Throw Your Life a Curve
by Whitney Johnson

Our view of the world is powered by personal algorithms: observing how all of the component pieces (and people) that make up our personal social system interact, and looking for patterns to predict what will happen next. When systems behave linearly and react immediately, we tend to be fairly accurate with our forecasts. This is why toddlers love discovering light switches: cause and effect are immediate. The child flips the switch, and on goes the light. But our predictive power plummets when there is a time delay or non-linearity, as in the case of a CEO who delivers better-than-expected earnings only to wonder at a drop in the stock price.

Enter my co-author, MIT-trained strategist and engineer Juan Carlos Méndez-García, who consults with both start-ups and Fortune 500 companies. According to Méndez-García, one of the best models for making sense of a non-linear world is the S-curve, the model we have used to understand the diffusion of disruptive innovations, and which he and I speculate can be used to understand personal disruption — the necessary pivots in our own career paths.

In complex systems like a business (or a brain), cause and effect may not always be as clear as the relationship between the light switch and the light bulb. There are time-delayed and time-dependent relationships in which huge effort may yield little in the near-term, or in which high output today may be the result of actions taken a long time ago. The S-curve decodes these systems by providing signposts along a path that, while frequently trod, is not always evident. Our hypothesis is that those who can successfully navigate, even harness, the successive cycles of learning and maxing out that resemble the S-curve will thrive in this era of personal disruption.

Let's do a quick review. According to the theory of the diffusion of innovations — an attempt to understand how, why and at what rate ideas and technology spread throughout cultures — diffusion or adoption is relatively slow at the outset until a tipping point is reached. Then you enter hypergrowth, which typically happens somewhere between 10-15% of market penetration. Saturation is reached at 90%+.

With Facebook for example, assuming an estimated market opportunity of one billion, it took roughly 4 years to reach penetration of 10%. Once Facebook reached a critical mass of a hundred million users, hypergrowth kicked in due to the network effect (i.e. friends and family were now on Facebook), as well as virality (email updates, photo albums for friends of friends, etc.). Though we could quibble, depending on our inputs, over when Facebook will reach saturation, there is no question the rate of growth has begun to slow and is now limited, if for no other reason, by the number of people who can access the service. (Here's some more on Méndez-García's Facebook and S-curve math.)

As we look to develop competence within a new domain of expertise, moving up a personal learning curve, initially progress is slow. But through deliberate practice, we gain traction, entering into a virtuous cycle that propels us into a sweet spot of accelerating competence and confidence. Then, as we approach mastery, the vicious cycle commences: the more habitual what we are doing becomes, the less we enjoy the "feel good" effects of learning: these two cycles constitute the S-curve.

One anecdotal example of how the S-curve model can help us better predict the future is the experience of golfer Dan McLaughlin. Never having played 18 holes of golf, in April 2010, McLaughlin quit his job as a commercial photographer to pursue a goal of becoming a top professional golfer through 10,000 hours of deliberate practice. During the first 18 months, improvement was slow as McLaughlin first practiced his putting, chipping, and his drive. Then, as he began to put the various pieces together, improvement accelerated, consistent with hypergrowth behavior. While he didn't track how quickly his handicap decreased, making it impossible for us to build an S-curve, 28 months into the project, he has surpassed 91% of the 26 million golfers who register a handicap with the US Golf Association (USGA) database. Not surprisingly, his rate of improvement (if measured as handicap) is now slowing as he faces competition from the top 10% amateur golfers.

Just as understanding the S-curve can keep discouragement at bay as we build new knowledge, it can also help us understand why ennui kicks in once we reach the plateau. As we approach mastery, our learning rate decelerates, and while the ability to do something automatically implies competence, it also means our brains are now producing less of the feel-good neurotransmitters — the thrill ride is over.

As our learning crests, should we fail to jump to new curves, we may actually precipitate our own decline. That doesn't necessarily mean a financial downfall, but our emotional and social well-being will take a hit. Saul Kaplan, Chief Catalyst at Business Innovation Factory, shares: "My life has been about searching for the steep learning curve because that's where I do my best work. When I do my best work, money and stature have always followed." Or paraphrasing James Allworth, "Steve Jobs solved the innovator's dilemma because his focus was never on profit, but better and better products." Forget the plateau of profits: seek and scale a learning curve.

The S-curve mental model makes a compelling case for personal disruption. We may be quite adept at doing the math around our future when things are linear, but neither business nor life is linear, and ultimately what our brain needs, even requires, is the dopamine of the unpredictable. More importantly, as we inhabit an increasingly zig-zag world, the best curve you can throw the competition is your ability to leap from one learning curve to the next.

This post was co-authored with Juan Carlos Mendez-Garcia, managing director of 8020world. Born in Colombia, he has lived and worked in Asia, Europe, and the United States. Juan Carlos holds an MBA from MIT Sloan, a Masters in Systems Engineering and Bachelors on Electrical Engineering.