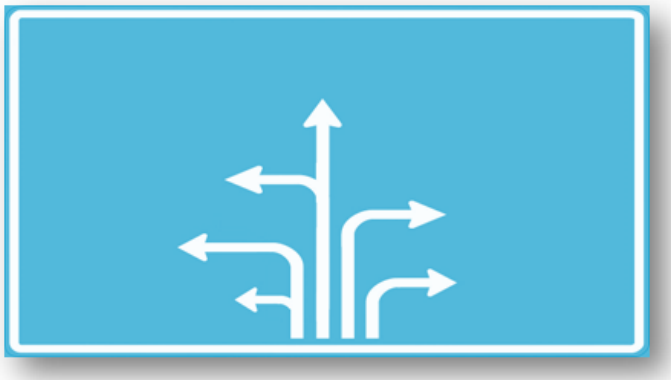
Simple Streamlining



Toward Smooth Efficiency

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Streamlining

Streamlining creates a smooth transformation of a material into a product or time into a service. It involves moving from a current state to a future state with the fewest resources, the shortest time, and the shortest distance. If productivity is the basis for working efficiently, streamlining is the basis for working effectively.

To be efficient is to minimize waste; to be effective is to reduce the waste that comes with doing something that didn't create waste but could have been done better when a more extensive view is taken. Being productive means looking at the manufacturing line, and streamlining means looking at all the manufacturing lines, the entire plant, and maybe the whole industry.

Streamlining was highlighted like no other time in my short history during the worldwide coronavirus pandemic. Whether it played out in supply chains that stretched across the globe, the manufacturing lines stretched to new limits, or the news media's attempts to keep up with the volume of coverage, it was all about time and distance. You don't notice it when it's working, but everyone notices it when it isn't. The failures incited fear and panic, hurt the economy, and left people in need.

Conflict results, and sometimes, this is all you notice. You don't see the broken processes but the people who aren't getting along. Managers can't always tell and sometimes don't care when someone undermines another with gossip and impressions. It's called reputation management, and in some organizations, they coach you on how to do it, while other businesses are ruthlessly stamping out such internal rivalry. When some are clawing their way or polishing their stories, while others hope their results speak for themselves, it is an environment rife with streamlining opportunities.

You don't need a situation like a pandemic to come along and reveal where there are gaps, narrowly answered prayers, and piles of waste. Suppose you have a service organization staffed by people. In that case, you have untapped ideas, silent suffering, and suppressed mistakes that hold tremendous potential if you could access them, tap them, and allow transformation.

If you've never considered concepts like processes and metaphors like chains and how they apply to your work, welcome to the streamlining world. This is how to go with the flow while having a way to steer the ship.

1. The Identification of the Current State

Businesses reported their responses to the changing demands created by the pandemic. The pasta maker, Italipasta, reduced the number of varieties offered. Toilet paper producers were bringing machines back into service that had been mothballed as people were home instead of out at workplaces, airports and restaurants during the day. Shelves were bare of toilet paper not because everyone panicked but because different daily lives generated different tissue product demands. All of a sudden, forecasts changed, and adaption was required.

What to do when your situation changes can be evident to the trained eye or the experienced native who has been-there-done-that. A consultant can produce numbers and graphs to tell you how reducing

complexity produces capacity, with the production time that can be utilized as you switch over from one product to another. Pressing machines back into service is a lucky option, especially if you still have employees who remember how to run them or, better yet, the documentation for anyone to learn.

Today's processes and supply chains are not evident. To clarify them, we document them. We identify the current state by getting real-world behaviour and materials on paper. A current state map is the best representation of the way things happen now.

There are three current states for every process: the one that is performed, the one that management believes, and the one that gets documented. However, the only way to solve that problem is through documentation because it is a problem when beliefs don't match reality - you can't manage that which you are unaware of.

Reveal Repetitions

From the time we are born, we sleep when we are tired, eat when we are hungry, and cry when we want one thing or the other and don't have it. Mothers are quick to connect causes and effects and the repetitive patterns of their babies, if only out of a need for their sanity.

As we grow, we learn to use our words. Individual experiences teach us whether to ask permission, beg forgiveness, or forget about getting it if anyone else is involved. Before realizing we must work to earn our way through life, we have an entire inventory of unique and dubious lessons.

While it is human nature to rush into action and make knee-jerk decisions, it doesn't have to be that way. Sometimes, we can be very thoughtful and do careful research before picking a restaurant for dinner, often because we've been there, done that, and learned better. When we behave instinctually, we behave out of biology and history. It includes that which makes us human, as well as that which makes us individual.

The corporate world is much the same. People are people no matter where you go. They all have a human brain. Much of it doesn't change no matter where you go, but like people, the variation is diverse, surprising, and inspiring. As for the corporate world, the variation in culture is similar: what's scolded in one place is applauded in the other, and in one organization, they claim one thing and reward the other. In the fog of confusion, people do nothing, and doing nothing is usually ineffective.

Acting Out of Instinct

Our brain is made up of three parts. The oldest part of the brain is called the reptilian brain. It's responsible for the instinctual decisions that keep you alive. The reptilian brain manages your fight, flight, freeze, or flee response. This part of your brain triggers first, so you can run from a scary thing before you know precisely what it is.

Surrounding this core is the mammalian brain, which governs feelings and emotions. Finally, you have the neocortex, the part of the brain which controls cognition and language. Cognition is the voice in your head that narrates your life and allows you to read to yourself.

Brain scans indicate up to seven seconds between deciding and when we know we've chosen. The reptilian brain made the choice, and seven seconds later, we are "thinking about it."

There are up to seven seconds between when you are aware of the danger when you run from it and when you become aware of the nature of the threat. By design, you are supposed to be safely panting, wondering what that thing was that sounded like danger, long before you ever got enough details to name and claim your fear.

Seven seconds can be an eternity if you know how to use it. Otherwise, you might act on instinct far more often than you realize.

Biological Survival Mode

The feeling of fear activates survival mode.

In biology, survival mode is designed to be a short-term protection mechanism. In survival mode, we are like the deer on the tundra who smells like a wolf. Suddenly, the deer stops eating, freezes, and looks around to see which direction to run and move in. Before long, the deer is back to grazing again. Over a day or a life, the time spent in survival mode can be small.

For humans, this is not the case. We act like a feeling of safety has never been restored. Some of us are still stressed over a fight from earlier this morning. Maybe it was a layoff last month or a divorce last year. For others, it is more a case of one stress being constantly swapped for the next one, with no time to recharge in between. For new parents, immigrants, or employees, this can be every day for months or longer.

In survival mode, the blood vessels ensure blood flow to major muscles for running. Functions like growth and repair are turned off to provide the most energy possible. When growth and repair are turned off, cells become diseased, die off, and are not regenerated. Leave it too long, and we won't talk about tiny cells anymore.

People who are overscheduled, distracted, and behaving like a deer who just smelled a wolf aren't making the best decisions—they are merely looking for a way out.

While it's all happening in biology, you can see it manifest in the world around you. Immediate decisions that seem appropriate at the time and in the context, yet fall apart when taken as a whole in a larger, more distant perspective. It's just the lizard brain hi-jacking our ability to take a second to think.

The biological survival mode is the intellectual panic mode. Problems are shifted from today to tomorrow because we choose to put them off, and our short-term solutions don't buy much time. In business, we see a culture that praises the hero who saves the day at the last minute and rushes to spend money before the spending freezes begin.

Social Foundations

Why think when you have someone to give you all the answers? We have a society that has handed over their morality to their church, their direction in life to their parents, their education and child-raising to the education system, and more ways in which we've lost the drive and accountability to think outside

pre-determined paths. When you join an organization, there's a code of conduct, policies, and procedures – and then someone to tell you how to navigate it all, including the fact that your ideas are not welcome here and you are slowing things down with your constant questions and interruptions.

Education and upbringing give you many answers about what to believe, do, and be. Some of them were even helpful, accurate, and timeless. Without fail, the one thing they will teach you is that there is our community, and there is the opposite. There are people to exclude who aren't like you, come from other places, believe, do and become different things.

Biologically, survival instinct wanted you to realize that an outsider might be a threat. There is an 'us' and a 'them.' The government urges us to prioritize our families, vote for their parties, and think of our countries. Subtlety, there's an us and the potential for threat.

In business, we create silos and fight with each other. It's as if we are on the same ship, throwing cannonballs back and forth. If we sink the boat, we are both done, yet the cannonballs still lob. Our competing opinions bankrupt the business, and now there is nothing to fight over.

Although a basic survival mode solution, a common external threat often does the trick. To save the business is to unite the silos by caring about the customer. A common external threat could be a new competitor who is caring, kind, and attentive to customers left in the cold. Maybe it will be a new kind of leader who can connect and rally the disenfranchised – the threat you alluded to and then created.

Environmental Triggers

Leaders are constantly making choices about where to spend their time. On their own, with one-on-ones, large audiences and people they never see. Where that time is spent says everything about their priorities and how well they accomplish them.

On the shop floor, Lean manufacturing has a long history of saving money and reducing waste by focusing only on the environment. They look at where things are located, how much of it, how things are moved around, and when. If you have witnessed an F1 crew change a tire in seconds or a modern assembly line build a car in minutes, then you've seen the poetry in motion when the environment's design supports your goal.

The office environment has its ergonomists, Feng Shui practitioners, and architects who master the art of people in a space. However, people are increasingly working at home, alone, in whatever space they can carve out for the day, or in airport lounges, coffee shops, and motel rooms.

A comfort zone is what you are used to, not where you feel comfortable. While we gravitate toward one environment or another, each choice has benefits and tradeoffs. However, we went with our preference, which may not be the best design.

When we need to collaborate, we make the time, space and ability. We take the time to determine who we need and how we need them and then get to work. Instead, we pick familiar people and stay in our zones. When we need to focus, we eliminate distractions and then get to work.

Letting the environment limit the quality of your work is accepting false limits, where design and forethought can liberate your best achievements.

What's easy and available ceases to be a good enough solution when one loses one's survival mindset and chooses to thrive instead.

Getting Beyond Instinct

The most common way out of survival mode is intervention. Someone or something forces you to stop.

It's not you; it's your focus. In survival mode, your focus is too shallow and fleeting to notice the deeper root causes. You are stuck because you are managing symptoms, and symptoms only grow. You have to stop denying that you have a problem and accept it for all its size and awfulness.

A root cause is something you can do something about that removes all kinds of spin-off problems. When walking back failures, it is the thing that happened first and started the chain reaction.

Too often, we wait too long, and by the time we are ready emotionally to face the work, the people around us have reached their limits.

The more sensitive we feel to our shortcomings, the less prepared we are to look for them and the less likely we are to deal with them until something or someone forces us to stop. Once, I was asked if we could say, "What could have gone better?" instead of using the industry standard 'What Went Right/What Went Wrong.'

In a world far from black or white, feel free to look for the shades of gray, but look for the deepest, most genuine shade you can find to get beyond instinct and become more effective. Until then, try to do absolutely nothing.

The Quincunx Experiment

When we decide for the future based on what happened in the past, when the past is irrelevant, we fall prey to this fallacy of attributing causes and effects, making changes and causing our problems when we could sit still and be better off for it.

Lock the knobs down. That was the first thing I did differently when I looked closely at what others were doing. However, I thought we'd all learned about the problem of the endless fiddler.

The lessons of the quincunx started with a peg board at the front of the room. The pegs on this board were set in an offset grid, such that a marble released at the top of the board would be deflected on its way down. The marble landed at the bottom above a number that indicated its distance from the center. The funnel at the top of the board could be moved, and ball bearings collected at the bottom.

Fifty marbles were released one after the other. As dutiful students, we counted how many landed on each peg at the bottom. A histogram revealed a bell curve of results around the target, which was precisely under the release point of the funnel. Anyone could see that there was a spread.

"Do you Think you can do better?" the instructor asked. Everyone seemed sure they could.

We tested suggestions one by one. Like dominos, every idea and every individual failed to do better.

As it turned out, no matter what we could think of, there was no improvement upon random chance. Without being able to articulate why a change would manifest as an improvement in an evidence-based way, we should touch nothing and not let anyone else either. Yet, over my career, I've seen everyone fall for the assumption that they could indeed do better.

Taming this confidence and conviction that you can do better and should intervene is your most challenging task.

What We Value

Once, a consultant was hired to fix a machine that stumped everyone else. The consultant measured, observed and took notes but did nothing for four days. On the fifth day, he turned one screw half a turn.

Suddenly, like an orchestra, everything started humming and running perfectly. When he submitted his bill, the accountant said he was crazy. "But you only turned a screw; that is nothing, an hour's worth of work at most." The consultant resubmitted his bill—one hour for screw-turning services and 39 hours of knowing what screw to turn.

When we value action over thinking, we create hero-worshipping cultures. Do nothing? In full view of management? While being the hero is excellent, it's better when we are all unscathed. Addiction to drama claims as many people and lives as it does businesses and livelihoods.

We must choose the long term over the short term, remember that we value relationships instead of taking them for granted, and do what's right instead of what's easy.

These may not be your values. Identifying your values and testing your decisions against them will help you realize what decisions you need to change to show what you value.

At the core of unresolvable conflicts is a difference in values. We don't all have the same values, nor do we need to, but we should ensure we know what they are, hire people who share them, and relentlessly evaluate whether our values and actions match.

In science, matching action and intention is called heart-brain coherence, the pinnacle of health and wellness. As in your body, so in your business, your values show up and colour everything you believe, do and are.

Adopting Radical Acceptance

I've seen executives pack boxes onto trucks because the job had to be done. It happened every year after the Super Bowl. Every year, they would complain about too many people calling in sick when they aren't ill; they are hungover and should have taken the day off. Radical acceptance is that it might happen again next year, and there might be a better alternative than doing the work themselves.

The first step in changing anything is accepting it first. Once upon a time, I did an opportunity assessment that resulted in about seventy process improvement opportunities. The reaction was as usual: denial, rejection, freaking out. "Seventy? Are you sure? That's an extraordinary number," they said.

While I prepared to do my usual calming, soothing, and explaining, I was provided with a shortcut solution: “Can you categorize them so there are only four?”

For sure, if the quantity is what matters. Even without scale, the number creates a particular assumption and implies an unwanted reputation. You have no idea what size they are, but like Raisin Bran's two scoops, it immediately means that everyone else only has one. Size matters, and with opportunities, they always ask for duration, savings and expense estimates, and those columns are additive. It surprised me that it was a sheer number that mattered, one that lacked any comparison.

I added a column on the spreadsheet to do the opposite of dividing to conquer.

When we accept responsibility to change something, we don’t have to condone it. We don’t have to like it, want it, need it, or have any emotion. Like data, it doesn’t care. Whether you like it or not, it will keep doing its thing because it doesn’t even know you exist, let alone who you are.

No matter who you are or your position, you are a leader, too. A leader is a mindset, a choice. It’s not a title or role. It means you have responsibility for your energy, words, and actions.

As we grow, we move from childhood to adulthood, and in business, we move from being subject to the whims and forces of the market to being grounded in a strategic plan with a foundation of agility.

Picking a Process

Process thinking means being deliberate, observant, and curious. It’s an abandonment of judgment and an embrace of what is happening against what you want to have happen. When judgment gets in the way, we have the case of the Super Bowl schedule. When you analyze what you want to happen, think about the options to change the outcome next time, pick one, and forge ahead; that’s process thinking.

A process is a set of steps to achieve a specific goal. It has an input, an output, and a transformation. Depending on the complexity of the final product, these steps may be simple actions or detailed instructions.

A recipe is an example of a process. It states what you need to begin – the ingredients and measures. Instructions describe how to combine these ingredients and often include a picture of the result that can serve as a quality standard.

With the use of processes, it is straightforward to do one step and how that leads to the step after that. If you’ve ever come up with your best ideas in the shower, you’ve had the experience of how processes can liberate your mind. You haven’t documented your morning routine or shampooed your hair for the same amount of time daily, but you follow a routine. Processes only need to be as precise, measured or documented as is applicable, and no more. Any more than what is required is restrictive.

You want to launch a restaurant, and you’ve learned how many of them fail, and you don’t want that to be you. So, you research, market test, and maybe decide to open a catering business as an entrée into the brick-and-mortar world. That’s process thinking, and you never even drew boxes and named them with verbs and nouns.

One thing relates to another, and nothing happens in isolation. More of life is predictable than you might imagine. The idea is to stop cursing recurring events and start preventing predictable failures.

Reduce Common Pain

Failures undermine our progress, not only in the lack of success itself but in insidious ways. They claim our confidence, reputations, and even health. However, crafted success, where we plan, analyze, and execute, makes us realize we can do far more than we would have imagined.

In a service business, we don't have the same visibility to processes as in manufacturing, but the same ideas of process and assembly lines apply. For you, there are things you do every day and others that you do less routinely.

While every task is unique, you likely spend 80 percent of your time doing the same 20 percent. Think of it like the cookie cutter; it is always the same if you frost it differently every time. The majority is standard; the minority is custom.

Start with something easy, and once you feel comfortable, switch it up to something that frustrates you. Consider a few questions to find the one that creates momentum, focus and priority:

1. When do mistakes and corrections occur or require extra attention and care?
2. Where are customer-facing engagement opportunities lost?
3. Where specific training is needed for new employees?
4. Where are you considering investing more money?
5. What brings you the most stress, frustration, or problems?
6. What brings you the most joy, success and ease?
7. What are you trying to learn right now?
8. What change are you trying to make right now?
9. What do others seem to want to know from you?
10. What do you spend most of your day doing?

Lower the Skill Level

In grade school, my teacher asked kids to raise their hands if they wanted to participate in an extra-curricular study skills program. It was to help some of the kids who were failing a chance to recover. Although my marks were in the zone of safety – not too low to annoy my father, not too high to annoy my classmates – I raised my hand. To this day, I am still passing along the things I learned in that program while learning how not to annoy people.

When learning something new, we are typically taught a process and repeat it until we master it. While you are mastering it, did you find it helpful to use memory aids, lists, or other such triggers to help you do the right thing? Getting information into your brain and pulling it out when you need it isn't a skill we are all born with, but it's one we all need. It's the beginning of learning and the essence of knowledge work.

The use of processes in business is core to significant quality improvement methodologies. They reduce the demand for discipline, attention and effort. For a growing company, processes help train new employees faster. For leaders, it helps them trust that the work will get done how they want.

Thinking is taxing, and the brain does whatever it can to conserve energy. It looks for and finds the lazy way out. In this way, processes are the brain's best friend, but also a best friend to managers and leaders. Not only does it help you take the lazy way out every time, but it also frees your capacity for being creative and critical.

When processes are fundamental to expectations, you will find ways to do things faster, easier, and more effectively every time.

Make Consistency Routine

No matter what we do, we all have customers to satisfy, and then we need a way to do it. Your processes will revolve around your triggers and needs. You must deliver gracefully and quickly once you know what they want from you.

Do you know how a ballerina makes leaping through the air and landing without a sound look easy? That's grace and ease. Much preparation and groundwork go into making things appear simple.

Processes help create a foundation for improvement by ensuring consistency. They help you understand what to change when you want to change the output. This ensures that the difficulties of learning from experience and history are minimized. Availability bias, memory flaws, and cognitive dissonance won't derail investigations into creating improvements.

If you are routinely late, spend hours a week searching for things, or without the clarity of knowing exactly what you are doing right now and what you need to do next, then processes will be your new secret advantage.

You might have no problem getting out the door on time in the morning. Someone else might need an entire process, such as making the kids' lunches the night before, packing your bag, laying out your outfit, and ensuring your keys are on the hook. It's up to you to know what's critical and what you need to do with grace and ease. After all, it's hard to give service with a smile when covered in blood, sweat, and tears.

We all struggle with different things in different ways. The point is to reduce the struggle down to a routine habit. The objective is to become self-aware, like stepping outside yourself as a compassionate observer.

Map Steps

Getting processes in place is about working on the work, not doing the work. When there is work to be done, orders to deliver and customers to serve, there might not be any time left to consider how to do the job more effectively, deliver orders faster, and serve customers better. Yet, time must be found.

The bored and lonely Maytag repairman has all the time in the world. He doesn't have any fires to put out. Maytag has mastered processes, and customers have been using the product uninterrupted. Some would wonder why he still has a job.

Boredom and loneliness aren't most people's objectives. They say you can watch your dog run away in Saskatchewan for days. Driving across this flat province, the scenery hardly changes. When processes

get confused with this level of excitement, no one is keen to get them in place. Fear of job loss becomes instinctual when smooth processes are confused with irrelevance and disuse.

We ignore boring things but are attuned to threats. John Medina, author of **BRAIN RULES**, calls this rule number four. The brain is wired to pay attention to sex, pattern matching and threats. Rewarding the hero who extinguishes the threatening fire is natural; preventing fires doesn't earn just desserts. Since the fire didn't happen, it can't be quantified. The impact of avoidance only matters when the problem is chronic because, in that situation, accountants can attempt to quantify the cost avoidance.

Rewarding heroism is natural, but it also keeps the fires coming. Without processes, there's always a fire to put out. Everyone wants to be a hero. To map the steps of your process, you might have to appreciate the thrilling aspects of what might appear dull.

Redefine what it means to be a hero as someone willing to learn new things and leverage their experiences into an entirely different job description. For the Maytag man, when you are that close to customers and how they use it, you might be uniquely informed to contribute meaningful insights in the research and development of new products.

Get the First Draft Down

In 2017, a video captured teenagers jeering a man as they watched him drown in Florida. They could have saved his life, been heroes forever, and achieved personal pride. They did not. By state law, they can't be prosecuted. In Florida, there's no law against doing nothing.

It's harder to notice when someone doesn't do something, but applying fair judgment is more challenging. Omission bias is the tendency to judge harmful actions as morally worse than equally harmful inaction. If John throws Sally a baseball and she misses catching it, the broken window is his fault. Sally could have jumped, lunged, or knocked the ball into a different trajectory, but she didn't. Society punishes John and says nothing to Sally.

From a lifecycle perspective, the value of processes changes. At launch, you don't need very many or very robust processes. Learning is organic; testing and modifying things happen every day. When stability is achieved, processes hit their stride. At that point, they become growth accelerators, foundations for training, and tools for recruitment.

In manufacturing, documented processes might sit in a dusty, remote binder. They say they don't need them in the field because everyone has been trained and signed off. Yet "human error" is showing up on defect reports. They might know but forget it; it might not come naturally or be the easiest way. Human error is only eliminated with acceptance, diligence and creativity.

The documented process is a launching pad for feedback. Disagreements will arise, and clarity will be needed. Does it matter if two ways are done, and if so, why and how? One day, as excellence is sought, it will matter, but if latitude is acceptable, communicate the boundaries and move on. Once the first draft is down, let people apply their corrections, and you will see the many potential opportunities for clarity.

When a company grows without processes, getting them in place requires commitment, capacity and culture change. The call for processes is often tomorrow's job, and tomorrow never comes. Instead, the

little fires take over, the heroes become too exhausted to put them out, and everything goes down in flames. You could do nothing and never get blamed for anything. Or you could start now.

A Rebellious Streak

Adults don't wear helmets, we text when we drive, and we eat crappy food and laze around. No, we don't always do what is good for us unless we are confronted with the harsh reality of the outcomes we might personally face if we continue down that path. You are still reading because you don't want to be told what to do or be confined or limited.

It turns out that we all think we are better than average. Sure, the average person needs checklists, but I don't. Like the shoemaker's kids who have no shoes, for whatever reason, I didn't do what I did to that work I was doing. I know there are many reasons behind the miss, but a miss it was.

Psychologists like to laugh about these survey results like economists like to laugh at people who buy lottery tickets. It turns out that the only people who don't raise their hands when asked if they think they are better than average are depressed people. It's depressing to believe you aren't as good as everyone else while everyone around you tells you how great they are. Maybe the only people who understand the math of it are the depressed.

Failure to utilize the process is typically based on a misunderstanding of what that looks like or a bad experience with it. While everyone can agree that using a method is better than everyone a cowboy, everyone goes off and acts like a cowboy.

The point of processes is to aim for consistency so we may analyze the outcome with the confidence of scientists running an experiment. If everyone does their own thing, it takes forever to find out what works and what doesn't, not only because so much time is wasted spinning, arguing and defending.

A Can of Worms

If there is one process you learn on the first day, another one reduced to the significant points and key differences to a competitor or peer, and a third you report to management, then maybe the list continues. Everywhere I've worked, I've been told one thing by HR, and then a colleague says, "Yes, but don't ever do that. Do this instead."

Depending on your objective, you will know which version of the process to document. Fundamental world changes and impacts require actual world processes. Communication is an art, and processes are excellent tools for creating a picture instead of drowning it in words.

Some people read pictures from side to side, and some read them from top to bottom. One long day, I learned this as we presented the documented process to the stakeholders. They told us we got it all wrong and proceeded to redraw it along a different dimension. When that was over, we all knew we shared the same understanding.

The goal is shared clarity and understanding, no matter how it is documented. The goal is not a document that adheres to corporate dictates for process templates. Although a standard template helps create a shared understanding, it is only a shortcut if it is more efficient and effective.

A Way to Start

Starting process maintenance at a large scale is not easy either. It is a sizeable challenge implemented late in a business's growth phase. When processes haven't organically grown from the bottom up with the company, they can be complex, expensive, and overwhelming, as top-down implementation becomes the preferred method.

Often, the culprit is a new customer with requirements for their suppliers, and you want their business. The motivating factor is speed, with cost as a close second and quality not a thought in the wind. Just get it done, the executives command. That new customer has to be profitable enough to cover the expense.

Maintenance is new work when it hasn't organically grown with the business. Instead of shifting tasks to the right people who can do them, full-time employees or consultants audit, train, and mentor process users and owners, with an obvious cost and not very visible benefits.

When it comes to how to start, here are some ideas for jumping over that first hurdle of getting the first draft down:

1. Make a point of taking notes the next time you are doing the activities.
2. Record what you are doing while you do it with audio or video.
3. Hire someone to observe and record.
4. Teach someone and get them to take notes as they learn.
5. Double your fun by playing with a new mind-mapping tool.
6. Remember that it's progress, not perfection – refine, update, and continue to fill in the missing blanks of required knowledge in any way available.

Iterate and Update

Since nothing stays the same, systems have to grow and adapt. From the first time you record a process to the most recent, always think of them as drafts. They should change over time to reflect your added experience and knowledge, the changing needs of the business or your customers, and new options, whether new technology or talent.

Processes and systems to streamline high-volume work in less time are difficult to build when you realize you need one. Instead, record how you handle the job as the volume grows so that the process grows along with the growth. When you are ready to automate and leverage technology, you know exactly what you need and how to program it.

Learn along the way what works and what doesn't work, so go yourself and tweak the process as you grow. The first time you are learning something, record what you are doing. Follow your notes when you return to do it the second time. Add a note when you come across a gap that wasn't recorded.

If it's a shared process, have everyone do their own and see what you have in common. Share knowledge, tips, and tricks.

Adapt the level

Your process might start at a very high level. There will be little room for misinterpretation or error for critical steps and broad and generic steps that can be approached with a wide range of variability. For instance, it might start as "Wash Dishes," which can be done as differently as there are people on the earth, and might end with "Fill the sink with 89-degree Fahrenheit water, add two teaspoons of Sunlight Lemon dishwashing detergent..." While the latter is detailed, the former is described as "high level."

Be careful to allow for freedom where freedom doesn't matter. For instance, if "warm" is good enough, don't bother with the exact temperature. Specificity is expensive. Imagine trying to get the perfect water temperature. The effort would waste time and water, and a tap to automatically do so is more costly and complex than needed.

In an age when we can design a device to accomplish a task, we must be aware of what matters and what doesn't. Just because you can doesn't mean you should; high quality doesn't always mean more features.

Be careful of the tendency to push for control, especially when delegating to someone else. Innovation and improvement are created in freedom, not control; power, not force.

Remember to Repeat

The secret to creating growth with processes is in repetition. You want to make sure you aren't making different mistakes every time, and if you are making the same mistakes, you want to identify them, test solutions, and evaluate the result. You might use a process because you do it so regularly and with high volume, or because you do it so rarely, you need to remember the specific steps and anything in between. Processes and repetition are inseparable.

One way to start is by recording what you are doing while you do it. Your future self will thank you – you know, the one who is scratching their head trying to remember what you did the last time? Instead, you will have your notes to follow.

The next time you do it, pull out those notes and follow them. Did you leave out gaps? Figure out a better way. Write your changes on that first draft.

Repeat. Keep following your notes and improving them. Eventually, you will reach stability when you stop making modifications and changes. Your document is serving you well and delivering the results you know you can. Make sure you stick with what works.

Assess the Performance

Embrace the fact that growth hinges on processes and systems. Start as soon as you realize that you will be doing it again at some point in the future; take notes, keep a journal, or find a way that works for you to document your efforts. I challenge you to find the one task you repeat regularly and create the process.

When it's all documented, and you know following it works, it becomes easy to hand it off to someone else. Some people fear this; they see the knowledge they keep to themselves as job security. Realize the fear as the root, and become indispensable in realistic and sustainable ways.

Automating a system that produces crap produces low-quality results faster and usually at a high investment of capital. Operating costs also rise due to the higher rate of waste, and you end up worse off than the old manual system. Before automating anything, fix the performance and know what it takes to do it every time.

Before automating a system, understand what it takes to manage it – feedback and ways to adjust and adapt to ensure it works as designed for as many possible cases as you expect. Ensure you know what information you need to gather and the diversity of potential problems.

The links at the beginning and end of the process are often overlooked since nothing happens in isolation. Record the system's performance and effectiveness, along with the changes made, to continue building effective and efficient systems. This record serves as the process's long-term memory and answers when you ask questions like, "How long has it been like that?"

Embrace Challenges

Depending on the structure of your business, there are precise opportunities for growth.

In manufacturing, the products are tangible, permanent and repetitive. You can touch the book and measure the cut of the pages, the materials used, and even the consistency of the ink.

If you've ever had the experience of reading a defective book, you know how manufacturing can go wrong. Product companies have to focus on the manufacturing processes. They study their products in labs. They measure and compare to defined standards. They make sure each new one is like the last.

In service, you don't and can't monitor like that. Your service is invisible, fleeting, and unique. People are not machines. You can't set them up and know they will do the same thing all day. No, even when we have scripts to follow, solid plans, and decks prepared, we have zero control over the other person in the exchange.

The nature of what we do requires another person to be there—two people, always. Where two people exist, so does the potential for conflict. How shall such conflicts be handled? Is the customer always right? The employee? Or what process will be used to arrive at a decision?

As a service provider, you must achieve that level of excellence that manufacturing can achieve in different ways. Instead of measuring everything, you have to pay attention at the moment. Instead of studying everything, you have to research everything. Instead of controlling everything, you must predict it to prevent it and let go.

Paying Attention

Measuring in manufacturing involves paying attention to the past and future. For example, they measure to see if machinery needs tuning, predict when inventory needs re-ordering, and meet sales

order volumes. Measures are merely snapshots of moments. The analysis lines up these moments to extrapolate the future.

Aside from your phone and laptop, you don't have any machinery to tune in that sense, but you have a physical being central to your ability to produce. You. Putting yourself first isn't just a good form of selfishness. It's how you achieve excellence. You do your best when you are at your best. You bring good energy to the table. You are primed to listen and tune into the other person.

When we find those kinds of people, we hold on to them and don't want to let go. We are all starved for attention. With all of the social media, we are out there saying, hello, look at me! You know what it's like when you get a share, or even better, a well-thought-out comment that agrees with our view. Like never before, your attention might be the most expensive thing you can sell when you give it away for free.

What do you hear when you pay attention to what people are saying instead of curating their message into something you'd rather hear? Who are you ignoring, or maybe unaware of their entire existence? Attention must be paid as the price of excellence.

Relying on the Research

In service, your feedback loop is long and prone to errors. The service interaction process begins with prior experiences and ends with what we think and articulate about how it went. To give feedback, you have to choose words about your experience. That requires comparing what you expected and lived through and having a suitable vocabulary.

Vocabulary is an inherent problem when jargon exists on one side of the wall and not on the other. Words with relative meanings, like fast, can be misinterpreted easily. There are so many ways to misunderstand that I've seen many quality professionals not bother to try. One even insulted the people for wasting their time providing feedback as if it had no value instead of the concrete evidence that her job was indeed required. In a world of perfect quality, you don't need a team trying to achieve it.

We are limited in evaluating our experience because we're unaware of everything we've lived through. We don't all have words to describe our feelings and perceptions. Alzheimer's patients know this bitterly well. Daniel Goldman introduced the concept of emotional intelligence and the fact that perfectly healthy people don't always know what they are feeling or have the ability to articulate it.

Everybody lies, and it's editing what we want to say into what we think we should say. We leave stuff out and add in things that weren't there. Then we are pleased with ourselves for protecting our reputations, relationships, and self-image of someone who does the right thing.

If anyone made a mistake, we aren't the ones who made them; no matter how quirky, we need to look at the world and facts to make that assessment accurate, as Carol Tavris and Elliot Aronson explain in their book **Mistakes Were Made (but not by me).**

Finally, we open our mouths and use language that can muck the whole thing up. Despite the existence of a dictionary, different words mean different things to other people. It's not just words with relative meaning, like 'fast,' that become misinterpreted. We can miss the entire message.

No matter what the other person says, we hear what we want to hear. We can't remember everything, but we do remember how they made us feel.

Seeking Control

Daniel Gilbert, the author of **STUMBLING ON HAPPINESS**, says that we are hardwired to want to control things. The human brain seems naturally wired to make things happen and get things done. He says, "Much of our behaviour from infancy onward is simply an expression of this penchant for control." As he says, "People find it gratifying to exercise control."

John Medina, the author of **BRAIN RULES,** says that the brain is hardwired to conserve energy. The easiest way to exercise control is not over yourself – we know that's hard to do – but over others. Particularly those with lower power. It's the most energy-efficient way to exercise control.

We learn this from infancy. We want something but can't get it ourselves, so we learn strategies and techniques to get others to give us what we want. We cry for the bottle, pout for the dessert, and throw temper tantrums in the toy store.

Luckily, we grow up and learn that these behaviours are childish. We learn to use our words. We know that the most efficient ways to get things aren't always the most effective, as those childish methods backfire.

The most effective exercise of control is over yourself. Yes, you.

To make a sale, you must give up the drive for control. We buy when we consider the provider a partner with something we can customize. Instead, I have salespeople tell me that they want to control the conversation, and they do, but they rarely make a sale.

Everyone buys when it gives them more control: control over an experience, an outcome, or someone else. Sell one of those three things, and you'll have power where you want it – in your business.

Affirm Value

An organization can choose to maximize the happiness of one, none, or all. Business is all about the exchange of value. With whom will you exchange that value? Every improvement project starts by getting the customer's voice. Value is how you decide what stays, what grows, and what goes, and it depends on who you define as the customer and who is more powerful in the relationship.

Customers may be external, such as those who pay. They can be shareholders who own stock and want to know how much they earn. They can be people in other departments or business units who need your information. Customers are the people at the end of the process, the recipients of the output, tangibly or intangibly. Everyone has immediate customers and end customers.

A stakeholder matrix can capture all your customer groups and what they care about. When you know what they care about, you better understand what they need from you and how to service those needs. You are the boss when you are a solopreneur, and nothing has to get lost in translation.

Value to a Customer

The first interview question was, “If a customer walks in, spends 3.75, and hands you a five, what do they walk out with?”

I assumed the question was to test my math skills and replied with the correct change.

It was my first lesson in business. A customer who walks in with any money expects to walk out with the same value. Their change, yes, but also, the converted potential of that currency – whatever they bought. It was a lesson that served me from that first job at a fast-food joint to a quality career.

What’s quality about? The customer defines value as what they think is worth their money. They buy if the product costs one dollar and think it is worth it. They would likely purchase several and feel richer if they thought it was worth more than one dollar.

An Exchange of Value

In business, the nature of the exchange is that each side gets something out of the deal.

In non-for-profits, your customers are clients, benefactors, volunteers and donors. While they aren’t buying something from you, they are giving you time or money, maybe even effort, and getting something out of the exchange. To get more, understand what’s shared about the ones you have, and then seek out those communities.

We have customers, no matter who we are or our organizational position. A customer is anyone who needs, wants or gets something from you. The term stakeholder is chosen to reflect that these people aren’t always in exchange for you, don’t always choose you, and are not limited to those outside your organization.

If you are on the front lines, the paying customer outside the organization is your customer. When you are on the inside, you are part of a chain with that decision maker at the other end, or so the idea is. They should get the best experience. However, they define ‘best.’

Unequal Opinions

When we discuss our opinions, the reward center in the brain ignites. Researchers used functional magnetic resonance imaging (fMRI) to discover that the mesolimbic dopamine system, used to register reward, was far more active when subjects discussed their opinions than others.

To give you an idea of how good this feels and how much we want to share, researchers found that individuals chose the opportunity to self-disclose over small monetary payoffs. You know the expression “A penny for your thoughts?” It implies you have to pay someone to speak about themselves to you, but the truth, according to brain scans, is the opposite. We love to talk about our own opinions.

To listen to your customers' opinions, you must ignore your own. The authors of **TUNE IN** developed a phrase they used regularly with CEOs and business leaders. “Your opinion, while highly interesting, is largely irrelevant.” It’s supposed to be about the voice of the customer, not the executive, but that’s a rarity in execution.

Failures occur on both sides of the exchange. We fail to ask questions and provide helpful answers. We pick the wrong people, hear what we want to, ignore beneficial feedback, or misinterpret what's being said—even if finding the truth was our entire objective.

Some business models are built on only getting the first sale. It happens when your desired value is high enough to make the purchase decision, but it doesn't fulfill your expectations when you get it. We are unlikely to return when this happens, but we will likely tell our friends to help them avoid the same disappointment and ego bruising. However, it works, as scams proliferate every day. More than ever, a buyer must be aware.

Pride of Reputation

Businesses that lower the barriers to desired value with financing options get more sales. They also increase perceived value by offering customization and adding bonuses. When perceived value is higher, we think what a deal it was, and we return and bring our friends.

We are defined by what we buy, who we work for, and what we do.

We need to be proud of ourselves and grow. Contributing is one of the basic needs of every human being. I want to tell you that you should collaborate with generosity, but in the real world, there is one pot of money for each team, and if you get a dollar more, your colleague gets one less. You may have to deal with these traditional structures, but you don't have to let them crush you or the team's performance as sabotage becomes rife.

If you have employees, they are also your customers.

We faithfully follow management, which means doing what we are told, even if we know better. As adults who live in the real world, our managers are the only customers since they can hire and fire. You want them to choose to work for you instead of someone else. They are giving you their career, or at least a phase in it, and they want that to be worthwhile. Make them look good, keep them happy, and you are an employer in demand.

Orient yourself toward mutually beneficial solutions with the people that matter.

Creating Value

Performance indices have remained relatively flat despite focusing on customer satisfaction worldwide. It's easier and faster than ever to engage customers and get their feedback, so why aren't we seeing an increasing trend in customer satisfaction?

Barriers might be there to keep out those who aren't committed to success. With the massive failure rate of startups, you have to wonder if they are selling what they want to sell or what their research has shown that people want to buy—two different things.

Serial entrepreneurs are more successful than first-timers, and their success rate keeps climbing the number of times they try. It could be that they are learning and listening as they go. They build on what's working, dump the rest, and pivot into a new venture. All this is to say that the barriers don't keep everyone out. Some leaders do it and do it well.

While understanding the fundamentalism of customer satisfaction as a business and success maxim, we still talk about it because it's not something easily achieved; by measurement's feedback, it's difficult even to budge.

Unclear Best Practices

The internet has its trolls, just as it has its valid customer complaints. How to resolve customer complaints isn't a new problem, but the transparency and platform available to a disgruntled customer is more significant than ever.

Whether or not to include customers in developing new products is not straightforward. Proctor and Gamble have used focus groups in the past but is now turning to technology for better answers. In contrast, Apple famously does not include customers.

The use of focus groups is in decline as researchers learn to doubt the validity of the answers. In focus groups, they would ask questions like how many swipes it takes to shave your face when doing research for Gillette. The answers would range from 10 to 15 when it is more like 30 to 40. Don't bother asking what you can measure for yourself.

Let actions speak where words cannot. Market researchers have many stories of customers saying one thing and doing another, consciously and unconsciously. Get the data by any means necessary and save the questions for everything else.

Behind the Scenes

At one conference on quality and customer service, I heard about an airline that'd saved money and reduced variation by reducing the number of olives on their salads. As a customer, I might be annoyed if I got one and my neighbour got three, but it is not high on my list of irksome flying experiences. Of all the possible projects, I thought, shaking my head.

Getting 'the voice of the customer' is pivotal to quality methodology, but it is not unfailing. Despite the need to serve customers first, deep in an organization, this concept only applies to the tactics of front-line staff. Despite a CEO's directive to focus on customer service, what does that mean to an accountant in finance, a manager in human resources or anyone removed from the front lines?

When most of your work or decisions don't impact the paying customer, the customer who matters to you is the people you serve. You might serve a project lead, a manager, colleagues, or ideally, everyone who needs something from you.

When everyone focuses on the people relying on them for information, action, or supplies, the front-line staff's ability to deliver customer satisfaction is significantly increased. This is because you need alignment throughout the whole organization to deliver. The front line can't do it alone, and leadership can't do it alone.

The Trick of Optimization

You can't make everyone happy. Sometimes, that fact is used to justify not even trying. Instead, it is a directive to choose wisely.

Others aim to decide who they will satisfy and who they will ignore. This is the minimize or maximize model of customer satisfaction. Think of it like the recommendations HR requires in the interview process. It's easy to keep three people – and only three – happy through your career; they even coach this, but I've seen some progress as companies realize the waste in that effort. It doesn't matter if they've wronged everyone else; as long as they have those three testimonials, they have their ticket to enter your organization. Scary!

The optimization model makes everyone happy enough. That's a stunning one-off story in itself that you can generate more mutually beneficial solutions for everyone. It's a swell of satisfaction that matters more. Think of it like driving a long way – it's not your top speed that matters; it's your average speed that matters. Optimization is about getting the highest average speed you can get.

Lean says to slow down to speed up, and what they mean is to take all the resources you are using to maximize things and put those resources on the weakest links, and your average speed goes up. It's the concept of the rolled throughput yield, which goes like this. If your sales experience is performing at 80 percent, your delivery of whatever you are selling is 80 percent, and customer satisfaction is 80 percent, the overall score end-to-end isn't that 80 percent; it's 80 multiplied by 80 multiplied by 80. Which is 51 percent, and you are barely passing.

Optimization is working on the weakest link in the chain. Often, it's the feedback loop from customer service to operations. Usually, customer service placates the complaining customer, and that's the end. Sometimes, they can send a message through for a one-time service recovery. What's needed is a regular, systematic review to correct the processes and systems and eliminate the complaints.

Value for the New World

Now that you know the pull of your opinion and need to put customers first, start listening.

They say we have two ears and one mouth because we should listen twice as much as talking. Listening skills don't come naturally, whether we are in conversation or analyzing surveys. Get your curiosity on and start asking some interesting questions. You never know what they will tell you.

Never forget that you are also your customer. There was a time when I went through this process and forgot about myself. I ended up with a consulting business that I didn't like. First, I'd have to go through the process of winning a contract. Next, I'd have to win over the team or department into which I'd been hired to help—flashback to my corporate days and things I didn't like about how the work proceeded.

After that, I'd create a list of recommendations and opportunities. I'd be asked to quantify them, which required negotiation and sizing discussions. Subsequently, we'd turn the list into projects, putting them in buckets and placing them in order with assigned resources. Finally, I'd get to help train and coach them through the execution to make things happen. Whew! It took a lot of effort to get to the result -

along with some egos bruised, some lambs sacrificed, and some elephants talked out. Overall, it was more characters and personalities than I felt comfortable managing. I was constantly on high alert, always scanning to gauge the room and adapting to accommodate everyone else.

After shuttering that business, I decided to include myself next time around. An entirely different business model was developed, one that made me enthusiastic and made it easier for everyone else, too.

The devil you know isn't always better than the one you don't. Whether it's an employer, a business or a brand that needs to go, start getting prepared, figure out what opportunity looks like, and seize your lucky day.

Selfishness Clarified

We've all met and avoided people we'd easily label selfish, but selfishness can be ideal.

Selfishness gets a bad rap in the dictionary. Dictionary.com defines it as "devoted to or caring only for oneself; concerned primarily with one's interests," etc. regardless of others, and "characterized by or manifesting concern or care only for oneself."

Ouch.

I don't need people more concerned with my interests than their own. When people are more interested in what I'm doing than what they should be doing, their noses are jammed into my business in a pretty unwelcome fashion.

You can call them all selfish, from nosy busybodies to self-involved people in their self-pursuits. Some salespeople don't care about my needs; they want to make the sale. That's all about them and nothing about me. It reeks of desperation and makes it dead easy to say no quickly, firmly and efficiently and to spread the word to their prospects.

On airplanes, it's drilled into us that we need to put our masks on before helping others. As Bob Rosen says, "When you take care of yourself first, you show up as a healthy, grounded person in life."

Maybe we need another word because primarily focusing on our interests can be better for everyone.

When you are primarily concerned with your interests, you discover what fulfils you, makes you happy, and what you are good at. You can find where you belong instead of trying to fit in, which is exhausting, challenging, and draining.

Being authentic is not a result but a continuous journey as you evolve with life. It's selfishness in a healthy way.

Healthy Self-Interest

Focusing on your self-interests helps you learn when you should be saying positive no instead of trying to please other people or get your needs met through manipulation and neediness. Lousy selfishness is expecting others to deliver on your needs without concern for theirs. Destructive selfishness has such a packed agenda that you never reflect on what kind of impact you have on other people, blaming them

when you do and sticking mercilessly to a pattern of behaviour that drives people away and makes your life harder.

You aren't living life for anyone else; you are living life for yourself. If they are using you as a prop, leaning on you, trust me, they will find someone to lean on when you pull yourself out of there. It's not your job to make your parents proud or live out their dreams – they gave you your life, and now it's yours to live. Similarly, you don't exist to be anyone's servant, just as you don't expect anyone to be yours.

Good selfishness ensures that pursuing your interests does not negatively impact others and potentially creates mutually beneficial collaborations. Destructive selfishness throws your colleagues under the bus to get a more significant raise or a coveted promotion. Good selfishness is when you decide to let the poor behaviour of others go unanswered by shifting your focus to finding a new job with your energy and attention.

Society in general, and some people specifically, will try to hold you back. What looks like a golden opportunity to you can be a pure risk to them, and they will verbalize and over-share their fears. Trust your feelings, intuition, and gut, and do the appropriate work to minimize the risk. Then, go for it.

Individual Intelligence

Good selfishness results in an authentic life that allows you to contribute to the world in the way only you can. Genuine people are healthier, wealthier, and happier. I'm doing myself as best as I can, and as Sarah Knight says, you do you.

If we all did that, can you imagine this world of zero competition? A world of no such thing as better than or less than, just different than. That kind of selfishness would be great.

When we all want to be paid what we are worth, Whitney Johnson blogs on HBR that "The trick then is to lead with unique or disruptive skills, offering the hard-won skills as a kicker." This is simple, but not so simple, when these skills are the ones that we take for granted.

The talents that set us apart are the ones that are natural, easy, and, therefore, can remain invisible. Aside from multiple tests and relying on feedback from others, there is another way to uncover these skills for you. When are you exasperated?

The frustration of genius is in believing that if it is easy for you, it must be easy for everyone else, which leads to moments of confusion when the truth is revealed. Flip the esteem perspective and recognize your inherent, priceless skills so you may begin to follow the direction of your true potential. No, they aren't stupid; you are the genius.

2. The Clarification of Objectives

When you can respond to the immediate fires and keep long-term goals at the forefront, you have achieved on-time and on-target performance that makes you and the people around you less stressed and more productive. This is easier said than done, but getting clear on priorities is essential.

One lesson from Lean Manufacturing is that the optimum level for machine uptime is 80 percent, yet we are all trying to function above 100 percent. Everything – and everyone – needs maintenance, downtime and time to deal with unplanned crises. Operating outside of that is risking long-term priorities for short-term action.

One reliable method is to turn a to-do list into a to-when list. A "to-when" list reinforces priorities, builds a routine, and passively defends time boundaries. It exists in a calendar, not a notepad.

You may notice that activities take twice as long as you thought—one CEO who produces a blog thought that writing her post would take an hour. The writing took an hour, but sitting down to create it took a full day, from planning to research to getting in the right frame of mind. Knowing the real-time cost gives clarity on determining its relative priority.

Most activities are unplanned or forgotten, time passes with nothing to show, and memory doesn't serve well. One leader says her major accomplishment for this year was not overbooking her gym commitment, and it's had such a positive effect that she can't believe she used to think she would lose clients over it. Instead, it's achieved a new level of trust, demonstrating a commitment they know will apply to them.

Start with Possibility

In the early 1990s, Michael Hammer and James Champy wrote the manifesto **REENGINEERING THE CORPORATION** and launched the Business Process Reengineering (BPR) movement. BPR strives to break away from old rules about conducting business and organizing work.

At the time of BPR, companies took advantage of technology and automated their processes. However, automating something that was producing problems produces more problems quicker. Introducing technology changes what is possible in a way that requires redefining the process first. Simply automating what already exists fails to take full advantage of the opportunity, as does changing how you work to match what the software dictates.

Re-engineering is bold and brave work and can be the only way to break out of a status quo that no longer serves. Perhaps your customers, products or services have changed so much that minor improvements are irrelevant. Re-engineering is about eliminating the overhead and manual processes standard to a younger company and aiding its transition to a mature organization.

A Different World Today

In the eighties, productivity was all about working harder. Finally, they said we needed to work smarter, not harder. What exactly is working smarter?

If the manufacturing age could be managed by seeing the sweat on your worker's brow, the information age was managed by ensuring a knowledge worker was constantly clicking – a keyboard, a mouse or a phone pad; it didn't matter. What mattered was the same thing – output and output only.

Around that time, Motorola had high returns on their cell phone. High output met the cost of low quality, and they responded with what became the Six Sigma movement. Across the ocean, Toyota was creating Lean Manufacturing.

Both Six Sigma and Lean pointed to the costs of quantity over quality. Achieving both required slowing down, figuring out the keys to quality, and then going full tilt again, which was a leading edge at the time.

Our grandmothers knew this lesson for anyone interested in productivity: haste makes waste. So why did we need fancy statistics, impressive credentials, and invented language to apply that lesson to business?

Getting caught on the "more-is-better" treadmill is human nature. It's deciding you can afford a little bit better life every time you get a raise. In the long run, you don't make the significant life changes that make life differences, but you keep thinking the next small thing will make a difference.

It means you can learn all the productivity tactics in the world, but it does not make a difference if you don't have something you want to accomplish. On the contrary, they say that where there is a will, there is a way, so if you want it bad enough, not knowing tactics won't make a difference.

Knowing What Matters

The sweet spot of streamlining is a bit of both—having your compass pointed at something that matters to you and knowing the relevant tactics to make that journey as quick and smooth as possible.

Lean and Six Sigma both got bad press about the lack of a difference they make to a company's survival. Both tell you to point your compass on the customer and away from the competition, but can't ensure you do that well. What they profess to do well is ensure that your work is quick and smooth.

Quality and quantity have to be inseparable in today's definition of profitability. It has to be about long- and short-term performance. You pay later when you only care about the checkbox of getting something done.

Our short-term culture shows up in returns and exchanges and oceans full of plastic, overflowing dumps, and disposable goods. You can also see it in the subprime mortgage crisis, where we make critical decisions on the justification that "everyone else is doing it." Some call center agents have let the cat out of the bag and said their job is to get sales and hit targets. A world based on the outdated definition of profitability doesn't protect employees, investors, or citizens. We need a streamlined world.

Liberating Insight

You know how adults ask children ridiculous questions so they can hear naïve answers? I was asked about what I wanted to be when I grew up. I said I wanted to be the one who writes the dictionary. Yes, I imagined that someone writes the book, everyone reads it, and that way, we achieve clarity of language. I had no idea it worked in reverse. When Beyoncé wrote a song, everyone used the word, and then Oxford added it to the dictionary. That's how it works.

In 2006, I attended a conference on Lean Six Sigma, the first I'd heard of such a marriage. Having learned both but separately, I wanted to see what the combined version would entail. However, my excitement had turned to horror.

By lunchtime, I'd lost my cool and control over my mouth. I spewed my unfiltered thoughts about the entire affair all over the lunchroom. The evidence around me fueled my diatribe, as we should have been experiencing the supremacy of flow and organization but was frustrated by lineups, waiting, and food that missed its moment of glory.

When I finally ran out of steam, someone handed me his business card. He said, "If you write that down, I will publish it."

That's when my protests started. I wouldn't write it down because it was apparent to me. Still, I wondered, what would you ever call it? As far as I was concerned, it was a true Lean Six Sigma: a lean version of an ability to deal with variation and solve problems you can't see with your eyes. But that label was already taken.

Articulating Your Motivation

Streamlining is not about turning you into an automaton. However, when you get there, you can happily farm it out, knowing that you have the process down, making it easy for someone else to learn, execute and deliver the same result. You may feel the compulsion based on stress, feeling drained or overwhelmed.

One day, your motivation changes from finding ways to avoid it, minimizing it, and excusing it to finding ways to get started.

Trying to become more productive at something you can't stand doing is a recipe for procrastination. Motivation from within creates a mutually beneficial solution for you and your mental state, you and your clients or customers and you and your stakeholders, be they your family or your employers.

Answer a few short questions to turn those feelings into concrete motivation:

1. If there is one chore that you could deflate, what would it be?
2. If you had more time, how would you spend it?
3. When do you find yourself repeating, redoing or reworking the same task?
4. What is the hidden mess only you know you have?
5. What tasks do you take pride in, look forward to doing and wish to maximize as a part of your role?
6. Where are creative alternatives to the status quo required or wanted?
7. Why are you considering change?
8. In what ways does your life benefit after this change?
9. What are the rewards you envision?

Eliminate All Constraints

Did anyone tell you, “Stop pretending and get to work!” People say the craziest things because unleashing the powerful stuff of pretending takes some work.

In a Boston study, men went away for five days to pretend. Pretend you are fifty years younger, they were asked. After five days, they were. Done deal. Their cognition improved by 60 percent, their fingers were longer, and they played touch football without their canes.

Beyoncé pretended she was Sacha Fierce until she became a stage presence. Marilyn Monroe pretended for fame, fortune and legacy. If your name isn’t working for you, change it. However, how do you pick the right name when you know that? Beyoncé knew she had to sashay around and be fierce.

Science proves that pretending works. We use the scientific method because it is human nature to do all kinds of crazy things. The scientific method starts with a hypothesis, follows with an experiment, makes observations, and then attempts to explain them.

First, there was quality control, where someone stood at the end of the line and threw out the products you would have returned. Then, there was quality assurance, as someone did the cause-and-effect problem-solving work to prevent those returns. After that, the design of quality, where the operational engineers who deal with the day-to-day sit with the design engineers who dream up equipment, and we take the time to help each other out.

Everywhere, the achievement of productivity is the same – thinking and acting earlier, predicting and forecasting more, and communicating and collaborating outside your silo. If we’ve exhausted quality design, we now need quality of thought.

Embracing Different Choices

Society has an idea about manners. When people are lying and don’t know it, you aren’t supposed to point it out. Most people continue to flirt with accidents, danger and “bad luck” without knowing they are confused and confusing others. This is why we need good friends with bad manners: people who dare to laugh at our tears and misplaced fears.

The last time it happened to me, I was bemoaning my lot in life. Shedding tears about not being somewhere, left entirely alone. Feeling crappy about other paths that I could have taken, but I’d elected not to with a clear head and heart. I asked her, “Who am I to help people make decisions when I’ve ended up here?”

She laughed out loud like people do when they hear something preposterous. “You’re happy, aren’t you?”

I laughed, too, and immediately fixed it. I’ve never been happier if the stigmas of society were attempting to rob me of my happiness.

Sometimes, we need others to hold up the mirror and check what we see. I’d forgotten that part. I let society judge me until I felt so bad about everything that made me happy that I questioned my motivation, identity, and purpose in life.

Since then, I've noticed many people are doing what I was doing. I've seen someone who tells everyone she simplifies supply chains but is constantly late. There was a consultant whose company name made me sure she worked for Oprah or was a sex therapist, yet she was neither. She was so confident of her brand that it was tattooed on her arm. Who was I to point out the confusion?

Learning to See Reality

I had to learn how to see reality. If you think you do, get a pencil and paper and draw your face. You know how to hold a pencil, so there's no skill you are missing. You know your face intimately. Go ahead and use a mirror if it helps.

When I was a kid, they said I was an artist. When I went to art school as a toddler, they taught me to make a grid, duplicate it, and copy, copy, joy, joy. Then, in Montessori, they tried to force me to colour in the lines their way. Although the Western world prized unique expression in art, the Eastern world is about reproduction. It's the test of skill to paint a master's painting; for that, the grid technique works like a charm.

The grid technique is not fun. However, I achieved my first perfect mark in a high school art course. I used the grid technique, a ruler, and a calculator and won the award. Then, perhaps bowing to the talents I'd displayed, I entered university—for engineering.

The difficulty of seeing reality becomes apparent when you try to record it. You realize how fallible your memories are, as you need that mirror to draw a face you've seen daily for your whole life. When you are done, you have a newfound appreciation for the camera and a better understanding of art as a method to express what can't be photographed.

For me, art is about the product, and art is about the process. You may not want to hang a therapeutic work on your walls, but that's precisely what it is for some artists.

Recruiting the Right Brain

When do you listen to your right brain? Art therapy can help you work through feelings and thoughts. The process is letting the part of yourself that uses images communicate with you and learning to mute or ignore the bossy, language-based left side of your brain.

For the final five years of holding a paintbrush, I deliberately set out to allow my right brain an avenue of expression. When I set out to become an artist, I'd always started with at least a pencil sketch and a general idea of the final product. It was surrender, not force. While the final products looked like abstracts, I knew exactly what message they depicted.

As you communicate with your right brain, you make it and read it, and guess what? You have your language. Or at least I do, and I suspect you do too.

Buy some paint, markers, or supplies to help and start communicating with yourself. Open the channel of communication. At the very least, play cut and paste with some magazines and create a vision board of a collage.

Breaking your echo chamber starts by hearing your voice. What happens when you listen to yourself? You can hear those lies that others refuse to point out. Trust me, it's better than pretending that all those lies they told you are okay. It's better than the weight of all of them. It's better than all the unhealthy behaviours we choose to drown out.

Let's just all quit pretending and collectively breathe a sigh of relief. Unleash your creativity and find the voice of the other half of your brain.

Create Alternatives

Decisions are arguably the most challenging thing in life, as they pave the path to our lives. They can be loaded with regret, guessing, second-guessing, defending and justifying, chewing up the energy of attention and occupying vast mental real estate.

The paradox of choice is that instead of increasing choices creating more happiness, studies show they reduce happiness. In an experiment with doctors provided with the option of one drug to prescribe, they did.

However, when two drugs were available, they chose the third option—do nothing. Life has an embarrassment of choices in that while the world of possibilities is open to us, we rarely venture too far from our starting points.

When there are more options than ever, there should be a perfect set of choices that deliver happiness for everyone, but this only creates misery. Perhaps the paradox of choice is simply that we must improve at making them.

If two choices result in neither, are there the correct number of choices that lead to happiness? When three choices are carefully selected, the outcome is also predictable. If a third option is introduced, which is similar to one of the first two but with a known downside, then the choice that will be selected will be the upside version. If the options are A, B and A-, then A is the choice.

When the choices available don't look compelling, don't create a mutually beneficial for all parties, or each carries a downside risk, the problem is apparent: more alternatives are required.

A creative mindset is imperative in an innovative economy. Yet many believe creativity is reserved for artists, actors, and accountants.

Creativity for Physicists

Einstein was a master of creative thinking and imaginative exploration. While those skills may be more needed than ever, they may be just as rare and remarkable today as they were then. It's a good thing they can be learned.

For Einstein, while he had many gifts and his weaknesses, two things we know he did exceptionally well were to ask better questions and to pursue the answers actively. Asking better questions requires identifying the right problem. According to Scott Thorpe, author of **HOW TO THINK LIKE EINSTEIN**, "Even Einstein couldn't find a solution if he had the wrong problem."

The right problem fosters imagination, creativity, and the ability to break through old patterns. Einstein said, “If I were given one hour to save the planet, I would spend 59 minutes defining the problem and one minute resolving it.” The correct problem definition isn’t blocked by assumptions, false limitations, or protecting the status quo.

Instead of spending most of our time figuring out what to do, we rush in with knee-jerk reactions and overwhelmed minds. Instead of thinking through options and picking the best one, we are already in motion and doing something about changing circumstances we don’t like.

When we do that, we don’t solve them; we change them. If you have to act now, okay, do it, and then come back later and start thinking about what you should do to ensure the problem never happens again. We likely don’t have time then either—we are too busy with the following problem and all the side problems we just created.

The Truth as You Know It

The right problem is accepting the truth as you know it and forcing you to reject the truths you used to believe. You take people as facts instead of how you would wish them to behave. You try to keep up with the churn of knowledge while knowing you can’t.

Invention and innovation are both the result of constraints. Still, too many restrictions or false constraints will prevent the solution from coming to light or being recognized as such when it does. Disabling problems define how you are going to do something. In contrast, good problem definitions expand options.

When Einstein was working on relativity, the problem his contemporaries were working on was something like this: “How can nature appear to act that way when we know that it can’t?” Mark Twain said, “It ain’t what you don’t know that gets you into trouble. It’s what you know for sure that ain’t so.”

If you already recognize the problem in their thinking, you are on your way to solving real problems. Einstein asked, “What would nature be like if it did act the way we observe it act?”

The way to progress is to forget what you know to be true. We are all gifted with the ability to imaginatively explore alternate realities by nature of being human. We can close our eyes and imagine. We can hone and add that uniquely human gift to our skill set.

Imaginative Pretenders

Like fictional powers, the ability to imagine the future has its limitations. However, these limitations are predictable. Like anything predictable, if you can predict it, you can prevent it. Knowing the limitations means you can imagine your heart and mind’s ability and correct it with conscious wisdom.

Since you can avoid what you can predict, the only thing holding you back is your ability to master creative thinking and imaginative exploration. Where’s that right brain now?

Many of us are like Einstein’s colleagues. We imaginatively pretend that reality conforms to our models instead of accepting that all models are built to represent reality and that all models are imperfect.

The knowledge that humans are imperfect can empower creative thinking and imaginative exploration. However, is the school system doing an adequate job of producing questioners? A questioner would matriculate and know where and how to ask questions. Instead, managers are complaining that their new employees have no initiative.

At the time Einstein was a student, the way of academic physics was that of experiments. Experimentation in a physical sense such as that wasn't something he excelled at. Einstein recognized that he would rise to mediocrity and no higher. He decided to play to his strengths instead. Using theoretical thought experiments, he was able to prove the existence of quantum physics.

Enough choices make the golden door of change easy to walk through.

Introduce Flow

Don't you hate line-ups? Whether it's the drive to the cottage on a Friday night, the line-up at the checkout, or the waiting time for a call center, waiting is not fun for either side. Like a stream, flotsam and debris build up in eddies. Waiting is a waste, one that Lean says we can eliminate by achieving flow.

There is a street in Hamilton where the stoplights are finely tuned to control traffic flow. If you drive at the speed limit, you will hit all green lights perfectly without breaking or accelerating. Flow. If you create variation by speeding up or slowing down, you will hit a red light and wait. Queue. The traffic lights maintain and control flow by taking over when the flow is lost. The lights are timed to keep a law but can also be timed to hold a volume.

Perception matters more while waiting than facts do. In **YOU'RE NEXT**, Terry Green describes that the pure math of the queue is only part of the equation. Giving people something to do while waiting can improve flow and change customers' perceptions of their wait. You do this at the grocery store when you load your groceries onto the belt, thinking, "At last, my turn." You may not even realize that the cashier is still working on the previous customer, and it is not your turn.

Flow is an ideal state. When someone bags the groceries for you, they are also working to improve flow through the cashier. As a mental state, a person in flow is fully immersed in a feeling of energized focus, full involvement, and success in the activity process. In manufacturing, it is the undisturbed even transfer through a process.

Eliminate Waste

Giving people something to do in the queue to reduce the load on the bottleneck operation has also produced some bad examples. At the airline counters, customers are required to do more than ever. The difference is in the addition of steps, not a transfer of steps. It's a focus on internal productivity, not overall customer experience.

Another questionable queuing theory application at the airport is the long line feeding several agents - a good idea with highly variable transaction times, like in banks. However, when an agent is ready at the airport check-in, at the far end, the precious available transaction time is wasted as the customer transits with all their gear – usually pretty slow.

The next time you are waiting, consider what preparation you can do to make the transaction quicker when it is your turn, as if maintaining flow was your problem. Look around to see what systems, practices, and tools are in place that are working or not working that you can borrow, build on or modify. Not only will you be helping yourself, but you will reduce your frustration by increasing your level of control, reduce your boredom by having something to do, and cut your stress by changing your focus to something else.

Flow applied in the business sense is very similar. Often described as the current of a stream, it is about eliminating the snags, eddies and barriers that define most streams. Flow requires the right level of challenge, instantaneous feedback for immediate correction, and focus. You are likely multitasking instead of finding flow in your business and life.

End Multitasking

Are you still trying to do two things simultaneously, like driving and texting? Or are you doubling up activities smartly, like walking to work while listening to audiobooks?

Being busy used to be a sign of success. While it's not anymore, some throwbacks still assume they must be on their devices constantly, think they are bragging when they talk of ridiculously long weeks, and eschew vacations and breaks for weaker people. Now, successful people know better.

Many of us multitask when faced with whether we should do this. According to Marcus Buckingham in **FIND YOUR STRONGEST LIFE**, "When we multitask, we are dumber." IQ drops ten points, equivalent to missing one night's sleep.

According to a recent study from the University of California-Irvine, when we feel stressed, our self-initiated multitasking increases from the standard - already high - rate of 44 percent.

Studies show that an interrupted person takes 50 percent longer to finish a task and makes up to 50 percent more errors. Our brains follow a sequential, not parallel, process.

The brain is built to wander. One study of students reading **WAR AND PEACE** reported that their minds wandered 5.4 times per 45-minute session. 13 percent of the time, they hadn't recorded a drift of attention but realized they had when researchers asked the question. This second bucket of a lack of attention they called "zoning out."

When we focus and pay attention, opportunities become apparent; we notice the difference between "Reply" and "Reply to All" and save texting for when we are not behind the wheel. Catch yourself when you zone out, and work to control your attention and focus at all times. Above all, slow down and notice.

Eliminate Excesses

Once you have established a market fit, your next priority should be identifying where you waste money in your service business. Handily, there are categories to consider to help expose the ones that apply to you. It's not about getting the ideas into the correct category – it's about using the category to spark an insight.

The first is transportation. This is the unnecessary movement of products and materials. Money is spent on gas, vehicles, and packaging. Effort is spent on loading and unloading, which takes precious time. In service, you may be chasing information or data while paperwork and emails go back and forth.

While transportation is about stuff, motion is the waste of people moving. Motion keeps us healthy, and we want to ensure it's ergonomic, not forced by lousy design, thoughtlessness, or habit. Effort spent lifting, retrieving, and searching can add up to time lost in injuries and bodily stress, disability claims, and absenteeism.

Next is inventory. Excess products and materials not being processed tie up resources that could be used better. While inventory sits, it takes space and effort to manage and can become damaged or obsolete. Any partially completed work and supplies are in inventory. It might be a stack of forms, marketing pamphlets, or projects on hold.

Waiting is closely related to inventory because delays result in inventory creation. This may be when a customer requests your services and when you can deliver. Your backlog is the inventory of waiting customers. Waiting shows up in callers on hold, customers in line and even the employee who can't get started until the preceding employee is finished.

Defects result when any service aspect does not conform to customer needs. Customers complain about defects, but don't forget about the customers who don't complain; they leave.

Overproduction produces more service than required or before the customer needs it. In manufacturing, you can see it in the parking lots of unsold cars, and service, you can see it in exceeding customer requirements, like producing thick documents that don't get read.

Over-processing adds more value than customers want or are willing to pay for. It's premium grade when they only wish to economy. It's ensuring zero risks when they can handle some margin of error. It is five managers signing off on a decision when just one is likely to make the right call.

The last waste is skill, talent, and knowledge. If you are doing something, you could delegate it to someone who reports to you. You are wasting your skills and talents and not developing them in others. If you are trying to learn something, get the experts involved, or you are wasting their knowledge. Automation frees skill and talent by delegating a task to software or hardware.

Check the Steps

In business, your priority should always be to increase revenues before you focus on cutting costs and creating efficiencies. When eliminating excesses, focus on the opportunity more than the category.

The objective is to get you thinking about the costs you are enduring unnecessarily and not about attaching the correct label. Don't worry about what category you put an opportunity under; fear that you might miss the big ones. The label doesn't matter. What matters is ensuring you are profitable while delivering great value to your clients.

Value stream mapping is a tool often associated with identifying waste. Sometimes, people have difficulty engaging with that map, whether seeing the system at that level or just the strange icons and how it's laid out on the page.

Bringing the ideas of that map back into a more accessible format can help expose the excess. Identify why each step is completed, and then assess how much is to satisfy the customer's needs, how much is to fulfill the business's needs, and what is sheer waste.

Step #	Process Step	Critical Output	External Value	Internal Value	Waste
What order?	What is done?	Why is it done? What transformation occurs?	What about the step the customer is willing to pay for?	What are the steps to satisfy business requirements?	What could be eliminated?
1					
2					
n					

Table 2: Process Step Opportunity Analysis

Using this table as a reference, you can analyze the waste in each process step using the current state process map you've already created. List the steps and answer the questions for each one using the column titles.

Thinking through the rationale for the step and the desired transformation, the extras and shortfalls of activity should become apparent. Analyzing the nature of value will clarify the sources of waste.

Error-Proof Knowledge Work

Planning to change a habit? Design new triggers to make the shift more straightforward and stick faster. Reinforce what's working for you by creating alignment from intention to action with three distinct tasks: identification, change, and verification.

Verification is not "foolproof," but the error-proofing mechanism works as planned. If not, how should it be changed? More importantly, when and how will it fail?

Identification requires noticing the potential for error. What is needed to produce a quality result, and what is there that shouldn't be there? Everything that needs to be there at each step in the process, and only those things, should be there. Focus on one element at a time. What does it need to prevent?

In my experience, there are far fewer mean, stupid, or lazy people than might first appear. We evaluate others based on their actions but consider ourselves based on our intentions. Unfortunately, a lot can happen between intention and action.

Several different triggers shape our behaviour. When you know what these are, you have the power to change what you do or reinforce what's working. You can determine why you are stuck, decode the situation and find what is blocking you.

What's Working

Is the right way the most straightforward? Error-proofing devices keep us on track daily, from signs and signals to embedded design. Documented guidelines, job aids, and policies are system artifacts that help trigger, inform and remind us of the right way to do something. Measuring and monitoring success is an example of a system that helps keep us on track. Discipline works on the assumption of foreseeable consequences. If we could foresee what would happen, would we still do it?

The best advice I ever got in my career was early, luckily, and it was, "The people who do the work can make you or break you. Either way, they will find an undetectable way to make it happen." I have seen people intentionally perform poorly because the reward system seems more like punishment. In this case, the reward was attendance on a cross-country trip with their peers, and they didn't like to travel or want to hang out with work people.

We also need to pay attention to the signals provided by the environment. Lighting, ergonomics, and temperature all factor into our decision processes. You might have job aids but in the wrong locations, or you are competing for attention with other posters or written in a hard-to-read font.

Habits are hard to change, even when you use every mechanism to ease the transition. Grow what's working and ruthlessly analyze what isn't.

What's Malfunctioning

It's human nature to ignore warnings at our peril, but it doesn't have to be that way. When you try warning people, and they don't listen, understanding why it's such a challenge might help you be more successful next time. On the other hand, you can comfort yourself by knowing that it's not you – it's human nature.

How you present your message matters a great deal. Even choosing the messenger is critical. As a young woman telling dire warnings to white-haired MBAs, I'm sure I was easy to ignore. I am no longer young, and that company is no longer around. No matter how you point it out, the truth can be hard to hear.

One thing is proven through history: society always shoots the messenger, even when they are correct, kind, moral, generous and whatever else you think they should be to succeed.

If the messenger gets shot, work for the consultant who comes in and delivers the message. Since they are leaving with their big fat cheque anyway, it doesn't matter that they get shot. That's part of the price buried in their fees. Or hire someone with whiter hair and more impressive credentials and give them the message to deliver.

As a Black Belt in the corporate world, management consistently delivers tough messages about how everyone has to sacrifice. I'd be deployed to find all the invisible mechanisms employees would use to act out. It is human nature to restore justice in a disturbed system. Managers make decisions, employees bear the brunt, and fairness isn't straightforward. Employees always know where these holes are before management suspects something is amiss. The 'us versus them' game between management and employees only leads to a future where neither wins.

What's Untouchable

To some people, your fine isn't punishment; it's the price of permission. For others, they can't heed a warning.

In **TRIGGERS**, Marshall Goldsmith talks about his dinner with his clients. He introduces a norm of behaviour for the group and tells them anyone violating it will have to throw twenty dollars on the table. They all agree, thinking they won't succumb. At the end of dinner, only one of the 17 clients still has all their cash. Others have even made multiple trips to the bank machine.

For myself, the lesson was to say, 'I don't know.' These four words must be said to get smarter, yet who tells them? We prefer to supply opinions, assumptions and fake data.

In this lesson, we were given five minutes to present a topic to the rest of the class. Then, the trainers would ask questions. We were allowed to sit down as soon as we said those magic words.

On the agenda, we were supposed to wrap late afternoon. By eleven that evening, we were still waiting for another student to admit they didn't know the answer.

It was an exhausting day, and maybe the mental practicing wore me out. I spent the entire time repeating those words to myself. I planned to ignore whatever question was asked and spit out the words.

When it was my turn, I was amazed at how difficult it was, and I honestly didn't know the answer to the question. I had suspicions, guesses, and partial answers, but knowing is about being 100 percent certain. I wasn't, which meant I genuinely didn't know and that it was the correct answer. Heeding the warning was the easy part.

Set the Right Pace

There's a rate of tolerable change. If you have ever climbed a mountain or rode a bike up a steep hill, you know that the peak always looks much closer than it is. Change is very similar. It involves picking the proper slope, which is your rate of change. One of the most common reasons 80 percent of change efforts fail is a rate of change that is too fast to handle or too slow to be compelling or timely.

It is human nature to avoid change until it is undisputable and then leap into action. Consistency applies here again. Continual small changes bridge the gap between baby steps that are too slow and frantic running that is too fast. When introducing change, think of a normal walking pace that is comfortable and sustainable. Keeping up this pace will give you the winning edge.

Have you ever realized how much instant gratification is destroying your happiness? If you want to be happier, delay your rewards.

Today's challenge is one of instant gratification. People want everything now, free and perfect. In my experience, most joy comes from looking forward to something, not the pleasure you experience. Patience used to be a virtue; now, it's a rare and remarkable occurrence.

The problem is that gratification is a tiny, fleeting pleasure. The enjoyment of it is gone almost as soon as the experience is over. When you forget how great it was, you get another one instead of being able to be satisfied by the memory.

When we seek happiness but settle for gratification, it's no wonder we are still looking.

Settling for Salvation

Instead of questioning if today's pursuit of 'now, free, and perfect' is correct or helpful, they use it to justify why they are allowed to be impatient, cheap, and demanding.

What is true is that timing matters. It's not always 'now,' but when your quote takes seven days, and everyone else takes one hour, you have a timing problem. If you are in a boom-and-bust business and actively turning away business because you don't have the capacity, you also have a timing problem.

It's also true that price matters. Free is excellent, but once you get past the way your brain hyperventilates at the promise of that word, let's take two seconds to unpack it. First, you don't notice or appreciate the free stuff. Things you want that are free are never genuinely free. The price is baked in somewhere else. Free shipping? It's not a thing - it's all in the accounting.

What is true is that quality matters. Perfection is frankly not in my budget, and it isn't affordable to make do with shoddy products or services. If customers aren't bragging about you, coming back, or referring you, you have a quality problem.

Better than Before

Steve Jobs nailed his legacy and capitalism by noticing where there was underappreciated value and creating value in that vacuum. He did it when he met Steve Wozniak, who was giving away his computer. He did it by introducing the cleanliness of design in software, movies, and computers.

It doesn't have to be perfect – it must be better than the next best option. Today's underappreciated value exists on the flip side of "now, perfect, and free." There is value in waiting, and getting that into your business model instead of relentlessly pursuing how to be faster might be the shocking new idea that adds new life to your business.

If you can imagine it, there is someone who knows the ins and outs and dos and don'ts. The fact that we have the internet should make it a cinch to leverage experts. Yet, the concept of hooking in and downloading what we need when we need it remains as fictional as this was demonstrated in the movie **THE MATRIX**.

If younger generations Google before they have adequately thought about it, older generations tend to forget the Googling step entirely. If you want to be happier, healthier, and wealthier, discover your authenticity and unleash your voice of wisdom. There's too much misinformation, bad advice, outdated opinions, desperate people, fake news, and false realities to ignore.

Do you know how to test the validity of the truths you are told? Most people are tricked by data and stories, who says it, and how it is said. When that is the case, it's not about if you are being tricked in life but who, when, where and why it is happening to you.

The Bored Hero

Calm is required to prevent hasty actions, reckless decisions and irreversible loss. Despite the urge to act, we need to collect the correct information, weigh options and proceed carefully, but knowing better doesn't always mean doing better. We want out of pain, ambiguity, and boredom, and we want out now. Crisis mode is just so tempting. People love the firefighter who comes to save the day.

The thrill of stepping up to an immediate, critical and complex challenge and delivering on it is quite an ego boost for anyone. It also makes the day go by much faster, makes you feel like you earned your pay that day, and imparts a feeling of gratification, pride and worth.

And then there's the Maytag man. He is bored and lonely because the products work so well that he is unnecessary. If this is your assumption of streamlined processes, you will unlikely ever get there.

The Maytag man might have been putting on a bit of a show. Maybe he had a perfect job - no stress, no harsh demands on his time, total freedom—the best-kept secret.

Firefighting in crisis mode is addictive. However, like people with an addiction, rock bottom is waiting. The reactive decisions, the running about, and the highly emotional exchanges result in boardrooms, offices, and shop floors that look like a hurricane had swept through – every day.

Firefighting is so time-consuming, energy-draining, and attention-getting that there is nothing left for preventative action, organization, or care. Take a breather and step back from firefighting by gaining perspective.

1. How long has it been like that?
2. How long can you tolerate it?
3. Do you have to do something about it?
4. Will the situation change on its own?

Gather Measures

Not all the measures you need will show up in black-and-white data. Some might be right in front of your face.

Sitting around a fire one night with fellow snowmobilers, I warned them of a washout they would be travelling through. "One woman broke both legs earlier today, but now there are pine branches stuck in the middle of the trail wrapped with trail marking tape for quite a way in both directions like a lane of mini-Christmas trees, so you can't miss it now."

"Those branches were there when it happened," he said.

We all fell silent for a moment. "Is that what that tape means," a member of the other party said.

Lord Kelvin said, "If you can't measure it, you can't improve it." Perhaps the first trick is seeing a warning signal for what it was designed to be, using what's available at hand. If there's one truth in all systems, there is an underinvestment in the data collection system to manage it's performance. One day, you will ask a question and the only way to answer it is with manual observation and check sheets.

If you ever want to predict what will happen in your business tomorrow, the next week, or even the following year, you need process measurements. Business planning is complex enough without having to rely on insufficient data. Garbage in, garbage out!

Numbers are not as black and white as they can appear, and math anxiety is real for about half of all adults. Knowing what your numbers mean gives you the freedom and confidence to grow your business. Facing math is not as scary as facing ambiguity.

Avoid the Blindside

"If you can't measure it, you can't improve it," has long been the adage of quality gurus and a challenge for them to surmount. Falling for what Kelvin says can paralyze the best efforts. Not being able to measure it doesn't render something irrelevant, and the things you can't measure might matter far more than the ones you can.

Leading measures tell us what the future will bring. They are numeric in your dashboards, but you know it's not the whole picture. Experience builds intuition but takes time and exposure to a rich environment. Only then can you begin to spot the associations and understand the patterns. Technology helps but doesn't do the job alone.

Lagging measures tell you what happened. They report the output of a process. Customer satisfaction measures are lagging measures. It's too late to do something about it, but it doesn't mean you can't add an experience that makes up for the earlier one.

Being proactive is an advantage. To be proactive, you must know what's coming and have enough time to respond. How far upstream do you need to be measuring, monitoring and reporting? When you have the measures, you can avoid so much pain.

It can be tricky to tell the difference between leading and lagging measures, as sometimes the output of a process is the input to another process, rendering a measure both leading and lagging. Sometimes, you need to know the scope of the system to avoid being blindsided by it's performance.

The Optimized System

In all industries, sectors, businesses and wherever you work, I would bet that the power of working on the system you have remains untapped potential. I believe that systems are broken and make for an unacceptable status quo.

There was a time when I believed that hard work paid off. I was raised with a strong work ethic. It included appreciating vacations, portaging heavy backpacks and canoeing in the rain. Like a good citizen, I saved money and invested in Canada Saving Bonds. One day, I would be off to university, and those bonds would pay for whatever merit I had to rise to the top.

Then, one day, I couldn't find my wallet before going to work. I hated being late, so I left home without it. Days later, I learned that my purse and my bonds had been stolen. The bank cashed them without raising a single alarm. It turns out that as the movies portray, you don't have to look like your picture or

sign with accuracy and precision. They probably asked the thief, “Is there anything else I can do for you today?”

I headed to university, knowing that hard work does not pay off. However, I still believed the piece of paper I’d get at the end would pay off. I just had to get there. Like the naïve teenager I was at the beginning of that program, I believed in a meritocracy. Getting that piece of paper would stamp me with a certain degree of merit, and the playing field would be level. It would be about how much I could accomplish, contribute, or provide. It wouldn’t be about sweat but value.

The Value of a Piece of Paper

When graduation day came, I drove back to the city I left several months prior and collected a pile of old mail. Hiding in that pile was a critical letter. If only it had been a phone call.

The letter stated that I would not be graduating. I pulled out the phone book, looked up the home phone number of my dean, whom I’d never met, interrupted his breakfast and asked him to check his files. Indeed, they had counted wrong, and I had completed the required work reports.

With an hour’s notice, after all that money and time, I couldn’t even get my name in the program. I was lucky they found me a gown.

The first call I got from students asking for donations from alums, I asked to be put on the do-not-call list, although I knew I could have done a better job corralling my mail.

After graduation, I joined the best company I could think of joining. I proudly wore their logo, which I have never done since. It was crooked when they gave me my piece of paper when I graduated from their Black Belt program. One could see that the gold border belonged to the paper and the lettering to the printer.

As I pondered this circumstance, I wanted to laugh and cry because this piece of paper told everyone I knew how to go from 99 percent to 99.9999 percent. Was I supposed to hang a defect on my wall?

When we pay so much for a certification, is it all about having a piece of paper to hang on the wall?

Finding Merit at Last

Then came the phone call from the CEO telling me I was performing 100 to 1000 times better than my counterparts. Yay, I thought, I found my merit!

Or so I thought?

I was supposed to be happy with a lateral move while all my counterparts received plush promotions.

Instead, I quit, looking for a world in which my 100 times better would matter enough, and I would get to use it, or at least find out what happened. The only way I could rationalize what happened was to believe something about me was wrong, so detrimental that it would cancel out the benefit I could create.

Over the years, an alternate suspicion crept in: merit doesn't rise to the top unless you are Ray Dalio and force it to happen.

What motivates a person then, when hard work is a gamble, the best doesn't always rise to the top, and even popularity isn't something on which to bank your savings? There are two choices for anyone: you can work in or on the system.

People who go into business for themselves make the first choice. They hang out a shingle and do what they do. Then, one day, they realize they must work on their systems. We all have to decide how much time and attention we will spend on one or the other because there's no multitasking with this one. You can't do both at the same time.

My chosen focus is the system. As I explain this to people who've always thought of engineering as an ambiguous profession, they say incredulously, "That's a thing?" Yes, with a body of knowledge about to undergo a paradigm-shifting churn.

Avoid Illusion of Control

One day, I was weeding my garden while my cat enjoyed the sun in the open window. Before long, a four-year-old boy asked me what I was doing. It was my cat that replied.

"Who said that?" he asked me.

"My cat," I said.

"Cats don't talk," he countered.

I nodded to my cat in the window. "Say hi, Spice," I said.

After my cat greeted the boy appropriately, he looked back at me. I'm sure it was the same expression my father saw a few times. Once, my older sister asked him where the footprints came from when she was done vacuuming. He told her that invisible people followed her everywhere she went, so she better be a good girl.

"Sometimes you have to believe what you know to be true instead of what people tell you," I told him.

I saw some light go on, and he turned and ran. I could hear his cry getting fainter, "Mom, did you know that…"

I wonder what he suddenly decided he had to tell his mom. I wonder if she knew about how we all lie to kids unintentionally and how we can mess them up permanently. As a mother, let's say you want to do everything for your kid but can't. Let's say this is as small as being stuck on the freeway and your child is hungry. If you have nothing to give them, there are limited things you can do.

One choice is to say, "Gee honey, I'm sorry, I have no food, but I wish I did." It's a version of the truth.

One might think that having nothing and being in that state of unpreparedness is a failure, a failure of their ability to be an appropriate mother. Instead, they say, "No, you aren't." It's gaslighting.

When Lies Hurt

Mothers have a tall order, so raising a kid takes a community, a strong family tree, and a deep support system. That way, you have someone to turn to and say, “Hey man, my kids are in need. Got any extra?” Behind that question is a courageous truth embracer and a brave asker of help.

While they are saying no, you aren’t hungry/cold/whatever, what they mean is no, you aren’t a bad mom, as if they are talking to themselves. Psychologists call it cognitive dissonance.

I was a scrawny kid, and it went the other way around. One night, it was spaghetti for dinner, and there were rolled-up tomato skins in the sauce from whole tomatoes, grease from the ground beef. I refused to eat it. For the next three nights, I got the same plate. When I told this story, one person said, “That’s child torture!” I laughed, and my dad explained, “That’s how it was then.” It's good that times change, and parents might apologize one day.

Culturally, we do very similar things to those mothers. Think back just a few decades ago. “No, you aren’t” was a response to women who thought they were capable of voting, people who fell in love with members of the same sex, and a black man who said he would be president one day.

Lies hurt, whether they are intentional or not. The socially acceptable ones are insidiously harmful because they isolate and alienate the truth-teller. When truth-tellers unite, progress is created, but it’s not always how you would have wished things to happen.

When our identity is our armour and our performance is our value, we live by lies and spread them like viruses.

Going Boldly Forward

Just because we do something often doesn’t mean we’ve mastered it. We might make a different mistake or get one different part perfect every time, but we never achieve perfection.

Once, I was brought in as a consultant to reduce cycle time from 24 hours to a target of 8 hours so they could complete the process in one shift instead of three. The problem was that everyone was doing things differently, in different orders, and overlapping all over the place. A checklist was the solution.

The mundane lesson is hindsight, and the best lesson is foresight. Learning that you can’t plan for everything, that there are rules and bureaucracy you can’t and won’t anticipate, and yet will limit you are valuable lessons that the earlier you learn, the more resilient you can be.

The truth doesn’t just set you free; it opens the gates for your brethren who know one thing to be accurate but are trying to live a false truth, yet don’t have the resources you do to affect the changes only you can make.

They say that you plan, and God laughs. If that’s the case, be a comedian because life’s much more fun when we shrug off the stuff that shouldn’t matter, tackle the stuff that does, and do it with people who have our backs.

Forget about your freak; find your funny. If you have to stumble on happiness, this is how you do it: make your checklist, check it twice, laugh when it fails, and then update it. Check, moving right along.

Simple and Powerful

Atul Gawande, author of **THE CHECKLIST MANIFESTO**, has proven that checklists make massive differences in hospitals and people's lives. Still, in 2011, he reported that only 25 percent of American hospitals have adopted them.

Once, I booked a batch of meetings without using checklists. I made mistakes and had to make corrections later, and the rework could have been completely avoided. I had to think seriously about why I ignored this powerful tool.

Come on, it's booking meetings. How simple does it get? I have to key in the correct addresses (oh, these external addresses aren't in the contact list). Then I have to pick the right location (why aren't any rooms available when the people are?). Then, I must write the description and agenda (thank you, spell check). Attach the proper documents (the latest version, right?) …ok, maybe it's not so simple.

To do things right, we require a sense of purpose. Our attitude about the task shows up in the results. It didn't help that this task arrived and had to be done as I was ready to pack up for the day. Getting the job done was my focus, not getting the job done right. When things are fixable, we tend to be okay with fixing them later. What might look like efficiency and speed is rework and waste.

I can trace most mistakes to "Ok, now, where was I…" Staying on task is a luxury in cubicle nation. Consulting my checklist would have me at the start of my task, not risking missing it altogether and jumping to the next task.

Instead of perfecting my checklist, I went back to my life's purpose. Why am I working as an executive assistant? There are people who do this work every day, and I was way out of my zone of best value and deep in a patriarchy of waste.

Context-Rich Information

Once, a student asked me to elaborate on how experts can easily be wrong because they are experts. These are fast times. One of the proper ways is the quickening churn of knowledge: how quickly we learn new information, find new proof for things we suspected to be accurate and poise to ask questions we've never encountered.

"No problem," I said. Just seconds earlier, she had pointed out an error in my lesson. I had called out a particular company and lauded their praises as an example of the point of the lesson. She'd pointed out that that might have been the case ten years ago but not now.

Like I learned that fact ten years ago, I cemented that knowledge and moved right along. The world kept spinning. Experts don't stay tuned to the foundation of their learning because their attention is on the finite, specific problems that their expertise helps them hone in on. Meanwhile, that foundation changes anyway, and one day, an earthquake of knowledge tumbles that expert back to being a beginner.

Harvard biologist Mohammed AlQuraishi had this experience when AI won the competition by a landslide, beating him at his life's work. The once-popular book **GOOD TO GREAT** references Fannie Mae and Freddie Mac as examples of excellence. Still, the book was published before these two companies led the economic collapse with subprime mortgages.

Knowledge churns. No matter what you do, your core knowledge is at risk of churning within your lifetime. Are you going with it, or getting left behind?

A Flawed Process

Science has helped us combat diseases such as measles. With one vaccine, 97 percent of people are protected. However, generating knowledge isn't always one of forward motion. The generation of knowledge is a human process. As such, it is fundamentally flawed. We all know this, even if it's unconscious.

In 1998, The Lancet published a paper by Dr. Andrew Wakefield and his colleagues implying a link between vaccinations and autism. They reported that the parents of eight of 12 children associated developmental regression in their child to the vaccine.

Twelve years later, the study was retracted. It was discovered that Wakefield had carefully selected the children and that lawyers funded the research on behalf of the parents looking to sue the vaccine manufacturers. That is, there was no scientific basis for the implication. It was greed and personal ego, among many other factors.

Twenty years later, we are still dealing with the repercussions of a system that allowed false data to be published. It isn't easy to retract once it's in a peer-reviewed, respected journal, communicated via salacious headlines, and fear has taken hold.

In the meantime, the damage was done. When a celebrity uses their platform to spread the word, it goes viral. Jenny McCarthy is a celebrity, and jennymcarthybodycount.com is counting the number of preventable deaths and autism diagnoses linked to the vaccine. The former count is 9028 as of July 18, 2015, while the latter count stands at zero.

Searching for Plausibility

Parents of autistic children wanted an explanation. When we are provided one, even when it's hindered by bias, we latch on like we are drowning in ambiguity, and any reason is a life preserver.

Irrationality plagues what we see, what we think we saw and what we record. It infects how we tell it and the patterns we see in it. We fundamentally appreciate power's ability to corrupt and control information more than we know. Perhaps our ability to believe what we want is how we hold on to the freedom to think our thoughts.

Through the ages, history has been written by the side that wins. Power wants you to hold a certain opinion. For progress, we need more free thinkers. They might be researchers who can fund themselves, or they might be those in power who have bravery, integrity, and solid ground from which to defend their own version of the truth.

This much is true: if you want the risk of adventure without the risky consequences, thinking whatever you want is a safe thrill. Creative thinking and imaginative exploration are what move knowledge forward, and that might be its most fatal flaw.

Communities of Practice

Communities of practice are forums for learning lessons fast and efficiently, so it's easy to see their appeal to businesses for the time and money they can save. However, forcing them to happen can be the fastest way to kill their effectiveness. In the corporate world, communities of practice are formed to share knowledge amongst people doing the same work so that everyone doesn't have to learn things the hard way.

The most successful communities of practice I have ever been in were the ones I didn't realize were happening. After a long day of snowmobiling, my companion and I landed at a remote lodge. Five of us sat around the fireplace, exchanging stories of our travels. More entertained than informed, we probably don't realize the full extent of what we learned from each other until we need that knowledge as we headed off in opposite directions the next day.

In the corporate world, respect is spotty, the urge to help your comrades is minor, and few people listen. Respect is earned through performance, not anointed by job title or group membership. Without respect, you won't share the lessons you've learned because lessons start with mistakes.

Mistakes can make you look incompetent and cost you even more of your status in the group. In the corporate world, we might have all been doing "the same job" but that's never the case. There's always things we can learn from each other, but when the competition is internal – colleague against colleague, that knowledge is staying hidden.

3. The Analysis of the Gap

If you can predict it, you can prevent it. Quality control exists at the end of the process. It tests the final result for conformity to targets and standards. Non-conforming products are reworked or trashed. As you can imagine, this is expensive.

Quality assurance doesn't exist at the end of the process but throughout it. Instead of testing the final product to see if it conforms, you know it does because everything that needed to happen for it to be right did happen.

Gap analysis helps you prevent all the errors you've made in the past, all the potential ones you think you might make, and all the ones you haven't realized are currently happening. Investigation takes time and space, which is challenging to get.

While top leadership was told projects would take four months to complete, my phone started ringing on the first day. "What are you going to do?" they would ask me. In the structure of Six Sigma organizations, the role of the Champion includes creating this time and space by sheltering the Black Belt from these questions. It's very understandable, though – projects were identified because they were burning big problems, and burning issues absorbed leadership's attention.

The minor, easiest projects with the highest rewards are prioritized first in an effort to win over leadership. In this way, leadership is pacified by something happening, and if pain points are eliminated, these efforts free up resource time. Some companies free up this resource time to cut jobs, but when resources are used for more value-added activities, they generate revenue.

The more time you have to investigate, the farther you can get from quality control and the closer you can get to quality assurance.

Reduce Variation

Consistency is what makes McDonalds. No matter where you are, you can order a hamburger and know precisely what you will get. It may not be the most flavorful or healthy meal, but it's the same every time.

There's a level of comfort in predictability that many businesses bank on, and you can also use it to grow your business without striving for the next shiny thing to intrigue customers. You may notice that a lid is a lid, while at other locations, you accidentally grab the wrong one before throwing it away. The more you can achieve consistency, the more your opportunities are for the economies of scale, and the more likely you are to satisfy your customers and keep them coming back.

Economists call it diminished returns; psychologists call it habituation, and Kano analysis refers to it as delighters. Simply put, what makes humans happy today becomes a baseline of expectation for tomorrow.

A customer does not store the average experience as the expectation, but rather the best, within reasonable limits. Averages can be entirely misleading when it comes to customer experience. Think of a restaurant meal. Overcooked one time and raw, the following averages out to perfectly cooked, but the customer probably isn't returning.

Consistency is the key—predictability, not perfection. Understanding variation will keep you working efficiently and effectively. Eliminating the causes of variation creates consistency.

The Nature of Variation

There are four classifications for variation: critical, controllable, noise and standard operating procedure. Critical variables are the factors that significantly influence the output, and when they are off, so is the production quality. The number of available agents is a critical factor for the call center.

Controllable means you can set and hold targets, and as such, they aren't monitored. For instance, where agents sit relative to each other doesn't seem to matter so long as social distancing is enforced.

Noise is uncontrollable and usually goes in hand with Mother Nature, but it can carry a massive impact. They can be predictable, while random, like time, people, and weather.

The last source of variation is the Standard Operating Procedure (SOP), or how we define a method, train people on it, and hold them accountable for adherence. It's not limited to what is documented or taught but what happens.

You might think that consistency sounds boring. Isn't variety the spice of life? It depends on the timeline. When timelines extend past just a few minutes, consistency is the key to happiness. Variety is the spice of life when life is in the moment, but consistency is the key over longer timeframes.

In **STUMBLING ON HAPPINESS**, Dr. Daniel Gilbert describes the time dependency of variety and satisfaction. Researchers asked volunteers to visit the laboratory once a week for several weeks to receive a snack. Some volunteers got variety, while others chose their favourite snack and got it every time. Throughout the study, they found that the no-variety group was much more satisfied than the variety group. The variety made people less happy, not more when the experience was stretched out over time.

When time is crunched or limited, like when two people sit down to order dinner, their pleasure is far greater when they embrace diversity than when they stick to what they know and like. When each diner orders and shares different dishes, both optimize their happiness by surprising their taste buds with every three bites.

The Mental Model

A mental concept of the problem helps you eliminate all the noise and distractions about it and focus on its essence. What is the simplest way to describe what is happening at a very high level?

For instance, my first black belt problem was a relatively easy one to solve. I think of it as a closed problem: one input, one output. Something in between wasn't working. This is the case with most manufacturing problems. You can draw boxes and lines and contain the entire problem. Boxes can be subdivided, but a problem like this will describe most of your problems.

The box model is but one. The output is always a function of inputs, or as we say, y is a function of x. Your problem solver job is finding the inputs you can change to cause the desired output. You do it all the time, but you don't think of it in those deliberate terms.

When it is cold, you solve that problem in a room by turning up the thermostat. You change an input that controls the output of how much heat is released into the room. In practice, it takes time. Sometimes, we've just entered a room, and by the time the radiator has adjusted its output, the people in the room have also contributed, and we overshoot where we wanted to be. To solve that problem, we usually introduce an additional output by opening the door.

Sometimes, the mental concept is straightforward, linear, and closed, like the problem with the room and the thermostat.

To find your mental model, you start by figuring out what variables you have.

A Complex Interaction

In the call center, the problem wasn't obvious or easy to solve at all. It was an entirely different model. In this case, three things would constantly be changing, none of which we had control over, and we needed the three of them to line up. As I explained how I saw it, it was like having three spotlights in different corners all create the same spot on the stage, and you have to do it without touching the lights. Challenging, yes, but not impossible.

As simply as you can, but no more straightforward, when someone says that you want to understand the big picture, you want to have an overall mental model of the problem you want to solve.

When you arrive at your model, please test it with the experts. This is one of the times you want every expert to agree. It requires asking each expert individually and getting all the experts you need.

This is the only time consensus matters; it must be blind consensus. You can't pit them against each other, discount one against another, or even have them know what each other has said. Their expertise and diversity are your strengths, and if you form a team or somehow get them together, it is like taking an artist's pallet and swirling all the colours together. Keeping the colours bright, clear and pure is a blind consensus.

Regarding your spectrum of colours, you need an expert for every variable. There are only six variables, but the way expertise is divided, your team might be tiny or broad.

Subject to Variation

Variation can be broken down into six categories, all handily starting with an "M." These 6M's will help you spot where and why variation exists.

1. Man: People are unique, and that uniqueness is in everything they think, do and are.
2. Method: There is always more than one way to do something.
3. Machine: No two machines are perfectly identical.
4. Materials: Different materials have different properties and can vary within.
5. Measurements: The instruments used to create numbers are slightly different.
6. Mother Nature: Time changes and takes everything with it.

Whatever your sources of variation, you will seek to control all of them, but that is expensive. Be careful when applying control – the more you control, the more you pay. Where are controls that are no longer required in place?

In the call center, an auditing process was in place to validate emails going to customers. Despite scoring perfectly for many months, some agents were still getting audited. Despite scoring poorly for many months, some agents were still in the role.

Eliminating the auditing process for experts and relocating poorly performing agents to work they were more interested in mastering was a quick win. However, we were not prepared for the impact on the workers' attitudes and dispositions. Spirits soared, and productivity went with it. When you can increase freedom and accountability, you might counterintuitively find the control you seek.

The Source of All Variation

Man is a source of variation because everyone is the same in specific human ways, but we are all individuals in unique and sometimes extreme ways. Sometimes, it adds up to a perspective that is so far from the norm that it is shockingly innovative and other times, we all end up with the same conclusions, if vastly different, and ways of getting there.

How you do anything is up to you. We often fail to see all the options available and follow the status quo. Just because you can do it doesn't mean you should.

Ability is both the highest road and the lowest road. It is the path of least resistance and the route with the least traffic. Between the two are options. It's your job to find them.

They say that where there is a will, there is a way. That is true. Like Leonardo, you may have to wait for technology to catch up with you before it can be manifest, but it doesn't make it an option. Like Franklin, you may have to try hundreds before you find the right material for a light bulb filament. Whatever you do, don't follow R.U. Harby, the prospector who sold his mine only three feet before striking gold.

There's always more than one way to do something, and sometimes, that is your opportunity to tap into the genius of the amateur. Too quickly, we tell them what to do. Managers these days complain that millennials have no proactivity because they've been told what to do, scheduled all the time, milestones set for them, and treated like windup toys since their dawn of existence.

People and Their Ways

The variation introduced to separate man and method is to see man as trainable and methods as teachable. This is not always the case. Giving the new person space to figure things out for themselves can lead to massive breakthroughs.

When I learned how to use a snowmobile, my lesson was concise. Here's the break; this is the throttle; try to keep up. The rest was for me to figure out, and I had time, space, and motivation.

As an engineer, I evaluated the situation's physics. I drew free-body diagrams, understood angles, and arrowed forces like gravity. Along the way, I was glad for the summer I'd spent enthralled with rotary engines, particularly the RX7, which was similar to what was in my Skidoo.

What I came up with differed significantly from the people I rode with. When asked why I looked different while riding, I explained it was because of my short legs, which made me dislike the people asking. That sufficed. All I will say is that their model of snowmobiling is like yachting, whereas my model is like snowboarding with an engine.

When you are facing a problem that's been faced by giants before, sometimes exactly what you need is not to know that. This is the ignorance that is bliss, whether you get to live it or benefit from it. A person did that, and those decisions might not be relevant anymore.

We are born without a way to survive. Unlike other animals, we have no fur. Many of us require eyesight assistance, and in the time of yore, we wouldn't have been equipped to provide for ourselves. Yet, here we are. We are here because we've had the serenity to accept what we cannot change, the courage to change what we can, and the wisdom to know the difference. In a nutshell, this is problem-solving at its core – a path to serenity. Now that you know what changes, you have all the necessary wisdom. The question now is if you have the courage. It's up to you.

As Margaret Mead said, "Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has." What do you have the courage to change, or better yet, what change do you have to lead? Let go of any false serenity you might have. Stop trying to accept things that you know in your heart, head or gut to be unacceptable. The absolute serenity is now in your hands to make the change you want to see.

Innovators and New Ways

Whenever you peel the layers of the status quo back to why the status quo was a good strategy when those decisions were made, you will find that bringing all those decisions to the current day changes the overall strategy so fundamentally that you need a completely different method. Such was the case with **MONEYBALL**, as scouting succumbed to data. Such was the case with David Plouffe's **AUDACITY TO WIN** with the political process.

Mother Nature includes time; sometimes, when time changes, it takes everything. Never forget that people are always subject to the variation of time – they can think or be one thing one day and something different on another. Inconsistency is human nature until you discover the core truth or principle that governs everything. Everything makes sense only then; from that perspective, everything becomes sane, even brilliantly intelligent.

Thank you, Mother Nature, for making everything one of a kind, every day and minute unique, while allowing us the predictable comfort of climates, seasons and lifecycles.

In the call center, knowing that weather impacts deliveries, which affects the "Where's my delivery?" calls, you can and should watch the weather channel and call it work.

But it's more than that. It's knowing the Super Bowl happens every year. Every year, the number of allowable vacation days or absences dries up for the Monday after. The opportunities available through exchange dry up. Yet, fans are fans.

Every year, don't tear your hair out that again, that not enough people showed up for work. Instead, maybe a new interview question is, "Do you watch the Super Bowl?" Perhaps you could put the half-time show on in the employee lunch room and time the shift appropriately. Mother Nature is something to respect, but you do not have to accept it. Think around it, with a wide berth, and you might find a winning solution.

Confirmation of the Best Practice

Sometimes, we arrive at the same shortcut solution as everyone else ahead of us. As my dad told me the story, it was an age-old electrical engineering problem.

One of the first problems that stumped him was instrumentation. This particular gauge's sensitivity and workings meant that when the most helpful number to display was zero, it would read numbers around zero. As the amplification of signals works, sometimes the gauge would read a substantial negative number instead.

His solution was to redefine zero as 1. That way, it fluctuated around one instead of zero, and there were no more negative numbers; the rest was all math.

It turns out that this solution was what every one of his predecessors had done, but they had given him space and resources to see if he might come up with something new. This time, there is no innovation or insight but confirmation of the best current solution. That is to say, someone might have solved the zero-fluctuation problem differently since then.

Machines and their Measures

The next easiest source is a machine. Because of the measurements you've taken of the machine, there will always be a difference between what you believe to be accurate and what you believe to be true, but those measurements are a mere version of the real thing.

We treat them like the former, but they are like the latter. For instance, in a two-dimensional problem, you think you have a solid line; in reality, it is riddled with possible perforations.

With any two data points, almost any line can be drawn. However, the brain makes predictable predictions. We expect straight lines when it could be an upward trending curve. If that's all you've measured, anything might happen between those two points.

Sample Selection

A representative sample covers the possible combinations of variabilities. For instance, you will have beginners, novices, and experts in various roles. Management will seek to offer experts and subjects for observations, but if you only view experts, you won't understand how all defects are made because experts don't produce defects.

Ask managers to explain how their staff falls into these three categories. These proportions should be carried over to your observation sample. Location, language, or tenure might be other factors to consider if they are relevant. You will get insight into what factors matter if you return to the discussions around variations due to Man. Consider these factors when selecting your sample.

A statistically significant sample can be a frustrating matter to determine. In one of my training classes, after the class was drained with all the considerations and ways to calculate sample size, they told us to remember only two things. Get as many as you can afford; it will always be less than statistically significant, and you won't be able to do anything about that.

This is business, not science. So, I pass this advice on as it has served me adequately. Observations take time, and time is precious. If travel is involved, that's another cost to consider. At this stage, you are collecting stories, not data. You aren't timing how long things take; you aren't counting rates. You are connecting, questioning and listening.

The Origin of Truth

You need experts to tell you where the data comes from. You need to draw conclusions from that data and ask the people who live and breathe it daily if your conclusions sound remotely accurate. How accurate? What doesn't it describe?

Interestingly, it's what is not there; it is what is left out that will be the key that unlocks the whole thing for you. When you see it, suddenly, everything falls into place, and you know exactly what to do, like the dominos are right there, ready to go down for you.

Between that spectrum are your metrics. You don't know it until you can close your eyes and draw it. Document its journey and prove that the math is correct. If history is any indication, I bet that you will be surprised.

Use the data to learn what you can. Now you know that there are lies, darn lies and statistics. What you have in front of you in the black and white of analysis and data are lies, darn lies, and statistics.

In manufacturing, if you are making ball bearings, each ball bearing is exactly like the last, or at least, that is the goal. Everything about it is easily measurable and traceable. You can measure weight, diameter, and surface roughness. You can find out what machine made it, what operator ran that machine, and even what raw material was used.

If you are hammering out a problem related to ball bearings, it's straightforward to go from specifying the problem to getting the relevant data. In service, each thing that goes through a process is unique, and data isn't so relented or available. You might need to manually collect what you need or invest in data automation.

Substantial Variation

Material is what things are made of. In my first project, it was liquid nylon. Tangible, but don't. Measurable, but not. Permanent but fleeting. To understand material variation was to embody a nylon molecule and imagine its journey. As a chemical engineer, this was what imaginative exploration looked like for me.

In a call center, the character of the person answering is a source of variation. Personality and the entire recruitment and selection process were called into the analysis of the "best" hire. Significant insights into improvements were made, and attrition took a nose dive. Achieving a stable workforce where people were sticking around allowed further improvement, and the end of the story was a matter of three industry awards for their hard work challenging status quos.

When your staff is transient, you rely on tightly monitored calls, dictated scripts, and retributive punishments. When your workforce is stable, you can trust them more, allowing them to venture off-script, do what is right, and execute the freedoms you provide with appropriate discretion.

Step #	Process Step	Man	Material	Machine	Method	Measurement	Mother Nature
What order?	What happens?	One person compared to another person?	Differences with regards to ingredients used?	Differences with regards to apparatus or device?	What are the differences in how it is done?	What are the differences in how it is quantified?	Differences about time, season, and external variables?
1							
2							
n							

Table 3: Process Step Variation Analysis

Find Relationships

The temptation of your opinion is so powerful that we still substitute our own, even when all evidence points to the reality that it is the worst thing we can do. The best thing is to form your own, but we hold our own.

Progress is about creating independence and freedom to be ourselves, with terms and conditions defining our way of doing it. That's a valid option today if you are still on the leading edge of progress.

Analysis paralysis happens because we don't understand our problem well enough to know what might be affecting it and, therefore, lack all the data we need or because dirty data or incomplete data is masking what is happening. With the previous two steps, you should be able to slice, dice, and find what is causing the problems very quickly.

You want to know if the problem was caused because something out of the ordinary happened, and if so, what allowed it to happen, what magnified it, and what prevented it from being detected earlier. If nothing strange was happening but business as usual, then you want to look for the Pareto principle, otherwise known as the 80/20 rule. Find the twenty percent that causes eighty percent of the problem. If that's too big to tackle, do it again and keep going until you have an actionable cause.

Identifying the root cause is not about perfection. You aren't looking to solve everything. You are looking for progress - something you can impact that will make the problem smaller, less frequent or more easily detectable when it happens, so it will cause less damage if it does.

Create Good Hypotheses

The science of insight lies in counterintuitive perception. Instead of going with the default interpretation of what you see, counterintuitive perception is in extracting the new information you've previously ignored.

When I was on the journey of an employee and all the wonders of the cubicle nation, I had to learn a lot about a candidate's job. There were only a few hours you get as an interviewee to decide if you are ready to make the leap and commitment. How you interpret them matters.

For instance, one time, I was interviewing on a Friday afternoon. On my tour of my potential seating area, I noticed that everyone was still at their desks. "Wow, people like working here so much they don't even leave early on a Friday," I thought. I laugh now, and there are less humorous examples where the wrong interpretation made all the difference.

When it comes to perception, we are all handicapped because we only have one: our own. Yet, there are so many ways to interpret anything that it's worth considering if you have one out of a potential 360. What if it wasn't just from every possible direction but limitless in possibility?

You start by realizing you need to check yours against those of others. There's a difference between asking others what they think and checking what others think. In the former, we are looking for the correct answer; in the latter, we are looking to correct our answer.

At its most basic, the science of insight is knowing that your answer is limited, emotional, and built on biased logic. At its most mature, we surround ourselves with people willing and able to point that out and help improve it.

The Temptation of Good Intentions

You must know when to allow it and when to fold when your opinion holds you. Once, a hiring manager asked me, "Why do you want this job?"

Without intending any offence or harm, I replied with the truth. "I don't."

I shared this story with a room of CEOs, HR professionals and hiring managers. Their jaws dropped. Maybe it was at the audacity or whatever adjective you'd pick to describe my answer. It was all about how I ended up with an interview for a job I didn't want and wouldn't have applied.

When my manager asked me how the interview went, I asked her why she'd set it up. Since it was without my knowledge, approval, or warning, I figured it was because she wanted to eliminate me, and this was the first strategy.

I discovered she had no idea who I was, what I wanted, or the inclination to ask. Our opinions are so tempting we forget that they may not be shared by those we inflict them upon.

One client was shocked to discover that her son, whom she'd been grooming to take over the business, found his inability to go along with the plans the day it was about to become concrete. Years of planning based on an assumption, an understanding, or intimidation were finally shrugged off, shirked or avoided. No matter the perspective, it is not a position you'd want for yourself.

The people we love will attempt to accommodate our agendas and keep their sacrifices to themselves, but it's up to us to find out what costs are paid by those we love and those whose company we'd like to keep.

Ignoring Truth

Like a terrible two-year-old, emotions can play along quietly or scream for your attention. You can be the parent who ignores that child and goes along with their day, like the one who is at work and never has a clue. The nurturer allows it, hears it, and decodes the information, but it doesn't have the words to communicate.

There is an uncomfortable truth about your human brain and the irrational behaviour it produces. For some people, that discomfort tips toward a little too painful. When that happens, the discomfort becomes disbelief, which becomes denial.

Cognitive dissonance is one mechanism behind our inability to see the flaws in our nature. We are built to protect our good opinions of ourselves, and being irrational constitutes a threat.

Courage is knowing that science doesn't care whether you believe it. Within all feedback is a kernel of truth. It's up to you to find and decide what to do with it. Not all insight has to lead to change, but

sometimes, it can serve as proof that you are already on the right path. It's up to you to know the difference – that's what insight is.

We find what we want to see when we gather evidence, even if we swim through the truth. Confirmation bias is the name of that predictable irrationality. Insight means playing your own devil's advocate. Intentionally seeing your arguments from the other side is powerful. It is so powerful that you shouldn't be comfortable with your opinion until you can argue the other side better than they can – and then dismantle it – and not before.

Blocked by Assumptions

Shared irrationality is arguing our side as if the other side is too stupid, lazy or mean to get it. It's the defenders of the amber alert system to the people dial 911 to complain. They don't see the rationality in the argument for many reasons, but you can't start to fix it until you know the rationality they already do.

For me, since you might be on the verge of being curious about how these people might have a point, I can understand. The first time I heard it, I was driving. At the same time, I don't expect to hear from it while I am driving, as that is the whole intention of silence while in motion mode; it practically gave me a heart attack and became the center of a multi-vehicle collision.

There will always be technology issues that need to be fixed.

I would like to see a world where becoming a parent is more complex than becoming a driver. In that world, maybe I wouldn't want to choke whoever thought it was imperative to wake me at 3 am to tell me about a kid missing in a part of the world I'd never come close to entering.

When there is a complaint, there is a kernel of truth. Ignoring it is the slippery slope you are already headed down, thanks to biology, especially when you are half asleep.

When you remember that you are a program, and everyone is a program, it's much easier to find the root causes of why things happen the way they always seem to pan out. Someone else's perception might be the key to unlocking your reality and the insight of a new solution that is always there, staring you in the face.

Test Ideas

One thing that isn't obvious about snowmobiling is that when you do it, it's a meditative experience. There are long hauls with nothing but your thoughts and no way to escape them.

Most people take a lot of breaks instead or install communicators in their helmets to maintain a conversation. I was trying to figure out how to keep up for about 10,000 kilometres in my helmet. They say that if you want to become an expert at something, that's about the correct number. However, merely doing the same thing repeatedly won't improve anything.

Assumptions, opinions, and beliefs act like knowledge until you convert them into testable hypotheses. To challenge assumptions, you need to be able to write a testable hypothesis.

Forming and testing a hypothesis might be a skill you'd expect in a science lab but not in a business environment. However, the world is changing.

One leader lamented, "I know I am supposed to delegate this, but I can't let go." Just because many other leaders in similar businesses delegate that task, it doesn't mean it's right for him or his company. Forget "supposed to" and test if it's true for yourself.

Leaders are using data to inform decisions. To use data, you need to understand what makes a testable hypothesis. Getting big data to speak to you requires first forming a testable hypothesis.

Contradictory Rules of Thumb

We all have statements that we believe in, and we might hold dearly onto one for all situations, or we might start to differentiate based on the subject at hand. For instance, we might believe that out of sight, out of mind applies to sweets in the kitchen, homework in the backpack and running shoes in the closet. Still, that absence makes the heart grow fonder with family, friends, and others who have already surpassed a particular barrier.

The mistakes come when following a rule of thumb blindly. Without realizing who you are, understanding where it came from, and understanding the situation, rules of thumb can be the shortcut to avoid.

Consider the following common sayings:

Opposites attract	Birds of a feather flock together
Out of sight, out of mind	Absence makes the heart grow fonder.
You can't teach an old dog new tricks	You are never too old to learn

Table 4: Common Contradictions

Which are true? If opposites attract, they would flock together, rendering the matching statement false. If birds of a feather did flock together, they would demonstrate a lack of attraction to the opposite.

Common sense is not so common because it relies on rules of thumb. Everyone has their own rooted culture, beliefs and experience. Would you believe that more women are victims of spousal abuse on Super Bowl Sunday than on any other day of the year? It wouldn't be difficult. Fans are drinking beer, and being intoxicated leads to poor decisions. Football is a violent sport with a typified fan base. One team has to lose in a high-stakes match. However, according to Snopes.com, it's false.

You might be full of rules of thumb that require resolving. That's precisely what it is: re-solving. You are resolving the problem that the rule of thumb was serving. What is the problem?

Testable Statements

You must create reasonable hypotheses to resolve the rules of thumb and determine the required measurements. A reasonable hypothesis follows the formula of "If (such were true) then (would be able to observe this)." Remember, measures are your observations. A reasonable hypothesis is based on knowledge and information, is falsifiable, simple and concise, and uses measurable terms.

The hypothesis aims to build on the current knowledge base to move it forward and reflect that edge of knowledge.

Please keep it simple and falsifiable. One statement, one concept, and one opposite. It should be written as a definite statement, not as a question. For example, “Snails prefer wet soil to dry soil.” It will involve only one test variable at a time. In this case, the moisture condition of the soil.

If a word can be debated, it’s not phrased in measurable terms. “Ambition makes people work harder” might sound like a reasonable hypothesis. However, you must answer the following questions: What is ambition, and what is more challenging? For instance, if you decide that harder means work days that are 10 hours long, what of a work day that involves reading the paper for four hours? Stick to challenging, measurable concepts for provable hypotheses.

With a reasonable hypothesis in mind, a straightforward experiment can be performed to gather data to prove its validity. If your answer is ambiguous, you might need a hypothesis test to help you out. Hypothesis testing is a statistical tool which can provide insight into whether the data has proven that the hypothesis should be accepted or rejected.

In your business, this “experiment” may serve as a process measure for a day, a week or longer. Over time, your hypotheses will become more focused as you build your knowledge base.

Identify Trends

Rational sub-grouping is a tool that helps you identify trends. Think of turning a column of data into a vast spreadsheet and clicking on the “Sort by” selection. Column titles come from the possible sources of variation within each process step, and each is a subgroup. Variation keeps you rational.

Find where poor results are happening concerning the variation that is causing it. Keep in mind that correlation does not apply to causation. Did you find a possible hypothesis to test?

World Series fans might not know that the chances of the inferior team winning are pretty high, with 269 games required for a statistically valid result for a 5 percent edge. Or maybe that’s why their team didn’t win last year?

There are no statistics on cops who will arrest you for using the wrong tools the wrong way. You can study statistics for years and still be lost. You can forget them all together and still achieve excellence. Get creative with finding information, but stick to the rule of verifying conclusions.

Verify Conclusions

When you experiment, you draw a conclusion based on the results. Verification of that conclusion means testing it in a controlled fashion. Your conclusion becomes the starting point, and you ensure that the result you expect is genuinely the result you get.

When someone else can repeat your result working entirely independently, you have verified your conclusion. Now that you know better, you can do better. Use your verified findings to change the process.

Process mapping is key in every continuous improvement methodology, including ISO, Lean, and Six Sigma. While there are several different ways to do process mapping and several different ways to record the output of the process mapping exercise, there are also several other uses for it. Process mapping documents the steps to transform inputs into outputs, but their usefulness doesn't stop there.

Connect Teams

Different process steps matter differently to other folks. Applying a RACI model to the process steps can drastically improve the detectability of defects. Fill in the first two columns with your process steps, then sit with relevant parties to determine where they expect their names to fall on the following four columns.

Don't be surprised if this activity identifies accountability gaps and requires clarifying conversations. A second common effect is increased engagement, as people no longer guess whose permission is needed or what decisions they can make independently.

Step #	Process Step	Responsible	Accountable	Consulted	Informed
What order?	What happens?	Who does it?	Who ensures it's done right?	Who needs to provide information or capability?	Who needs to be notified?
1					
2					
n					

Table 5: Process Step Team Analysis

Identify Measures

Process measures are a shortcut for first-hand observation. A picture is worth a thousand words, and process measures break that picture down.

Knowing what to measure and where becomes easier with process maps. Identifying leading variables can be challenging, but they are suddenly apparent when you realize the lagging variable for one step is the leading variable for the next step.

The gorilla experiment points out the criticality of the right measurement systems. University students were asked to watch a video of students throwing a ball back and forth and count the number of passes. In the middle of the video, a man in a gorilla suit marches into the group's center, pounds his chest, and walks out. After, the students were asked if they had seen the gorilla. Amazingly, almost none of them had.

Depending on the information you are looking for, you might completely miss the ball. With your process in mind, have a specific intention for the information you need.

Leaders need to be able to read that number and call for action, managers need to read that number and know who to turn to, and change agents need to read that number and know exactly where to look for answers.

Step #	Process Step	Current Track/Trend	Cost	Quality	Delivery
What order?	What happens?	What is currently being measured?	What measure exists to determine how often it is performed?	What measure exists to determine how well the critical output is satisfied?	What measure exists to determine how long it takes? How long is the lead time?
1					
2					
n					

Table 6: Process Step Measurement Analysis

Opportunities for Improvement

You can record how things have failed in the past or could fail, but the point is to find the stuff with the most risk and do something to reduce it. The first four columns are words, but then we convert the words into numbers using a predetermined scale.

In the following three columns, we turn the description into a score from 1 to 10. The higher the number, the higher the severity, occurrence or invisibility. In the last column, we enter the product of the three scores in the preceding columns, that is, you multiply the S, O, and I. The higher the RPN, the higher the risk.

Step #	Potential Failures	Severity	Occurrence	Invisibility	S	O	I	RPN
What order?	How can the step produce defects?	How bad is the failure?	How often can it happen?	How invisible is the failure when it happens?	Relative Severity Score	Relative Occurrence Score	Relative Invisibility Score	Risk Priority Number
1								
2								
n								

Table 7: Process Step Failure Analysis

Knowing the actual process is key to improving it. A consistent process gives you reliable data, the ability to change it, and the knowledge to understand how to change it.

Prevent Failure

Between the measurements, the people and the equipment, you've usually found enough truth about the problem to see its exact opposite.

Often, a solution is the opposite: the yin to the yang. When it doesn't do that, be prepared; you are introducing a new variation. So, you might want to plan for that, but when you get it right, it's like the doctor who never went to medical school.

The patient tells him, doctor, it hurts when I do this.

The doctor says, well, stop doing that.

Perfect, right? Yes and no, obviously, but it is the right place to change your focus from problem-solving to solution identification.

Measured Goals

While we all differ in our levels of self-control, everybody lies. We lie for our best interests but also against our best interests. Many problem-solvers and investigators know to beware of the face we show to the world and whatever the truth might be. They know we use Photoshop filters, inflate our heights and subtract from our weights.

You may not know that we also lie for many other reasons. As Mark Twain said, there are lies, darn lies, and statistics. Well, if the measure was about the statistics that fool you, and darn lies were about the measurements we take that fool us, then the straight-up lies come from the only place they can come from – people.

We don't learn to lie until we are old enough to realize that it is possible to think our thoughts. They can be our own, and they can be private. From there, what we choose to do with that knowledge is also private.

In the first project, lies were simple to detect due to their straightforward, close-ended nature. When I say lies, I should explain my use and understanding of the term.

A lie is anything that isn't a fact. It is immune to intention, rationale or any judgment of origin. If a fact is white, lies are a drop of anything colourful, biased or ambiguous. Since biases are a product of normal brain function, I point the finger at every one and yet at no one for the existence of lies.

That's pretty much everybody. We all have a biased perception of reality because we all want to believe we are right, good and wise.

It's not just about deliberately changing the numbers. It's also about how the numbers are transformed, arranged, articulated and reported. Imagine that if every metric is the title of a book, you might have noticed that there are few books for which you can read the title and get the whole thing.

START WITH WHY, Simon Sinek; thank you for moving right along. **LEADERS EAT LAST**, same author, same clarity; thank you. On the other hand, **ANTI-FRAGILE** Nicholas Taleb Nassim. What would that be? It is a total page-turner, requiring an understanding of why every word of that tomb was chosen.

Key Performance Indicators

You might think that managing with measures is a common practice when the buzz is about getting on board with big data, but if you don't have Key Performance Indicators yet, you are in good company.

If you are in a service business, you have the challenge of measuring something constantly changing as one customer's needs are unique to that customer. You have the challenge of measuring something subjective when customer satisfaction can hinge on being "knowledgeable" or "responsive." Even "fast" means different things to different people.

All this, along with the challenge of finding time to finish it. Since you already know business is about progress, not perfection, let's cross the starting line with a solid foundation on which to build your measurement dashboard.

Three categories of measures should be reflected on every manager's dashboard. One should reflect progress toward a strategic growth initiative. A second should reflect stability, and a third should indicate your progress in resolving complaints and a third. You may have more than one measure under each category. The maturity of your business, the size of your team and the pace of your industry will determine the number you can handle. Still, every manager should have a view into growth, maintenance, and refinement goals.

Growth goals mean building something new, entering new territories and redefining comfort zones. You may think of growth as related to sales, but growth doesn't have to be strictly related to the immediate bottom line; it leads there in the long term. You might consider personal development, such as becoming a data guru. You might want to clarify the voice of your customers to launch loyalty, improvement and innovation. Think of these goals as an investment in the future.

The second category should reflect maintaining stability. What do you need in place to deliver the performance level you are currently offering? You may need a certain number of staff so you can track capacity. You need to maintain delivery speed so you can track inventory levels. You may need the availability of tools, resources or equipment to track uptime. In time, you will move from these lagging measures to leading measures, but usually, to get insight into them, you need to start by measuring your current state.

The last category should reflect continuous improvement. These initiatives come from customer complaints, employee headaches and refining strong areas of your business. Before you have actual measures on which to act, your initial goals may be to merely put systems in place to begin to collect this information.

Self-Reported Defects

I've met many people who think the best of all professionals. They like to believe that they would never lie, that we are all in it for the business's good and that we can take responsibility and accountability.

I like this notion, but experience has shown me otherwise, especially if anyone asks about weight, age or height. Sometimes, there is just too much invested in being that professional. Wages, reputations, negative attention. All kinds of things are at stake.

When I first joined a courier company, I was amazed that they relied on managers to count parcels left over after vehicles departed for delivery. A perfectly running operation would have zero left over.

I was stupid enough to laugh out loud. I mistakenly believed the other quality managers thought this was funny, too. “Can you believe it? Self-reported defect data? I don’t know about you, but I never tell the truth when someone asks me how much I weigh, and that doesn’t affect my job security or my bonus.”

Big mistake. Turns out, it wasn’t a shared joke. It was my boss who put the system in place, and she was standing right there when I made that comment, in fact, I made it to her face.

It was the easiest and cheapest way to get the - or I should say - a number, and everyone is on a budget.

Self-Controlled Defects

How can you error-proof your processes? You could rely on self-discipline, memory and extra effort, or you can rely on processes to prevent mistakes. Self-discipline is like a muscle. The more you use it, the more it grows, but the more you use it, the more likely it is to get worn out. Memory is unreliable; remembering to do something differently next time is almost like repeating failures. Bolster your improvement efforts with tried-and-true techniques.

Like the grocery list you take shopping to prevent forgetting items and making impulse purchases, a wide range of sophisticated tools and techniques are the secret to high-quality manufacturing, successful resolutions for change, and assured success.

When you want to prevent mistakes and be error-proof, you could rely on self-discipline, memory, and extra effort, but all three will eventually fail. Mistakes are costly. Either throw it out, fix it or live with the lack. You need these nine robust ways designers, engineers, and doctors use to prevent mistakes.

Self-discipline is like a muscle - the more you use it, the more it grows in the long run, but the more worn out it gets. Memory is unreliable; remembering to do something differently next time is almost like repeating failures. And extra effort? We all only have 24 hours a day, and everyone eventually hits a wall of endurance.

If you remember, twenty to thirty years ago, vehicles weren’t like they are today. They were comparatively poor quality. One of the reasons for the turn to the safe, reliable, longer-lasting cars we drive today was to make assembly error-proof.

Error-Proofing Tangibles

The aim to become error-proof didn’t stop with assembly. Design and business planning became repeatable processes that proved repeatability didn’t restrict creativity. Instead, a repeatable process becomes shoulders from which to leap the next time. In automotive, Advanced Product Quality Planning (APQP) is the name of the repeatable process designers, engineers, and program managers use.

The only limit to error-proofing solutions is your creativity. Tap into any or all of the senses – sight, sound, feel, smell, and even taste- to find new ideas for creating error-proofing devices that work for you.

When these methods fail (as nothing is perfect), try another technique before you accept a lower standard. Whenever you have to correct a mistake, take the extra time to consider prevention, and you will thank yourself later.

Visual aids are a standard tool. When it comes to our attention, the eyes have it. Warnings intend to break the preoccupation barrier with an urgent message. Bells are familiar, but did you realize that the asterisk on web forms warns you that if you don't provide the requested information, you will be returned to do so? Traffic lights are also visual warnings, using both colour and flashing.

Have you noticed how many things are urgent these days? Apple's white simplicity stood out against a saturated world. To oversaturate is to take the risk of being ignored. To rely on attention is to gamble. When the only way to prevent an error is to grab attention, be swift and sure with warnings, and try to leave them as a last resort.

Visual Aids and Templates

You see them in public when you look at the readily recognizable signs that don't require language to communicate: exit doors, stop signs, and bathrooms. At work, a sticky note holds tidbits of helpful information that would otherwise take too long.

When used well, they can help us remember, communicate and train. When overused, signs and other visual reminders drain our focus. Paraphrasing the words from the less famous Tesla, signs block out the scenery and break our minds.

We take visual cues from our environment all the time, so it takes some time to engineer what behaviour that visual environment should trigger.

Every adult has encountered the government's favourite way to prove an error - to use a form. While you may detest forms and templates, they ensure all required information is collected in the correct format.

Like your shopping list, pilots and surgeons rely on checklists to ensure they prepare appropriately, stick to the plan, and get out unscathed.

Forms are one form of a template, but they can also be checklists, molds, stencils, and guides. They are head-starts, tools you must complete, and pre-cursors to the final product.

Templates can easily cut through information overload, emotional overwhelm and motivation depletion. They can serve like shovelled sidewalks after a blizzard.

Kits and Lines

If you have ever assembled furniture, you have experienced the result of kitting.

Your purse is your kit of everything you need when you head out the door. Many people assemble their dinner from kits. The old ways involve boxes at the grocery; the new ones arrive in bottles at your door.

A kit is a group of separate but related items in the quantities required. Checklists can be used to ensure all the needed elements are present in the correct numbers, and kitting ensures they are packaged, supplied and available together.

Kits make grab-and-go possible. Being able to grab it and go is how you know your kit is complete.

Speed and accuracy don't usually go together. Project managers learn the only way they do this is with cost. The price tag is the time it takes to be proactive.

When you have to hit a specific mark, you usually slow down. Improving accuracy takes time. To speed up, make the target more prominent, the edge wider, or the finish line closer.

A tennis ball hung from your garage roof can tell you when you have pulled your car far enough. Green painters' tape can help amateurs maintain expertly straight lines. Pit crews divide and conquer with synchronicity.

You usually slow down and take your time when you must be accurate. Instead, you can use devices to protect accuracy while maintaining speed.

Trees and Locks

Have you noticed how complex decisions result from many if/then decisions? Complex decisions are the result of many contributing pieces of information. They can often be laid out in questions and possible answers.

Like a reverse Root Cause Analysis, these questions and answers link to subsets of questions and answers. We can call these decision trees. Doctors use decision trees to help aid diagnoses, programmers use them to plan coding, and you can use them to avoid errors. Decision trees can help to make quicker decisions, automate processes, and delegate without risk.

Design can be the first defence against errors. Product design is a dominant component of error-proofing. Maybe you have noticed that doors usually open outward. The outward is the default because you are more likely to want to flee a building than run into it, and pulling doors open takes more time than pushing. Slow on entry, quick on exit.

Matrices help show you where the missing information is lurking. Error-proof analyses use matrices to ensure all the required relevant information is available. It's called a matrix because every separate and distinct set of criteria forms another dimension. For instance, quality, speed, and cost would be three dimensions. For risk, we use severity, occurrence, and detection. Matrices help transform information into accurate conclusions. Now, you have a grid in which you can consider each square individually and see the whole picture.

Right-Sized Scope

There is so much to do, but you can't do it all, so where do you draw the lines? Like Goldilocks, you don't want it too large or too small. Scope needs to be just right to optimize the time and money spent on a project while accomplishing something worthwhile in a reasonable timeframe.

We've all been told we can't boil the ocean, and it's true. However, the problem with scopes that are too large is relative. They are relative to the resources available, the timeline permitted, the acceptability of inevitable changes, and most importantly, the leader's capability. With oceans, you don't know what is in there, and this ambiguity is scary when you don't have a methodology on which to rely. Being held to concrete, unyielding and over-specified results is a failure.

Too Large

On one Black Friday sale, I saw a new faucet I couldn't resist. Although it was the last one and open box, I thought I was okay because it looked complete. The cashier recorded the open box status of the item, and I went home to install it. It wasn't until I got part way through that I realized the instructions and part list were under the internal packaging. Back at the store, I told the department manager about my situation and explained that I knew what I needed.

"Have you installed it yet?" he asked. How many times did my grandmother tell me to read a recipe through before starting? Or was my chemistry teacher telling us to plan the entire experiment, including analysis, before starting? My dad, who taught me any woodworking project, begins with a detailed drawing and parts list. With this lesson, I appear to be a rubber.

"Yes," I admitted.

"Well, you can't do anything. You can't return it once you've installed it. Here's the manufacturer's number to call," he told me and promptly turned to the next person.

I went across the street and bought the two O-rings I needed from another store—there was no need to bother the manufacturer.

The first critical step is to start large. Don't let the ocean scare you. While mere humans take it from me, you can divide it to conquer it. I've been in situations where this approach wasn't embraced. It was thought it would take too long, lead to things already known, or just had no idea how to approach it. It has led to working on disabling problems. A disabling problem is one in which the mode or solution is already somewhat defined, such as flying like a bird by flapping your arms.

Too Small

Scopes that are too small can look like success on the surface but hide problems in the future.

The problem with too-small scopes is that they don't make a discernable difference. It can be proven that time is saved, but as an impact on a business's bottom line, it can be not very important. It's hard to get excited by these projects, get the resources committed, and get the sponsorship you need.

So, what steps were missing that rendered the faucet problem scope too large and the productivity improvement too small?

The second critical step is to investigate—question, question, question. Get a grasp of the high-level buckets of work and how they are connected. More importantly, get close to the people doing the work and get them to tell you their secrets on a broad basis. Later, if they are lucky, we will get into detail. List

what's challenging to do, what was hard to learn, what can put a wrench into things, and everything subpar. Just as importantly, what are all the things that should stay exactly the way they are currently?

Next is a prioritization exercise. Identify criteria by which to compare. Criteria to consider are ease of implementation, availability of resources, expected budget, impact on the customer, alignment with corporate strategy, future risk exposure, and expected benefit. Keep a list of no less than three and no more than six. Get your team together to select criteria and determine ranks. Code the results into numbers, with high numbers preferable and low undesired. Now, multiply across the criteria. The best idea is the one with the highest score.

Tailoring the Fit

The fourth step is to consolidate. Whatever is related to the top priority idea should be grouped into scope. Grouping earlier can lead to many minor problems that don't have a genuine business impact. Failing to group creates projects with too small scopes. So much time is spent narrowing down the work; why turn a 180 and immediately amplify it again? But that's precisely what we need to do.

We think doing small things might be faster, but repeatedly touching the exact solution is much slower in the long run. Analyzing what else might be included will set up the project for failure as it bogs down in perfection-seeking instead of improvement. But when we don't, all those little splinters never reach the top of the list. I believe that some don't understand how to quantify the impact. For others, the benefit doesn't stack up. But the splinters matter. It's the difference between good and great.

To adjust the scope of a project that is too small, we take the prioritized opportunity, consider the process, and identify the problem. The problem dictates the scope.

The fifth step is to de-scope. With a tighter scope, evaluate the items that came under the scope due to the consolidation effort. Some things should be de-scoped even while related because the incremental work required results in a minimal improvement to customer experience, employee pain points, or management frustration.

The last step is to repeat. You can continue this process until the ocean is divided and conquered. When in doubt, go large, investigate and de-scope things as they become different from the overall goal but still significant.

4. The Search for Truth

Once you know what problem you are solving, the second step of problem-solving is to gather information about the issue. As a leader, you will never have all the information you want to decide, but you do need to ensure what you do have is solid fact.

Data is often far less reliable than you assume. We need to understand the data source, put opinions where they belong, and ask great questions.

There's lies, darn lies, and statistics. People, including reporters, love to make up numbers to add weight to their stories. Some are doing it right; others are relying on too small samples, questionable methodologies, or sources that don't exist.

Bluntly and obviously, that is to say, if it is right there in black and white, it doesn't make it accurate.

The correct data gave me a voice in a male-dominated environment that almost didn't know what to do with a woman. The propensity to judge someone and classify what they will say and why they will say it happens before that person even opens their mouth.

With stereotyping and prejudice, knowing about it doesn't change much. Overcoming systematic inequality takes work, whether you are the presenter or the listener, and everyone loses when we don't.

The Urge to Control

People have individual baselines for the level of control they desire. To some extent, we are all control freaks. Little kids look happiest when they experience the shock and awe of what they can accomplish by spitting peas across the room. There's a certain satisfaction in knowing that we can affect the world differently because we are in it. Once we get old enough to realize that tomorrow is coming, we seek to control outcomes to improve the future.

Having a desire for control at a level higher than is possible to realize is found to be depressing in laboratory settings. A lack of predictability towards adverse events also had depressive effects. This observation formed the basis of the contemporary understanding of depression. Being deprived of control causes individuals to become helpless, passive and withdrawn.

We also avoid losing control. Being human, we are all control freaks. Control has such a strong pull that losing control is deadly—literally, the unexpected result of an experiment described in Daniel Gilbert's **STUMBLING ON HAPPINESS**.

Unfortunately, bureaucracy and red tape do not have faces and, as such, cannot inspire wells of revenge, envy, and fear like people can and do. I do not recommend choosing a career that relies on dispassionate disinterest, complete utilization of a weakness, or an environment where you do not belong. You will be bored, drained, and cast out in that order.

Suspicious Data

Regarding available data, some companies are well-endowed, some have a lot of numbers, and some have next to nothing. If you have automatically collected and available data, you are lucky. There are many differences between data and numbers, but the most relevant one for now is the ability to create links to analyze relationships between variables. If you must collect data and build a measurement system, add an expert to the team.

Resist the temptation to use what you have. For instance, I've seen one project seek to correct a defect, only to realize how they measured the defect was related to whether it was reported. The improvement made it easier to report, and at the end of the project, the metrics looked like they had made things worse. In this culture, bonuses and reputations were built on proving improvement.

Companies worry about this for many reasons, but some aren't about quantifying it – they'll take it and spend time learning instead of proving it. You understand your situation and problem, and only you can

determine the importance of measuring your improvement in your unique culture. When it comes to analysis, though, always understand your ingredients.

While we gather information about the problem, we aim to find the root causes. When you understand what's going on under the surface, you will see new doors open you never would have otherwise noticed, and you will know where you are wasting your time on symptoms.

Root causes are the events that happened first, or at least as close to first as possible. Identifying and tackling root causes makes big problems easier, actions can build toward permanent solutions, and convention can be left behind. You can only do that when you use facts about the impact, extent, duration, and symptoms and follow those facts down a trail of facts toward the root of the problem.

Lies, Darn Lies and Statistics

Watch out when things are fleeting, unique, and invisible, and there is a disagreement. You are about to witness something critical to the organization's function, a key piece of information in the culture puzzle. How will the decision be made, what will be the fallout, and how will those who lose deal with it?

Those who lose are not always the ones who should have lost. Business books are full of case studies, and MBAs are made based on knowing better strategies in those situations. However, the future looks less like the past, so in the future, it might be less about what worked in the past and more about how to make new decisions when you don't have history, experience or experts. Authentic leadership is making decisions in this bare vulnerability that wins the followership of others.

In business, one fact weighs more heavily than in other areas of our lives – compliance is almost assured. We have bills to pay, experience to gather, and experts to meet. Doing so has to happen somewhere, and signing up to be an employee is the path of least resistance. Getting employees to follow isn't supposed to be difficult, but in addition to being a low bar, it's also a disappearing one.

Employees have choices, including that of the gig economy and entrepreneurship. That's a great thing because, if you've noticed, there isn't enough room at the top for everyone, so people must be going somewhere to continue their career pursuits. No matter where you go or what you do, understanding how to navigate choices – with data – helps you and the economy.

The people who leave are often those who lost but were not losers. They didn't understand the culture or how to navigate the social hierarchy because HR doesn't give you that one; they give you the one based on levels and roles. Cultures are like people – they are unique and as different on the inside as they look on the outside. When that's the case, the data management shows you everything about whether or not they are letting data lead, and when they are not, who is leading.

As I participated in the first wave of trainees in more than one organization, it was abundantly clear that we were all given the power to baffle. Instead of these respected leaders asking the right questions, we could lead them into territory where the only questions they could think of were the ones we were ready to answer. They might have thought we were asking permission, but I've learned that what happens in the meeting gets documented on paper and goes down as the events are so edited and spun that the truth remains hidden in plain sight in the data.

You can catch people on technicalities and nuances all meeting long, and that's the point. Those conversations are expected. We don't want you to notice all the reasons around the meeting, like who was never consulted, who is not in the room, and what the story would sound like if they were included.

Management by data implies nothing to do with people, but it's everything to do with people. People ask for it, are described by it, targeted by it, and subjected to it. When people are at the root, expect to find at least one manifestation of the will and the way of anyone who could get near it.

The Propensity of Cheat

Have you ever stood on the scale, jiggling this way and that to get a lower number to display? Data can be jiggled with, adjusted, or manipulated when it is being collected, analyzed, and communicated. Whenever we have an opinion on the outcome and a way to serve that opinion, the farther from the truth you should expect that number to be.

It doesn't take much creativity to game a metric, and the more creativity in a person's job, the more flexible their moral boundaries[1].

"You cheat when the rules are flexible or not very clear and when you have a conflict of interest or reason to have a biased perception of reality," says Dan Ariely of Duke University and author of **THE (HONEST) TRUTH ABOUT DISHONESTY**.

In business, we often use data to improve, but relying on data can undermine your efforts, as it did for Target Canada.

Business analysts responsible for the store's supply chain were struggling with an inventory system that was new to everyone. The data would be used to pack shipping containers, fill distribution centers and supply stores, but the data was missing or inaccurate.

Managers would pull reports from this system and then contact the appropriate business analyst to determine what was wrong. To avoid that kind of heat, these business analysts could game the system to make it look like their products were in stock.

Please don't rely on data without knowing where it comes from and what it represents.

Gaming metrics aren't only the domain of those with bad intentions or ill desires. It can happen quite innocently. Information will transform as it is transferred from one person to another, intentionally or unintentionally. It's called the telephone game.

According to Joe Castaldo in **CANADIAN BUSINESS MAGAZINE** Target, Canada also experienced many experiences with unreliable data. Experiencing massive inventory problems, managers would pull reports off the system to question business analysts why certain products weren't in stock. These business analysts were able to game the system, producing the inventory reports to make it look like their products were in stock and evade the questioning.

Removing the opinion and the mechanisms will make the numbers more trustworthy. Perform periodic checks and validate that the numbers represent the truth yourself. Be sure to make these checks a surprise.

Studies show we become the average of the five people closest to us. They agree that avoiding conflict is human nature, but we need conflict to grow.

When opinions, perspectives and values are similar, detecting the traps of fact can be impossible. Despite knowing all the traps of fact, they remain invisible to the group while outstandingly apparent to someone else. You need to create truth teams to combat these liabilities consciously.

Basic Innumeracy

Our innumeracy may stem from numbers being evolutionarily new and introduced as a way to understand the universe rather than to live in it. Today, however, illiteracy in math, called innumeracy, is vast.

Author John Allen Paulos thinks BP might have been banking on the public's innumeracy when it shared early estimates of the 2010 oil spill. BP communicated 1,000 to 5,000 barrels a day. Paulos shows, through simple geometry and published dimensions, that an accurate forecast should have been closer to 60,000.

We chose words over numbers. In a before-and-after preference test, participants chose "75 percent lean" ground beef over "25 percent fat." After they tasted it, the preference was more minor, but it was still there. Yes, it's the same thing.

Food is one thing, but what about life and death? Imagining they were patients with lung cancer, subjects had to choose between radiation or surgery. If they decided the surgery, researchers told one group they had a 68 percent chance of living, while they said the other group had a 32 percent chance of dying. It has the same odds but is expressed differently.

The two groups also chose differently. Forty-four percent said yes to being alive, and only 18 percent chose yes when the choice included the word 'dying.'

Stories are the oldest form of information transfer. Knowledge was passed down through stories. They were based on truth but remembered and shared because they conveyed emotion, colour and depth, allowing people to connect with the message more meaningfully.

As you know, the stories change in the way they are told. We change our stories depending on who we are talking to and when we are telling them; sometimes, it has nothing to do with the reality of the experience.

We tell them because they work to change our behaviour more than data ever could.

Faulty Useful Memories

Memory might be the trick to going forward when your body knows it's nothing but peril. Free solo climber Alex Honnold might be today's master of this skill. They made a movie about it; it is so freakishly awesome.

Free soloing is climbing without ropes. El Capitan is Yosemite's 900-metre vertical rock face. **FREE SOLO** is the name of the movie made by Jimmy Chin and Elizabeth Chai Vasarhelyi. Watch it, and notice what

is happening. Honnold doesn't just wake up one day and decide to test his luck. He stays away from "sketchy" climbing. Instead, he practices, remembers and narrates the perfect vertical dance ever executed.

The crew is no less miraculous. Knowing they'd want zero accountability if anything went wrong, they did everything they could to remove themselves from Honnold's experience. He doesn't see them; they don't accidentally kick a stone that would kill him, and they don't even ask him when he's going to do it.

They wait two years. Honnold has to increase his flexibility to pull it off and spends a year doing that work. How does he feel when he summits the peak? You'll have to watch the movie to believe it.

The things we remember are helpful. They help us make predictions. It seems this is the point of memory: to make connections that allow us to learn, forecast, and interpret the world around us. When something stirs an emotion, it is helpful to remember the circumstances for future predictions.

Recalling and Rewriting Mutable Memories

If you've ever been in a bad accident, you may have felt time stretching out while you notice extraordinary details. What's going on is that heightened emotions are laying down richly thick memories. Ample information is being recorded for you to avoid future recurrences.

The information we store helps us to make connections. Learning something new requires connecting it to something you already know. Connections help us decipher friends from strangers, causes from effects and knowledge from information.

You might think your memory reflects a historical truth everyone would share. Instead, our memories are individual and unreliable.

Of all the cases overturned through DNA testing, it might shock you that 73 percent were convicted initially with eyewitness testimony. Eye witness testimony is treated with great weight by jurors as accurate. Still, many factors can sway what we think we see, especially in emotional situations and when recalling them.

Researchers have found that "Emotion engraves the brain with vivid recollections but cleverly distorts your brain's record of what took place."

Recall changes the facts, too.

Each time we retrieve a memory, it changes a bit, allowing it to be added to, modified or even erased. "Memory is more dynamic, more fluid and more malleable than we thought," says neuroscientist Daniela Schiller of Mount Sinai School of Medicine.

Forgetting is just as important to memory as committing it there in the first place. Without this ability to forget, the weight of all your memories creates crippling confusion. While forgetting seems to happen only when it's inconvenient, you are supporting a sound state of mind, a shaper intellect, and even a superior memory.[2]

Reduce Reliance on Memory

When you have to look back at historical events to start finding common threads in seemingly disparate events, you will be happy to have a record of the experience untainted with recall and creative retelling.

Every day, you might want to record a quick end-of-the-day overview for posterity and future planning. You might get as intricately involved in measurement, experimentation and documentation for specific change efforts as people in the quantified self-movement. Even small details are helpful to trigger memories later, and the more you've recorded, the better problem-solver you will be.

Individual failures can leave us ruminating on past events. We want to learn what went wrong, but emotions and identity intermingle and make us feel worse than the failure alone.

The key to drawing meaning out of past events is self-distancing3. When reflecting, call yourself by your first name, and the lesson will reveal itself. Using your name instead of "I" creates enough space for you to end the rumination and finally start to forget all about it.

Hard work identifies risks ahead of time; brilliant work is figuring out how to minimize the chances, reduce the impact and contain the fallout if necessary. Take risks, but only in a calculated way.

In your calculations, downplay the upside and maximize the downside. Our impressions of the future lean towards a Pollyanna version. If things go better than expected, great! If not, you want to be on a Titanic with enough lifeboats.

Prove Your Facts

Correlation without causation is on the radar of every analyst. Just because you can mathematically determine one variable from another doesn't mean the relationship is in the physical world.

Make sure it's a genuine cause with a simple controlled experiment. That is, test your theories and get the facts.

More than ever, it's a self-serve world of information, and its quality is variable.

The correct data cuts through conversation, skewed stories, and personal observation. If you have a message, what solid, good data can you add to your story to hook the audience members who gravitate toward numbers?

Noticing what we are thinking is called meta-cognition. Explaining our point of view to others allows them to see how we feel. You may be so lucky to have friends who find your faulty thinking funny, and their laughter will give you appropriate pause.

Using data through the lens of meta-cognition transforms the default version of how you think and decide through increasingly better ways to make decisions, where each level builds on the last, such that you cannot jump to the end.

From my perspective, when the organization jumps to a Six Sigma deployment from an introductory management level, it's like pouring fuel on agendas. Letting the data lead is incredibly difficult, a process

of letting go of opinion to yield to data. It's trusting automation and cold analysis, even after you figure out how to game the analysis.

Information is used to equal power. Now that information is free and plentiful; power is not in the knowledge of the information; it's in the ability to ask questions and get the facts. The best question you can ask yourself is, how do I know?

Letting Data Drive

With the problem clarified, the next step is to Measure. This step is about ensuring the data is good data. You should understand the source, applicable calculations and transformations, and the stability of your data over time. You will make a change and want to measure what's happening now. After you've made your change, you can use that same metric to show improvement.

Using data to manage today is ubiquitous. There isn't a supervisor who isn't asked to produce a report, make or take a decision, or a recommendation based on an interpretation of the numbers. When we only use what we can easily measure and ignore what is difficult to measure, we go wrong.

Today, data is everywhere, in dashboards, scorecards, and targets, from your personal performance review to your strategic plans. While it may be everywhere, it may not genuinely be driving. The search for truth implies putting data in the driver's seat and attempting to yield to it instead of allowing it or getting it to do anything other than take the wheel.

Knowing better leads to doing much better when using data to inform your decisions. It has everything to do with what you can learn about data before you touch it. Safety first was what they taught me. Data is a double-edged sword. Like anything that can cut, you must wield it well. Handling anything powerful without the proper preparation, training, and protection might land you in a world of hurt.

This is about the slippery slopes, the common mistakes, and the potential failures people make after they are educated and know how to use data, especially when they are educated and know how to use data.

Appreciate Randomness

Our 12-month plans will keep everyone organized. We start six months ahead of time. By halfway through the year, we're pursuing solutions to issues that were a problem a year ago but are now on fire.

Control charts pepper our conference rooms. Their main objective is to remind leaders that what looks like a drop or an increase might not require action. People love to make adjustments, but they have ripple effects that require stability to understand, and they aren't left alone long enough to learn. When you know the extent of randomness, you treat your successes with gratitude and your failures with compassion.

Far more things are the product of randomness than we realize, but we also might not appreciate just what randomness is.

Ask people to plot 50 dots randomly, and the organization will emerge. In the 1930s, researchers noted that people could not make up a sequence of numbers that passed for random, nor could they recognize whether a given string was random.

If you've ever thought you were on a winning streak, randomness has fooled you. The hot hand fallacy forgets that each hand is, in fact, independent. Past performance does not dictate future performance where cards or coins are involved.

Too often, chance events are interpreted as successes or failures. Not for David Picker, though. The former studio executive said, "If I had said yes to all the projects I turned down and no to all the other ones I took, it would have worked out about the same."

The portions of skill, luck, and randomness aren't always discernable. It looks like a streak and feels like skill, yet it's just the odds.

Find Causations

Good data helps you discover unimaginable insights, as I learned when an electrician and I hunted down the source of a signal that seemed perfectly correlated to yield. However, everyone was sure it was simply noise. Instead, we found that the rush of people in and out of the building during shift change was causing a pressure wave that crashed the production. Once in a while, you might have to shell out for a plastic barrier to block a draft no one could detect or guess to measure.

Just as we fail to question dogma and see it for the changeable thing it is, we see explanations for events that aren't there. The clustering illusion is the tendency to see patterns where none exist.

In the billowing clouds of smoke that poured out of the trade center on September 11, many people swear they can see the face of the devil. The very idea of a conspiracy theory is to find a cause where there isn't one.

You might find correlations, but ensure that they are causations.

The Biggest Opportunity

According to scientists, decisions are 80 to 99 percent emotionally unconscious. Using data is expecting that 1 to 20 percent to lead the rest, which only works as it does in politics – when the alternative is so fractured, misunderstood, and vague that the coordinated few take the lead. You know it from all the decisions you made with your head that felt entirely wrong, regrettable, and maybe even flee-worthy.

Mind mastery matters in business, not just because our decisions are critical; we have to work with others, and not just because these two things will make or break any business. It matters because of the health and wellness of society.

We expect obedience to orders and want people to behave like well-programmed robots, only to yell at them when the situation calls for creativity, humanity, and connection. They wonder why it's so impossible to make you happy. One day, they might stop trying.

The lack of mind mastery at work produces stress, a precursor to many diseases. After the practical ways are introduced to improve people's health by introducing them to their authentic selves, their leadership abilities and ability to get stuff done, profits soar, and everyone gets their weekends back.

And as a society, we can nip cancer, disease, social unrest, conflict, and purposeless distraction in the bud. Practically, that's streamlining, problem-solving and innovation on the scale of society through the individual – through you.

Talking About Data

To understand data is to understand any language – you have to be able to conceptualize what they are talking about. As they use words, you use pictures in your head and nod as you flip the pages of the graphic novel along with the narrative as they speak.

In engineering, we nodded right along with the professor. We said, "See ta sigh," when we should have been saying theta phi, but there were so many languages we didn't understand that we focused on the sound and the math. Of the many lessons I learned in engineering, communication across language barriers might have been one of them because there was one universal one: math.

Own the game, and you can find people to do what you want. Be a loose cannon, and you will be on your own. Be self-reliant, and you can do what you want. Understand data, and you can beat anyone in their game.

Types of Data

There are two types of people in life: those who aim to win by being better than anyone else who has ever tried and those who will try what no one else has tried. Data gives power and insight to the latter.

Instead of polishing what other people have done, they approach it in an entirely different direction. There's no tweaking for them; there is only disruption, paradigm shifts, and elephants in the room that no one else will be brave enough to point out.

I wasn't the first to say, "It's not me; it's the data." If everyone is hunting for the data they found, the real question is to wonder about the context and conclusion, for there is always an alternate.

If you want to shield yourself with data, it better be bulletproof. That kind of data is called continuous data.

Categorical or Continuous

Categorical, or attribute data, is, like it sounds, buckets of data. If you want to imagine hiding behind a wall of buckets, there are worse things to hide behind. However, I have yet to see categories that fit tightly and neatly enough together for it to feel bulletproof.

I think of categorical data as crocheted blankets if you have seen the Friends episode where Jennifer Anniston's character tries to cover her naked torso with such a blanket. In contrast, Matthew Perry's character slowly attempts to explain that he can still see specific attributes.

I wouldn't hide behind attributes if I were vulnerable to an opinion. However, opinions and demographics are difficult to avoid when collecting data.

Continuous data can be divided further. Like a wool blanket, you can cut it and cut it; still, there is more lint to be found everywhere. It's the temperature on the thermostat, and there will always be another decimal place, should you need it. The speed on the highway is collected and calculated when presented to you, although you see and interpret it as a singular measurement.

With your management reports, should you forget that background work, you might one day have someone telling you that they don't know how to tell you this, but for years, some rule of fractions has been violated.

One day, I learned that they can also name anything they want. Of course, they can, like there are metrics police. No, and just because it says it measures one thing doesn't mean it's measuring something else entirely and subtracting from an assumed total or opposite. Sometimes, they start at 100 and count down, and sometimes from zero and count up, and you have no idea there was a choice.

As long as it may take you, take every number you rely on to make your decisions and rewind how it is calculated, collected and reported, and you might find it was the most productive use of your time to date.

Say Noir for Categories

In the French language, the word noir means black. The complete absence of everything, noir also is an acronym for the four ways we measure things that we cannot continuously measure: nominal, ordinal, interval and ratio.

Nominal is the kind of data you have when rank doesn't matter, like with colours. Ordinal is when rank does matter, like first, second and third. Interval is where the values are assigned a number, for instance, the Fahrenheit temperature scale, where 20 degrees is not twice as warm as 10 degrees. Finally, the ratio is a proportion based on absolute zero, which is the Kelvin scale for temperature, or as you will see on many management reports, the insidious percent.

Those percentages are often averages. Averages hide the sample size, which tricks managers into comparing problems the size of Toronto with issues the size of Goderich. Invisible sample size is but one of the problems with averages.

The second problem with averages is the spread of the sample. Your feet should be pretty comfortable, considering an average of warm water. However, if I put one foot in hot water and the other in cold, I could take the average and call you comfortable. You'd either rant to my customer service hotline or take your business elsewhere.

With your trusty PDCA cycle in hand, you are trying to learn one of four things: how should I plan this, do this, check this, and correct my plans for next time? While it's important to know whether you need continuous or discrete data, before you can decide how to measure things, you need to have an end game. Knowing the why clarifies the how, and it's the same with data.

Variation and Spread

Variation is knowing that your world is like a planet. When you get far enough away, everything reveals how it's all connected. Daily life might be like the waves on the ocean, but your goals reflect the movement of the tectonic plates.

There are many different ways to describe variation to quantify the spread of your data. These various ways exist because somewhere between the calculated average and the two extremes that define the spectrum are all the other data points in between.

We call it the standard curve when they fall in a regular pattern. You've surfed this one before and called it a bell curve. When Six Sigma picked its name, it wanted to be related to the idea of perfection. Mathematically, it simply means that 99.9999 percent of the data will fall within six standard deviations of the average. That sounds like all, and all that remains are 3.4 defects out of a million.

Not all data falls into a regular pattern. When it doesn't, there are mathematical things you can do, and proceed with the formulas as if you did have standard data. Always remember where you are drawing the line between science and business before following rules about statistics. Sometimes, the entire point of knowing the rule is to break it.

When a fielder catches a ball, they aren't calculating direction, drag, and wind speed. They aren't calculating at all. Attempts to do the calculating and improve on the skills of a person stand to be a costly affair.

Automation, the result of replacing a human with a robot, happens when a human can only do it so well, for so long, and you need better than that. For instance, a robot can weld a perfect bead all day, but such is not a possibility for a human. Instead, we use humans to teach and program the machine and get the machine to replicate and reproduce.

Asking Brilliant Questions

It's not the data analysis that makes the difference; it's the questions. Asking the right questions makes all the difference. In a world where Google has all the answers, the question makes more of a difference than ever.

When my CEO asked what I was doing differently, it was the question of a responsible investor. The price tag to undergo the certification process was in the six figures, and candidates were expected to save at least a million dollars a year. You, too, would want to monitor individual results every month and ask questions about them.

In essence, directed inquisitiveness is living and breathing data into your management decisions. Still, over the remaining twenty years of my career, this question would never arise again as I climbed career ladders and learned better tactics and strategies.

I was the same person, arguably better, yet failed ever to catch attention again. In my final years I was taking dictation and creating electronic meeting invitations, like a high schooler could, although paid more than ever in my career. I made the least when I was performing 100 to 1000 times better than my

peers. It wasn't me that was different, and as a manager, it's everything about how data is used, from knowing what questions to ask and how to ask them.

The short answer is yes, anyone can do it.

Over twenty years of helping managers extract and understand the data they need, I've learned certain truths about our collective human ability to do so based on neuroscience, psychology, and behavioural economics. You can do it, but it requires conscious intervention to ask some questions.

Learning to See

Going after the opportunity where you stand to make the most significant difference with the least effort is called a quick win and where you should focus on making the most of your time.

It's productivity on the rails to approach decision-making as a whole-brain concept, not through the lens of only the logical conscious. Learning to see is precisely what Lean Manufacturing wants you to do as well, through their lenses of waste. When you can flex your perspective from what you are conditioned to see to different possibilities in front of you, the world is your oyster.

Questions help you do that – when you stop seeing things in the black-and-white terms they insidiously introduce and remember that ambiguity and shades of grey make up a more incredible expanse than anything you can measure. This is a reality in our quantum world, and being able to navigate it with clarity and confidence comes from being comfortable in the unknowing.

It's not just that the world has gone global, digital, and multigenerational. The big difference is that it became a world of service instead of a world of manufacturing.

For a manager, that difference is a world of difference. No longer are you dealing with things concrete, repeatable, and controllable. Now you are dealing with minds, and that's an entirely different game for which your left-brain approaches are set up to fail on their own.

It's not just that things aren't machines anymore. Things are subconscious and unconscious, and you've only worked on training your conscious. Unfortunately, the conscious only controls a small portion of the game, and it's the last portion of the game. That's your saving grace when you know how to referee, but if you think your job is in the game's thick, you stand to lose before leaving the bench.

Multiple Fluencies

There's no escape in business from the need to understand, use and be fluent in data. This fluency, called numeracy, isn't a product of memorization anymore, so being able to read involves memorizing words and language.

There have been many times when the mechanics of data and the how-to of numbers have been discussed. Once you have that essential background, your ability to communicate with data depends on more than mechanics. This isn't about what to do but what to watch out for, avoid at all costs, and mitigate with deliberate intention.

As language depends on tone and body language more than content for transmitting a message, the same is valid for data. Remembering that it's all about reality and numbers are the best bridge we have to quantify, describe, and talk about, which is what management by data is all about.

Data gets everyone when we use it to lean on only to discover it wasn't as robust as we needed – and someone else realized it first. The technical details are one thing to master – and in my experience and scientific understanding, it makes the smallest of differences. Understanding psychology and biology makes the most significant difference.

To understand how to manage data is to understand math in a business context. If anyone attempts to tell you about the confidence intervals and limits, you can remind them that you aren't building surgical barriers; you are making customer decisions.

The variation people introduce makes your confidence interval discussion scientifically interesting but likely irrelevant. Please put it in context of what you can't measure and what you intend to do, and then decide because there are rules in math for the protection of science, whereas your business is capable of risk. Far more risk.

Math Problems

Everyone knows that fractions are tricky to add. You must ensure that the denominator is the same before adding the top. For instance, one hour of one week and one hour of one day are not two of anything. However, if you trace these things in some spreadsheets, such as Excel documents, I have found them repeatedly. It isn't very comfortable, no matter who you are or how it happened, but these things are easy with technology and data sharing.

Averages can get everyone in trouble, as they are another form of fractions. All of them have the denominator of one hundred, enabling their comparison, but hold up there before you get tricked into a game of apples and oranges.

If your goal is to improve customer satisfaction, do you send your crew to fix the process performing at 67 percent or the one performing at 93 percent? If you are like most CEOs, you'd be bellowing to the first team. As we defined the problem, I discovered that a newly introduced process had some hiccups, although very few customers had given it a whirl. The former affected a handful of customers, while thousands suffered in the latter. Sample size matters.

When executives receive daily reports and are interested in something different, no one has enough time to proceed on anything worthy. When priorities are rearranged before we get to the part where we learn enough to do anything about it, it's all just fun and games. When things stop, they can't just restart. They must start over.

In my experience, this is where most productivity is lost in white-collar work – never getting to the end, and starting over with something new, over and over again with no new insights to make future investigations more effective or efficient.

Experimental Failures

Naysayers can set you free, but who likes having them around? Gloria Steinem sums it up with “The truth will set you free, but first, it will piss you off.”

As a society, we generally find anger distasteful and scatter at the first sign of negativity. In an organization where your financial security, your reputational investment, and potentially, your entire peer group are total and complete, the culture, not your personality, dictates who stays mum and who speaks up.

For anyone with something to speak up about, first, you have the content, but there is a long road between having something to say and being able to say it without damage. As a liberator of these words and truths in organizations, I’ve taken bullets as the messenger, as that was part of the job. Not everyone has signed up for that duty as a part of their job description.

If you are pushing and pushing and pushing and not getting the results you want, you might need the truth to set you free, and the only way you will get annoyed is when you realize that you have spent so long actively avoiding it.

When reflecting on your experiment, please don’t call it a failure when it’s not one. All successful experiments reveal truth, if not the one you were backing. A failed experiment is one without the ability to draw a clear conclusion.

Successfully Experimenting

Many people believe an experiment that doesn’t turn out how you wanted is a failure. The reasons why experiments fail have nothing to do with the outcome and everything to do with how you achieve the result.

We invest a lot of time and energy into experiments. When done right, they can change our worlds like nothing else. Since they are so powerful, you need to know why experiments fail.

Experimentation can prove that maintaining the status quo is the best course of action. When you get this result, you should revel in the success. You've avoided making a change that won't work.

But when it happens personally, we might feel like we should have known the outcome before investigating it. We ruminate over the experiment design and execution. We certainly don’t want to tell anyone our potential insight was not proven. The failure to publish happens often; there is a name for it – publishing bias.

However, great minds think alike. How many great minds does it take to be led into believing something, test it, and find the illusion before one of them stops the insanity?

If you don’t realize your experiment has failed, you might do the wrong thing or convince others to do it.

In 2015, a report found that fewer than half of nearly 100 published psychology findings were replicated in follow-up studies. This lack of replication is a genuine failure of experimentation. Psychologists are pushing to change how their field works to reduce these failures.

A failed experiment is when you cannot draw a valid conclusion or unknowingly draw the wrong one. There are common reasons why experiments fail.

Inappropriate Tests

An inappropriate test does not directly relate to or cover the hypothesis.

Doctor Stubbins Ffirth wanted to prove Yellow Fever was not contagious. Glossing over the details, he used fluids from patients in various ways and then spread the word about his ability to resist the disease. However, the absence of evidence is not evidence of absence. We also know that Yellow Fever is contagious in the early stages, but Ffirth's samples came from late-stage patients. Make that a double whammy of a failed experiment due to an inappropriate test.

A second reason is uncontrolled boundaries. You are exposed to uncontrolled boundaries, which mess up your experiment when you don't understand the system thoroughly enough to isolate it.

As Alexander Fleming found, that isn't always the case. He is famous for the discovery of penicillin. A culture of a flu virus became contaminated. He noticed the area around the contamination was clear of infection, which led to the discovery.

Third is unquantified noise. When you can't control a variable and know it will have an impact, that variable is called noise.

Mother nature is a usual suspect of noise variables, including temperature, humidity, and atmospheric pressure. You can correct for noise variables in an experiment when you know about them and plan for them. Forget to record these vital pieces of information during the experiment, and your collected data will be useless, and you will have to repeat the experiment.

An ineffective measurement system is a fourth way experiments fail. For a measurement system to be effective, it must be capable of several functions. It must be capable of discerning the change accurately and precisely, and like your experiment, do it repeatedly.

Experiments that rely on surveys are notoriously questionable. As Daniel Gilbert explains in **STUMBLING ON HAPPINESS**, we think much more highly of our future selves, and therefore, when asked about what we will do in the future, it's more positive than accurate.

In one experiment, researchers wanted to prove movie theatres could sell healthy snacks if they offered them. They asked moviegoers "if they would" purchase, prefer or choose a nutritious snack. However, ask them what they want right now, and that's a different story.

The data might look solid when numbers appear in black and white, but don't be fooled by less-than-truthful information.

Funny Discoveries

Malfunctioning equipment is the fifth and final reason. Equipment can malfunction without your knowledge.

It can lead you down the wrong garden path, but how about when experimenters think their equipment is malfunctioning when it isn't?

As Isaac Asimov said, "The most exciting phrase to hear in science, the one that heralds discoveries, is not 'Eureka' but 'that's funny.'"

In 1978, Arno Penzias and Robert Woodrow Wilson experimented with the Holmdel Horn Antenna. As they eliminated all interference, they could not detect the source of a low, steady noise that seemed to come from everywhere and anywhere. Finally, they accepted the equipment was functioning correctly, and this was the first recognition of cosmic microwave background radiation.

A successful experiment is one in which a researcher formulates and tests a hypothesis in a repeatable manner, enabling other researchers to execute the same experiment and achieve the same result.

Knowing what doesn't work helps different people avoid wasting time and energy investigating. Do you have any experiments which you had previously thought of as failures and now realize were successes?

The Art of Collection

Nowadays, every receipt seems to come with a link to a survey, yet how many do we bother to complete? The ones where we had a bad experience and have an axe to grind.

I've done it. One axe took me almost four months of persistence and the need to pull out that I know a thing or two about quality standards in the exterior automotive original equipment manufacturing industry.

While working in the automotive industry, one of my projects was to develop the next new thing for external vehicle accessories you would order when you place your order with the dealer.

Despite all the focus groups, surveys, research, and questions, we were stumped. Then, one day, I had an idea. Unfortunately, the day was a dozen years later, the company had already gone bankrupt, and times had changed such that if work started that day, it would be out of date by the time you brought it to market.

It's not just new things that keep us silent. We are hardwired to protect relationships. When we lived in caves, getting tossed out of the clan was a sure death. Again, with survival being number one on our priority list, we say what they want to hear or phrase things as kindly as possible—so kindly that the message is lost completely.

The Trap of Averages

Back at the call center, the nature of the way we let the data lie was multi-fold, but one that happens almost everywhere is the law of averages. An average is the center of gravity of the data. That is important to remember. It is not the most common occurrence, the center-most representation, or other misconceptions that give averages their feel of being comfortably in the middle. They are in the middle, but it is not always a comfortable place to be.

I want you to imagine one foot in boiling water. Now, take the other foot and put it in ice water. Are you sufficiently uncomfortable? If not, let me turn up the heat under the hot water and dump more ice into the cold water. Let me know when you want to freak out. As a manager, the number looks the same and doesn't change. The blind spot doesn't stay that way.

Customers always freak out, and we fail to look for where the water is boiling and where it is icy. As a cost-effective designer or a leader who doesn't see the value in data, I've scrimped on my budget to pay for monitoring and measuring. Instead, I've invested in control devices. They are much cheaper, and any good CEO can be convinced there is more payback in controlling things than managing them.

It's an easy argument because we all lean toward the ideas of control over those of management.

As an engineer, I monitor and measure, but because I've got what I've got, the only reading I can get is the average. It doesn't matter how hot or cold it gets; I'm watching the average, and it's never changed.

Averages don't lie, but they create an illusion of confidence that may not be there. Please take what you believe to be true because the data says it is accurate and validate it. Pick apart the averages and look for the spread and the outliers the same way you investigated the sample sizes.

Obscuring Facts

If you rely on averages to make your daily decisions, as many do, you risk being blindsided.

I realized this with absolute clarity snowmobiling. While the outside of my gloved hand experienced the cold at -20˚C plus wind chill, my handlebar warmers were on a high setting, and my palms were on fire. If you were in this situation, you'd be far from comfortable, but anyone taking the average temperature of my hand would think I was abundantly satisfied. Two uncomfortable situations don't offset each other like my hands, but the average makes you believe otherwise.

At work, averages are one of the most common ways to try to think about the bigger picture. We think of sales per week, errors per month and injuries per year. Averages get you like enemies do – where you don't know you're exposed.

A call center with a daily 80 percent success rate is a vastly different experience than one with an hourly 80 percent success rate. In the former, the busy periods with long wait times are blended in with the peaceful afternoons with a full staff load.

For a growing company, monitoring the number of customers is of prime importance. Each week, the number would climb for everyone's happiness. Then, growth slowed before plateauing.

The way the measure is usually collected, the number reported combined the new ones being added with the old customers who were leaving. When growth was slowing, it was the start of the turnover, but the numbers didn't reflect it.

Instead of reporting on the average customer base, eliminating the averaging effect between the two groups gives you time to respond.

Concealing Impact

Where you use or report averages, use one of the many statistical options to indicate the tails, like standard deviation or min/max. All you need is a trigger to know when to look deeper.

When you want to work smarter, the average size isn't the only way to determine where to focus.

In the business environment, scorecards and dashboards report key performance indicators (KPIs) that help determine immediate priorities. When assessing a list of averages, your attention is drawn to the lowest performers.

If that list represents the performance by product, you could inadvertently direct all your resources to something you sell to a few customers.

With averages, you can't see how many observations were included. To say another way, you don't know the denominator. Or, you should ask, "How many is the average?"

You may not realize you need that context until you decide without it. (Wait, were only three people in that study??)

As an engineer, I learned how much size matters regarding averages. As a Six Sigma Black Belt, I knew that in business, I had to forget the equations for the sample size you used in university; the constraining factor would always be the budget. Get as much as you can afford.

If someone throws averages at you to bolster their argument, ask them for their sample size. They will likely make that up, as people do with the statistic itself, but your answer will probably be humorously small or large.

Streamlining means taking action to investigate your averages sooner, not later.

Concealing Progress

Averages are sluggish and slow to show that change is taking place. Like a tub of cold water, you could add boiling water but not notice that the temperature is much different. When that boiling water is an angry customer, profit leakage, or a red-hot opportunity, you want to know now.

Problems typically occur when the range of an average is fixed, say, over a month. At the beginning of the month, there is one piece of data: on the 15th, probably 15, and by the time the 30th rolls around, there is little difference one day will make to the rest of the month.

Moving averages or rolling averages make monitoring with averages more effective. These averages fix the number of pieces of data used to calculate them. You can drop the oldest observation when you add the newest. These metrics might better suit your needs.

Averages hide the spread of the data, the size of the data set and the rate of change. Using other metrics, such as sample size and deviation, can ensure you use averages to work smarter. As for my hands, the smart guys at BRP must have already known. They make handlebar muffs designed for said conditions that do the trick. When you can't rely on averages, there are always other options.

Manually Reporting

Over the years, I've encountered many mission statements involving putting customers first. So why is customer experience shoddy across the board?

Walking the talk is more complicated than it looks. Target markets and ideal clients are difficult to define, for sure. However, there are some very ways you aren't putting customers first.

In one organization, posters in the boardroom said something about managerial courage. As I facilitated a group voting session, I noticed that the participants were waiting to vote by rank. The poster had tricked me into believing a blind vote wasn't necessary, but playing before my eyes was a leadership echo chamber. Bluntly, I didn't need the 15 people in the room; I only needed the most senior when that's the case. To recover from what was becoming an epic failure, I pulled him aside to ask. That's when he told me the poster wasn't a celebration of reality nor an aspirational goal.

I've learned to believe what people do, not what they say. Words are aspirations of the logical mind. It doesn't make the decisions or run the show. It can intervene when you are smart enough to interject. Still, that voice in your head is usually doing other things, commenting and judging other people, reminding you of what's coming next or ruminating about what just happened.

If there's one thing you're probably not doing, it's staying present in the moment with a silent mind. When you do that, the things you see are unbelievable.

Observing is a potent tool. Believe what your eyes tell you if you can. It's the best way to validate whatever the survey will tell you.

The Feedback Survey

Draw the most helpful conclusions and make winning insights with your survey analysis by understanding the predictable nature of survey responses. After putting in the time and effort to conduct a survey, the last thing you want to do is draw the wrong conclusions. Don't let this fear stop you.

At a recent conference, I shared a table with other professionals who spent their careers in quality. When asked, we'd all agree on the importance of listening to customers and using good data. Four of the six at my table had specific and relevant comments for how it could have been better. So, how did they answer the feedback survey? Only two of those four did, and each gave perfect marks to the organizers with no comments.

Streamlining starts with finding out what your customers want and doing that. You don't just want responses; you want truthful and complete responses. When done well, surveys help you get the truth, feedback and insights you need to deliver delight. Here's how to avoid getting fooled by your survey results.

Today, consumers are bombarded with requests to fill out surveys. They are in their inboxes, at the bottom of their receipts, and on their favourite sites.

Most of these you ignore, but when there is a remarkable experience, you are keen to remark. Maybe there is a promise of a reward, so you invest a minimal amount of time to be entered into a draw.

Like you, survey respondents make the decision emotionally. Like any social exchange, a respondent is aware they will be giving something up, and they want to know it will be worth their while. You want to maximize the worth and minimize the time to get quality responses.

Minimizing Effort

Once respondents are motivated to take the survey, they are also motivated to minimize the time spent. You may not realize they are also encouraged to minimize how much they reveal.

There are times when we mislead with good (enough) reason.

Minimizing the time spent completing a survey leads to less-than-truthful answers. Even while trying to be random, this usually results in predictable patterns or contradictory answers. Ask people to plot 50 dots randomly on a page, and an even distribution emerges.

These untruths are made fully consciously by the respondent and are often easily detectable in the analysis.

There's a whole spectrum between being polite and rude; what's acceptable depends on your culture. It might be polite to answer the survey as requested, but not so polite when the data set gets contaminated. No matter your culture, it's human nature to scheme and fib.

Clifford Nass was a Stanford professor who researched how we interact with technology. He found that we treat technology like people, as he appropriately titled his last book, **THE MAN WHO LIED TO HIS LAPTOP**. We lie to technology just like we lie to people—to keep relationships, protect an image, or advance an agenda.

If you've ever had to give difficult feedback, you already know how hard it can be to choose what to say and how impossible it can be to get your point heard. You aren't trying to hide the truth; you are trying to make it palpable. Surveys are no different. Respondents consider the relationship, the future, and their image as they choose what to say and how to say it.

Maximizing Clarity

We've all had experiences when we haven't been able to communicate crisply and clearly and interpreted the wrong message when others have been trying to communicate with us. Feedback is tricky; denial is a powerful thing.

The lies we don't know we are making will trip you up. Sometimes, we just aren't aware of our truths. In 2010, Michael Lynton reported that a survey commissioned by Sony Pictures found that two-thirds of patrons are more likely to buy healthy snacks if available.

It's one thing to say it; it's a different thing to do it. When McDonald's introduced salads, the opposite happened. Sales of the least healthy items on the menu increased. Moral licensing is the term we use to

describe this effect. When we consider ordering the salad, we've stepped toward being healthier. Yay for us! Even though nothing external has happened, we use good behaviour as a license to indulge.

Denial of the facts has to go hand in hand with moral licensing. Consciously, we know the trade-offs we are gaming don't make sense. Darn it, if that short walk doesn't burn the sundae we treat ourselves with afterward. Waistbands don't lie.

When you have courage, you can find the truth. Buddha said, "Three things cannot be long hidden: the sun, the moon, and the truth."

It's just a matter of time before the truth is undeniable. The faster you find it, the quicker you can do something about it. You can avoid getting fooled when you understand why respondents might give you less than the truth. Keep your surveys to the easy truth, and you will avoid contaminating your data. Need the hard truths? There are other ways to get that.

Performance Management

In 2002, Brian Jenson of Colorcon eliminated performance appraisal systems, opting for more timely feedback and weekly bonuses to recognize immediate contributions. Accenture followed suit in 2015.

If you were uncommonly courageous enough to abandon the performance appraisal system, you could make most of your workforce happier.

One of the myths propagated, especially among Millennials, is that we crave feedback. Yes, as we can see for ourselves the effect we have, we can immediately adapt and adjust. Someone else's perspective, not so much.

We fail to ask other people questions to get to know them, favouring instead of sharing our opinions. The reward center in the brain lights up when we do. You will build stronger relationships when you demonstrate curiosity toward another person. The brain is linking you with feeling good.

According to CEB research, eliminating performance appraisals could save $3,000 per year per employee, accounting for the technology and time.

These savings estimates do not include the demotivation, demoralization, and possible repercussions of an unfair appraisal, which are invisible but could inflict a higher price tag.

Allow for Individualization

When service businesses heard about Lean and Six Sigma saving hundreds of millions of dollars, they wanted in on the action. They created their own "Ways" of doing things based on these two approaches. Both have the idea of standardization, such as setting up machines uniformly, locating things in the same spots so they can always be found, and following documented workflows.

Unfortunately, service businesses destroyed workers' autonomy when they attempted to achieve standardization with knowledge workers. People who invest in themselves to earn post-secondary education do it in part to have the freedom to apply their knowledge as they see fit. According to Daniel Pink in **DRIVE**, autonomy is one of three parts of motivation.

Marcus Buckingham, the founder of the Strengths Revolution, says we should "strive to identify and cultivate the qualities that set workers apart" instead of assuming that "people in the same job should do it in the same way."

When autonomy evaporates, the drive to perform dries up. Next, you will have people like me come in to show you where you can be more effective and efficient, how you can measure more specifically to discover the lowest performers, and how you can squeeze them even tighter.

Consultants must make a living, but let me save you the time and expense: don't do it. Instead, let them be themselves.

Stop Trying to Measure People

Buckingham says, "If we can't get a Russian and Canadian judge to judge a triple-toe loop consistently, what chance do we have of someone brushing by you in the hall and measuring you on business acumen?"

The first problem is the Idiosyncratic Rater Effect. This is the tendency to have our interpretation of the toughness of ratings and our definitions of potential. Additionally, we have difficulty keeping the standards consistent from underlying to underlying. According to Buckingham, two-thirds of the rating has more to do with the manager than the subject receiving it.

The second problem is the Rater Insufficiency Effect. This is the inability to remember performance over time and instead form a general impression, which is then justified on the scales used to dissect skills and competencies.

See Others without Your Reflection

Of course, your managers don't just brush their employees in the hall; they spend quality time together throughout the year.

In my case, I'd travelled extensively with my manager, had routine reviews and face-to-face check-ins, and I thought we'd established an understanding of each other. Then, I heard that she went before the talent review board and told them that although my resume indicated that I needed a new challenge every two years, I was of the age now that I was going to slow down and stay. Where she got that information from, I don't know. At the time, I was already actively looking.

Besides wishful thinking, there are a multitude of other traps we fall into when we try to assess other people. We judge ourselves on our intentions and others on their actions. We project our unwanted feelings and aspirations onto others. We use our scale of difficulty or ease when evaluating someone else and forget that what comes easily to us might come with a struggle for others.

I call that last one the frustration of genius – you don't even realize you are a genius; instead, you think others are incompetent, dumb, lazy or slow. Turn those tables around and replace that frown with humble pride.

5. The Art of Staying in Motion

Pick the game you want to win. The competition is fierce, and you must do whatever it takes. Know what you can take and what you absolutely cannot abide. After all, “I was just doing my job” is never an adequate defence. Yet, on the opposite side, it can be the humblest of all statements.

I hired myself to ensure genuinely healthy workplaces. There’s a lot of work to be done, and fixing them will have real benefits. Would you like to join the team?

Change gets a bad rap. It’s poorly planned and executed change that isn’t desirable.

Solve Strategically

You are following your processes, making notes of ideas for changes, and are ready to take action to improve your results. However, because you have adopted process thinking, you know that one change may spark another that you don’t intend or want.

Modifications to processes are required to introduce change efficiently and effectively. You probably have a long list of ideas for potential changes and are looking for the best idea to follow. If success is only 1 percent inspiration and 99 percent perspiration, you need to find which idea is the 1 percent that matters.

Once you understand it, you can change it. No one said you have to follow the same process day in and day out; it’s just about being aware of it.

We tend to take the same route everywhere we go, following a process to get where we are going. What if you took a detour and found it faster or more enjoyable? Processes allow for a benchmark, a way to answer the question, “Was that better or not?”

As human beings, we like novelty. Change for the sake of change instead of for the better. Processes allow you to tap into change for the better when you decide routine isn’t as dull as it might look.

Insecure Behavior

Conflict brings truth to the surface. It’s those moments when you hear the scientist say, “That’s odd.” Results conflicted with expectations. A little conflict polishes, and a lot of conflict creates game-changers.

According to US News & World Report, 89 percent say rudeness is a serious problem, while 99 percent say they aren’t rude. This doesn’t add up, and the problem isn’t the sampling method.

When Dostoevsky wrote, “I played him a dirty trick, and ever since I have hated him,” he accurately conveyed dissonance theory in a simple, if surprising, way. Cognitive dissonance is a powerful force underlying one root of motivation.

When two conflicting beliefs are held, the mind seeks to reconcile the two, producing a justification. In this instance, the two conflicting thoughts of “I did something dirty” and “I am a good person” conflict, explaining that the other deserved it. Conflict results, and it’s not positive.

This spiral of violence can be found everywhere you find good people, from schoolyards to boardrooms. More than one-third of American workers report having a bully boss. Psychology Today reported that ambition and power are not the sole drivers of this behaviour but rather insecurity. Bosses bully by needlessly undermining underlings.

Maybe you have experienced this conundrum. You try to understand the behaviour of someone who has wronged you, and instead of apologizing or repairing the damage, they only increase the hurtful behaviour. At the root is a conflict of self-esteem - perceived versus reality. It's a downward spiral, with reality and self-belief getting farther away from each other.

The opposite is true for those with low self-esteem. They respond with explanations that they deserved it or that screwing up again is just like them. They are not surprised by poor results.

Positive Conflict

How can it be that we are all better than everyone else? Self-esteem aside, we evaluate ourselves based on our intentions and others' actions. If you have seen a health club in February, tried to draw a self-portrait, or worked on a project team, you know the two are vastly different. Your trusted naysayers can help you bridge the gap. They can help you clarify your intentions, so remember to share them and share their view of your actions.

Positive conflict is the goal. Conflict also brings values to the surface. Trusted naysayers share your values but don't share your perspective. Values are neither right nor wrong. They are individual and personal – and deep. Negative conflict arises with a difference in values and will not be resolved. You might already know your values; you might be on a journey. View conflict like the paddles of a pinball machine sending you in a different – better – direction.

We need open and honest feedback to grow. Abraham Lincoln was among the few presidents who intentionally surrounded himself with people willing to disagree with him. This very act is contrary to human nature. Instead, we create echo chambers, choosing others who agree with us, confirm what we already believe, and share similar backgrounds and perspectives. Once in a while, we need a few trusted naysayers to yank us back to reality.

Wherever your self-esteem checks in, you can benefit from the perspectives of your trusted naysayers to more accurately link outcomes to actions and get the truth you need to grow into better results.

Your trusted naysayers can make feedback more palpable. Use them to soften the blow and manage the pace of feedback you can handle. Tell them when you need more; tell them when you need less.

Fresh Perspectives

When something is ours, be it concert tickets, an idea, or a position, we think only about what we might lose, not gain. In **PREDICTABLY IRRATIONAL**, Dan Ariely details an experiment in which the perceived value of an item differed by more than 170 percent through ownership alone. This creates a massive difference in value and ripe conditions for failed negotiations and conflict.

Fresh perspectives might be potential customers that walk right on by. Salespeople grab these customers with the puppy dog technique. They allow the customer short-term use, and when it's time to give it back, the idea of "my" is on the profitable side of the bargain. Have you been caught like that?

In the Stanford Prison Experiment, ordinary people embodied the assigned roles of prisoner and guard. When they took on those roles completely and disturbingly, the experiment had to be shut down.

Creating walls of "us" versus "them" is natural and detrimental. A sense of belonging creates a willingness to go along with the group, even if we wouldn't otherwise. Studies have shown that if the rest of the group is, we will provide wrong answers and create a perfectly rational explanation.

Labels of inclusion and exclusion are otherwise known as prejudice. Everyone has them, a point the Museum of Tolerance makes at its front door. Two doors lead inside, labelled "Prejudiced" and the other "Not Prejudiced." The second door is fake.

You need people with prejudices different from yours to help you spot them in action. Mistakes will be made when you punish the breed, not the deed, the entire sport, and not the doped players or take blanket action on one occurrence.

Augment Recall

While memory is the same word for humans and computers, they have notable differences. While computers bring up the same file saved, memory is more like entertainment in your brain. Memories are changed every time they are recalled. Memory in your head is more like a blender of experience, expectation, and emotion.

No two people remember the same event the same. The more a story is recalled, the better remembered, and the more it morphs and gets rewritten. There is still a lot to learn about how memory works, but in the meantime, listen when someone says, "That's not what I remember."

Back in the caveman's day, being cast out of the group meant certain death. The community was required for survival, and getting along and creating unity was paramount. This mentality, hardwired through evolution, is hard to identify or change.

Experimenters found that when just one person disagreed with the status quo, almost everyone else followed suit, breaking the frozen erroneous consensus. While becoming conscious of when we change to follow suit, when we are aware that our perspectives, thoughts or ideas differ, we can break into innovative territory and quantum change for the better when we dare to speak.

Don't worry; they aren't right, either. When you need to remember, take notes.

Capacity Shortages

Being able to hand something off completely takes confidence in knowing it will get done just as well or better than you could do it yourself. When you are doing too many things yourself, you don't have room to grow, but it can be just as time-consuming to find the right person, explain what you want, manage your progress, and revise your results.

When you document how you accomplish a task, you are prepared to outsource. You know how long it takes you and how you feel about it. When you receive proposals from potential suppliers to do this for you, you have a point of comparison on value. You have a process you know works and can give it to the person you hire to follow, improve or revise. If this person ever disappears, you are also covered.

Appoint the Final Word

While these natural tendencies are best controlled with trusted naysayers or other conscious strategies to develop openness to disconfirming information, 70 percent of those who are advised to do this ignore the advice.

Deming's book **OUT OF THE CRISIS** describes the funnel experiment, proving that a process in control delivers the best results if left alone. It is also the shortest path to regaining control of processes out of control. Yet when is doing nothing acceptable? When strategic actions are chosen over tactical ones, long-term vision is over immediate reward, and logic is over human nature.

Let's go and see where things settle. Your problem may be one vastly different than you might think.

You don't have to agree with your naysayers. You can take what they say with a grain of salt or not at all. Control the inputs - the information going into a decision - and achieve the desired control over the output. That translates to more of the power you seek.

See the Whole View

When working within a business, it can be hard to see the view from the outside. What is the customer experiencing or wanting? It may be a lot different than you might think.

Every process is dependent on the process before it and the process after it. For instance, customers might experience the performance of the sales department, then the performance of operations, followed by customer service, and lastly, billing. If the performance of each department is 80 percent, is the customer experience 80 percent? No, it is the product of the individual performances, meaning the customer felt a performance level of 41 percent.

Include a Subject Matter Amateur

Getting the opinion of the subject matter expert is reflexive in any problem-solving situation, but what about the absolute greenhorn? The ideas of the novice are not often heard, spoken or solicited. As children to the subject matter, their voices may be undesired, unvalued, and unwanted.

However, just as a child was the one to point out the emperor's lack of clothes, the SMA can be the key to sparking new ideas. Often missed and primarily dismissed, the ideas and opinions of the novice can be the key to unlocking innovative new solutions.

Where experts lead analysis and solutions into the possible with their knowledge of the current state, their insight can be a double-edged sword. Arthur C. Clarke penned an essay about prediction that resulted in Clarke's First Law. This law states, "When a distinguished but elderly scientist states that

something is possible, he is almost certainly right. When he states that something is impossible, he is very probably wrong."

As George Bernard Shaw has been quoted, "No question is so difficult to answer as that to which the answer is obvious." These questions are the domain of the amateur, pointing out shared beliefs that create fake boundaries and render opportunity invisible.

New solutions and all changes require new questions. Industry outsiders' wide-eyed innocence resulted in inventions that include the Kodachrome film by a musician, the parking meter by a journalist, and the infamous toilet by the janitor. The gas companies did not invent the electric light, or the telegraph companies invented the telephone.

Tap into the power of a greenhorn by soliciting input from someone who has no idea. It might be your catalyst for innovation.

Muddy Messages

Communicating is the holy grail of influence, authority, and all things uncommon to great leaders and managers. While it remains an art, we can draw on a lot of experience to help us.

My first word was no. It ended a long silence and put to rest some anxiety about my shortcomings. As I see it and learned decades later, you don't need any language when you are happy to go along with everything. The moment you'd like to negotiate for change, you need to pipe up. According to Jim Camp, America's number one negotiating coach, all negotiations **START WITH NO**.

After the statement that you aren't going to go along with the status quo, you have primed the other side for what you will do. So goes the theory, but you are lucky to get that far in my life. More often, you are going to be on the receiving end of your share of violence. I have scars because people don't want to hear you aren't going to go along with them, and they fail to find their words. I suggest, perhaps, not starting with no.

"Use your words" isn't a phrase I heard until just a handful of years ago. At the time, I was trying to use my words to champion a different approach that didn't require lying about how much money was being saved, and I was getting nowhere. My words were not communicating clearly. Just like you do, when my ways don't work, I find out what other people are doing that does work.

Know Your Audience

Like you, I've learned to identify what's in it for them. Immediately, we start picturing the stone faces that don't seem to be listening and thinking about what they might want. Let me slow down and ask if you are thinking about the right people.

When trying to champion a different approach, I thought the people I needed to negotiate with were my immediate team. If I convinced the other workers that we could work differently, I thought we'd laugh or feel less shameful and guilty about all the waste we were creating.

It was the wrong audience, and as I worked my way up the chain, I realized that the audience I needed to convince didn't even know I was alive. Forget having an audience with them or even sending them an email. It was a no-go.

You don't have enough time to fight every fight; some aren't worth winning.

As a new female engineer in a traditionally male organization, I worried I wouldn't be heard. Looking back, I find it ironic that it was the only place where I could have a voice, autonomy, and support in pursuing mastery—the only place, despite a resume revealing many opportunities and missed chances.

There, I had the power of data and a culture that believed in logic. Elsewhere, you must use that artificially created rank and merit system. Ensure you use references, not your opinion, but the opinion of someone who 'matters.'

Ultimately, you can only control what you put out there, not how it is received. If it's not your audience, find them.

Lean on Giants

People might not listen to you despite your resounding logic and emotional plea. It's them, not you. Roger Boisjoly failed to communicate his point about the O-rings and people died. Coca-Cola commissioned a report, and they went against the findings, creating a world polluted with plastic containers. When you fail, know that you failed to identify the game. The game is all about the criteria and the evaluation of options that the other side is using.

Lean heavily on the social proof, word and wisdom of people they admire when it becomes apparent that the voice they listen to is not yours. Find the voice they look up to and appropriate that one. Use quotes and names, and say, "Don't take my word for it." If it sounds personal, make no mistake that it is indeed personal.

Everyone looks up to someone or something. Accept that you aren't it, get in on the relevant game, and then you can win.

Maybe there was a holy grail of a phrase that would have turned the entire situation on a dime and turned out to be a mutually beneficial/win for everyone involved.

I read all sorts of material to find it. There was **TONGUE FU**, which was full of powerful phrases. I took many courses on being more assertive and working with difficult people. I worked on eliminating passive-aggressive phrases and statements from my language.

HARDBALL FOR WOMEN was another helpful book, and I tried playing it. Like writers, I jotted down responses no matter where they originated, just in case I needed to use them. The information makes it sound so easy, but it's not easy.

Choose Your Words

When my team was half Indian and the other half Canadian, I learned that the words "problem" and "issue" might mean roughly the same thing, but pick one, and half the people will respond with high

alert, and the other half will shrug. Canada is vast enough that the East and West will react differently to the same word.

Then, there is the second language issue. I sound like an absolute moron in French. Assume the other party's intelligence level is based on their verbal skills, and you are making a massive mistake. Laugh at how someone pronounces a word or uses a phrase, and you are engaging in bullying activity.

Today, we know that the shuttle launch cancellation would have been embarrassing. (How does that compare now?) We also know that Coke has a culture of knee-jerk decisions. Action is prized over and above knowing why you are acting. How do I know that never having worked there? New Coke and the pervasive culture of consumer products.

It takes much observation, analysis, and planning before you decide what words you need. If you are looking to win over the heads, hearts, and hands of others, use your powers of empathy and prediction first. Figure out what game is being played and if it's one you want to win.

Then, use your words to expose the flaw in the assumption of their strategy. Do not offer the solution – only the problem. Have a solution, but only share that there is one, not the one you have in mind. Success relies on you keeping it to yourself.

Empower Refinement

Quitters always prosper because they know when they are wasting their time and aren't afraid of change.

Using measures to drive the correct behaviour is commonplace, yet not without problems. Too often, consciously or unconsciously, the wrong behaviour can result.

In one call center, performance was measured by service level, the percent of total calls answered within 20 seconds, and the target was 80 percent. The goal was to provide quick service to the customer while keeping costs down. Managers strived to keep this measure at 80 percent, as intended. However, the method they used might not have been in line with the intent.

When the service level reached a high enough level, staff were sent home. The daily average was achieved, but it was like hot water in the morning and icy water in the afternoon to make for an averagely warm day.

Stellar service in the morning hours was no comfort for customers experiencing inferior service at the peak times during the day, and it certainly wasn't the intention of the measure.

With many examples of measures driving the wrong behaviour, on purpose or unwittingly, it is a good idea to look below the measurement surface to understand what it represents and use more than targets to get what you need.

Create Control Plans

The methodology is sound but dangerous. Nothing more than a system of techniques or ways of doing something provides a way to get from a starting point to a finishing point. Experts know what and how to do it, and methodology helps them communicate this to others.

Non-experts can fail to appreciate the role methodology is playing. Their performance is high, and they translate that into individual ability and self-identity. However, removing the method causes them to be confused and frustrated by their sudden poor performance. This happens when employees go from process-mature organizations to more developing organizations. They haven't learned why they were doing what they were, so they can't modify, adapt or tweak it to the new situations or needs – or worse, fail even to recognize that it's not working.

The methodology can turn intellectual work into a commodity. Certification claims appease recruiters; hiring managers can't sort through the differences. Performance declines, and demand dries up. Getting certified is easier, but it also no longer means much.

For all the methodologies that are far from perfect, when they work, it's because they are doing something particular. They protect us from ourselves.

We know more than ever about how our brains work, how psychology translates into behaviour and how our behaviour, in turn, changes our brains. We understand that most of us would default from projects to processes. When that way isn't the best, we can use methodology to intervene and improve it. The methodology works best when it helps us rise above our default selves.

Worthy Efforts

Success shows up in more clients and more repeat clients. Other times, we don't get repeat business because the promised transformation mattered too little to be bothered to buy again. I made this mistake when I tried selling productivity training to employees. It didn't matter to them if they were productive; it was their boss's problem. They didn't see a personal benefit to becoming more productive. There can be downsides, like making your colleagues look bad and them turning against you. If they don't have things they'd rather be doing, they don't care about finding the time to do it.

If you feel you are giving away too much for free, you may not have enough to give. Potential clients who can get enough from you to feel like they don't need you within a short timeframe tell you your thing isn't big enough.

Sometimes, the solution to the problem breaks something else, and now we are no better off; we have different issues. We've all heard the stories of Groupon breaking a business by being unable to fulfill orders. Oprah's recommendations have the same effect. While working to get clients galore, you want to ensure you can serve all those clients when you get them. Otherwise, when you solve that problem, you break something else.

You will have difficulty creating good impressions if you can't validate that your change caused an improvement. Without validation, it looks like a sunk cost rather than a wise investment.

For example, improving a brand image or reputation takes time to evaluate the effect. Is something changing because of a new logo or an improved website? You need to be able to validate that a change is attributable to the work you did.

Aim for Progress

If you've been feeling the pressure to do more, be more and try harder, you should know that you will get farther faster if you aim lower and be lazy about whatever you are trying to accomplish.

When I heard the teacher's offer for extra study skills classes, I thought, "Can I accomplish my goal with less time and effort?" I wasn't thinking about aiming higher or accomplishing more; I was thinking about doing less. Like any sales prospect, I had my destination, and any offer of a shortcut would close the deal.

It worked. I learned better ways to arrange information, which helped me make sense of physics. I learned faster ways to memorize things, which helped me survive organic chemistry a decade later. By learning more rapid ways to process things, I went from a mediocre math student to the day I hoped my classmates didn't notice that I finished the third-year final calculus exam in under thirty minutes.

I also learned that if you earn 100 percent in a subject, the computer reflects a "00". Like the Y2K problem, the software designers assumed there would never be such a future to worry about. When I did earn that grade, I had to be satisfied with 99 percent. I stopped listening to my dad ask me where the last 1 percent went. After all, he was an electrical engineer and knew all about early memory constraints in computers and their collective inability to imagine that computers might be everywhere one day.

From then on, I decided that 99 percent was good enough and that progress is always better than waiting for perfection.

In Six Sigma Black Belt school, I learned that that's not always the case. Then they taught me a toolkit that theoretically takes companies from an average performance level of 2-3 sigma to 6.

Maintain Momentum

I did say theoretically. The very idea of a Six Sigma company is that of a rainbow-coloured unicorn. It means that they are at 99.9999 percent in the eyes of the customer. That last part matters—in the eyes of the customer, not how you measure it.

Six Sigma performance means that everything I touch as a customer is a near-perfect experience. My billing is accurate. You answer the phone when I call. My complaints are treated as valid, and action is taken to repair the damage to me and the potential impact on the following customer. You do what you say you are going to do.

I don't have to tell you that doesn't happen. I've never met a department head who can claim near-perfect performance, not even 99 or 90 percent. When I've looked into good-looking numbers, invariably, I've found that there is something amiss. I can tell long stories about the efforts I've

undertaken when I've been abused as a customer. It was tough to find businesses and organizations to name as top-notch last year.

When starting something new, excitement creates a quick burst of energy that can be difficult to maintain. Momentum is mass multiplied by velocity, and velocity is speed and direction. Get more people behind the effort to maintain forward motion, and all will be pointed toward success.

Courses provide momentum. Your initial investment takes that surge of commitment and makes it last until you are no longer an amateur.

One option is to dampen enthusiasm at the beginning, to spread this energy out longer, transferring from a sprint to a marathon. While that works in some circumstances, marathons aren't for everyone. Instead, you have to keep the flame burning.

Prevent Manufactured Crises

Villanova University says, "The goal companies should reach for is Six Sigma, meaning 3.4 defects for every one million opportunities." A better goal might be an honest measurement and a realistic aim.

The technology company Hewlett Packard reported that men apply for a job when they meet only 60 percent of the qualifications, but women apply only if they meet 100 percent. If I had known that and worked in HR, resume-filtering would have been straightforward. However, you have to look at the diversity of technology companies to know that shortcuts aren't the ones they take when promoting people.

As a woman, I might demonstrate progress by notching my standards down from perfection to 99 percent before returning to 99.9999 percent. As a business person, I would be far wiser to drop them down to just slightly above average. If men dominate the business world, the competition runs around, thinking 60 percent is good enough to make the offer.

There's no difference between the credentials earned on a 61 percent average and a 99.9999 percent one. Business is not a meritocracy. Strong merits might get you in the door, but it's a price of entry, not an assurance of standing. Often, they are not even required to do the work.

These days, the price of entry for something that isn't required for performance is killing our economy. Or, to say it another way, we don't need servers to have bachelor's degrees in either the chicken or the egg order of events. Instead of wondering how everyone will pay for it, we should ask why everyone requires one.

The Real Finish Line

Aiming to do less has taught me a paradox: it helps you accomplish more. Lean manufacturing says you have to slow down to speed up. Those extra hours in middle school might have slowed down my options then, but the return I've enjoyed on that investment has paid off in spades. I still find it perplexing that the basic skills weren't part of the core curriculum and that my "smart" friends had no interest.

You've heard that aiming for perfection prevents you from trying new things because you might not do it perfectly. For the women who didn't apply, that fear held them back. Fear of failure delivered an

absolute failure. You can't succeed if you don't try. Aiming to get the interview is aiming lower in a way that propels your productivity and success.

Being lazy in a way that motivates you to find faster and easier ways to do things is progress. We've prized this thing called busyness and created martyrs who brag about how exhausted and overwhelmed they can make themselves.

Let's take a collective break and reconnect with our instinctual drive to conserve energy.

When you slow down and start thinking about your inherent laziness, you see how quickly you can improve your world. You notice things you are too distracted to and have time to do. Instead of spending time completing sugar-coated tasks that don't matter, you can make forward momentum on things that matter.

If you want to get more done, aim lower and get lazier.

If you live a cavalier life with a sense of swagger and take pride in your impressive accomplishments and merit, you might want to aim higher and search for the truth.

The Pursuit of Excellence

If we make 66,800 mistakes out of one million opportunities, the trick is making the same ones. Only then do patterns come into focus. You can determine the causes and eliminate them when you see the pattern.

Instead, thanks to random variation and human nature, we make different ones every time and many at once. Like the surface of a lake in a rainstorm, you can't see what drop caused what ripple. Time, money, and effort are wasted in change for the sake of change.

This is no small problem. Estimates from leading experts put the average amount of waste in any business at around 95 percent, including the materials in the garbage can and any activity that doesn't produce value.

As the pace of change increases, both external and internal, and the need to adapt and remain flexible grows, understanding and applying the concept to manage minor changes is required. If tiny changes can have huge impacts, it is time to organize the direction and choose improvement.

To put it in perspective, consider the practical meaning of 99 percent. If airplane landings were only 99 percent accurate, there would be two daily crashes. Ten minutes of undrinkable drinking water would come out of your tap. Let's hope it's not when you are drinking but when you are flushing.

The Rolled Throughput Yield

There is also the reality that the customer experience is the product of every department they touch, not the average of every department. If sales, operations, accounting, order fulfillment, and customer service operated at a proud and respectable 80 percent, the customer experience would be 33

percent—a dismal failure at school, par for the business course. To be top-notch means to be treated fairly by every department, and that reality remains rare and remarkable.

Because this is a process, the performance levels are multiplied, not averaged, to get the overall rate the customer experiences.

When results are the rolled throughput of intention, decision, plan, and action, 41 percent are failures and self-fulfilling miseries. Strengths affect those four areas and can be the fastest path to better results.

If you ever want to predict what will happen in your business tomorrow, next week, or even next year, you need process measurements. Business planning is complex enough without having to rely on insufficient data. Garbage in, garbage out!

Numbers are not as black and white as they can appear, and math anxiety is real for about half of all adults. Knowing what your numbers mean gives you the freedom and confidence to grow your business.

Involve the Team

If you are stressed, frustrated, bored or overwhelmed, it's a sign your processes aren't serving you the way they should. Working in processes means following the best ways of doing the work, but sometimes, we must take time to work on the process. This teeter-totter can be hard to navigate, so here are some clues as to when you should be doing what.

Leaders use processes to ensure quality, but excessive governance eliminates the potential and opportunity for challenge. When employees don't have an opportunity for challenge, more significant problems are about to arise.

When working within a business, it can be hard to see the view from the outside. What is the customer experiencing or wanting? It may be a lot different than you might think.

Every process is dependent on the process before it and the process after it. For instance, customers might experience the performance of the sales department, then the performance of operations, followed by customer service, and lastly, billing. If the performance of each department is 80 percent, is the customer experience 80 percent? No, it is the product of the individual performances, meaning the customer felt a performance level of 41 percent.

Defining a Standard

A standard is more about the result and less about how to get there. It's one thing to document the steps to take, but start by detailing and describing what the result should look like. If you start with the picture of the final result, you can probably cut a thousand words of detail. The standard defines the result and then offers a proven way to get there. It's not the best way; it's not the only way – it's the best currently known way. Fresh eyes will question and possibly create a new way. This is a welcome, helpful part of a new person.

Processes guide your actions but also allow you to disconnect from thought. Not having to think about what you are doing will enable you to consider where improvements or innovations can be made, but no one can force anyone to think, engage and contribute.

The bulk of time should be spent on adherence, building up performance data and creating baselines for analysis. Consistency is key. Baselines are critical; plucking the tread of the change out from the rest of the process is only possible when things are held constant as much as possible.

Creative, innovative work is not efficient. Although you might have a good idea, you don't know the result. If there's one thing that's true about it, it's the artist's chasm – the difference between what you envisioned and set out to achieve and what you could accomplish. When you are here, don't repeat what you did; keep aiming for the vision.

Deviating as Required

New people ask many questions, testing the current state of the process. But then, they should follow the process until they know it well. First, you learn it, and then you change it. Even if you are incredibly new to something, you can find out what worked for others and go from there.

If you have a whole bunch of people doing the same process, you need them to do it the same way—notice I said about, not exactly. You should be able to trace any differences to the person who did it to learn and improve and not make your people feel like robots.

If people are having trouble with the standard, don't keep reminding, training, or scolding them—pull everyone together and examine the challenge. Brainstorm and evaluate solutions and determine a point in the future when the changes can be re-evaluated.

Barry Schwartz explains that rules and procedures that save you from thinking destroy morality. Job duties that omit the ability to ignore responsibilities in favour of other objectives result in driving the wrong behaviour. We need practical wisdom, and overuse of process destroys the freedom required.

They can cripple real productivity with tons of added work and effort, and people aren't that excited about that, among other typical responses. They can prevent you from doing what you know is right, even when you are sure all your stakeholders would agree that deviation is called for.

One thing that makes deviation very difficult is technology. Technology is often leveraged to support process management. When these systems are too complex or expensive to tweak, processes can become overly restrictive and tightly governed. In this way, they cement the status quo—a slow death for any business.

Challenging as Desired

Engaging or caring about the work is hard when people aren't challenged. They show up and put in the time, but as it sounds, this is more like a jail than developing a career.

Leaders fear challenges will result in poor quality. You are a little out of your comfort zone when challenged – not a lot. You have one of the ingredients for getting in the zone – one of the coveted places of optimal performance. While you are primed to perform optimally, everyone else knows you haven't done this before. Will it be beginners' luck or an epic failure? In business, that can be too much to wager.

The process is meant to be like scaffolding, allowing you to tackle work you usually couldn't. To achieve great heights, you must leap from the shoulders of giants. Processes are those shoulders.

Processes offer consistent solutions to use more people to get more done. However, cutting the work in the wrong places and producing handoffs can easily result in lower worker morale. This usually translates into higher costs, low productivity, and difficulty identifying the root of the problem. With handoffs in the wrong places, you reduce knowledge work to piecework.

Dan Ariely explains that we need recognition when we surmount a challenge to feel good about our work. When your work is ignored or shredded, if you retaliate, you would respond just as a group of engineers working for a Seattle software company did.

Processes should be used to right-size the level of challenge. Growth requires challenge, and the growing employee is the valuable employee.

Ritualize Review

Each process should be reviewed periodically. Look at defects, rework, scrap trends, customer satisfaction scores, volumes, and projections. Deliberately bring the team together to solve problems and make improvements. Create action plans and follow up on them at the next review.

If your customers change, their needs might have also changed. This should prompt a review of the standards and best practices for accomplishing them. This doesn't mean every single customer, but the customer profile is considered your ideal target.

One essential tool in quality is the Plan, Do, Check, Act (PDCA) cycle, introduced in Deming's book. Plans are made, executed, evaluated, and lessons are learned.

Instead, human nature leads us to plan only yearly, not as a precursor to carrying out any action. Actions are skewed toward ease, as difficult or undesirable tasks are procrastinated. Evidences of what went right and wrong are tainted by involvement, memory, and perspective. As creatures of habit, we fail to implement changes due to lessons learned.

Due to these errors, a conscious intent to participate in each one of these steps at a global level and accomplish objectives is required.

While crisis mode can seem exciting and rewarding, a lack of drama leads to an inability to accomplish even loftier goals. Shifting time into planning and checking, an hour a week or 10 minutes before making a decision, can deliver less stress and better results.

Monitor the Metrics

You can invest only your money, time, and energy. Of those resources, money is the most influential. Money affects you subconsciously and unconsciously in compelling ways. Time and energy aren't as concrete as money, nor do we think about those resources with the same weight. When you spend, you get ensnared in the sunk cost bias.

Sunk costs refer to the investments we make in pursuit of something. After investing in one direction, it's tough to stop and go a different way because all you can see is what you've already put into the initiative. Good money gets thrown after bad, even when it's clear that's precisely what's happening.

Since you've decided to change, you've already overcome the sunk costs keeping you glued to your status quo. You've realized you can do better, deserve better and dream better. Now, you want to invest in that new direction.

Knowledge is the best investment in a new direction, though you may want to buy tools instead. Buying tools is fast, simple, and comfortable. Immediately, you can look like you know what you are doing because you have created the right environment.

Metrics and reports provide you with that environment.

Select a Suitable Name

Divide a group of patients facing elective surgery into two groups and tell them to decide if they want surgery based on the same chances. The trick? One group was told of their chances of dying, and the second of their chances of living. The "dying" group responded with 18 percent and the "living" group 44 percent.

When the chances are the same, it becomes apparent that words matter more. Stories, not statistics. Words, not figures. Every measure you have or introduce will have a name. Pick that name with care, and ensure that the collection system delivers on the meaning of the label.

Every industry needs to invent a word to describe something unique to it, and in particular, these need clear definitions.

Even when it's something as tangible as metrics, take the example of one organization that measures a critical "missed performance" indicator. Executives believe it is the complete picture of missed performance when a subset of the customers complained. The customers who voted with their feet were silent – completely missing from the numbers. Names matter.

Include Spread with Averages

Would your feet be warm if you had one foot in hot water and one in cold water? If you recall, the spread is lost in the average, but it is critical to know.

The pursuit of consistency and avoiding averages align to provide an accurate representation of the process. It becomes much easier to improve when you know where it is, where it's coming from, and where it will be. The task is much more problematic when it is all over the place.

Pick the Right Size

A performance level of 99 percent sounds very exciting. Practically speaking, 99 percent corresponds to unsafe drinking water for nearly 15 minutes daily, 5,000 incorrect surgical operations per week, and 20,000 lost mail articles per hour.

However, the old “cheques in the mail” excuse may not work well when postal services use DPMO, with defects per million opportunities. Instead of dividing by 100 to get a percent, divide by a million. Suddenly, the chance of improvement doesn’t look so insignificant.

A million is a complex number to grasp. Like Mother Teresa, who has been attributed to saying, “If I look at the mass, I will never act. If I look at one, I will.” Big numbers are impressive but not motivating.

Forty-five percent of Canadians polled didn’t know how many millions were in a billion. Big numbers are hard to grasp, so if you use them, draw an analogy to a mental picture to help your audience understand, and stick to easy-to-interpret numbers for process measures.

Understand the Patterns

Being on the lookout for opportunity is the same as trying to cross a busy street. You start looking for the window you want, then take the wide enough window. The longer we wait, the more frustration sets in, the more likely we are to cause a traffic incident. To successfully achieve this, you must know what a window of opportunity would look, sound or feel like, so when it’s the right time, you take action.

The logic of the justification is almost irrelevant, as psychologist Ellen Langer found in an experiment of people budding in line and offering “because” with a ridiculous excuse worked practically as often as a rational one, at 93 and 94 percent rates. But without one, it dropped to 60 percent.

Whatever time you need for your initiative, ensure the time is genuinely available. Remember a couple of relevant laws when considering if you have enough time. One is that you will need more time than you think you do, even while you know how to account for this fact. Two, work expands to take the time we give it. You can use this one to time-box the work and get it done by the deadline, or you can use it to find where you can find more time than you thought you had.

Use a Chart

Data can be either discrete or continuous. Discrete includes count or attribute data. In transforming data into information, discrete data has limitations. It cannot be further subdivided and doesn’t lend itself easily to analysis. Select continuous data, such as “arrival time” instead of “on time or late.” You will be much happier when you change the target to a different time or redefine your buckets.

Allow for Drift

Don’t react to every data point. Just let it drift. Statistics show that random variation causes a process to drift back and forth. It’s unavoidable.

Israeli flight instructors concluded that criticism improves performance based on personal experience. They could have drawn this conclusion because they only noticed and remembered improved performance and were, therefore, victims of skewed memory. They could have an unreliable measurement system from which they drew their conclusions. However, Nobel winner Daniel

Kahneman failed to understand regression to the mean notes the winner. That is, it is neither criticism nor praise but predicable variation.

Pick the most extended time frame you can tolerate and the shortest data collection rate you can afford. Just like the stock exchange, variation happens every day. Some days spike, and we call that unique cause variation. Most days are within a specific range, and we call that common cause variation. Knowing this range allows you to figure out how and if to act. Any response that falls within this range is predictable and shouldn't cause a surprise when it does. Protect against the unique causes and systematically review the process to remove the special causes.

Ready Change

In chemistry, there is the notion of the activation energy, the energy applied to get the reaction going, like the big push needed before the car begins to roll. To increase emotional triggering, visualize all the positive things that will happen once you've achieved them. To improve logical rationalization, devise new and fun ways to solve, avoid or minimize the unpleasantness you think you may encounter.

If you think being moderately convicted is ok, your success will also be moderate. Do you have a compelling emotional feeling and a logical reason for your change goal that is sizeable enough to overcome the obstacles, friction, and discomfort this unpredictable work entails? In short, is your rationale strong enough?

While every transformation is as unique as you are, being ready for change is far more universal. Change readiness doesn't require much foundation, but specific ingredients are needed.

Objects stay in motion with the same speed and direction until an unbalanced force impacts them. Change readiness requires an unbalanced force. Yours is your emotional reason why and your logical justification.

Neuroscientist Antonio Damasio made the ground-breaking discovery that all decisions result from emotion. The feeling comes first, then the logical rationalization or justification for that decision follows.

Emotions are also mutable, fleeting, and unreliable. Conscious intervention takes seconds to set in and derail an emotional reaction. Logical justification is ammunition for conscious intervention to remind your emotions you've made up your mind.

Manage by the Book

How often have you checked directions on the internet at home and left for your destination, confident you would get there, only to get lost along the way? A top-of-the-line GPS will not just serve as a constant memory tool for your next turn on the map but incorporate the latest in road changes, traffic, and closures. The more complex the change, the more information you want to gather and analyze as you validate assumptions, incorporate fresh details, and update and adjust all the preparations according to the added experience.

Initially, it's easier to say that we will endure to the end than to do it genuinely. The helpful emotions that make us launch a new direction aren't going to stick around, but you can use them while you have them to make sure your commitment doesn't waver.

When you are excited about a specific change, and your logical side serves up reasons why it's a good idea as the merry servant it is, have you stopped and deliberately looked for the downside? Change efforts fail when we start by looking only at one side, and the drawbacks will come into view as we get going. We can mitigate the risks, save time, and get it right when we foresee them.

Let go of Control

Change is not a case of flipping a switch. It's an ongoing process where you should not expect performance to be an ever-increasing climb toward success. Instead, you need to prepare for a journey that will look more like the NASDAQ. There will be an increasing trend in the long term, but gains and losses will increase over the short term.

When you introduce too many changes to the process, it is like watching a lake in a rainstorm – you can't tell which change produced which result, just as you cannot tell which raindrop produced which ripple. To assess if changes are effective, slow down.

Successful perseverance comes from knowing how to link cause and effect. Like the dashboard on your car, you need a measurement system to give you this feedback. In short, do you have the process feedback you need?

Feedback helps you learn continuously in a way that is not outcome-dependent but an indicator of the process. It's the process you are messing with and modifying to turn losses into gains.

Outcome-dependent feedback is widely available. Think of your car's dashboard and all it can reveal.

Instead, what you need is process feedback. You need information on where to put the dial to get the outcome (the room's temperature) where you want it. Sometimes, dials are marked with somewhat accurate temperature indicators, and if you happen to know you are happily comfortable at 22.5˚C, you set the dial and forget it. You have assured the outcome you want because you have mastered achieving it. Mastery only comes with feedback.

Allow for Intuition

To achieve the optimal thinking state of flow, immediate feedback is required. You absorb what is working and what isn't and make the necessary adjustments without calculation.

When a bat strikes a baseball, the future landing spot for that ball can be determined by measuring certain variables, knowing the appropriate equations, and crunching the data. The precise position that the outfielder should stand to catch that ball would be known, with the accuracy and precision determined from the quality of the data.

However, if a person were to collect this required data, such as wind speed, humidity, temperature, the imparted force, trajectory, and surface area of contact, the ball would have already landed, and the

player would have circled the bases, increasing their score and gaining the competitive edge. Much time, money, and energy spent determining the exact solution would be wasted, yielding no benefit.

Outfielders catch the ball all the time without complicated data analysis. Well, not all the time, but pretty often. Even considering salaries, the costs are much lower than the data-crunching method.

Instead of crunching data, the outfielder relies on a rule of thumb. He makes predictions, keeps his eye on the ball, and makes corrections. His final position is unknown until the ball is in his glove, and he surveys his surroundings. With experience, predictions improve. Practice makes perfect.

Data crunching, as with any activity, is appropriate if it adds appropriate value. Can you let an expert run with it, focusing instead on measuring effectiveness, such as the number of times the ball is dropped? Ensure that the analysis is right-sized, including the resources and the requirements of the solution to the problems you are trying to solve.

Solve Problems

If you want to solve a specific problem, Google has answers. But when it comes to unique issues, you must know how to solve ANY problem.

It's discomforting to have problems. We try not to see them, but we can be pretty successful at that. When we can't deny them anymore, we call them by words to make them more palatable: challenges, opportunities, issues, difficulties. Whatever you call them, they remain a thing or a situation that needs to change.

What's even more discomforting is experiencing the ambiguity necessary to solve them. Truly solving a problem is like driving through a snowstorm – you can only see a little way in front of you to know where you are going, you have to go slow because you don't know where the road is going to twist and turn, and you have to trust and relax in your abilities, your tools, and your commitment. These five questions are your essential tools to solve any problem.

The real problem is often not the one on the surface but something else that is causing that surface problem to appear. Addressing only the surface problem won't make it go away. The wrong actions could mutate the problem, making it even harder to find and solve in the future.

When you finish streamlining, you will note the problems you couldn't see before. Don't worry; solve real issues with the next download, which is free at ResilienceImagined.com.

References

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[3] (Kross & Ayduk, 2011)