

The Role of the CIO in becoming Agile

Position Whitepaper

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The Business Case

Why the CIO must drive Agile's efficiencies

Overview - The CIO's Primary Role "Delivery of Business Value"

There are many debates surrounding the role of the CIO, but one thing is common - most well respected CIO's rate highest on efficient and effective delivery of business value. In its simplest form this means on time, on budget, and with quality. Most know that the true measure of value must be quantified in dollars and cents -- which has historically proven difficult. If for no other reason, every CIO should evaluate the underlying business efficiencies that can be gained from Agile.

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There are six primary reasons why Agile makes excellent business sense. Those reasons include:

1. It promotes a stronger and healthier relationship with the business. Furthermore, when executed properly, it reduces business translation inefficiencies and waste.
2. It delivers business value faster and with greater efficiency.
3. It dramatically reduces the total cost of ownership.
4. It reduces project delivery risk.
5. It provides greater visibility into the true state of the project portfolio.
6. It provides greater insight into a normalized cost of delivery.

If for no other reason, building a stronger partnership with the business is a great reason to explore the tenets of Agile. Any process that promises greater efficiencies and better visibility should be explored. So why aren't more CIO's driving this change? Here are some possibilities:

1. They may be unaware of the true business benefits that can be gained enterprise wide.
2. They think this is just another methodology and leave the process change to middle management.
3. They've experienced Agile "experimentation" with poor results.

It's our position, in order to effectively implement Agile in the enterprise, it must be led from the office of the CIO. Why? True Agile transformation will require cultural and structural changes that can only be facilitated by Senior Executive Leadership.

Why Agile Helps the CIO Build a Stronger Relationship with the Business

At a minimum, when done properly, Agile builds a stronger and more effective relationship with the business. It does this by more clearly defining both the business and IT roles when creating a business situation. **An organization who embraces Agile, owns the scope of the project and are constantly validating business requirements and outcomes in the form of software.** Scope is defined by the business situation required to accomplish a business outcome using software. **IT owns the process by which business outcomes are translated into software. This includes requirements translation, project estimation accuracy, and project velocity.** These are key distinctions of Agile. And it

must be accomplished collaboratively, to eliminate speculation. Unfortunately, in too many organizations, IT finds itself in a position owning both the business outcome and the process. To effectively translate a business outcome to software requires a high degree of cooperation because many, if not all, decisions have a dramatic impact on the elements of scope, time, business value, and budget.

The CIO's role in becoming Agile is first and foremost to reverse the trends of the past. These reversals are as follows:

1. Refuse to allow the business to throw a project over the wall.
2. Transfer rightful ownership of scope back to the business.
3. Re-educate IT on how they jointly manage collaboration around scope with the business, provide project visibility, and manage highly efficient execution.

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To reverse trends of the past both business and IT structural changes will be required. Without the top down influence of the CIO, cultural resistance may overrule required process and people changes.

Why the CIO must deliver value faster with greater efficiency

In an interview between Chris Meyer, Director of the Center for Business Innovation for Cap Gemini and Ray Kurzweil, inventor and futurist, Ray Kurzweil states: **“We're entering an age of acceleration. The models underlying society at every level, which are largely based on a linear model of change, are going to have to be redefined. Because of the explosive power of exponential growth, the 21st century will be equivalent to 20,000 years of progress at today's rate of progress; organizations have to be able to redefine themselves at a faster and faster pace.”**

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If this is true -- and we believe that it is -- organizations must redefine themselves at a faster and faster pace. In business, the CIO holds a key role at the forefront of rapid business reorganization. Many of the changes required by the business require information. This is true in marketing, business intelligence, and process automation. A key

differentiator is the organization's ability to rapidly deliver this value with greater efficiency than ever before. Agile holds this promise, but it must be driven by the CIO with specific business objectives in mind: namely, time to market, quality to market, and a new Agile term, velocity. At the highest level, the CIO must begin to measure the amount of time required from business concept to delivery and how effectively the solution is delivered. Much like the new collaborative nature of the business relationship, the CIO and the IT organization must obtain rapid feedback on business initiatives. Business outcomes must be broken down into smaller units of business value and delivered incrementally with short feedback cycles. Each must have measurable and appropriate success criteria. These business situations must be highly adaptable so that refinements and change are easy and cost effective. Solid, quantifiable measurements must be established and maintained regarding the cost of change and the effectiveness of early and often delivery; all measures being driven by the CIO. In an optimal state, we believe that value should be delivered quarterly, in the same cadence as most publicly traded companies. This high velocity delivery will require newer, Lean Agile

concepts that measure and eliminate waste and un-needed drag that prevents organizations from rapid value realization. Much of this resistance comes from artificial organizational boundaries and technical debt.

At a minimum, the CIO must create a new organizational dashboard that begins with how rapidly the organization is delivering value and the cost and speed of that delivery. CIO's must begin to measure the cost of output, rather than hourly cost.

The CIO must free up budget by lowering the Total Cost of Ownership

A common discussion in the office of the CIO is Total Cost of Ownership. A trend we have been fighting for years is systems that become harder and harder to change and

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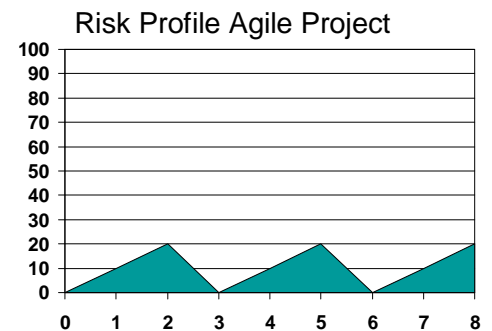
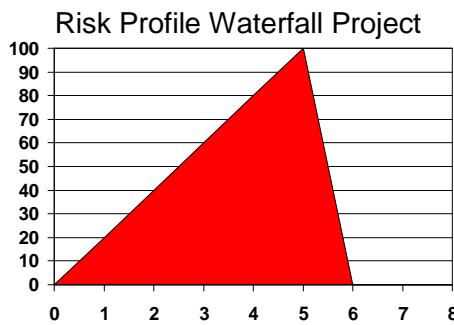
cost more and more to maintain. Agile, when done well, can actually deliver systems that get better over time and cost less. This is accomplished by building systems that are wrapped with intelligent tests. As the system evolves through natural change, and even through defects, change and variations are protected through these tests, improving overall quality and reducing overall costs. It is our experience that most solutions built using an Agile process cost

1/8th to 1/10th less in support and development over time and actually get better and easier to maintain over time vs. their counterparts. In many cases, after a system was deployed, nearly zero maintenance costs were incurred for the first six to twelve months of production, freeing up much needed budget for new business functionality.

A CIO is all about managing Risk – Greatly Reduce Project Risk with Agile

By delivering value in shorter increments the overall project risk is greatly reduced. See Risk Profile Charts to the right. In a traditional Water Fall Project the risk curve is accumulated until the end of the project when the solution is delivered. In an Agile project, risk is only as long as you define your Sprints or Iterations. If you are deploying early and often, as noted above, the true business

risk is shortened significantly from traditional enterprise development initiatives. Additionally, if the project is structured properly, value can be delivered early and begin to generate ROI sooner. All of this is possible while providing greater visibility into project portfolio, because completeness is better defined and managed.



In an Agile project work is completed, verified by the business, and fully tested every week. This change alone yields between 15% and 30% more software in an average project's lifecycle.

The CIO must measure the cost of output not of inputs

One big paradigm shift to take place is the CIO changing what IT measures. We must measure output not just input. For years we have measured inputs in the form of hours and dollars. We measure hours of effort towards a task and the cost of that labor.

However, what we are measuring is an input, namely the number of hours spent working on a task. The more important measurement is output. How much value was delivered? We would suggest that you begin with a concept we call Value Stories. Value Stories are then broken down into User Stories and then again into Ideal Days of work. An Ideal Day is a unit of work that can be completed in 8 hours or less. These are what make up a Sprint or Iteration on an Agile project. Ideal Days could also be defined in Story Points. In either case, the focus is on how much output the organization generated to turn out a given business situation. Let me give you an example why this is important. Let's say you have two developers, the one developer you pay \$50.00/hr and the second developer you pay \$85.00/hr. With each developer you measure Ideal Day output. Developer One produces 1.5 ideal days of work per week. Developer Two produces 3.5 ideal days of work. Which developer has a lower cost of output? In this case it would be Developer Two. Their ideal day cost is \$971 vs. \$1,333 for Developer One. Why? Because we're measuring output! We've grown beyond the traditional view that a more expensive resource equates to more expensive software.

"The CIO must change what is measured -- measure output not only input."

Why Many CIO's may not be embracing Agile

Clearly, any suggestion why a CIO may not embrace Agile is personal. From experience, however, there seem to be common themes in the industry. It can be assumed that a CIO won't embrace Agile if he's unaware of the enterprise wide benefits to be had. However, as this paper attempts to put forward, we believe the benefits are substantial. Additionally, a CIO may think it just another methodology and leave the process change to middle management. We believe this to be a mistake. Transforming your organization to be more Agile is as much an ideology, psychology, and sociology as well as a methodology. To overcome structural and cultural changes the CIO's leadership is required.

In too many cases, CIO's have permitted Agile experimentation with less than positive results. In our experience, this is because initial Agile projects come with steep learning curves and aren't often positioned properly by Senior Leadership. One of the hardest things in life is change, and concerns may include the scalability of Agile or its adaptability to other parts of the enterprise. It is our experience that Agile is an enterprise wide "state of mind" and should be embraced by all facets of IT.

Summary and Conclusion

We believe that lacking sponsorship and direction from the CIO and other Senior Management, an Agile Transformation will neither succeed nor prosper. Conversely, with strong top down leadership, an Agile transformation will yield extraordinary results. Recently we assisted in a CIO led Agile transformation and the results are as follows:

1. A product that would have taken 18 months to market will be delivered in 12 weeks.
2. Value that would have taken six to eight months is being realized in only two months.
3. The business now owns solution scope, and is in a highly collaborative relationship with IT. They now have full visibility to scope, time and budget impact upon requirements.

These are just to name a few.

Early in our Agile conversion adventures we believed that grass roots movements might succeed. To date, none of such movements has maintained lasting momentum. Drivers of change too often burn out and succumb to cultural and structural resistance. Many leave in pursuit of a more progressive environment.

The key? With leadership from the CIO, Agile delivers.