Be brave! Try an experiment!

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A short survey
How many are doing some flavor of Agile?
How did your organization decide to do that?
How many looked at the randomized, controlled studies that provided evidence that Agile was better than your current process?

Not much science
- The short history of software is not progress based on scientific experiments.
- Instead we jump on the latest bandwagon because we hear a good story.
- These are not even really case studies.

Aren’t we experimenting?
- “Experiment” for most organizations really means “try.”
- No clear hypothesis.
- No randomization. Usually those who participate are enthusiastic believers.
- No control group, just the memory of the participants for the way things were.
- No analysis, perhaps some easy-to-measure attributes or good “feelings.”

How about saying “trial” or “tinker”?
We don’t have resources for one, let alone repeated, experiments that good science requires.
Action is our best hope.
Not to find “the truth” or understand “the why” but to learn what works for us in our environment.

We’re natural scientists!
Our educational system?
Science education focuses on what to think about, that is, content, not how to think.
Problems in school are solvable. Problems in the “real world” often have no solution.
We’re taught to be linear thinkers—to follow pre-established procedures and plans—in a nonlinear world.
It’s not always a joyous experience 😞!

Industrial age workers

Schools created in that image

Agile contributions
Failure and learning are important.
Shifting from following a checklist to stopping after a short iteration to get feedback.
Agile can help move us to a somewhat more scientific approach.
Each iteration can be framed as a small trial. An empirical, incremental approach.

Why do trials?
- Answer: To “prove” something
- Problem: One trial proves little, especially if treatment is not randomized or controlled.
- “Once and done” doesn’t work. We need lots and lots of trials.

Even scientists are biased
- Drug trials are now “double-blind” because it was discovered that if researchers and doctors knew which patients were getting “real” treatment, that would change the outcome.
- Scientists suffer from confirmation bias. I wouldn’t believe that— even if it were true! -- Anonymous reviewer of scientific paper
Scientists realize their truth will be replaced by a later truth. We should stop looking for ultimate answers and build on the “good enough.”

Give them the third best to go on with. The second best comes too late; the best never comes.

Law of the Third Best: British radar pioneer Sir Robert Watson-Watt, who led Great Britain’s development of radar systems in the 1930s in anticipation of WWII.

**What CAN we do?**
- Many small, simple, fast, and frugal trials.
- Vary contexts, number of participants, degree of enthusiasm for <it>, kind of project, with the goal of learning about <it> not proving that <it> works for <all of us>.
- Re-test.

**Why?**
- Small? Huge experiments often leave no room for failure. Use small, cheap trials that barely register if they don’t work out.
- Simple? Everyone feels safe to try something that might bring benefit.

**Why? (cont’d.)**
Cheap? Address sunk-cost fallacy. It’s surprising how little an investment it takes to get us to avoid “wasting” that effort. No trial should ever “fail” in the sense of teaching nothing. Every trial should teach us something. In that sense, all trials are successful 😊!

**Why? (cont’d.)**
- Time-boxed. Begin with the end in mind (Stephen Covey). Even a quick but thoughtful view of the future and your motivation encourages openness and a way around confirmation bias: “Let’s try having the stand-up at 10 am instead of 8 am for the next two weeks and see if attendance is better and we get more done in the morning.”

**Why? (cont’d.)**
Faster! Establish a standard of fast, frequent, and inexpensive experimentation. Assume that many of your experiments will fail. One of the most common phrases you’ll hear at Menlo is “Let’s run the experiment.” We are apt to say that at least once a day. We don’t count experiments and we don’t track success/failure rates, but if we did, we would look for success and failure rates to be about even. If the percentage of failures started dropping, we’d become concerned that fear had crept into the room and that people weren’t taking enough risks.

Rich Sheridan, Co-founder and CEO Menlo Innovations
**Why do trials?**
- Answer: To show “those people”
- Problem: Research shows that evidence/data is not convincing but only serves to bolster our own beliefs (confirmation bias)

**Better ways to convince**
- Include others in trials -- encourage sharing -- patterns from *Fearless Change*
- *Involve Everyone* – don’t hide in a black box – use the trial to draw others in – watch your language – more “us” and “we”
- *Trial Run*
- *Hometown Story*

**Why do trials?**
- Answer: To find a solution to a problem.
- Problem: Intervention in a complex system tends to create unanticipated and often undesirable outcomes.

**Change in a complex system**
- Probe, Sense, Respond
- Let’s stop looking for answers, and, instead, find ideas for trials.

**Embrace failure**
- Videos/How Fascinating.fly
- How fascinating 😊!

**Uncertainty**
- We don’t know and we don’t know what we don’t know (thank you, Donald Rumsfeld)
- Experiments involve risk, uncertainty, and failure—no wonder we don’t do them 😊!
- Prepare to be surprised 😊!
Alexander Fleming said, “That’s funny!”

...and we weren’t even trying for that!

“Thank God it’s Open Friday,” Corinna Baldauf at Sipgate

Why do trials?
- Answer: To convince management
- This makes sense! BUT have your ducks in a row.

Presentations to management
- Easy to follow, easy to understand, easy to share, easy to believe.
- No extraneous complications or technical jargon.
- Good ideas can crash and burn because more thought wasn’t put into the presentation.
- Less emphasis on details. More on communicating strategic value. Less about failure. More about learning regardless of outcome!
- Executives should ask, “Why haven’t we thought of this in that way before?”
- *The Innovator’s Hypothesis*, Michael Schrage

Benefits of trials
You kill off the HiPPOs. (Highest Paid Person’s Opinion.) Testing is a sure way to get to the bottom of a decision without relying on anyone’s gut instinct. At Shutterstock, if a senior executive has an idea in a meeting, the response is simply “Let’s test it.”

Wyatt Jenkins, VP of Product

It’s about learning 😊!
- Humility -- the best way to proceed.
- Results move us forward but also generate more questions, which again need to be answered through future trials.
- The journey never ends. We will continue to make mistakes and should learn from them.
Confirmation bias
Our tendency to search for, interpret, favor, and recall (yes, it affects memory) information to confirm our beliefs.

Charles Darwin said that whenever he ran into something that contradicted a notion he cherished, he wrote down the new finding within 30 minutes. Otherwise his mind would start to work to reject the discordant information, much as the body rejects transplants. Man’s natural inclination is to cling to his beliefs, particularly if they are reinforced by recent experience. – Warren Buffet

Believing is seeing
Once we have a belief, we see the information that will confirm that belief, and we stop seeing what we don’t want to see, don’t expect to see, have no wish to see.

We all do this. It’s so easy to see in others and so difficult to see in ourselves.

Cognitive dissonance
- It’s difficult for us to hold two disconfirming ideas at the same time.
- To truly test an hypothesis, we have to be open to showing that we might be wrong.
- Experts reduce dissonance caused by failed forecasts by saying they would have been right “if only.”

This bias is challenging!
...because the scientific method is designed to create dissonance...one of the reasons science is so difficult—because scientists are humans, and scientists don’t like it when their predictions are disconfirmed.

I wish for every student that something they deeply hold to be true is shown to be wrong. Once you’ve had that experience, then you get it; then you get what science is about. – Lawrence Krauss

Some help for biases
- Talk out loud and use words like ‘rational,’ ‘scientific’ and ‘experiment.’ Say, “Most people want to overcome their biases.”
- Write on paper, white board, flip chart
- Diversity – include skeptics– listen to all contributors
- Be aware and alert for bias—ask questions
- Slow down. Take a break. Mindfulness exercises! Get enough sleep.

Correlation is not causation
Honolulu Heart Program: 8,004 men studied over 30 years, examined relationship between coffee intake and the incidence of Parkinson’s. Men who drank the most coffee were least likely to get Parkinson’s. Men who did not drink coffee were 5 times more likely to exhibit symptoms of Parkinson’s than men who drank more than 28 oz of coffee each day.

Now we know that there’s a genetic connection between liking coffee and risk for Parkinson’s. It’s not that coffee prevents the disease. It’s that not liking coffee means that you are at risk for the disease (no one is sure why).
In a disagreement
- Instead of arguing and taking up valuable meeting time, ask...
- What experiment would help us answer this question?

Examples
- Stand-up desks
- Google display

Your ideas?
- What issue in your life can be addressed with a small trial instead of pondering, discussing, wasting time on endless examination and rumination?
- *Just do it!*

Other benefits
- If you are careful in framing your hypothesis and in designing your experiments, you will get better over time.
  This is another great result – the experimenters themselves and an environment of replacing argument and heated discussion with ‘experiments.’ A culture of experimentation 😊!

Patterns to help 😊!
- Learning Cycle: *Just Do It, Time for Reflection, Small Successes, Baby Steps*
- *Concrete Action Plan*
- Innovators, Early Adopters, Early Majority, Local Sponsor, Corporate Angel
- *Champion Skeptic*

Reading suggestions
The WHY Axis, Uri Gneezy & John List
Innovator’s Hypothesis, Michael Schrage
Little Bets, Peter Sims
Fearless Change and More Fearless Change, Manns & Rising
Anything by Dan Ariely
Thinking Fast and Slow, Daniel Kahneman
Mistakes Were Made (But Not by Me), Carol Tavris & Elliot Aronson
Joy, Inc., Richard Sheridan
Linda at Menlo Innovations

Your goal – Joy 😊!
I don’t assume what worked for me will work for you, but I do want to inspire you as you contemplate what an intentional culture of joy could look like in your world...you can experiment along with us as you continue your search for joy in the workplace.
Rich Sheridan, Co-founder and CEO Menlo Innovations

Be brave!
- Have fun!
- Think like a child!
- Embrace failure!
- “Try” an “experiment” 😊!!!
- Thanks for listening...