

# **metapower**

**The Power To Change**

## **The Science of Change**

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# Why Is Change Difficult?

Change is constant. That's a given. We haven't achieved perfection, or even equilibrium.

It's not because of technology, although the rapid introduction of new technology has certainly affected the pace of change.

Change is demanded in order to fix what is wrong and to get better. It is about improving the quality and quantity of our work output. Today it is about getting better or being left behind.

So, why is it so difficult?

First, life is messy. There are more things than places for things. There are more human relationships than Rolodex cards. There are more business interactions than entries in appointment books.

Second, life is complex. One thing depends on another. Humans are interdependent in ways that range from the regulated to the weird. Business processes don't just have beginnings, middles and ends; they have beginnings, interruptions, digressions, diversions, more interruptions, occasional completions, and frequent unexpected side effects.

We think it's important to point out these two obvious facts because they are the context in which business change occurs.

Most change management programs forget these facts. They want you to enter a state of denial, to focus on the change and drive it in a straight line from point A to point B.

Change is manageable. In fact, there is a science of change that understands work in a messy and complex world. As an applied science, it provides techniques for analyzing change and measuring progress. As an applied science, it provides predictable results.

## The Target of Change: The Workflow Process

In business we are always trying to fix or improve results. This means fixing or improving the processes that produce results. This is Change!

Why do processes break in the first place? Market place conditions change. Inputs to the process change. People change and machines break. The process' horizons change - new opportunities must be seized to stay competitive. In each case, simply looking at the process cannot solve the problem.

Fixing a problem with a process means looking beyond the process.

And that is because our work is not independent of others' work. Our processes are connected, intertwined, and interdependent.

## The Problem With Fixes

If you are in management, how do you spend your day? You delegate everything you can - because that's the right thing to do - which means you take on the problems that no one else can.

These problems tend to be hard and urgent.

This is a bad combination.

As a result of time pressures, you put in place the fixes that seem to work and then move to the next item on your list of "do-by-noon" problems.

But in this messy, complex world, processes are interdependent. What fixes one process may disrupt another process. It seems impossible to know how your fix is going to affect other processes down the line.

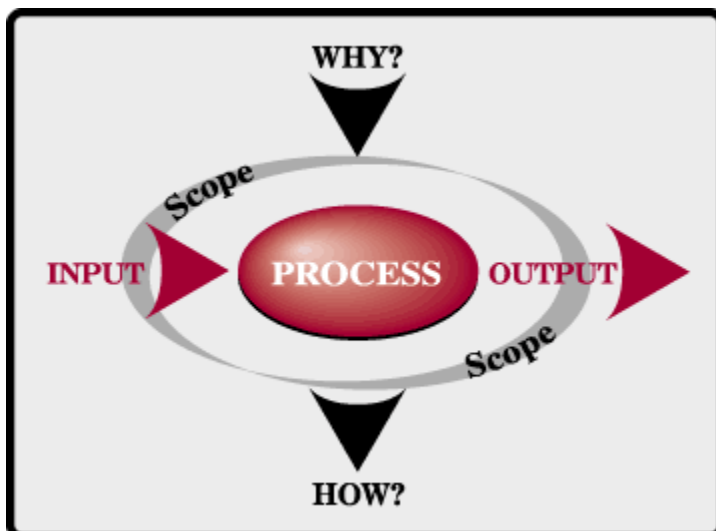
So here is the dilemma. You survey the landscape and think you have to change the world before you'll get things to work right - leading to despair and inaction. Or, you narrow your focus to a corner of the world small enough to actually get your arms around that includes only a bit of the process - leading to a less-than-complete solution. Finding the right size of project is the key to successful change.

This is called scoping. Ah! but it hides a subtle trap.

Our image of scoping is drawing a sharp circle around a problem - isolating and limiting the change. But in doing so, you willfully ignore the complexity of life and business. In fact, that's why you scope the problem! You want to ignore the interdependencies! They are distracting and endlessly difficult to resolve.

Consequently, scoping itself leads to fixes that break other processes (because it has ignored them), fixes that degrade the overall system.

### Understanding Scoping:





Our view of scoping is the key to managing change. Effective scoping requires us to identify not only the process problem, but also its connections to other processes.

A cardiovascular surgeon doesn't "scope" a heart that needs a bypass by cutting the heart out of the chest. The surgeon scopes the heart by first carefully noting and inspecting all the connections of the heart to the rest of the body. Only then does he begin to work on the heart. When he's done, he not only has a beating heart but one that's actually pumping blood to the rest of the body. Which, more or less, is the point.

In business, we generally take scoping to mean "First, scoop out the heart" because we don't have a framework that lets us understand the process and its connections in a larger context.

Only through this larger context, can we see how to scope and solve problems successfully.

## Understanding Connections

The science of change is the science of connections. These connections must be understood in two dimensions; the operational (horizontal) that interface with processes, and the strategic (vertical), that define why and how a process is performed.

The connections between processes consist of data. The prerequisite for sharing data is that the meaning or "definition" of that data is understood and shared by both processes.

The data may be recorded in handwriting or computer bits. They may be explicit ("Here are the results of the diagnostics on this piece of equipment") or implicit ("By handing this off, I am implying that my portion of the process is complete"). They may be clear or ambiguous, but the connections involve moving information around.

Changes in processes often include changes to data definitions without considering the widespread effect that such a change can have.

For example, if a field is changed on an inspector's form signifying that a piece of equipment is "off line pending re-inspection," this can throw off other processes that are expecting to find the same data expressed as "inoperative with an undetermined re-start date" or as "temporarily disabled."

Solving these data connections between processes is not based solely on the redesigned process requirements. These interfaces must be negotiated with the other process owners. Interfaces are the formal, negotiated solutions to the data exchanges between processes, and they occur in the horizontal or operational plane. It is particularly important, when trying to manage change and the interface connections between processes, to understand the distinction between data flow and data vocabulary.

## Data Flow and Data Vocabulary

In a sense, if the data flow is the way processes interact, the data vocabulary forms the foundation on which the processes are built to work with each other.

Nothing is more important in managing change than understanding and addressing both the flow and the vocabulary of data.

# Strategic Scoping: The MetaPower Design Model

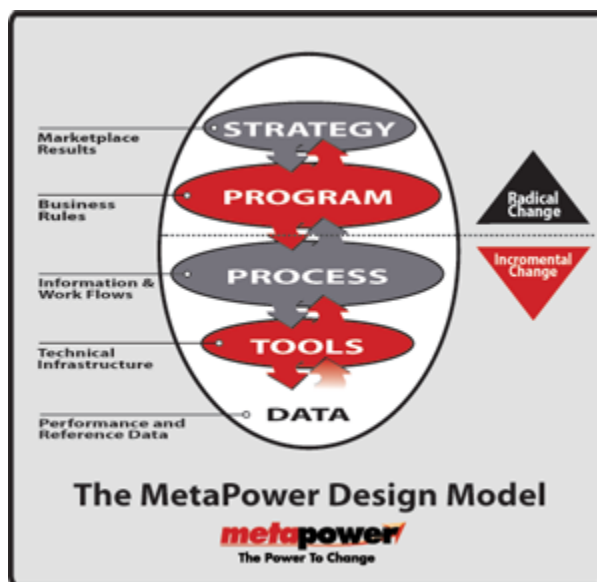
If processes interface operationally with each other through data, and consequently share the same data vocabulary, a higher perspective is required to understand why processes and their interfaces exist.

Processes also have strategic connections within the business enterprise, consisting of these shared data definitions and their business rules. Business rules govern why data are created and changed within each process.

The strategic plane has to do with the purpose of the process: why has the process been configured as it has? For example, a financial institution may be changing their process for setting lending rates. Looking up, the why might be: in order to be the first to market with the lowest rates. Looking down, the how might be: hook all the branch offices to headquarters via a virtual private network so that changes in rates are instantly reflected globally.

MetaPower analyzes the enterprise into five design tiers: strategy, program, process, tools and data all built on the foundation of data flow and data vocabulary. Each has its own behaviors, expectations, and design authority. The further up the design model one ascends, enterprise changes become more radical; as one descends, the changes become more incremental.

## Scoping in the MetaPower Design Model



Proper scoping can only occur if the five design tiers are understood and kept separate. For example, if a process is broken, discussions will frequently bounce up to the program tier without recognizing it.



But generally those working on a process do not have the authority to alter the program. Change projects can become stalled as issues bounce between tiers without the authority to bring resolution.

If, however, the change project is scoped explicitly within one of these tiers, the parameters of the change can be clearly defined, resulting in accurate scoping and successful change. Further, if the process cannot be fixed without altering the program, then that too becomes clear and the change project itself changes. Instead of redesigning a process, you're now faced with arguing for a change in program, a very different task.

### **Negotiating Alignment**

A change project must therefore negotiate with the tiers above and below.

Negotiation involves explicit buy-in by the people responsible for bordering tiers. This is not only for political reasons (although political reasons are important), it is also to ensure that the proposed change fits with the panoply of programs or tools that may be affected.

***Negotiating up:*** Programs don't give processes data; they give them business rules, the rules that dictate why the processes create, delete, or change data. If a process design is being changed, the owner of the program that gives the process its business rules must agree to the proposed change.

***Negotiating down:*** Process change may require changing the tools being used in the process. The owners of these tools must agree to the change, determining how the process will be implemented. Any change in the nature or timing of data shared across tiers must be explicit and agreed to by all parties.

Anything short of this negotiation, both up and down, isn't planning; it's target shooting in what may be a crowded room.

## **Design Within the Connections**

Negotiation means negotiation! This is not a license for the change project to impose its design on the interfacing processes or aligned programs and tools. To negotiate means to seek to understand constraints and to clearly express issues.

The result of negotiation is typically de-optimizing the process design for the sake of the connections. Can this be right? This issue is at the heart of the most common change failure. For the sake of correctness in process design, connections are compromised and associated programs, processes and tools are compromised. Our focus on the process change, exclusive of the connections, dooms us to failure.

Rather, the change design must be compromised to meet the connection imperative! This is a fundamental law of the Science of Change; optimizing the system will require de-optimizing the system components.

Bear in mind that successful change can only be designed within a single tier. Failure to recognize when a project is changing tiers is one of the most common ways projects and their subject processes



fail to meet objectives. When this happens, we stop negotiating, we start imposing, and we lose our context of connections.

## Scope Control in a Complex Enterprise

Seems simple enough! When changing a process, explain your suggestions for program changes to the program owner. If it makes your process better, he will need to change. Right?

Wrong! The design model understands that a program affects many processes. Many programs likewise affect a process. This many-to-many relationship between tiers is fundamental to understanding scope control during negotiations.

For example, the sales order process finds the engineering data required at order entry to be time consuming and error prone. Therefore, they want to change the program rule that requires entry by the salesman at the time of order. But the "program design" needs to capture this information at this time because it is the most efficient time to complete customer negotiations. If the collection of this data is postponed to the engineering process, customer expectations are usually compromised. Additionally, the engineering process would have to be re-vamped to collect this information.

Therefore, the negotiation is settled not from the process perspective, but from the larger view of the program and its impact on many processes. The sales order process design must meet this negotiated program requirement. Perhaps the skills of the sales people can be enhanced. Perhaps technology can provide better tools for the selection of engineering options. However, in order to achieve the program objectives, the problem must be solved; the order must contain the engineering data.

# MetaPower Solves the Connection Analysis Problem

It would only be a little exaggeration to say, It all comes down to data. If the requisite data isn't moving, then the system isn't working.

The Science of Change recognizes that change occurs in a messy and complex world, which can only be understood by analyzing the data connections. Successful Change Management must address these connections as part of the proposed change.

To make sure that the data moves, the design solution needs to solve the data connection problem. To develop bullet-proof solutions, data flow diagrams and a data dictionary are developed and analyzed to prove the data connections.

Applying the Science of Change demands techniques to identify, model, define and address the data connections of a proposed change. These techniques have been available in the information systems design industry for many years. They are the Structured Analysis techniques: developed in the 1970's, currently taught in our universities, and virtually ignored by business as too hard and too time consuming.

As in most things in life, success comes from hard fundamental work; blocking and tackling, if you will. In change management, this consists of modeling the process and its connections to other processes.

**Data Flow Diagrams** model the data flow between process steps, interfacing processes and aligned tools and programs.

The **Data Dictionary** is used to define the data throughout the process, and it's interfacing processes and aligned programs.

Finally, **Logic Specifications** prove the conservation of data throughout the process, linking all input data to output data. Once the design proves the data will flow, the chance for success is greatly improved.

# The Project Model

Managing change means managing the projects that bring about change. In a large enterprise, multiple change projects are likely to be underway simultaneously and the connection points among the projects have to be managed.

Projects are the real world for change management theory. Here we deal with the realities of organization dynamics, executive sponsorship, costs and schedules. Understanding the tasks we need to accomplish is essential to successful execution of a change project.

The Project Model identifies the distinct tasks required to complete a successful project. This identification and separation is critical; we tend to run steps together. This leaves work undone and causes us to be ill-prepared to negotiate interfaces and alignments.

Each step in the model is important and must be completed before proceeding to the next step. Sometimes a step will seem insignificant or unnecessary. But each has a special purpose, and we always regret an omission.

Change Professionals, like many other professionals, develop procedures through years of experience that prepare them to meet contingencies, both planned and unplanned.

Would you be satisfied with your doctor if he diagnosed your condition and scheduled surgery without performing the most routine tests, such as heart rate, blood pressure, blood tests, x-rays, etc.?

The urge to jump to a preconceived solution is unbelievably powerful. In business, we are all doctors, and we all think we know the right solution. And all of our problems are urgent. When we give in to the urge, we slam through the change process, ignoring people, issues, ideas, and connections. We rush to judgement, and ultimately to failure.

So, what about paralysis by analysis? Paralysis occurs when we can't progress, we can't move from one step to the next. This happens because we don't understand the steps. If we were to implement Structured Analysis without the design model for scope control and the project model for task control, paralysis in the analysis is sure to set in.

The incredible paradox is that if we do it by the book, it seems like it will take much more time and cost more money. However, since the tasks are well defined, they can be managed and controlled, costing less. True, we do count the cost of a well-planned project, but it actually costs less than fixing things after we take shortcuts. We all know the saying: Why is there never enough time to do it right, but always enough time to fix it?

***There are three important principles that are imbedded in the Project Model:***

## **Task Precedence**

Each step in the project model should be completed before the next is begun. We must define the reason and the scope before we assess the current condition. We must understand the problem before we can reasonably suggest new ideas. We need to hear everyone's ideas before we design. We



must complete a design before we can plan its implementation. And we must plan and fund a project before it can be implemented.

### **Executive Sponsorship**

Sponsorship must be obtained at the very beginning, or don't bother with the project. It must be sustained throughout the project, formalized with a signoff on the design document and the implementation plans. The executive signature on the design document provides unbelievable momentum to the planning process. This is compared to the usual obstructionist behavior experienced when negotiating without a clear mandate.

### **Negotiation**

Connections are formalized through negotiations. The project model formalizes these negotiations. The design step negotiates interfaces in the operational dimension and alignment in the strategic dimension of the design model. Formal sign-off provides assurance these connections are acceptable and will be supported. The planning step negotiates alignment with the lower, implementing tiers of the design model. Signatures formalize the commitment to implement the changes as designed.

The project model assumes a fundamental respect for people. The structure and professionalism inherent in the project model ensures that people will be heard. It recognizes reality - everyone will not like each change proposal. But, it also recognizes that truth, essential to change in a messy world, comes from people. The key is to hear the truth and not the emotion. The project model helps filter out the emotion to uncover real issues, real possibilities, and real success.

# Science Of Change Principles

The Science of Change states that change occurs in a messy, complex world; and that it is best understood by the data connections of the component pieces. Applying this science, MetaPower's methodology provides a change scoping model, a five-tier design model, structured analysis techniques, and a six-phase project model.

MetaPower's methodology adheres to several basic change principles:

## **Address the connections over perfecting the process**

Pursuing perfection within the process is a guarantee for failure. The connections of the process must be addressed at all costs; otherwise, the changed process will disrupt other processes and violate programs.

*Corollary: To de-optimize the process for the sake of connections is to optimize the enterprise.*

## **Changing tiers is changing projects**

It is occasionally necessary to go up a tier in the design hierarchy in order to make a change. For example, it may be that a process can only be fixed by changing the program it supports. But if it becomes Change the program rather than Fix the process, it is a new and different project. It has different scope, different expectations, different players, and different scale.

## **Change people last**

In a complex, interrelated society, like any business, people evolve different ways of talking about the same phenomenon. While it might make sense on paper to insist that everyone use the same terminology, getting people to talk and think in a standard, centralized way is expensive for you and demoralizing for them. Instead, the data dictionary can easily translate the various ways humans want to speak.

## **Follow the data**

Processes become visible to one another through the data they interchange. By focusing on the data, change projects keep processes properly aligned and interfaced with other processes. Furthermore, data can be analyzed and managed rigorously, whereas many of the other elements of processes - for example, people - cannot. Thankfully.

# The Science of Change in a Messy, Complex World

What's required for successful change management isn't genius. It's science. The Science of Change understands change in a messy, complex world.

The MetaPower methodology applies the Science of Change.

It provides a framework for analyzing the structures within which change occurs, enabling predictable, realistic and successful projects.

It brings a set of tools for planning, implementing change, and measuring the results.

The MetaPower company brings years of experience at managing complex change projects in a variety of industries.

In short, MetaPower applies science to change, yielding the one thing change management needs more than anything else, and the one thing you least expect from change:

**Predictability you can rely on**