value to the business? If so, what types of value are being realised? What are successful organisations doing to capture value from EA, and what are the greatest challenges to attaining an effective EA? What actions are most important for companies in developing their EA capabilities? And how

can EA be used in the short term and the longer term, given the challenges in the economic climate?

To answer these questions, Strategy& recently completed a global enterprise architecture study. As part of the study, we surveyed EA practitioners and key business representatives at more than 60 organisations in the financial-services and government sectors around the globe, then gained additional understanding through one-on-one interviews with C-level executives, including CIOs, COOs, and heads of strategy and planning.

Investing in EA maturity

The results of the study were revealing. First, every organisation we surveyed is making significant investments in its EA capability, and sees it as a continuing priority. Furthermore, more than 60 percent of the executives interviewed say they view investing in their EA capabilities as a top-five priority for executing their strategy in the coming year.

At the same time, however, the study revealed a wide range of maturity levels across organisations. On the basis of their responses, we assigned organisations a number from 1 to 5 on an EA maturity index that reflected a range between no investment in EA, or "none," and full integration of EA across both business and IT, or "institutionalised." More than 80 percent of organisations fell within either the "standardised" (level 3) or the "operationalised" (level 4) categories, indicating that EA is gaining traction as a value lever across the business (*see Exhibit 1, next page*). For those that fell within the "emerging" and "standardised" categories, however, EA remains limited primarily to the IT function. None of the organisations we surveyed were rated either "none" or "institutionalised," indicating that every organisation is investing in EA to some degree, but there is still much ground to be gained to reach the highest level of maturity.
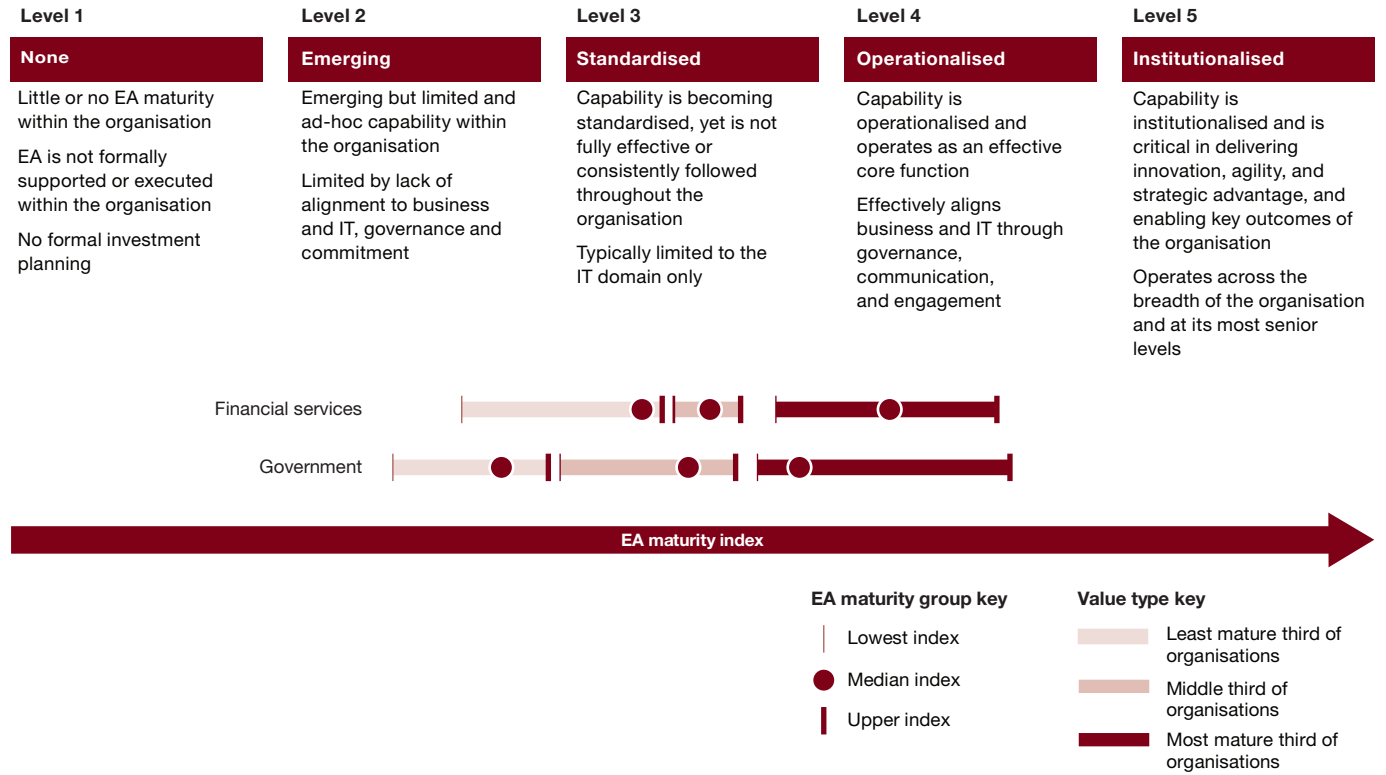
As Exhibit 1 indicates, by and large, the financial-services firms surveyed scored higher than the government agencies, a difference that may be due to the public sector having more complex business models that have evolved sometimes inconsistently over time. With the exception of one small agency, government organisations all displayed either "emerging" or "standardised" EA capabilities. These capability levels indicate the significant architectural challenges confronting public-sector organisations, which are often complex and interlinked with other organisations through cross-department portfolios.

"Maturing our EA capabilities is a top-three priority this year. We will be using EA as the basis to re-scope and prioritise our multibillion-dollar investment program."

— CIO, government agency

Exhibit 1
The EA maturity index and survey results

Level 1

None

Little or no EA maturity within the organisation

EA is not formally supported or executed within the organisation

No formal investment planning

Level 2

Emerging

Emerging but limited and ad-hoc capability within the organisation

Limited by lack of alignment to business and IT, governance and commitment

Level 3

Standardised

Capability is becoming standardised, yet is not fully effective or consistently followed throughout the organisation

Typically limited to the IT domain only

Level 4

Operationalised

Capability is operationalised and operates as an effective core function

Effectively aligns business and IT through governance, communication, and engagement

Level 5

Institutionalised

Capability is institutionalised and is critical in delivering innovation, agility, and strategic advantage, and enabling key outcomes of the organisation

Operates across the breadth of the organisation and at its most senior levels

Financial services

Government

EA maturity index

EA maturity group key

| Lowest index

● Median index

| Upper index

Value type key

Least mature third of organisations

Middle third of organisations

Most mature third of organisations

Source: Strategy&
Enterprise Architecture
Maturity Model

Case example: Cutting costs

Over the course of a two-year EA program, a leading Australian bank realised cost savings of more than AU$200 million (US$161 million), or about 1.4 percent of total operating expenses — primarily through consolidation, sharing, and reuse of technology assets. The bank's EA maturity score placed it in the top third of organisations surveyed.

The bank integrated EA deeply into its operations, an effort that has been fundamental to its success. Bank executives point to three key mechanisms in pursuing that integration:

- Ensuring that the strategic planning process includes input from the EA program, particularly where investment decisions are required.

- Securing EA input into other governance processes, such as

project planning, which in turn has steadily increased EA's profile across the organisation.

- Building a federated EA model with a central EA practice supporting domain experts in each business unit. This enabled the delivery of business-specific information underpinned by consistent frameworks.

The proven value of EA has only whetted the bank's appetite for expanding its EA capability. "There is sufficient feedback," the bank's head of enterprise architecture noted, "to suggest that senior management expects EA to step up to the next level to set the strategic agenda." For that to happen, however, the bank must develop the hybrid business and technology skills enterprise architects need. Doing so means creating more attractive career paths for enterprise architects to ensure that their skills are retained.

Connecting maturity and value

In our efforts to establish the link between EA maturity and value, we looked at four critical areas of business value: decreased cost, reduced complexity, reduced risk, and increased agility (*see Exhibit 2, next page*). Strategy& experience and initial interviews with executives indicated these four areas were the most common benefits being achieved by EA capabilities. Of the one-third of organisations with the highest EA maturity ratings, more than 60 percent reported having realised all four sources of business value. Those organisations are also continuing to invest in EA, indicating that they believe there is still value to be captured by pushing their EA maturity further.

The few organisations reporting that their EA efforts have reaped little or no value are all at the "emerging" level of EA maturity. In each of these cases, EA is restricted to the IT function, with no clear engagement with the business — in sharp contrast to those higher on the maturity scale.

Our study further suggests that there is an order to the sources of value delivered via EA. As organisations mature, they capture cost savings and operational risk reduction earliest, whereas reduced complexity and increased agility become more apparent as their EA maturity increases. As companies reach higher levels of maturity, value tends to be realised across all four of the sources identified.

- Virtually every organisation we surveyed cited cost reduction as one of the most commonly captured sources of value. Yet those with the highest levels of maturity reported significantly greater cost savings, implying that the tighter the alignment between business and technology, the greater the cost advantage.

- As with cost benefits, organisations realised the benefits of reduced risk relatively early in their maturity efforts. That, we believe, can be attributed to EA's ability to provide an enterprise-wide view of planned investments, and thus to limit the problems that can arise through misaligned programs.

"The bank has leveraged EA to manage the governance and complexity of its channels, processes, and systems, resulting in increased customer satisfaction and growth in key customer segments."

— Executive VP, financial-services organisation

Exhibit 2
The relationship between EA maturity and value
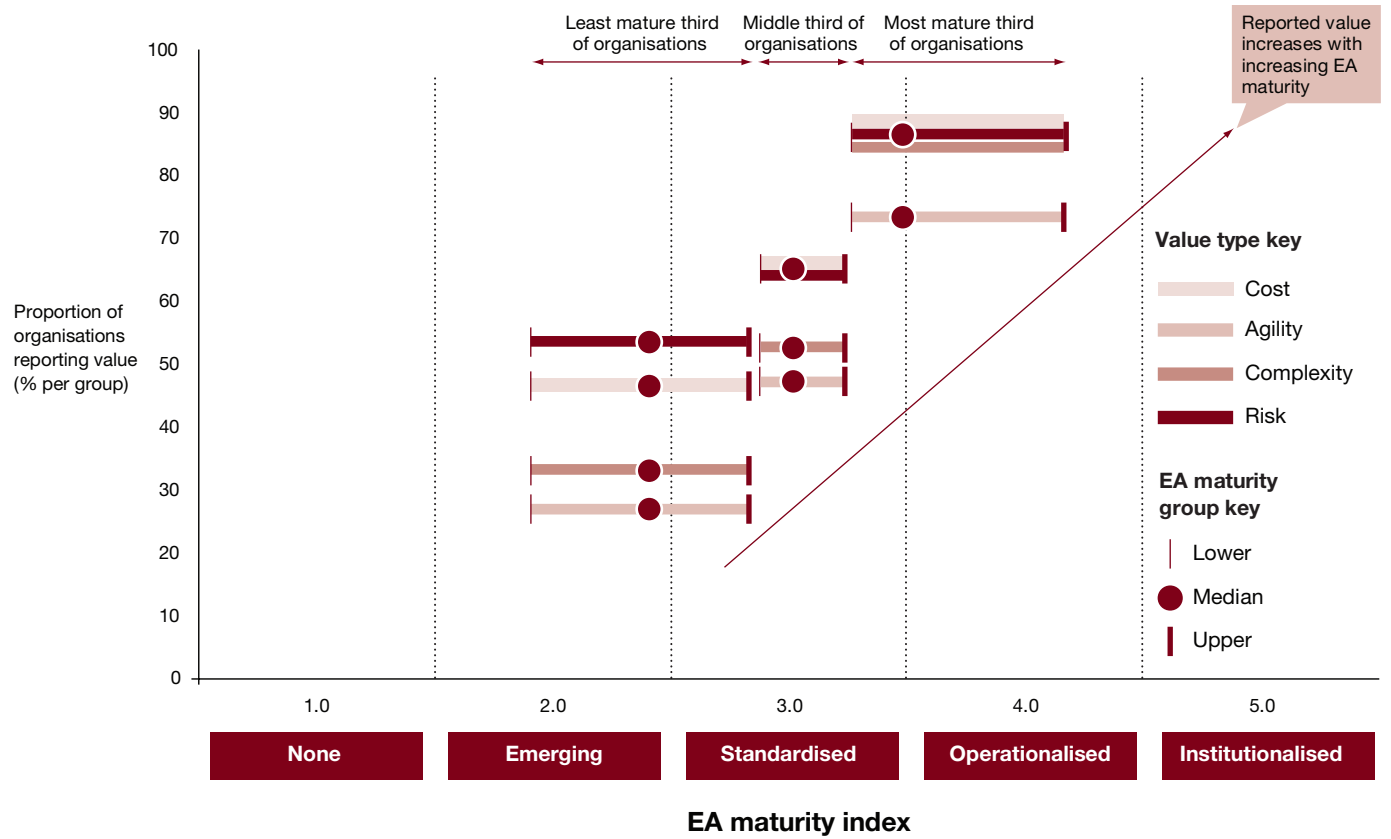
Source: Strategy& analysis

- Managing complexity remains a challenge for organisations that have yet to reach at least a "standardised" level of EA maturity. Many organisations in both the financial-services and government sectors indicate that standardisation across the IT function is the key factor in reducing complexity.

- Organisations found that agility — a combination of the flexibility needed to create new business products and the speed at which they can be brought to market — is the most challenging source of value to capture. For many organisations, only strong architectural alignment between business and technology could enable the nimbleness needed for effective change, such as reengineering an existing product to respond to market changes quickly. Furthermore, they found that the business must lead the effort to identify and coordinate the various enterprise functions needed to enhance speed-to-market.

Organisations in both the financial-services and government sectors gain business value as their EA maturity improves. Yet the study indicates that the two sectors vary significantly in how they use EA, and in their expectations for the kinds of value they might get out of it. Financial-services companies typically focus on using EA to help guide organisation-wide strategies such as cost control, pre-merger and post-merger integration, infrastructure consolidation, and the delivery of new products. They see EA as a tool for gaining competitive advantage.

Government-sector organisations, on the other hand, see EA as a tool to enhance internal collaboration, interoperability, and the ability to share information among different departments and agencies. By focusing their EA efforts on standardising government services, these organisations aim to manage their portfolios of resources more effectively, particularly for the implementation of large programs.

Case example: Improving efficiency and customer service

As part of a government mandate, a large U.K. government agency embarked on a transformation to improve its efficiency and customer service. The agency had been largely paper-based, with separate business processes for the various benefits it administered. Fragmented workflow processes and outdated IT systems had adversely affected customer service, efficiency, and staff morale.

The use of EA was a key enabler in the transformation, which resulted in a reduction of the average time it took to process claims by more than 70 percent, from more than four weeks to just five days, and reduced the number of processing centres by 60 percent, from 25 to 10. Among the benefits of the agency's EA efforts:

- EA provided clarity for the agency's vision and helped it facilitate the transition from its paper-based processes to modern CRM-based processes. The transition plan allowed for the coexistence of old and new processes, while targeting quality assurance on activities in critical areas. This helped reduce operational risk while the transformation was taking place.

- EA drove the alignment of business and IT objectives by following focused principles and discipline. It enabled the use of common software packages with minimal customisation, for example, and the implementation of a CRM system in a "wrapper" pattern to cut costs and minimise the new system's impact on legacy systems.

- EA encouraged the reevaluation of a number of third-party contracts; subsequent renegotiations resulted in a reduction of 25 percent on the agency's end-to-end IT systems integrator contracts, for a total savings estimated at £10 million (US$14 million).

By providing an integrated view of its business and IT architectures, EA was instrumental in helping the agency meet its transformation objectives, while managing operational risk along the way. The agency had initially outsourced its EA efforts to external professionals, but by adopting a systematic approach to capturing the knowledge gained, it now has the expertise to continue with minimal external support.

Driving value

The connection between EA maturity and business value is clear — the value captured is directly correlated with the level of maturity. That doesn't explain, however, what it takes to reach the higher levels of maturity. Achieving EA maturity involves five critical elements: strategic alignment, staff competence, performance measurement, organisational structure, and formal processes. Each is vital to the success of every EA effort, yet they vary significantly in their link to the value created through EA.

Furthermore, those elements with the greatest link between maturity and value are also the ones respondents viewed as the biggest challenges (*see Exhibit 3, next page*). Unsurprisingly, there is no free lunch, but those who can overcome the most significant EA challenges will reap the rewards.

The use of EA to aid in the alignment between an organisation's operations and its business goals is the most critical driver in achieving business value; every EA effort must be focused on actual business results. Hence, successful organisations overwhelmingly design their EA functions to be included in both technology and business strategic planning processes — to force strong formal engagement between the two across the organisation. However, a large percentage of respondents recognised the difficulty of building that engagement, particularly when the wider organisation has only a limited understanding of what EA consists of or why it matters. If an EA program is to succeed, it is critical that it remain relevant to the firm's strategic agenda, and that the overall organisation remains cognizant of its importance.

One could argue that the success of every service firm relies ultimately on the quality of its people, and an EA program is no different. Organisations with high levels of EA maturity have typically succeeded in overcoming two major competence hurdles: They have cultivated leaders who can effectively communicate EA's value throughout the organisation (in both technical and non-technical settings), and they

"Previous IT-led attempts to mature EA failed. EA is now located within and led by the business, making the organisation more responsive to changing priorities and business challenges."

— CIO, government agency

Exhibit 3

The five elements of EA maturity

Maturity element	Element description	Link to value	Challenges
		Relative difference in element maturity between organisations that did and did not report value[1]	Respondents noting the maturity element as a key challenge to maturing EA[2]
Strategic alignment	The extent to which the EA function is involved in both business and technology strategic planning and how well EA engages with the wider organisation	1.7	40%
Staff competence	The level of competency of EA's leaders and practitioners and how well EA is recognised and fostered as a career path	1.6	40%
Performance measurement	How well EA's success is defined, measured, and improved with formal metrics	1.5	24%
Organisational structure	The extent to which the EA function is formally structured and governed, the seniority of EA's practitioners, and the level of recognition of EA throughout the business	1.1	18%
Formal processes	The extent to which formalised frameworks, methodologies, and supporting technologies are used within the EA function and the breadth of the adoption of EA standards firm-wide	1.0	7%

[1] The average difference in maturity scores between organisations that did and did not report value was calculated for each maturity element. The differences displayed are normalised to the lowest difference, which is set to 1.0 (i.e., on the formal processes maturity element).

[2] Percentage of respondents noting the maturity element as a key challenge to maturing an EA capability.

Source: Strategy& analysis

have established training and development paths for enterprise architects to grow the practice from within. Investing in internal development not only helps alleviate difficulties in procuring external talent, but also breeds architects with the necessary intimacy with business knowledge.

Performance measurement is the third key maturity element. Successful organisations have learned how to measure accurately the outcomes of their EA efforts and use the results to further drive support in the business. Alignment of those metrics with organisational strategy is critical. Successful EA functions measure, and communicate, results that matter to the business, which in turn only strengthens the message that EA is not simply the preserve of the IT department.

Interestingly, the study reveals that organisation (how the EA function is structured) and process (EA-related frameworks, tools, methodologies, and the like) maturity were less significant differentiating elements in the value realised from EA than were the other maturity elements. By and large, organisations find these maturity elements easy to "do' well. This being the case, these elements should be considered as "givens' in developing a functional EA capability — they are important but not differentiating. Organisations would do well to focus effort primarily on strategic alignment, staff competency, and performance measurement.

Case example: Managing complexity

A leading European bank needed to ensure that its recently outsourced IT activities continued to provide optimum service to the business. By expanding its EA capability, which had traditionally resided within the IT function, the bank successfully integrated those outsourced services. And by reusing applications and processes across its previously siloed business lines, it also reduced complexity and costs. The success of the program was driven by:

- Formalising EA's strategic role in the governance of the new outsourcing arrangements to ensure that services provided by the extended organisation were aligned with the needs of the business.

- Building comprehensive organisational knowledge of the EA capability by locating architects within each business line.

- Maintaining EA's technology roots through close engagement between internal solution and infrastructure architects internally and the new outsourcing partners.

The bank has begun to reap the rewards of EA's growing profile and influence, in part because it is now the only function able to provide an integrated view across the extended enterprise. The bank's key future challenges lie in further strengthening the relationship between business and IT, and their joint governance of EA, and in formalising its business processes and aligning them with a corresponding master plan for IT.

Delivering value

Each of the five drivers of value discussed above carries its own set of challenges, and overcoming those challenges is key to getting the most impact from investments in EA. The results of the study reveal that successful organisations — those that have managed to capture, demonstrate, and communicate the value of their EA investments — all turn to a similar set of practices to reach those goals. Exhibit 4 lays out in detail both the challenges organisations encounter in capturing value through EA, and the leading practices they put in place to do so.

Embed EA into strategic planning

Ultimately, the success of any EA program depends on its relevance to business decision makers, and the business value it creates — and that, in turn, depends on how helpful it is in aligning enterprise structure with overall business strategy. Thus, every EA program must be structured from the start to ensure its efforts are directed toward projects of significant business importance.

In practice, achieving strategic alignment requires a conscious, indeed formal, effort. Said one banking executive whose organisation has achieved a high level of EA maturity: "Within each business unit exist joint business and technology strategy boards through which the business directs and prioritises the architecture effort against its strategic imperatives."

Similarly, another respondent, a senior executive at a government organisation, noted that EA must be an integral part of strategic planning. "EA is embedded in [the] business," he said, "not exposed as a separate function called EA."

Grow EA experts from within

Along with strategic alignment, survey respondents cited "access to highly skilled resources" as the biggest challenge to EA success. Mature

Exhibit 4
Leading practices of firms with mature EA capabilities

Maturity element	Value drivers	Challenges	Leading practices
Strategic alignment	Involvement in strategic planning Formal engagement models Alignment to both business and IT agendas	Poor business engagement with and adoption of EA Lack of understanding of EA throughout organisation – perceived as an IT or compliance function	Embed EA into strategic planning - *Build strong formal engagement with the organisation* - *Focus EA on issues most relevant to the business*
Staff competence	Strong leadership to drive positioning of EA across the organisation Strong internal training and development	Difficulty sourcing staff with appropriate skills Finding leaders who can effectively communicate value of EA to both IT and business staff	Grow EA experts from within - *Nurture experts who can communicate with both business and technology*
Performance measurement	Formalised performance measurement	Measurement of EA outcomes, underpinning difficulty in selling it to the wider organisation	Measure meaningful success - *Link EA to enterprise KPIs* - *Monitor EA's impact (e.g., before-and-after comparisons)*
Organisational structure	Clearly defined governance and decision rights	Lack of support at senior levels	Promote EA to the organisation - *Highlight EA's measured impact on enterprise priorities* - *Build senior management support*
Formal processes	Incorporation of EA standards into formal project delivery	Ensuring use of standardised frameworks, methodologies, and tools	Grow EA through the organisation and into the extended enterprise - *Retain a solid core EA practice* - *Consider federated models, building business ownership of EA content* - *Grow into the extended enterprise (e.g., partners, customers)*

Increasing importance →

Source: Strategy& analysis

EA organisations have succeeded in overcoming this challenge by focusing on building internal competencies, particularly through strong leadership and by encouraging architecture-related training. These practices, in turn, allow mature organisations to promote EA as a professional career path with formalised roles, responsibilities, and decision rights, offering employees a compelling value proposition. As one senior director at a prominent government agency put it, "EA leaders are the leaders in the business, information, and technology domains by nature of their roles, and [this] positions [them] as part of the planning organisation."

Measure meaningful success

Like any other business function, EA must be accountable for how well it performs and measures up against key performance indicators. And measurement and attribution of results is even more critical for an emerging capability looking to prove its value to the organisation. Survey respondents identified the need to prove ongoing success as one of the most common challenges in developing a mature EA function. "A lack of demonstrable value to the organisation [means] no successes to generate interest [in EA]," a senior government executive explained. Once they gain the capacity to measure results, mature organisations often focus on completing quick-win projects that allow them to demonstrate EA's ability to add value.

Organisations with mature EA functions have addressed this challenge by creating formal performance measurement built on both qualitative and quantitative data. At a broad level, quantitative metrics used by banks include changes over time to cost/income ratio, correlated with EA-driven projects focused on cost. Qualitative metrics often focus on collective enterprise architects' performance and feedback from within the organisation. A banking executive at a mature organisation reports measuring architects as part of an annual process that includes "the percentage of funding allocated on the basis of architecture deliverables, value of the input into projects by the key stakeholders, how creative and proactive we are in our solution architectures, and our understanding of the business and its problems. Measures are scored through a survey sent to stakeholders."

Promote EA across the organisation

In organisations with mature EA capabilities, EA champions typically communicate the value of EA to the business in terms of the strategic business decisions made and the outcomes achieved. Such organisations make a point of embedding EA into the fabric of business and

operational decisions, rather than making separate technology decisions. These organisations typically also ensure the involvement of senior management in supporting EA investment and in communicating its value to the organisation. In the words of one banking executive, "The acid test for this is that our CEO is always asking if we have enough resources."

Yet one of the most commonly cited challenges to EA maturity included the level of business awareness and the generation of an organisation-wide understanding of the importance of EA. To address these issues, it is critical to develop a strong communication mechanism that can educate the organisation on both the nature and value of EA. As a banking business architect put it, "During a survey, we found that a formal communication plan — including case studies to prove the realisation of benefits — should improve [the bank's] view of EA."

Grow EA through the organisation and into the extended enterprise

As organisations build their internal EA capabilities, the effort to unlock value beyond their traditional boundaries and into the extended enterprise becomes increasingly important. Key areas for opportunity include supplier and partner interactions. By making these efforts, organisations can ensure the standardisation needed to provide an effective, efficient, and consistent user experience and delivery of service.

As an executive at one government agency put it, "To support IT strategic planning, [we are] leading the effort to design and develop a single enterprise architecture, using a strategy that federates with external partners and incorporates an integrated, coordinated, flexible, and long-term strategically focused approach." That view was echoed from the banking sector by another executive: "Architecture develops and communicates the key guidelines by which technology procurement and development is carried out," he said. "We influence the allocation of funding to technology initiatives and major business initiatives."

Case example: Driving IT portfolio prioritisation

A sophisticated EA program allowed a large U.S. government agency to unify its disparate portfolio management processes across its many business lines and guide its US$1.04 billion IT investment portfolio. Over three years, the agency estimates, the effort saved approximately $102 million — more than 3 percent of its annual IT budget — primarily by eliminating duplicate investments and capturing gains in business process efficiency.

Furthermore, the ability to reprioritise IT investments allowed the agency to reap significant business benefits by completing major IT projects early. One IT investment, a system designed to speed up a case resolution process, was delivered a year early; now cases are being resolved 25 percent faster, resulting in efficiency gains and cost savings.

The agency attributes the success of its new IT portfolio management process to several key factors:

- EA provided executives with a common language and a single integrated business–IT planning framework for navigating complex planning and investment activities. The new EA-driven process enabled the agency to make trade-offs with an understanding of the implications of and dependencies between business processes, IT systems, and data.

- EA encouraged the use of a collaborative, business-driven engagement model that ensured a high level of executive and business involvement.

- EA allowed planners to take a "top-down" perspective on the many business challenges and capabilities that the modernisation effort needed to address. That perspective sharpened the focus on high-priority initiatives, building momentum and maintaining credibility with the business.

Thanks to its EA efforts, the agency has significantly improved its decision-making and planning capabilities; now it intends to integrate EA into planning across all business lines. Despite the success of this pilot effort, however, the agency faces a key challenge shared by many not-for-profit organisations: measuring and communicating the value of EA to the rest of the business. "Much of the value is related to achieving business benefits [such as increased operational efficiencies], not just reduction of costs," says the agency's senior advisor for EA.

EA in the short and long term

Enterprise architecture is a critical capability for organisations looking to create long-term value. Building long-term value, however, will also bring benefits in the shorter term. By improving transparency, refining business processes, and tightening the connections between tactics and strategy, EA can help support prudent near-term planning and decision making — a vital capability as organisations work to improve their agility in response to every market situation.

EA can help executives make significant contributions to the business in the near term in four key areas:

- *Controlling costs and budget:* When cost pressures are high, executives must find ways of doing more with less. During downturns, organisations often make the mistake of cutting costs by a predetermined percentage across every part of the business, a tactic that too often results in destroying value and alienating customers. EA provides executives with the transparency to look across aspects of the business holistically, to assess their investments in operations and specific projects, and thus prioritise those areas that will bring in the most value.

- *Managing the extended enterprise for value:* As demand for offshore services shifts and currency markets fluctuate, the offshore vendor landscape and offerings will likely change. In order to keep up, executives, particularly those in operations and IT, will need to make the right decisions to extract value from vendor contracts and choose the winning vendors. By helping executives better understand how specific outsourced services are being supplied to specific business lines, EA can help executives manage their portfolio of vendor relationships as these changes take place.

- *Generating capital at a time of need:* Given the high cost of capital in tough times, particularly at financial-services organisations, IT and operations assets can serve as a source of leverage. By providing a holistic view across the landscape of IT systems and vendor services, EA can help executives carve out areas that can generate cash. These might include creating innovative financing arrangements when buying

hardware or software, switching to leasing deals for major assets such as server farms, or moving to more highly leveraged financing arrangements for large-scale outsourcing contracts.

- *Developing positive relations with regulators and external parties:* Regulators are demanding more and more data from organisations and greater control over IT as they try to manage risk, particularly at financial-services companies. At the same time, public service organisations find themselves under greater scrutiny as oversight agencies demand more transparency and internal controls. By providing top-down clarity into IT assets and information, EA can help executives respond to regulatory requirements and external stakeholder demands, offering effective solutions while limiting the cost and distraction.

Short-term agility offers a further long-term advantage. At a time when industries are being reshaped, organisations must be sure to define their strategies clearly, and implement and maintain cohesive architectures of operations and IT capabilities around those strategies — including the extended enterprise of partners, vendors, and other stakeholders. Organisations possessing these capabilities will be best equipped to create innovative new products and services that can put them at a competitive advantage as markets change and grow. In this scenario, EA can help organisations over the longer term in three key areas:

- *Efficiency and lean operations:* Providing visibility across the enterprise, EA helps ensure disciplined standardisation and consolidation across operations and IT functions by removing redundant systems, phasing out costly and complex legacy systems, and managing across the extended enterprise. That in turn delivers real savings, measured by monitoring metrics such as cost/income ratio, total and targeted cost savings achieved, and number of processes improved.

- *Agility and innovation:* The value of any innovation lies not just in the innovation itself, but in the ability to deliver it quickly. A mature EA function will improve the agility needed to bring new products to market more quickly, while increasing the number of new products launched in alignment with overall business strategy. How EA contributes to agility can be difficult to measure; still, executives can track metrics such as time-to-market for new products and the number of new business plans executed with the help of EA.

- *Customer-focused services:* Building and maintaining competitive advantage depends greatly on continuously improving the services and support offered to customers. EA can play a key role in planning and executing customer-focused services and managing the end-to-end customer experience. That means creating the right product and service mix, offering compelling and integrated channels, and providing

"EA is a core function; investment in it remains a high priority. EA plays a major role in enabling a common vision and strategy across our five business units."

— *CIO, financial-services organisation*

customers with a single view of the organisation. Doing so requires the focused integration of information and customer preferences across multiple channels, as well as the standardisation of processes familiar to the customer across the enterprise and across geographic boundaries.

Here, EA helps enhance the traditional distribution system by enabling the identification of lucrative new channels, as well as the channel mix that will produce the greatest margins. This might include developing the common IT infrastructure needed for multichannel sales, and supporting business process integration with transaction layers between the front and back ends.

Again, measuring the gains attributable to EA can be challenging. Some of the basics, such as the number of new channels and services developed for the customer, can be measured easily. More complex, but just as important, are comparative metrics such as customer care performance changes for specific channels and services, and new customers acquired versus customer groups targeted.

Research methodology

The Strategy& enterprise architecture study was conducted between October 2008 and March 2009. There were 129 respondents representing 64 companies worldwide who participated in an interview, online survey, or both. The respondents were directors or heads of technology, leaders within business lines, and chief architects across the targeted enterprises.

In order to provide a balanced view of EA maturity across both the public and private service sectors, half of the responding organisations came from financial services and half from government. We also set out to achieve a geographic balance — 33 percent of participating organisations were based in North America; 36 percent were based in Europe, the Middle East, and Africa; and 31 percent were based in Asia and Australia.

All quantitative data presented in this report was drawn from the results of the online survey. Participants were asked to rate elements of their organisations' EA maturity on a five-point scale and identify different forms of value attributable to their EA capabilities. In cases where more than one employee responded from a single organisation, we calculated the maturity score for that organisation by averaging the responses. The qualitative data, including quotations and case studies, was drawn from detailed interviews and text responses to online survey questions.

Conclusion

By establishing, improving, and measuring the connection between an organisation's operations and technology and its overall strategic goals, a mature EA capability has the potential to create value no matter how weak or strong the economic climate. The key is the ability to be agile, to be responsive to markets and customers, to be flexible in approaching partnership and acquisition opportunities — in short, to be able to change. Change is never easy, but EA offers the potential to guide companies in their efforts to change, to link business processes and technology more tightly with strategy, to make better investment decisions, and to measure the results of those decisions — all in the service of generating greater business value.

Appendix

Defining EA: A strategic framework and an operating practice
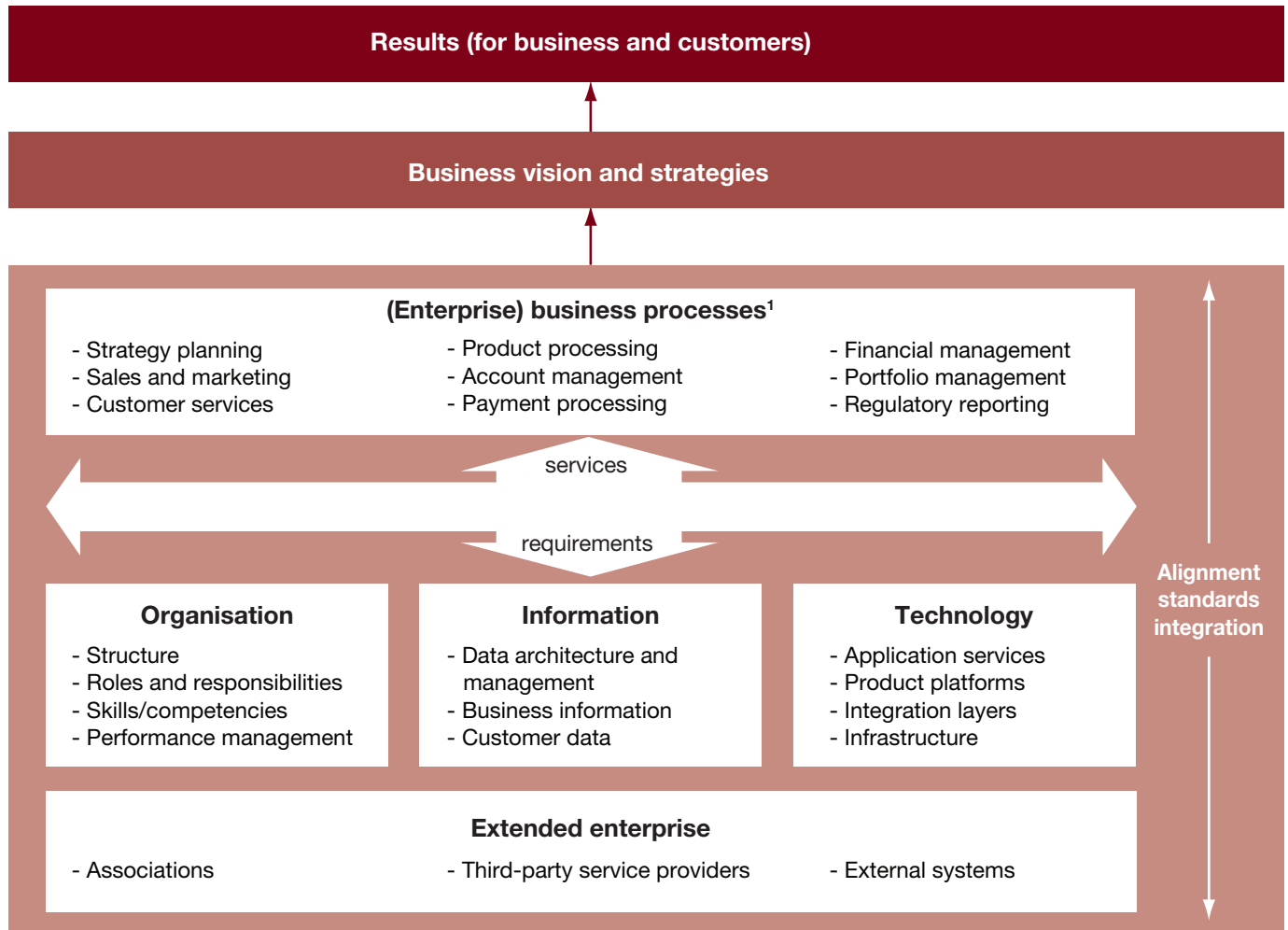
Despite its importance, EA remains a fuzzy concept in corporate strategic planning. No common industry definition really exists, and there is no general agreement on its role, scope, and functional responsibilities. If anything, it is typically seen primarily as an IT function, limited to the design of IT infrastructure and systems. Yet that notion severely constrains both the organisation-wide importance of EA and its ability to deliver real business value.

We define EA as a logical framework that establishes the links between overall strategy and the organisational structures, business processes, information, and technology needed to fulfil that strategy and deliver the enterprise's business vision. By providing an end-to-end holistic view of the enterprise, EA aims to support the decision-making process needed to continuously improve and fine-tune the effectiveness and efficiency of the business.

As a framework, EA serves as a guiding reference and a communication bridge connecting business operations with IT. Because it is a dynamic function, it should be actively managed to support the business as its competitive environment changes. EA ideally depicts two views: the existing enterprise, and the enterprise of the future as it is envisioned to achieve its business goals.

On paper, EA is the blueprint and the road map for the development and management of several components (*see Exhibit 5*). In practice, it must include how all those components operate and work together. That includes putting in place the proper organisational structure and hybrid business/IT roles, consolidating and standardising information and data stores, and integrating applications and infrastructure to support the right business processes across the enterprise.

Strategy&

Exhibit 5
Key components of enterprise architecture

Results (for business and customers)

Business vision and strategies

(Enterprise) business processes[1]

- Strategy planning
- Sales and marketing
- Customer services

- Product processing
- Account management
- Payment processing

- Financial management
- Portfolio management
- Regulatory reporting

services

requirements

Organisation

- Structure
- Roles and responsibilities
- Skills/competencies
- Performance management

Information

- Data architecture and management
- Business information
- Customer data

Technology

- Application services
- Product platforms
- Integration layers
- Infrastructure

Alignment standards integration

Extended enterprise

- Associations

- Third-party service providers

- External systems

[1] Example business processes. Not exhaustive.

Source: Strategy& Enterprise Architecture Definition

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