



The ObjectWatch Newsletter

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Now in Our Twelfth Year

Enterprise Architecture in Hard Times

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Introduction

We are in hard times.

On November 13, the Organization for Economic Cooperation and Development (OECD) released its interim report on *Economic Projections for the US, Japan, and Europe*¹. The summary includes this dreary news:

The OECD area economy appears to have entered recession, and unemployment is now rising in many OECD countries. OECD projections point to a protracted downturn, with GDP likely to decline by a 1/3 of a percent in 2009, but the uncertainties are large. That goes not least for the depth and duration of the financial crisis, the prime driver of the downturn.

This bad news has already had an impact on the plans for CIOs. A recent CIO Magazine carried this lead story: *IT Slashes Budget, Starts Layoffs*². According to this article:

¹ available at www.oecd.org

²http://www.cio.com/article/458313/IT_Slashes_Budgets_Starts_Layoffs_Exclusive_CIO_Survey

Forty percent of CIOs plan to cut their budgets from last year's level, with contractors and discretionary technology projects two of the first items to get the knife, according to CIO's exclusive survey of 243 technology leaders in October.

According to this same article, seventy-two percent of IT executives surveyed have postponed or, are planning to postpone, discretionary IT projects. And this survey was conducted back in October, before the U.S. economy was officially acknowledged as being in a recession.

So the critical question for enterprise architecture (EA) in these hard times is this: "Is EA discretionary?" In other words, "Will there be any significant short-term pain if we eliminate our EA program?"

Is EA Valuable?

In a provocative blog entry earlier this year, Nick Malik asked how enterprise architects demonstrate the value of EA. In this blog, Nick said, "The thing is: the problems that EA can solve are really not that many."

Harry Pierson, another well known architectural blogger, responded to Nick, "EA fails to deliver value because it tries to control the uncontrollable. Trying to gain efficiency thru establishing standards and eliminating overlap via reuse are pipe dreams, though literally millions of \$\$\$ have been poured into those sink-holes."

If enterprise architects cannot describe their own value proposition, the field is in trouble.

The problem with EA from a hard times perspective is that EA usually focuses on poorly defined value propositions that lie far in the future. Here, for example, is IBM's discussion of EA from their web site:

As a key planning discipline, EA helps guide and optimize an organization's IT investments and translate business strategies into technology solutions. It bridges the gap between systems and application discovery, development and deployment -- linking IT activities to agency mission, integration and systems modernization efforts, and ensures deployment of resources in the most efficient manner.

In *Enterprise Architecture as a Strategy*³, a widely read and influential book on EA, the authors have this to say about EA:

The enterprise architecture is the organizing logic for business processes and IT infrastructure, reflecting the integration and standardization requirements of the company's operating model (where the operating model is defined as the necessary level of business process integration and standardization for delivering goods and services to customers). The enterprise architecture provides a long-term view of a company's processes, systems, and technologies so that individual projects can build capabilities – not just fulfill immediate needs.

Both descriptions assume that any payback for developing an enterprise architecture occurs long after the effort has begun. And exactly what that payback will be is vague: "provides a long-term view... so that individual projects can build capabilities – not just fulfill immediate needs." What does this mean? Or, "linking IT activities to agency mission, integration and systems modernization efforts." If IT is not linked to the corporate mission, why do we have IT in the first place? You can see why I question whether, EA as we currently understand it, can survive.

³*Enterprise Architecture as Strategy: Creating a Foundation for Business Execution* by Jeanne W. Ross, Peter Weill, and David Robertson published by Harvard Business Press

Redefining EA for Hard Times

EA *can* survive hard times, even thrive. But first we must make some major changes in how we view EA. No more poorly defined payoffs that are years in the future. The payoffs must be immediate. They must be real. And they must be compelling.

I believe that the immediate, real, and compelling value that EA can provide is reducing project complexity. Complexity is the single biggest barrier to IT success and the single biggest factor in IT cost. Reduce complexity, and you greatly reduce IT costs and greatly increase IT efficacy. In hard times, this is value that is immediate, real, and compelling.

Why is complexity such a problem for IT? Several studies (and numerous personal observations) have shown that increasing the functionality of a system by 25% increases the complexity of that system by 100%, unless steps are taken to manage the complexity⁴.

It would be nice to add functionality to a system without adding complexity. This, of course, is unattainable. But what *is* attainable is to add much less complexity as we add functionality. Mathematically, we would like to go from a *exponential* relationship between functionality and complexity (which we see in most systems) to a *linear* relationship between functionality and complexity (which we can achieve with a strong strategy for complexity control.)

What does it mean to go from an exponential relationship to a linear relationship? It means a lot! From an IT perspective, it means that when going from a 10 function system to a 100 function system we increase the cost by a factor of 10 rather than by a factor of 1000. This is a huge reduction in the cost of the system.

There is little doubt that effective complexity control can reduce the overall project costs by at least 50% while significantly increasing the chance of project success. These savings qualify

as immediate, real, and compelling, by any standards!

Once we understand the need for complexity control, the next question is, “Who should be responsible for implementing complexity control strategy?” In my opinion, complexity control can only be done at the level of enterprise architecture.

Why is complexity management an enterprise architectural issue rather than, say an IT issue or a business issue? The answer to this requires an overview of the Science of Simplicity. This is a bit much to cover here, but is the topic of my last book, *Simple Architectures for Complex Enterprises* and numerous white papers at the ObjectWatch website.

In brief, the way we can use enterprise architecture to control complexity involves

Quotation of the Month:

Your Tax Dollars At Work

OMB [Office of Budget and Management] and federal agencies have identified approximately 413 [U.S. Government] IT projects—totaling at least \$25.2 billion in expenditures for fiscal year 2009—as being poorly planned, poorly performing, or both.

- Statement of David A. Powner Director, Information Technology Management Issues, Office of Budget and Management, Testimony Before the Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security, Committee on Homeland Security and Governmental Affairs, U.S. Senate (<http://www.gao.gov/v/new.items/d081051t.pdf>)

⁴ Discussed, for example, in *Fact and Fallacies of Software Engineering* by Robert L. Glass, published by Addison-Wesley.

breaking a large project down into smaller, self-contained sub-projects, each of which is autonomous with respect to the other sub-projects, but which interacts with other sub-projects in well defined ways. In the SIP (Simple Iterative Partitions) methodology, these sub-projects are called autonomous business capabilities (ABCs).

The assignment of system functionality to the appropriate ABC is critical to controlling complexity. Even small errors result in large amounts of unnecessary complexity. This assignment requires a good understanding of both synergistic relationships (which are best understood by the business side of the enterprise) and strong partition boundaries (which are best understood by IT side of the enterprise). We can thus address this issue only at the juncture point between business and IT, and that juncture point is enterprise architecture.

So it is the enterprise architect who is best positioned to have a major impact on overall project complexity. And is it the enterprise architect who can demonstrate huge and timely savings for an organization.

But this can only happen if three facts are true. First, the organization must understand the importance of reducing complexity. Second, the enterprise architect must be trained in effective complexity control methodologies. And thirdly, the architect needs to learn how to verbalize these savings to management and to demonstrate the critical role EA can play in these lean times we may be living in for many many months to come.

Complexity costs IT money. A lot of money. There is a solution to complexity. It is found in enterprise architecture. This is the reason that enterprise architecture is so important. Especially in hard times.

Summary

So let me summarize my thoughts on how EA needs to change to survive hard times. There are three absolutely critical changes EA must make, and it must make them quickly.

1. It must change its vision from long-term to short-term.
2. It must re-invent itself from supporting *strategy* to supporting *projects*.
3. It must clearly demonstrate how and why EA is going to help IT – and the business – survive hard times.

We can make all of these changes if we, as enterprise architects, embrace the challenge of controlling complexity. Forget about providing strategic visions for *tomorrow*. Complexity is a terrible burden on IT *today*. Enterprise architecture has the only vantage point with the necessary perspective to bring complexity under control. If EA can show that it has a solution to complexity, its value to IT becomes immediate, real, compelling, and indeed *critical*.

If it can't, then it becomes just another discretionary project. And you know what that means.

- Roger Sessions
December 2, 2008
Houston, Texas

Would you like to discuss this

article? Go to Roger's blog at SimpleArchitectures.blogspot.com 2008/NovemberPostings to leave feedback.

Senate Bill S.3384

A new senate bill, S.3384 titled *Information Technology Investment Oversight Enhancement and Waste Prevention Act of 2008* is likely to have a major impact on all public sector IT projects. Long term, it may well impact the private sector as well. What is this important Senate bill? Check out Roger's blog at SimpleArchitectures.blogspot.com 2008/NovemberPostings.

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