Simplicity, Complexity, and Compromise

Simple answers to complex problems are often wrong, but useful By Steve Wille

Life is complicated. To survive each day, we need to filter out the noise and focus on what matters. In other words, we want less complexity and more simplicity. The trouble is that the very clutter we filter out might contain critical information. Consequently, simple answers to complex problems are often wrong and they can lead to bad decisions with not-so-good outcomes. We are going to explore how to use simple answers in a helpful way that leads to better decisions and better outcomes.



How many colors are in the rainbow and what are the colors? Unless you said every possible color and a number too high to count, you are wrong. The ancient Greeks loved the number 7 so they found 7 colors in the rainbow. This simple answer has perpetuated itself over the ages and we still teach it to school children, even though it is wrong. Compare the 7 color rainbow in this picture to a picture with a real rainbow. They are not the same. So why does this simple answer perpetuate itself? It is useful. You can give a child 7 colored pencils to color what everyone knows is a rainbow. Furthermore, the child learns the approximate ordering of color so there is some resemblance to reality.

We all know the moon is a sphere. The ancient Greeks, who gave us Greek geometry, defined a sphere as a set of points that are all at the



same distance, r, from a given point. This helps us understand spherical objects like the moon. The trouble is, in nature there are no spheres. There are objects that a mis-shaped spheres. The moon is a sphere when seen at a distance, but is much different when seen from the surface.



Just as we can find simplicity in complexity, we can build something complex from just a few simple things. Look at the three black and white pictures shot through red, green, and blue filters. All three black and white photographs are about the same, but when projected on a screen through red, green, and blue filters, we get a full color picture, complex coloring.

To see the additive color process we can project 3 colored lights onto a screen in a dark room. We will see the original red, green, and blue lights, along with the resulting colors where the three



colors mix. Like the ancient Greeks who saw seven colors in a rainbow, even thought there were more, we see seven colors in this illustration. The three primary lights, red, green, and blue, create three secondary colors, yellow, magenta, and cyan. Where all three primary lights come together, we see white. Looking closer, you will see more colors where the light drops off from each primary color. In reality, there are more than seven colors, but it is useful to build borders where the colors intersect.



Your ink jet printer uses three primary subtractive colors, yellow, magenta, and cyan, plus black ink to shade the colors more smoothly. Again, you create a complex picture from just three colors. When you spray ink on white paper with your ink jet printer, you are subtracting from the light reflected from the white paper. If you spray all three primary colors in one place, no light comes through from the paper, so you have black. In life, there are may different situations, so there are many different three primary colors, just like there are three additive and three subtractive primary colors. It would be a big mistake to look at every situation from the same set of filters.



In any given situation, it is worth looking for the three primary colors. Ask other people what they think and how they feel. Looking through their filters, you might find three completely different simple answers to a complex situation. This makes a good set of primary colors.



Once you have candidates for the three primary colors, try mixing them to find a compromise that works for all three. That is likely to be a better solution than any one of the simple 3 answers.



The color wheel above has many colors and many shades. If we find the primary colors we have three simple solutions, all of them different. When we mix them, we see a variety of choices in

different shades of color.



So far we have been looking at three choices for a complex situation. Why would this be a good place to start? Why not two? The problem with two choices is they tend to be perceived as opposites that invite us to pick one or the other. A good way to avoid a polarized two-choice situation is to find a third choice. This tends to open things up and encourages us to consider doing all three in some combination rather than going to any one extreme. Larry Nelson, author of 3-Filters and coauthor of Colorful Leadership, finds a four choice situation as problematic as a two choice solution because the choices tend to be double opposites, leading again, to polarization, and limiting you to just one of the four choices. Many personality profiles use this technique. Nelson prefers a blending of colors and finds an odd number of choices preferable to an even number. He prefers just a few choices help us to narrow down the field to just a reasonable set of choices. Thus he arrived at the optimal number of three.



Let's look at two, and three choices in politics. With a two-party system, you pick one or the other, like it or not. Within the two parties there are people who are lean liberal or conservative, but we don't have a way to differentiate our votes that way. If we had more of a European system with many parties that define themselves around what they actually stand for, we could vote for how we feel at the time. Ideally, no one party would dominate, forcing all parties to reach some reasonable compromise.



In 1943 Abraham Maslow published the paper, *A Theory of Human Motivation.* His theory suggests people's most basic needs must be met before they become motivated to achieve higher level needs. As each need is met, people are no longer motived by it. They want the next level of needs. Thus, there is a hierarchy. Maslow identified 5 levels of human needs in his hierarchy.

Larry Nelson contemplated the hierarchy and rethought it as a continuum of needs where we lean in directions that suit us as individuals. We do not all move up the same hierarchy. Being an artist at heart, Nelson represented each need with a color. The various colors mix to where a person's needs are at this particular time. Nelson then simplified the model taking it from 5 needs to a 3-point model, calling it **3-Filters**. This works because the physical needs are always there and can be considered independently from other human needs. He then grouped the top two needs into one. Nelson labeled the top 2 needs in the hierarchy as "Future." In the 3-point model shown above the labels use words from Maslow's original hierarchy rather than Nelson's. The value of the three-point model is that all three needs are continuous, but some people have stronger needs in one direction or another. Consider the starving artist who sets aside social and security needs to meet achievement needs from the selfesteem group. All of us have our own levels of intensity for meeting each of the three needs.



Consider some important areas of focus for managers and leaders. We want skilled people to follow a repeatable process to accomplish something of value. It is a serious mistake to think everything can be accomplished by one primary focus, alone. Yes, a repeatable process creates consistent quality products that meet current market needs. If that is all you have, when the market changes, you have nothing. An organization must constantly adapt and innovate to meet future needs. Then, there is the people thing. It has become fashionable to group people with other resources, rather than seeing people as a primary focus. People do the work. If they are skilled and engaged with a high degree of collaboration, they will outperform resources that are treated like In our post-industrial, knowledge machines. based economy, people are a primary focus for a thriving organization.

The thriving organization needs all three areas of focus, making them the three primary colors in our model. The key to success is to look in the center where the three colors mix to make white light. If you leave out any of the three primary colors, you may not survive and thrive into the future. Process focused organizations can become



too lean and unable to adapt to unexpected changes in the external business environment. Too much chaos from improvisation can cause an organization to lose focus on its primary products that pay the bills today. Organizations that refuse to recognize the value of people risk disruption from disengaged workers rather then collaboration from engaged workers.



Traditional project management follows the waterfall process. You do things in the right order. As a phase is completed, it goes down the waterfall, and never back up because it is too expensive to make changes later in the project. When you get the requirements done, you sign-off and work to avoid changing requirements that could imperial the schedule and budget. After the requirements are complete, you move to the design phase, and then to the building phase. The traditional project management measure of success is completing the full scope of requirements on time and on budget. This is a good thing, but it is not the only way of doing a project.

In recent years, a great number of technology projects have moved from waterfall to agile pro-

cesses. Agile is represented by an image of raft going down the rapids. Instead of a big waterfall, there are many mini-waterfalls. Agile assumes changing requirements meeting a rapidly changing business and technical environment. Rather than a fixed set of requirements, there is a prioritized backlog. Rather than completing the entire project on time, a piece at a time is delivered and implemented. We quickly get feedback and allow ourselves to fail fast. We then adapt based on what we learned from the failure. Waterfall makes you fail slowly by taking too much time to deliver a product that may not have been fully understood at the beginning.

The water flowing from the waterfalls and the rapids eventually enters into the great rivers crossing the continent. When the project is complete it becomes a part of the organization's overall set of products and services. In opposition to agile and waterfall processes, lean advocates don't think about projects. They think about process. They want continuous improvement. They want to eliminate waste, creating the maximum level of efficiency. This, of course, kills opportunity for break-through innovation. Waterfall, agile, and lean all have value. Different projects lend themselves to different methods. All projects can learn from other methods.



Sport analogies can be helpful, leading to understanding what is going on in a business environment. Consider baseball. What are most of the players doing at any one time? The players in the field are standing around, waiting. The players on the other team are sitting on the bench, waiting. Baseball is a sequential game. When you have the ball, you do your job. The ball then moves to the next step and you stand around waiting. The batting is done when the ball is hit, or there are three strikes, or four balls. The inning is over when both teams have three outs. The game is over when all nine innings are completed. If there is a tie, it is over when there is a winner. Baseball is a slow game with high precision. Baseball teamwork means doing your job right so you don't let down the team.

Now consider Basketball. If the players on the court stand around waiting for the ball, the coach will tell them to move. Look for opportunity. Basketball is random. Do what you can when you can do it. Look for opportunity. The game is over when the time runs out. Unlike the orderly and sequential baseball game, basketball is random and chaotic. They are different games.

Golf is a game of precision. Every stroke counts. Golf is about eliminating waste. A bad shot is a wasted stroke. Golfers look beyond the current game. They look at their scores across games, wanting continuous improvement. For a golfer, the game is never over.

If we apply these three concepts to business, we see some need for orderly sequential processes, but that takes us only so far. The organization must continuously become more efficient, eliminating waste. Defects are wasteful. Too much inventory is wasteful. People standing around waiting is wasteful. On the other hand, if you eliminate all waste and become hyper efficient, there is no room for random improvisation and unplanned innovation. The outside world is chaotic and there is a constant need to adapt.

Organizations need to accept all three primary areas of focus with some continuous improvement, some sequential movement forward, and some randomness. How do we do we do that? Some people are sequential. They want an orderly environment They need to plan their work and work their plan. We need to make room in the organization for sequential leaning people. Other people are by nature random. They need freedom and want to act when there is opportunity. They thrive on getting it right the second time or the third time. There is no such things as getting it right the first time because they don't know what right is until they experiment and find what works best. Then, there are people wo go to work and do their jobs in a dependable way. At the end of the day, they go home, planning to return the next day and do the same thing, just a little bit better and a little bit faster. We need all three types of people in an organization and we must respect all three if we want to thrive today and tomorrow.



Have you ever seen a poster with a picture of people in a rowboat, with the word, "Teamwork" prominently displayed. This is directed teamwork. Most of the team is faced backwards, and all decisions are made by one person who is looking forward. This is the most efficient way to move a boat at maximum speed through still water. There is a different kind of teamwork in a rubber raft going down the rapids. This team lives in the moment, looking for danger and opportunity. They are all faced forward and support each other. They might get wet and if people fall out of raft they could die. Now consider a battleship. This requires a big team and there is a clear chain of command. Everyone depends for survival based on the decisions of the commander.

The thing to understand is that there are many meanings to teamwork. Within an organization, you need a chain of command if there are a lot of people doing a lot of different things. Within the same organization there may be small teams working in directed or self-organizing ways. The key to success is to use a blended approach with the right kind of teamwork at the right time. This is easy to say but hard to do. The leadership and everyone else must learn to adapt to the current conditions.



In our examples of three simple solutions to find a blended solution, we looked from a variety of perspectives. You need a different filters for different purposes. Take a complex problem and find three primary solutions, and then make a good decision. Don't assume the same three primary solutions apply to the next complex problem. Remember our discussion on color. There were three primary additive colors and three primary subtractive colors. Before looking for the three simple solutions study the problem in its own light, talk to people, and then identify your primary solutions.

