



## Robert Watkins

Robert Watkins is an Engagement Lead for Changeis and Leader of the Enterprise Technology Solutions Community of Practice. He has more than twenty years of experience working in large corporations in a range of software engineering roles. Along the way, he has taught both graduate and undergraduate courses in Mathematics and Computer Science. In his free time, he likes camping in the woods, reading, and learning new things: from the Mathematics of Blockchain to 3D printing, to welding and learning Danish.

## Contact Changeis

[www.changeis.com](http://www.changeis.com)

[info@changeis.com](mailto:info@changeis.com)

(703) 348-9669

## Seeing What Others Don't

***"Stop looking for solutions to problems and start looking for the right path."***

***– Andy Stanley***

*This is the second in a series of articles to bring you tools you can use to improve your problem-solving skills.*

Solving problems is something we do so frequently, we rarely think about the process we use.

The term "problem" is often used interchangeably with "errors," but can also mean a situation where a solution isn't obvious and isn't caused by an error, but by a need within a set of constraints.

## Why do I have this problem?

While I know of no way to guarantee success in gaining insights into why specific problems exist and persist, I can share with you some methods and a framing strategy that I found helpful. Let's start with an example.

## Quickie Crowdsourcing

Our new Federal client had an urgent need that resulted from supply chain issues during the pandemic. The request required our team to create a form for hundreds of thousands of users to submit monthly data.

The request should have been a simple task for the team. It typically involves setting up the password-protected form and saving the data for regular reporting. Because we needed to use existing servers as-is to host the form, a challenge presented itself.

At the core of the current system architecture was tooling to have web pages generated at the database level, a strategy briefly popular during the early days of the web. The team, new to the clients' interconnections of a plethora of servers, spent some time on that strategy only to discover that any web pages generated needed to be tied to a specific web server to receive the users' login credentials.

The second strategy was to use Hypertext Preprocessor (PHP) found on one of the web servers to build the form. After some experimentation, we found that this server didn't have the appropriate database libraries to connect to the database.

*Remember, we weren't to add new components to the servers. That would mean a change in the security posture of the server. This change would set off a whole set of security reviews, preventing a release in the timeframe needed.*

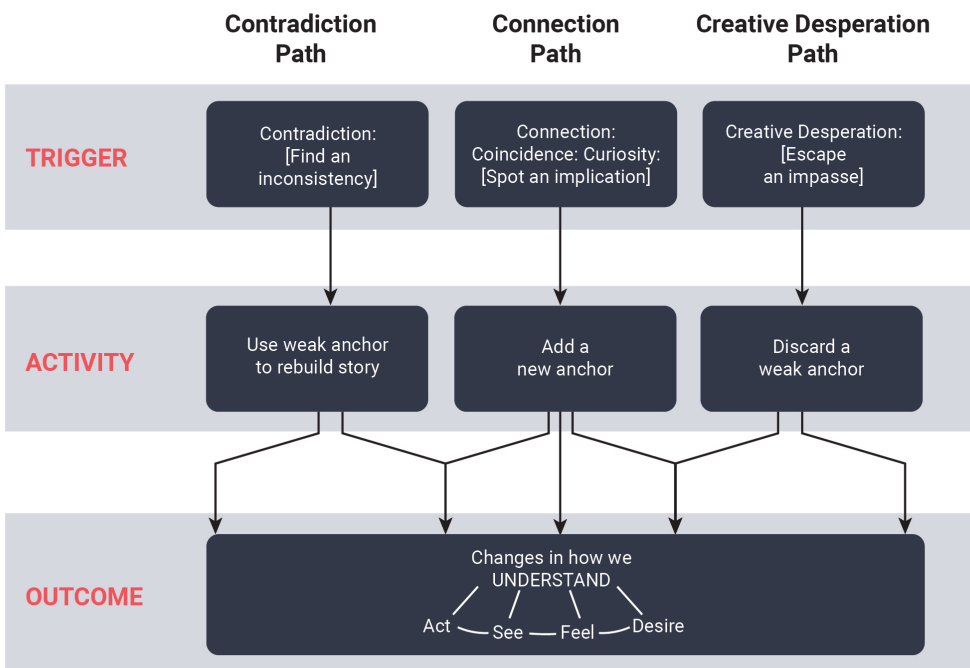
In the third attempt, we found an existing web server with the correct libraries to connect to the database. This successful attempt was built on a classic application service provider (ASP).

### The Triple Path Model

This next section is a spoiler of the first half of *“Seeing What Others Don’t”* by Gary Klein. In his book, he uses a narrative approach to build a model of how we gain insight. In Mr. Klein’s review of cases similar to mine, he noticed some triggering events that prompted us to take action to get our outcome. For any given insight, there was at least one of three types of triggers:

- Observing a contradiction
- Observing a connection
- Creative desperation

When trying to gain some insight into potential solutions to problems we’re faced with, it’s crucial to be primed to respond to any of these triggers. In the ‘Quickie Crowdsourcing’ story, we needed to identify a server to host a web-based form. We used ‘creative desperation’ to start building a solution and evaluating the result until we ran into a roadblock and then quickly pivoted until we ultimately found a useful server. The model would call this ‘Discarding a Weak Anchor,’ meaning we were discarding a failed hypothesis. Generally, the anchors discussed in the model are the meanings we put to observations or a theory about what the data shows. Through the application of this model, we are identifying these anchors and are willing to challenge them to understand better what is going on.



*‘Triple Path Model’* from *“Seeing What Others Don’t”* by Gary Klein

### Improving Your Odds at Gaining Insight

Here are a few things you can do immediately to improve your odds of gaining insight.

- Get Curious
- Notice contradictions and connections
- Ask yourself why these exist
- Use the Agile technique of the ‘hypothesize/test cycle’ to see what you can learn
- Be deeply invested in the outcome

This last point may take time to do. If you are regularly over-scheduled, you may not be able to add this to your list of things to do. Even if you can add this to a busy schedule, you may be tempted to explain away contradictions or be on autopilot during your day. Phrases like *“Go along to get along”* and *“That’s just the way things are”* are barriers to gaining insight. Hearing these and similar phrases may signal being overworked or a need to learn to become more deeply invested in the outcome.

*Productivity is improved not only by reducing error but also by increasing insight. Unfortunately, these two forces are at odds with each other.*

## Removing Barriers to Insight

If your organization discourages insight, you would probably not be able to point to many (if any) apparent ways it does. Unfortunately, there is a hidden perverse incentive to stifle insight. It's hidden in every organization's desire to be productive. Productivity is improved not only by reducing error but also by increasing understanding. Unfortunately, these two forces are at odds with each other.

Reducing error means that we need to know things like:

- How much will a project cost?
- When will the project be done?
- Have we run all the tests?
- Have all the process checks been completed?

Each of these things are put into place to reduce error and reduce rework. The sad news is that these stifle insight by lowering the priority of the things that help build understanding. Fortunately, these problems are solvable, even in Federal agencies. It requires balancing the need to reduce errors and gain insights.

Taking action to gain insights means looking for contradictions and coincidences and not just being faced with some impasse. This can mean having things like:

- Visible monitors of key performance indicators: Applications, processed, count of completed work items, data feed statistics, etc.
- High-quality alerts. Things like:
  - Has web traffic fallen far below expected levels?
  - Has data processing stopped or slowed considerably?
  - Are there indicators of suspicious activity?
  - Are error messages filling the logs?
- A sense of what normal looks like: This requires some staff to have space in their day and their responsibilities to attend to how the systems are running and to track the monitors and alerts enough to get a sense of when things may be about to go awry

Having systems of alerts and monitors is not directly related to error reduction. These alerts are often not implemented until an adverse event occurs.

By improving your ability to gain insights, you can make decisions that boost productivity beyond what error prevention alone will do.

### Reference:

Klein, G. A. (2013). Triple Path Model. In *Seeing What Others Don't: The Remarkable Ways We Gain Insights* (pp. 104–108). essay, PublicAffairs.

## Changeis' Core Capabilities

### TRAINING AND STRATEGIC COMMUNICATIONS

At Changeis, we help our clients develop and execute strategies that maximize their chances of success. Utilizing our in-depth industry knowledge and expertise in analytics and strategic planning, we design and execute solutions that are uniquely suited to their needs. Our team of experts brings deep experience in the following areas:

- Content Development
- Training Delivery
- Change Management
- Talent Management
- Instructional Design

### EMERGING DISCIPLINES

We help organizations through innovation practices that go beyond conventional approaches to implement their strategic plans and initiatives. New types of team collaboration and new methods of using data and information to improve performance and outcomes includes:

- Business Cocreation and Process
- Business Intelligence
- Testing, Research, and Analytics
- Product Strategy Planning and Governance
- Organizational Change Management

### MISSION SUPPORT

An organization must ensure that project deliverables move it closer to its strategic and tactical goals. In short, governance is effective implementation of the organization's strategy. Five key areas of management here include:

- Resource Management
- Risk Management
- Performance Management
- Portfolio Development and Management
- Program and Project Management

### ENTERPRISE TECHNOLOGY SOLUTIONS

There are tremendous optimization opportunities within every organization. We help our clients identify and capitalize on them. Our comprehensive tool kit here includes:

- Technology Strategy
- Innovation Roadmap and Measurement
- Cloud Solutions
- Automation
- R&D Optimization and Roadmap