

6 C Carbon	7 N Nitrogen	8 O Oxygen	9 F Fluorine	10 Ne Neon
14 Si Silicon	15 P Phosphorus	16 S Sulfur	17 Cl Chlorine	18 Ar Argon
32 Ge Germanium	33 Si Simsenic	34 Mp Simplicium	35 Le Simine	36 Kr Krypton
50 Sn Tin	51 Sb Antimony	52 Te Tellurium	53 I Iodine	54 Xe Xenon
82 Pb Lead	83 Bi Bismuth	84 Po Polonium	85 At Astatine	86 Rn Radon

began on I-285 fewer than six months ago, commuters have seen speed limit signs off during a pouring rainstorm; a 65 mph sign followed less than a tenth of a mile by a 35 mph sign; and one sign every evening with a speed limit that simply reads, “5.”

To solve a problem with traffic congestion and complexity, speed limit signs no one paid attention to were replaced with extremely expensive, extremely complex speed limit signs that ... no one pays attention to.

Companies (and individuals) often imitate this pattern. We are taught to believe that the key to a complex or difficult problem is a complex solution.

In contrast to Atlanta’s adaptive speed limit signs, or the speed cameras adopted in countless cities, a town in Scotland installed a unique, but very elegant system. If you were within the speed limit, the sign flashed a smiley face. If not, you’d see a frowny face. After the signs were installed, speeding reduced 53 percent. The solution operated at 2 percent of the cost (in 2009) of speed cameras.

Therein lies the elegance of Occam’s Razor: All things held equal, the simplest solution is often the best. So, how can we use the elegance of Occam’s Razor to shave complexity in today’s digital age?

DON’T OVERDO IT

When BlackBerry was king of the cell phone market, adding every button under the sun to its phones — a full keyboard, trackballs, and so on — a company

The Science of Simple

BY SAM NOYD AND JIMMY MITCHELL

Using Occam’s Razor to shave complexity in a digital age.

In a world that seems to become increasingly more complex, simplicity is a breath of fresh air. By nature, we want to solve problems and make things just a little bit better, but all too often this leads to very complex and complicated solutions with countless moving parts.

As the old adage goes, “the more moving parts something has, the more ways it can break.” Perhaps it’s time to reconsider our approach, take a step back, take a deep breath, and appreciate the elegance of simplicity.

We’re betting many Americans deal with the growing complexity of traffic management systems such as flashing speed limit signs, speed cameras, and so on — no doubt built to handle growing road complexity and congestion. Many congested cities deal with the latest newly deployed innovation: adaptive speed limits.

In theory, they work great. Speed limits vary based on traffic levels or changing road hazards such as rainstorms or the next “snowmageddon.” However, in Atlanta, since variable limits

called Apple designed a phone that didn't have as many buttons and couldn't replicate all of the advanced features of the BlackBerry.

Instead, Apple adhered to the old K.I.S.S. motto of "Keep It Simple, Stupid." The market followed that simple, elegant design. The rest is history. Who knew we could do everything we needed for work or play with five buttons and a touchscreen?

BlackBerrys also came with sizable user manuals and a steep learning curve. By contrast, the iPhone comes with a legal notice on a couple of pages. Stories abound of young children and elderly people alike picking up and using an iPhone without a manual.

The phrase "less is more" can apply to more than just smartphones. Several studies have found that gains in employee productivity decline rapidly after 50 hours per week, reaching near-zero additional productivity beyond 55 hours per week.

SEEK THE 'HIDDEN OBVIOUS'

Simplicity is well and good for small things, but it can be challenging to remember when the stakes are high. The stakes were high for one bar owner who was challenged with employee dishonesty. He came up with a very simple solution. Instead of relying on complex solutions such as expensive video surveillance systems or measuring the amount of liquid in alcohol bottles, he found another way to test whether employees were trustworthy. He

noticed that the use of limes directly correlated with drinks served. Lime use became a litmus test for determining whether someone was using more alcohol than sales would suggest — and whether someone was stealing from the bar. It was simple and elegant.

'SIMPLIFY, THEN ADD LIGHTNESS'

This section's title comes from Colin Chapman, who founded Lotus Cars, known for simple and lightweight vehicles. One of his creations, the monocoque chassis (where a single piece of metal or carbon fiber acts as the chassis of a vehicle), was extremely simple in design. That design took time to create, but resulted in safer and faster race cars. The design first used in 1962 is still used today in F1 and IndyCar.

It takes time to find a simple, elegant solution. As a popular quote traceable to Blaise Pascal reads, "I have made this longer than usual because I have not had time to make it shorter." After you've found a potential solution, pause for a minute. Then, start taking things away. Strip the complexity, the things that are not absolutely necessary. If we take Pascal's writing example, focus only on what tells your story. Remove everything else. Think of the ink on a page as a precious resource. Keep only the ink that tells your story, because the rest distracts from the point.

John Nash's paper on the Nash equilibrium (made even more famous by the movie "A Beautiful Mind") was but a single page in

length. In one page, he outlined a theory that has been used to evaluate and predict challenging situations such as war, economic crises, and the effects of regulation. With the countless hours of research he put into that paper, he managed to change the world and define his legacy with a single page.

There is a beautiful elegance to simplicity. More often than not, the simple solution will prove superior. Although it can be difficult to distill a simple solution from a complex one, we should take the extra time to keep things a little bit simpler. After all, in a world of seemingly increasing complexity, wouldn't it be great if we no longer needed user manuals?



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