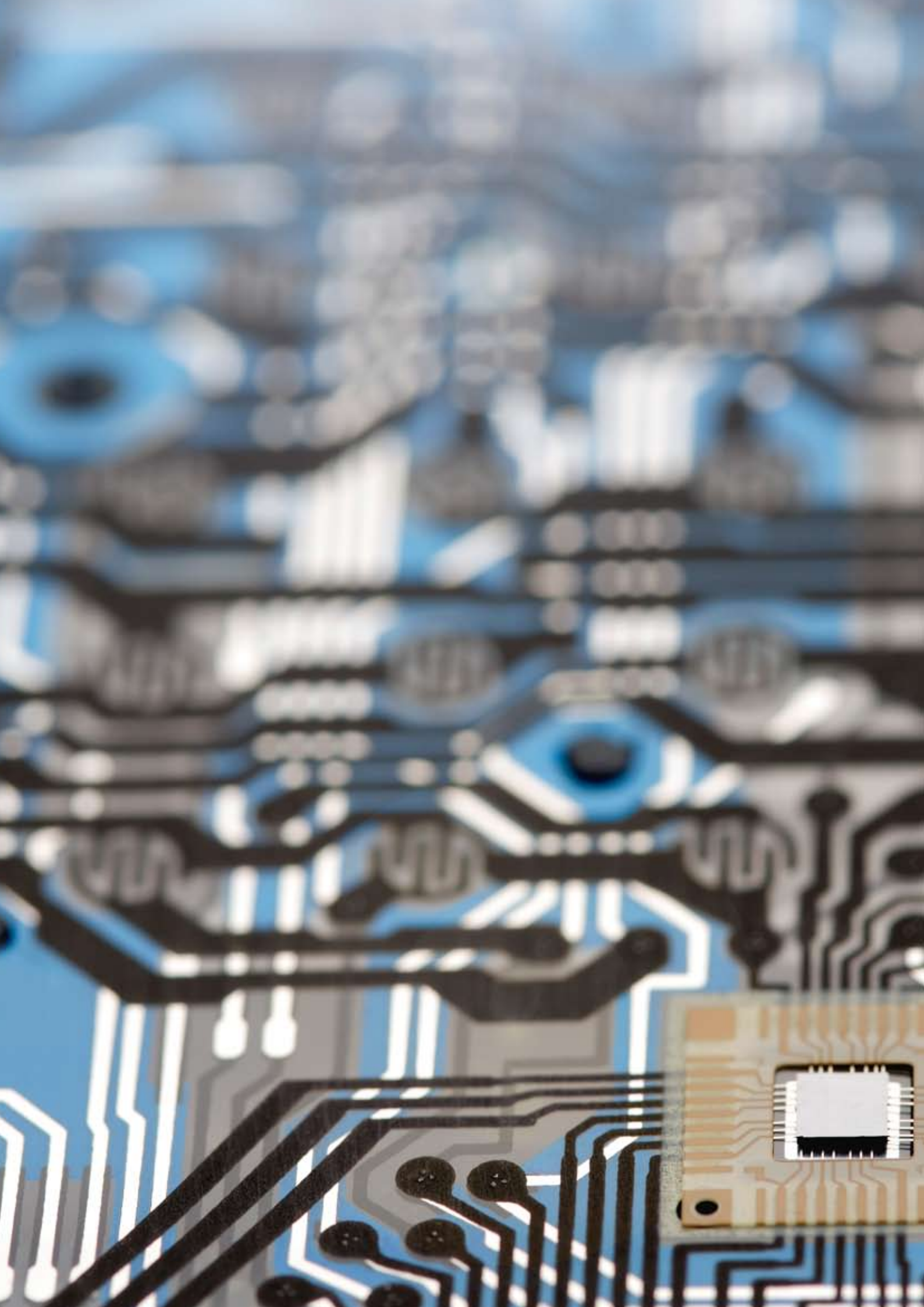


**Deloitte.**

Enterprise architecture  
Evolving to succeed







# The need to transform



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The recent emergence of what central banks and policy makers are calling the ‘green shoots’ of an economic recovery bodes well for a recovery by 2011. Nevertheless, over the next few years, the Irish economy will continue to go through a challenging period of re-balancing.

We believe that there are three key stages through which businesses will move as they move toward this recovery. These are:

**Assess:** Taking stock of the changed environment and considering available options

**Adapt:** Correcting course in line with the changed environment, with a view to availing of potential opportunities

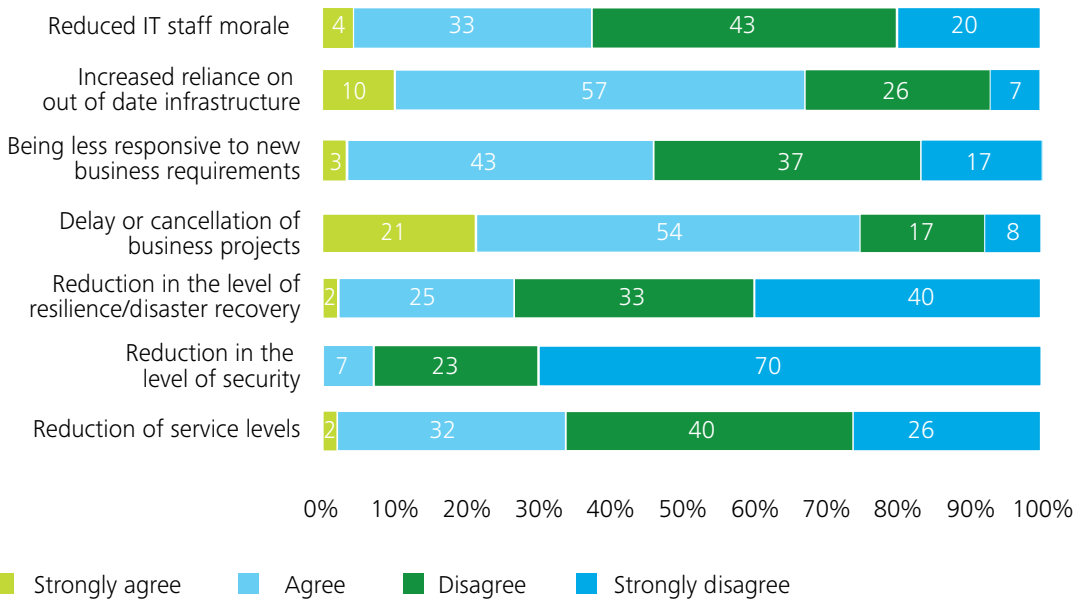
**Advance:** Taking actions now to maximise shareholder value going forward.

As part of the first stage many organisations have already implemented a cost reduction programme and IT leaders have played their role in this (for more on cost reduction see our discussion paper titled ‘CIO Efficiency Strategies’). For many IT leaders the impacts of these cuts are profound as they find themselves operating in an environment where their pre-downturn IT strategies are largely defunct, and where their day to day operational requirements from the business are largely the same. They also find themselves with significantly reduced scope

for investment and continuing pressure to go beyond simple expense line reductions and deliver sustainable ‘transformational’ IT cost savings through application portfolio rationalisation or similar means. Beyond this, they are also beginning to experience the impacts of reduced capability and headcount and the continuing requirement to do more, demonstrate value and justify IT’s role in the organisation.

A recent survey ‘How low can you go’ by Deloitte confirms this. The survey explored the compromises organisations were willing to make to reduce IT costs. As can be seen in figure 1 across, the results highlighted the fact that major IT projects were being cancelled, that businesses were willing to operate on out of date infrastructure and that investment and headcount was being cut back. This not only introduces operational risk but also inevitably leads to a pent-up demand for new investment, a demand which will create a new set of challenges as business conditions improve.

**Figure 1 - Compromises organisation would accept for IT savings**



Those businesses that have survived to date have completed or are near completion of the 'Assess' phase and are moving into the second phase – 'Adapt'. The business' continuing ability to survive and thrive is predicated on it successfully re-shaping and re-inventing itself for recovery. This re-shaping will be unlike anything we have seen before and every aspect of the business from strategy through product development, operations and IT will be significantly impacted. The unprecedented complexities that today's businesses face make this transformation even more challenging. These complexities present themselves in the form of an increasing need for businesses to adapt quickly to changing market conditions and government regulations, expanding geographic requirements, new business channels and shifting strategies.

Business relies, more than ever, on IT for business operations and competitive advantage, and must not lose sight of the impact that IT has and continues to have on the bottom line as it re-shapes itself. Indeed, the next 18 months provides an opportunity for IT to deliver a whole new level of value to the business and to the bottom line by enabling it to transform itself into an efficient, lean, agile organisation that can weather the current storm and emerge even stronger. The challenge is to do this in a smart way that leverages existing investments as much as possible.

Against this backdrop the question for today's IT leaders is how can they assist the organisation to continue to survive through the downturn while simultaneously transforming themselves for the upturn? We believe that IT leaders can lead this transformation as it consists of a mixture of IT and IT enabled transformational initiatives. These include using IT to 'lean out' and drive operational excellence in the organisation, as well as delivering improved customer and operational insight through enhanced information management capabilities.

**So what is Enterprise Architecture?**

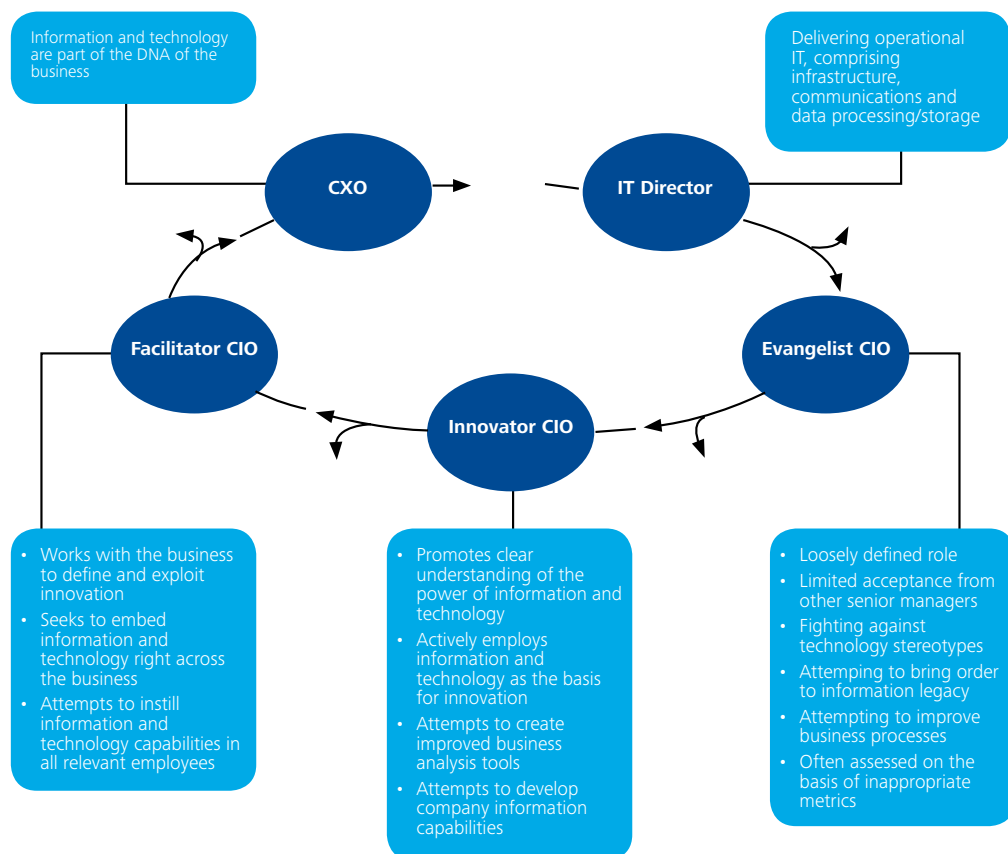
Enterprise Architecture (EA) is a structured and repeatable mechanism to create business value by explicitly linking business and IT capabilities to business strategy. It provides the framework, tools and techniques to help organisations improve the alignment between their business goals and IT initiatives. It guides how an organisation selects, deploys, operates and maintains its business capabilities and information technology to support the needs of the business. In the remainder of this paper we will describe how we believe Enterprise Architecture can assist in doing just this.

# Transforming for recovery

In seeking to transform themselves for the recovery, do more with less and deliver sustainable and transformational cost savings (e.g. application rationalisation or enhanced information capabilities) businesses will need to reconsider their entire strategy and business operating model as well as the technology that underpins it. We believe that the most successful businesses will be those that not only develop a winning business strategy but which also develop a winning technology strategy. The old barriers between business and IT will have to be broken down - it is no longer sustainable to develop these strategies in isolation and attempt to retrofit them later. Rather, business and IT will have to work together to create an enterprise wide, top to bottom, strategy that ensures long term, sustainable success.

This transformation provides an opportunity for information and technology to be seen as key ingredients of strategy, innovation and broader business management. IT leaders can be at the heart of this and in so doing shift their role and that of IT, to centre stage. In moving centre stage, IT managers and IT directors should seize the opportunity to expand their role beyond the provision of IT systems and infrastructure, to that of a Chief Information Officer whose remit is to deliver competitive advantage through technology. Indeed, we believe that this transformation calls for a particular type of CIO that we call the Innovator CIO (See figure 2 below).

**Figure 2 - Changing role of the CIO**



We believe that the most successful businesses will be those that not only develop a winning business strategy but which also develop a winning technology strategy.

# Deloitte's enterprise architecture framework

The question then becomes how can this transformation be achieved? We believe that our enterprise architecture framework provides companies with the tools necessary to achieve this. In essence, the framework consists of two linked models – a business architecture and a supporting technology architecture.

The establishment and operation of every business is based on a well defined business model consisting of a strategy that defines the mission, vision and values of the organisation. Based on this, policies, organisational structures and processes are developed and implemented. Each business unit within the organisational structure is responsible for

delivering on a part of the business strategy. To do this it develops a set of goals and objectives which are quantifiable and measurable. These are the key performance indicators (KPIs) and are used to manage the organisation's attainment of the desired goals.

To deliver on this strategy the business needs an enabling technology model consisting of an appropriate mix of technologies and technological capabilities around information, applications, integration and infrastructure. This combination of the business strategy, organisational structure, processes and KPIs, together with the enabling technology architecture are the key components of an Enterprise Architecture.

**Figure 3: Deloitte's enterprise architecture framework**

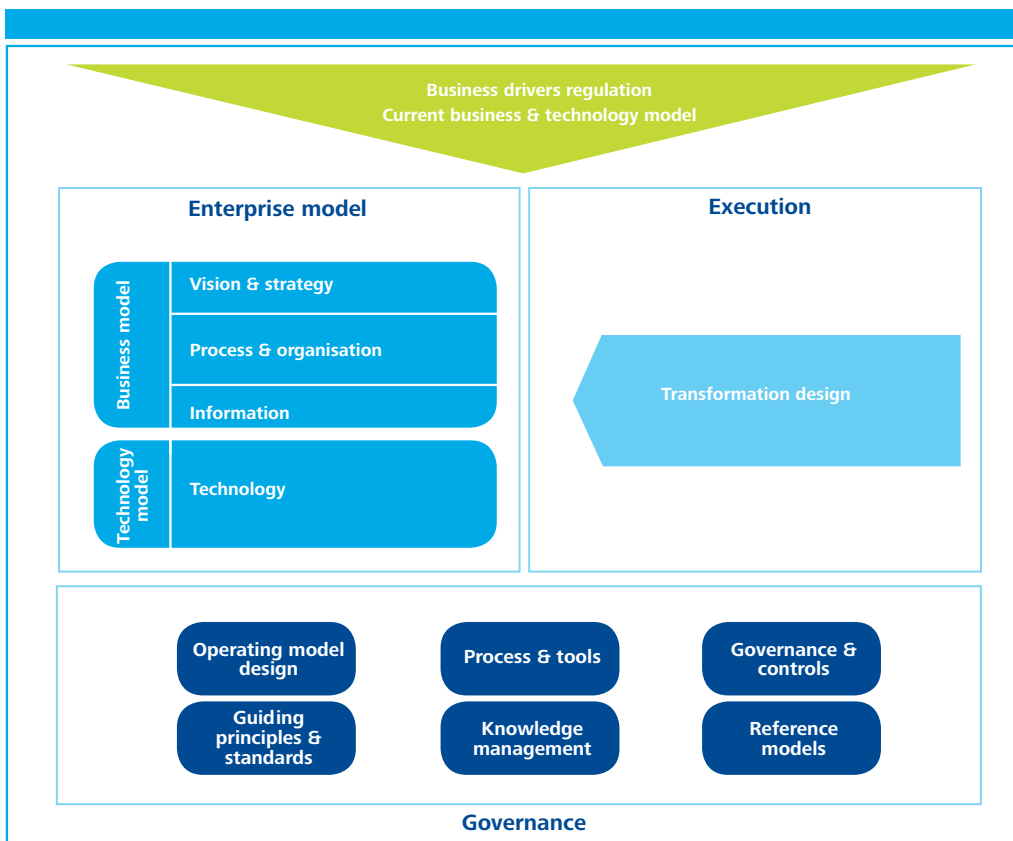


Figure 3 above provides an overview of our enterprise architecture framework. We believe that companies need to work through each layer of the framework in order to develop a co-ordinated response that, like the blueprint for a building, provides guidance as to how the various components of business fit together with greater structure and purpose.

The four layers of our Enterprise Architecture framework are vision & strategy, process & organisation, information and technology.

## Vision and strategy

The vision & strategy layer describes the blueprint for the future of the business. It captures the business principles, strategy and vision, and identifies the key stakeholders as well as the business' key performance indicators.

Central to the completion of this layer is the definition of the set of high level business capabilities that will be required to deliver on the vision and strategy. These capabilities will be different for every business but may range from the ability to deliver new products and services, engage with new business partners, interact with customers via new channels (e.g. Web 2.0) to having accurate, timely management information at hand, as and when required.

## Process and organisation

This layer of the framework is concerned with understanding the organisational structures and processes that will be required to deliver the business capabilities outlined in the vision & strategy. It starts by taking the required business capabilities and decomposing these into more discrete capabilities or services that can be delivered by the business. These capabilities are then either grouped into discrete business processes or decomposed further if required. Once this full set of processes, services and capabilities have been identified, the most appropriate supporting organisational structure and operating model can be identified.

This thinking around what the business does in terms of capabilities and services (or 'services thinking') is central to the creation of an agile business as these services can be grouped into new or changed processes, re-used, delivered in a different way or

indeed by a third party as business needs dictate. It also enables the performance of the business to be managed and optimised at a more granular level as each of the services can have its own associated performance indicators.

'Services thinking' also serves as a natural way to understand the role that technology can play in supporting the business as existing or new technologies can be identified to support each of the services or capabilities required. This not only helps to ensure greater alignment between business needs and IT capabilities but also provides a mechanism to prioritise the delivery of these IT capabilities in a manner which is business driven.

## Information

Information is a key business asset and no business can operate without it. Managed well, it supports good corporate decision making, drives revenue, reduces costs and mitigates risk. Managed poorly, it can lose customers, inflate costs and expose organisations to unbounded levels of risk. For these reasons our enterprise architecture framework gives particular focus to information and, importantly, regards information as a business asset and not a technology asset as has often traditionally been the view.

This layer of the framework is inextricably linked to those above and below, and is concerned with identifying, managing and exploiting the information that is critical to the business from board level KPIs through processes and technology. It also addresses the organisational aspects of ongoing information governance, which is critical to the management of information within the company.

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### Who owns enterprise architecture?

Generally, the EA organisation reports to the CIO who ideally reports to the CEO. However, representation in the EA organisation should come from both business and IT. The business must understand that the success of EA is a joint responsibility of business and IT. Sponsorship and commitment from the most senior levels in the organisation is important to ensure success.

## Technology

The final layer in our enterprise architecture framework is the technology layer. In reality this layer actually consists of three layers which describes the IT applications and systems, how they integrate to support the business and the infrastructure on which they run. Traditionally, the alignment between this layer and the business layers has been poor which in some cases has led to an under-performing business; a lack of timely, good quality information; unnecessary costs; and frustration in both the business and IT functions.

Our framework seeks to address these shortcomings by creating explicit links between the business strategy and the technology strategy. Too often in the past IT strategies have been created that have either failed to deliver on their promise to the business or have ended up abandoned on a shelf, gathering dust. This happened because IT strategies were created with only an abstract view of what the business actually required. This, in turn, often led to a misalignment between what the business wanted and what IT delivered. This is no longer sustainable, particularly in the current economic environment where budgets are tight and businesses need to maximise their existing resources to gain competitive advantage. Businesses need to take a view of their technology strategy that is based on a clear view of the organisation's business strategy and vision. Our framework provides a mechanism for achieving this.



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### What is the connection between enterprise architecture and SOA?

EA is an umbrella programme focused on establishing a 'master plan' for the organisation to achieve its overall aspirations and business strategy that includes business and technology elements. SOA is an approach to architecting and realising capabilities through the collaboration of IT services. Therefore, SOA can be viewed as an approach to achieving the IT component of enterprise architecture.

# Execution approach

There are two approaches to the development and implementation of an enterprise architecture, these being top down and bottom up. The top down approach is the traditional, formal approach to enterprise architecture where a broad scope is taken and each of the layers is worked through in turn. On the other hand the bottom up approach begins by streamlining and standardising the technology model and works its way up to eventually influence the business model. The appropriate course to take is influenced by three factors:

- What, how well understood and how big the problem is;
- how quickly results are required, and
- the culture of the organisation.

Organisations which are experiencing IT service delivery problems due to a broad range of technological issues, such as a lack of standardisation to an underperforming operating model, and which have a good understanding of the problem, may consider starting from the bottom up. On the other hand, where the problem is not well understood or where the primary objective is to re-align the business model to support a revised business strategy or to drive out inefficiencies in organisational structure or business processes, may prefer to start with a top down approach.

For many organisations the problem can be too big and would take too long to solve top down. In such situations it is possible to adopt a hybrid approach. This approach involves developing a top down 'to-be' business and information model (vision), governing from the top, and implementing individual initiatives on a bottom up or top down manner as appropriate. This has the advantage that results can be demonstrated quickly and initiatives are aligned with the business strategy. Additionally, over time more initiatives will, by necessity, have to be addressed using a top down approach as the problem scope expands beyond those that can be addressed from the bottom.

In many cases businesses are telling their IT departments that the business conditions in which they are operating are changing too quickly to develop a multi-year business strategy. This presents a real challenge for IT. In such a situation the hybrid approach is a useful tool to develop what is called an emergent business strategy. This is done by marrying whatever is known about the top level business strategy with the initiatives and programmes underway or planned from an operational perspective to develop an 'emergent' view of where the business is going. This enables ongoing initiatives to be categorised as being well aligned with the business strategy or diverging from it, and for decisions and plans to be made based on this.

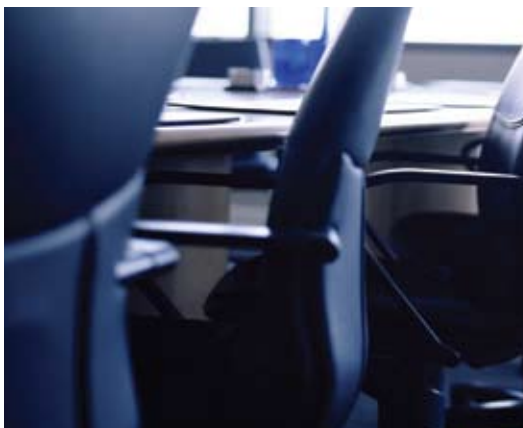
As with any change programme stakeholder buy-in and strong executive support will be critical to successful execution. While the need for wider organisation stakeholder involvement will vary depending on the approach adopted, it is important to engage with them right from the start and get their commitment in advance.

There is no one size fits all approach to the implementation of an enterprise architecture. Ultimately, each organisation needs to develop an approach that matches their objectives and that offers the best chance for success within the bounds of their organisational culture and constraints.

## Path to success

Our enterprise architecture framework can help you reshape your business so that it is positioned to take advantage of the opportunities that present themselves when the recovery arrives. But getting there isn't easy. Here are some lessons we've learned:

- Start with the business strategy. An analysis of your company's business strategy and operating model and the business and IT capabilities necessary to support them, is the essential first step.
- Get strong commitment from the business and IT before embarking on this journey.



## Benefits of enterprise architecture

- Creation of the capabilities that align business and IT to fully support the needs of the business
- Reduced IT costs and greater value from IT investment
- Provides a mechanism for adjusting to reduced capital budgets by ensuring that what funds remain are aligned with business priorities and extract maximum value from existing IT assets
- Reduced complexity leading to improved reliability, flexibility and execution efficiency
- Delivering business enabled IT solutions faster and cheaper and with less risk and rework
- Enabling business and IT innovations that create a sustainable, competitive advantage
- Improved collaboration between business and IT

- Capture value through improved business execution. A key goal should be to improve operational efficiency by linking your business and IT strategies and pulling together technology capabilities that support value creation and drive out inefficiencies.
- Know where you are – and where you’re going. Organisations vary in terms of their ability to execute such a programme. Therefore, it is important to honestly assess the maturity and readiness of your organisation for change. A maturity model can help understand where you are and where you want to go.
- Don’t forget about people. Having people with the right skills and expertise is critical to success.
- Actively manage change. An organisation’s culture has a big impact. An effective assessment will focus extra attention on organisation awareness, acceptance, adoption and competencies. The goal is to make this an ongoing process, not just a one off.
- Be practical and flexible. Don’t treat the exercise as an ivory tower exercise.

### How do I know if I need an enterprise architecture?

Most organisations would benefit from adopting an enterprise architecture approach and for a variety of different and often organisation specific reasons. However, if you answer Yes to any of the following questions, then you are certain to benefit:

- Do you spend too much money on IT systems that don’t meet the needs of the business?
- Is IT seen as a barrier or bottleneck to achieving the business strategy?
- Do the business and IT organisations operate in separate silos?
- Do you struggle with a complex technology landscape?
- Are you about to roll-out a major technology or business change programme?
- Do you find the provision of accurate, timely information challenging?
- Do you struggle with project prioritisation?
- Does decision-making break down due to a lack of in-depth understanding about processes, roles and relationships?

### Summary

During the boom when many companies had comfortable IT budgets, technology infrastructure often expanded unchecked to meet the organisation’s growth objectives. In many cases this led to an infrastructure with high operational costs and a complex and often overlapping mix of applications and infrastructure. This often resulted in an inefficient portfolio of IT capabilities and an undesirable level of rework. Clearly, in today’s operating environment, this cannot continue and IT needs to simplify its technology landscape. However, we believe that IT should go beyond this. It should also position the business for growth and drive improvements in the wider organisation in areas such as improved operational performance, regulatory compliance, risk management and governance.

We believe that an enterprise architecture can help IT to do this by:

- Reducing IT and business complexity
- Supporting the business by helping it to become more efficient and delivering what is of most value to it
- Understanding how the technology strategy, systems and projects relate to the business strategy and where the gaps are
- Supporting an efficient technology programme by targeting what needs to get done and controlling unnecessary expense that can result from not having an effective plan
- Maintaining the right capabilities to determine what technology you need and to monitor its alignment with all other aspects of your business.

### How we can help

Deloitte has extensive experience in Ireland and around the world assisting clients in developing and managing enterprise architectures, reducing IT costs and utilising IT to improve organisational efficiencies. We have dedicated technology practices in Ireland, the UK and the USA with over 40,000 consultants, 65 technology alliances and experience with hundreds of successful engagements. We also have dedicated financial services, consumer business, telecommunications and energy, and public sector experts in Ireland. Together these allow us to deliver client solutions that combine deep subject matter expertise with technology expertise.

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