

The Ironic Art of Negotiating with Your Own Management for a Chance to Save Them

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Abstract

In what history may record as one of mankind's greatest ironies, at the beginning of this new century most of us who believe in disciplined Design methods find it maddeningly difficult to gain permission to apply those methods in the real world. Furthering the irony, I suspect that when "Management" finally understands the power of these methods they will no doubt be angry at us for not speaking up sooner and more clearly!

It helps, of course, to keep a sense of humor about such things, but the puzzle is a curious one. Repeatable Design excellence is an enormous competitive prize. Why is it so hard to gain support for something that has such a high potential return on investment? Why is this problem getting worse instead of naturally correcting itself? Since this challenge exists in virtually every Industry and Sector, the reason cannot be related purely to the nature of the technologies, nor even particular management architectures.

My observation has been that the root of the challenge is human nature itself, greatly amplified and distorted by a Manufacturing oriented business climate that obsessively measures cost but is increasingly oblivious to benefit. Once that fundamental root cause is understood, effective response strategies can be formed.

This paper extends the work presented in 2002 "A Question of Context- Why Manufacturing Cultures Don't Understand Systems Engineering". Like that paper, this also draws on a full length manuscript being prepared for publication.

SAVE THEM FROM WHAT?

My personal belief is that we are poised at the beginning of the next major evolutionary step function in Business Management, where Manufacturing excellence is the norm and how well the balance of the organization is managed ultimately determines success or failure. If so, it is easily predictable that those who do not adopt will be marginalized or eliminated from the marketplace. Sadly, our common human nature is remarkably adept at ignoring obvious long term consequences in favor of short term convenience.

In the meantime, of course, there are any number of dangers that can end a career prematurely. Product blunders and competitive embarrassments are among the risks, but safety related lapses are the least forgivable of all and may carry criminal as well as civil liability.

Roughly 40,000 product liability suits are filed in US State Court each year, and there are credible estimates that only 10% of those injured initiate legal action. Further, the legal test for responsibility is “reasonable care”, and as the availability of rigorous design methods becomes more widely known that bar is certain to rise. How can you defend ad hoc design methods when your peers are conducting formal requirements reviews complete with detailed examination of risk, safety measures, and testing to verify compliance?

THE ROOT OF THE PROBLEM

You can't save your boss (and their boss, and theirs ad infinitum) until they really grasp that *undisciplined development methods are simply too costly and unpredictable to be a responsible basis for long term success.*

Further, they have to relinquish the idea that the same things that turned the Factory around will “fix” the Field. (Or Design, Project Management, Service, or, in fact, *any other non-Manufacturing element* of the overall business model.)

Why single out Manufacturing? Certainly not because the concepts, tools, and methods are inherently bad. When applied to *Manufacturing* problems, the concepts work great. It's just that when used *outside* the narrow special case of Manufacturing, the remedy quickly becomes toxic to the patient.

The goal of Manufacturing is to make minimum cost copies of a 100% pre-defined article. Unfortunately, the passion for production routinely isolates “supporting functions” such as Systems Engineering and Project Management.

However effective modern Manufacturing methods may be, their success depends upon a very delicate set of conditions found only within Manufacturing.

Product development begins with questions instead of a “build to print” solution. There is no exact definition of “done” which can be used to establish detailed plans and schedules, instead they must be described as requirements. Expenditures on planning and scope definition are an investment whose return must be maximized, not an overhead cost to be minimized or eliminated. Iteration is an essential tool, not an admission of error. Value is associated with fulfillment of Customer requirements, not merely the shipment of a product. Process alone cannot be trusted to match output with expectation, validation and verification are required to ensure success.

This may all be obvious to you, but it runs counter to the most basic instincts and training of a Manufacturing Manager. In the Manufacturing world, the only source of value is the delivered product. Everything else is a cost of sale, and great pressure is applied to whittle away every aspect of cost not immediately defensible as essential to *current period* operations.

It is sobering to realize that the incredible value of requirements-based product development resides in dimensions that have no precedent in the Manufacturing subset of the business life cycle.

GOAL #1: IDENTIFY AND NEUTRALIZE MISPLACED MANUFACTURING MANAGEMENT / COST CONTROL ARTIFACTS

It isn't enough to convince key people in your organization, you must also address how those viewpoints have been codified into the very fabric of the way the company operates. My experience has been that Manufacturing oriented cost accounting and incentive systems are the most deadly opponents you will face, but more subtle challenges such as promotion pipeline also take their toll.

Remember that you start out in a deep hole: Everything you want to do is outside traditional Manufacturing value systems, and thus pre-defined as a cost to be minimized. Until you can switch the discussion from "minimize cost" to "maximize return on investment", you simply don't have a chance of doing professional Development or Project Management.

The challenge is to re-establish broader value measures, independent of factory output, that can stand up and be weighed against the costs you incur. Since our benefits are often difficult to directly state in financial terms without tenuous assumptions and arguments, and even more damning, return value across multiple cost elements in future accounting periods, a direct financial comparison is certain to misrepresent the true management situation.

I'm not advocating financial irresponsibility, just the need for visionary leadership that can intellectually balance financial cost against benefits that present in different periods or ways.

SITUATION #1: NEW SE IMPLEMENTATION

At first it might seem a good idea to start out with a small, near term project such as a trade show demo or minor product variant. The problem is that small efforts generally have short schedule windows, and often a large fraction of the developmental work has already been done using ad hoc methods.

Despite your very best intentions, when time runs out you'll find yourself doing ad hoc development instead of building sustainable competencies.

You need skilled people, time to establish processes tailored to your individual circumstances, additional time to select and implement appropriate tools, and an opportunity to put in place a management structure suited to non-Manufacturing effort.

Since it takes time to do these things well, you must either deliver later, or start earlier, than if ad hoc methods are applied. Since delivering late is a poor negotiating card to lead with, I suggest you set a high bar far enough in the future to allow you not only time to establish sound processes, but also to apply them in a powerful manner. This also gives you the opportunity to invoke the magic word “strategic” and thus potentially command higher level support and investment levels than would otherwise be obtained.

By far the easiest thing to do is to buy tools, but there is great danger that premature investment in even the best tools will fail if there is no prior agreement on what the tools are to be used for. Keep in mind that tools require resources to acquire, implement, operate, and maintain, and can provide an efficiency multiplier if, and only if, they eliminate or help you better perform tasks that you would otherwise be doing without them.

Thus, the recommendation is to build the basic competencies for success first, even if they are based on relatively inefficient but directly visible manual methods, then phase in more and more powerful tools in a controlled manner. There is also merit in building a team of professionals who genuinely understand the underlying development process, independent of the tool de jour or corporate initiative of the month jargon.

SITUATION #2: EXISTING, BUT IMMATURE, SE CAPABILITY

This is the most challenging of all positions to negotiate from, since your costs are absolutely real in current and prior period accounting terms, but the benefits you anticipate remain in the future or are only marginally represented thus far.

There must be enough “inertia” remaining from the original start up excitement to carry you through this period, or you will find yourself compromising methods in order to stay alive politically.

If you aren’t careful, those with competing agendas will contrast your preliminary results against the investment to date. It would be equally illogical to declare the factory a failure halfway through the groundbreaking ceremony because of the unfavorable cost incurred per product shipped metrics, but such folly is a daily occurrence worldwide.

Here the challenge is to maintain a long term investment focus, and not fall prey to the familiar current period balance sheet trap. In fact, expect a substantial period where your “apparent value” declines steadily as costs accumulate, despite the conduct of excellent work, due to the time lag before benefits become widely noticed.

SITUATION #3: MATURE SE CAPABILITY UNDER ATTACK

Once again the challenge arises due to the time lag between investment and return. A Management decision to cut staff by 10% will absolutely reduce current period costs. When assessed using narrow current period indicators, it is quite likely that the outcome will look OK and the decision be blessed as a sound one and another 10% cut will follow. Viewed over the long term this is a terribly poor strategy, but it does provide an apparent short term benefit if scored using the typical incentive metrics.

Like an aircraft trading altitude for airspeed, you can fly for a while with no fuel but only due to the potential energy previously established. Over the last twenty years an entire generation of Managers have discovered that they can be judged brilliant pilots simply by shutting down the engines. At first the fuel consumption per mile numbers look great, and everyone wonders why they didn't think of this before. The instigators keep a parachute handy for that last segment of the flight, but shareholders and employees feel the impact.

People are notoriously poor at balancing future consequences against near term reward, and the last twenty years have seen a nearly total dismantling of the various internal systems companies had established to offset this well known human weakness. The problem is nearly insurmountable in many publicly held companies, since the bulk of the investor community makes money with any price movement, up or down, and cares little for the long term result.

Your best hope is to establish and nurture relationships with each of the long term vested parties in the organization. Fight to maintain independent measurements and incentives matched to Development, not Manufacturing. Keep a low profile, and consider moving critical but unfunded activity "underground" until circumstances improve.

SITUATION #4: MATURE SE CAPABILITY WITH SOLID SUPPORT FROM SENIOR MANAGEMENT

May you be so lucky in your lifetime as to experience this situation! If your company is doing things right don't take it for granted.

Do whatever you can to distinguish Design from Manufacturing, and while respecting both, be constantly on the alert for changes in ownership, key personnel, incentive systems, cost accounting tools, and anything remotely resembling Lean Manufacturing consultants on your doorstep.

Defend yourself against the "Look what we can save you this quarter!" sales pitch by educating your Management to think in terms of investment rather than cost. When heard as "We'd like to reduce your investment this period." the logical response is then "What happens to my overall rate of return?" instead of "Where do I sign?"

A FEW MORE NEGOTIATING TIPS

Don't Operate as a "Profit Center"

While the concept of focusing attention on things that a Customer is willing to pay for seems reasonable, the reality is that incentive driven micromanagement leads to internal conflict and the overall business efficiency suffers. You're already in a hole comparing hard costs against distributed and future benefits- don't compound the problem by adding more money to the pile. Further, the political acceptance of cost recovery is very different than the squabbles that erupt over how to share the profit pie.

Dealing with: "We didn't do all this stuff last time and it worked out OK..."

Process compliance is constantly monitored in Manufacturing, accountants routinely conduct financial audits, and no trained pilot would take off in an airplane without performing the pre-flight checklist. Why? Not because it's fun, but because the accumulated experience of the professionals involved accepts that there is a strong return on investment for doing so.

If it makes sense to insist that important tasks are getting done in other fields, what logic is there in starving a Design group to the point where disciplined engineering methods become impossible?

Sure, you may get lucky on a product or two, but the odds in this gamble are heavily against maximizing the market value of the innovation. In hindsight, it will be obvious that opportunity cost far exceeds any politically expedient short term "savings" or premature declarations of success.

When Smart People Do Stupid Things, Indict the Incentive System

Creating a comprehensive behavioral rule set for any system is complicated. Creating one that depends upon situational human decision making is even more difficult, and requires specialized methods and training. Small wonder that poorly implemented incentive systems commonly do more harm than good!

It will always be easier to "game the numbers" than to actually accomplish something of value. A well designed Management Information System could help limit that, but far too often obsesses over cost to the exclusion of all else and becomes a participant instead of a control element. Cost is only one variable in the management equation- when is the last time you heard about the Benefit measurement system that would logically parallel it?

Know Your Limits

One of the most important concepts in negotiation is that of the “walk away” point, a line which you are unwilling to cross under any foreseeable circumstances. This line isn’t set to be obstinate, but rather as a self-protection device to help offset rationalization and misplaced optimism.

In some cases this may mean finding a new position or employer, but properly defined it will at least keep you from agreeing to something you knew in advance was a bad idea.

My personal favorite: “You can’t Manage it unless you can Measure it!”

True enough, but my standard response remains: “In which case, perhaps a little *Leadership* is required...”

CONCLUSION

Whatever the field, your ability to “save your Management” is directly linked to an ability to show them that equivalent, but very differently implemented, controls and processes are needed when dealing with effort that is defined in parallel with its execution.

Forget the notion that Manufacturing Managers aren’t “system thinkers”. Of course they are! Running a factory requires great skill and insight. *The problem is that the system they think about is different than yours.* When rules designed for the special case of Manufacturing are applied to non-Manufacturing tasks, the very best one can hope for is inefficiency and the most likely outcome is destructive interference at a fundamental level.

While this brief paper is written with a decidedly corporate slant, the principles involved are equally applicable to academic and governmental situations where Manufacturing derived methods are found out of context.

RELATED REFERENCES

- Iliff, Randall C., "A Question of Context- Why Manufacturing Cultures Don't Understand Systems Engineering. 2002 INCOSE Annual Symposium Proceedings
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BIOGRAPHY



Mr. Iliff has over 30 years experience working on developmental projects ranging in size from a few thousand to well over a billion dollars, and has participated in all phases of project execution from proposal to close out. He has held Proposal Manager, Project Manager, Systems Engineering Manager, Engineering Manager, and other related titles in multiple industries, and is now the Director of Strategic Innovation and Senior Systems Engineer for Bjorksten | bit 7 in Madison, Wisconsin. He earned his B.S. in Engineering / Industrial Design from Michigan State University, holds an M.S. in Systems Management, Research and Development from the University of Southern California, and received Honorary Fellow appointment at the University of Wisconsin Antarctic Astronomy and Astrophysics Research Institute when he served as the Systems Engineering Manager for the ICECUBE project. Mr. Iliff is a charter member of the International Council On Systems Engineering (INCOSE), founder / prior Chairman of the INCOSE Commercial Practices Working Group, and a member of the Project Management Institute (PMI).

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