

The S-Curve and Why No One Has Time to Innovate



Dr. Scott Hutcheson



Matthew D. Jones

Scott Hutcheson, PhD

Sr. Lecturer, Organizational Leadership
Department of Technology Leadership & Innovation
Purdue University

Matthew D. Jones

Doctoral Student
Department of Technology Leadership & Innovation
Purdue University

This work was supported by the Toyota Material Handling North America (TMHNA) University Research Program as part of the grant "Material Handling for Industry 4.0 in Small and Medium Enterprises (SMEs)."

The S-Curve and Why No One Has Time to Innovate

Introduction

From the moment the alarm goes off till the moment Sarah's¹ head hits the pillow her day is nothing but an endless stream of decisions and tasks to complete. As a leader of a small business, she has employees to lead, systems to manage, customers to keep happy, and yesterday's investments that need to bring the desired cash in today. And with the COVID-19 pandemic's economic sting, her days are getting longer, and her task list is piling higher.

On her way to the office one early morning, she saw another headline about how if a company doesn't have time to innovate, they will fall behind, and while it wasn't the first time she saw something like this, it hit a little too close to home. In the quiet of her office, she remembered those good old days in college where she heard that frustrating yet endearing professor say that there is a difference between "working in your business" and "working on your business." She began to wonder: How do I do it? Just keeping the lights on and everybody hitting par was wearing her thin day in and day out. If she set aside those priorities to work on her business, she feared that everything would fall apart.

As she slumped into her office chair she pondered, as she had time and time again, if this was only her story, her great headache. But there is some comfort for Sarah, and for all of us, in that there is a whole world of people who feel the same.

Near the beginning of 2021, we surveyed 28 leaders (senior managers or executives) in small-to-medium manufacturing companies across the U.S., with the majority in the Midwest. We wanted to know how they felt about a myriad of things, but particularly in how digital technologies or digital innovations were being used, developed, or invested in their respective organizations. We found that nearly 65% of the respondents agreed that innovations in digital technology would disrupt their

industry from a moderate to great extent. But many did not feel prepared to meet these challenges. Roughly 78% agreed that they should be investing more in digital transformation initiatives for supply chain and logistics while 71% agreed that they should be investing more in IT. Only 35% felt that digital transformation was part of their core business strategy. In sum, most of these organizational leaders know that digital innovation will disrupt their industry and that they ought to invest more resources—time, money, etc.—into competing with these drastic changes, but only a small number of them are making strides to do so.

As part of our research, we included an outreach component where we invited each of the 28 leaders to consider whether they would like to participate in a short-term pilot innovation project comprised of a team of 5-6 individuals from their own company. Total time commitment would be 8-10 hours over 60 days. We stressed that this pilot would be: (1) an experiment to test various digital initiatives the leaders valued and (2) a chance to create momentum towards innovation within their companies. So, we left the choice with them: would they take the chance to execute a short-term, low-risk innovation experiment (totally free of charge, by the way) or not?

Three companies emailed back quickly. It is worth noting that each was run by a female executive. These women responded that they would be immensely interested in learning more about the pilot project. However, after learning more, over the course of a few weeks of emails back and forth, each said, "I'm sorry, but I don't have time." The 25 other leaders never responded.

¹ Sarah is a character adapted from Michael E. Gerber's case study in his book, *The E-Myth Revisited: Why Most Small Businesses Don't Work and What to Do About It* (1995). 3rd Edition, Harper Collins: New York, NY.



Maybe it was because they didn't like the process. Maybe they didn't like us personally. Maybe they were just really busy². But it is the spoken and unspoken unanimous, yet individually, made decision that is most interesting: they didn't have the time.

Let's do the math.

There is a total of 1440 hours in 60 days (8 weeks). Let us assume, then, that any one of these research participants works a 40-hour week across this time period, which equates to about 320 hours, 22.22% of the total available time in 60 days. Of those 320 work hours, we were asking for ten. That is 3.13 percent. That is doable.

What we find insatiably curious is that 28 senior leaders at small-to-medium manufacturing companies were given the chance to be guided by researchers at a Big 10 university through a free, low-risk pilot digital innovation project that would require no more than 3.13% of their total work time in two months and all of them turned it down. All of those who had the courtesy to give us a direct response said it was because they didn't have the time.

Now, we're not here to write off these companies as doomed to fail because they didn't take our offer. That would be unfair and untrue. What is true is that these organizations don't have the time for innovation not because they're bad at what they do, but because they are probably very capable. In fact, the data suggests that they are doing exactly what they ought to do on a daily basis. And that's part of the problem.

The Rules of Success

They say there is no growth in the comfort zone. They say that to be creative, you must break barriers and make new connections. They say you must make time to innovate, or it will pass you by. But why? Why is growth and innovation so counterintuitive, so much of an uphill climb? The answer, though not complicated, is certainly not obvious.

The story begins with former BCG employee and Harvard

Business School doctoral student, Clay Christensen. It was the early 1990's and thirty-something year old Clay was not sleeping very well. He had some burning questions that needed answering.

From his life experience, he had observed something that puzzled him deeply. He wrote:

"When you look across the sweep of business history, most companies that once seemed successful—the best practitioners of best practice—were in the middle of the pack (or, worse, the back of it) a decade or two later."³

His question of highest priority was: Why is success so hard to sustain? It was easy to understand why bad companies failed or even why bad leaders led good companies to fail, but what he wanted to know was why good organizations with really good leaders died off. What he and his colleagues discovered in their research was what he later described as both "unsettling and counterintuitive."

"What often causes the lagging behind are two principles of good management taught in business schools: that you should always listen to and respond to the needs of your best customers, and that you should focus investments on those innovations that promise the highest returns. But these two principles, in practice, actually sow the seeds of every successful company's ultimate demise. That's why we call it the innovator's dilemma: doing the right thing is the wrong thing."

Success is hard to sustain, he realized, because the very rules that generate the success are not the same rules that keep it going. The rules change and the hard about all of this is that good managers have some serious opposition into learning and applying the new requirements. And much to Christensen's credit, it's not because the managers are incompetent. In fact, it's because they're really good at what they do that makes them so susceptible to failure. To understand this more fully, it may be helpful to draw on some lessons and insights from the lifecycle of an apple.⁴

¹The following article by Dorie Clark makes a strong case for busyness as the culprit, but it misses the deep psychological mark for what we are busy with (and why it feels so important) in the first place. Hopefully, our article here will make some sense of that as you read on. Clark, D. (2018). If strategy is so important, why don't we make time for it? *Harvard Business Review*.

²Christensen, C.M. (1997). *The innovator's dilemma*. Cambridge, MA: Harvard Business Review Press.

⁴Others have used natural phenomena to describe organizational change and growth, such as: Modis, T. (1998). *Conquering uncertainty: Understanding corporate cycles and positioning in your company to survive the changing environment*. New York: McGraw Hill.

Lessons from the Orchard

Hobart, Indiana is about an hour drive south and east of Chicago and is home to County Line Orchard, a family-owned apple orchard and agritourism farm. It has been rated as one of the top apple orchards in the country ⁵ with over 20 varieties of apples produced on site. And while the operations are superb, the basics of apple growing here are replicated in nearly every apple orchard around the globe; it runs to the rhythm of the four seasons.

In spring, driving southbound on County Line Rd, one can see the magnificent apple trees' whitish-pink blossoms blooming in the early light against the backdrop of budding leaves. Spring is the season of internal growth for these trees as they prepare to shoot forth their fruit. As the temperature warms and summer is on, the fruit grows dramatically from tiny blossom to a fist-sized apple. Beginning usually with a pale green color, the apples also change in hue as they mature and develop. Throughout the fall season, the apples are ready to harvest. At County

Line Orchard and at many orchards the world over, this harvesting process is done both on a large scale using commercialized methods as well as with a more personalized, u-pick approach where anyone wanting some fresh apples off the tree can pay to come pick their own. Then comes late fall and early winter where there is canning or some other method for preserving the apples for future consumption.

Figure 1 illustrates this process of growth and change in a generic apple over the four seasons using an s-curve. Four seasons or phases both determine and explain particular levels of growth. Phase 1 (Spring) is a time of small changes with big implications. Phase 2 (Summer) is when those buds become apples that then grow into maturity. Phase 3 (Fall) is the time to reap the benefits of Phase 2 by implementing processes that help to streamline the harvest. Phase 4 (Winter) is the time for guarding and preserving what has been done and thus to enjoy some of the sweetness of early phases.

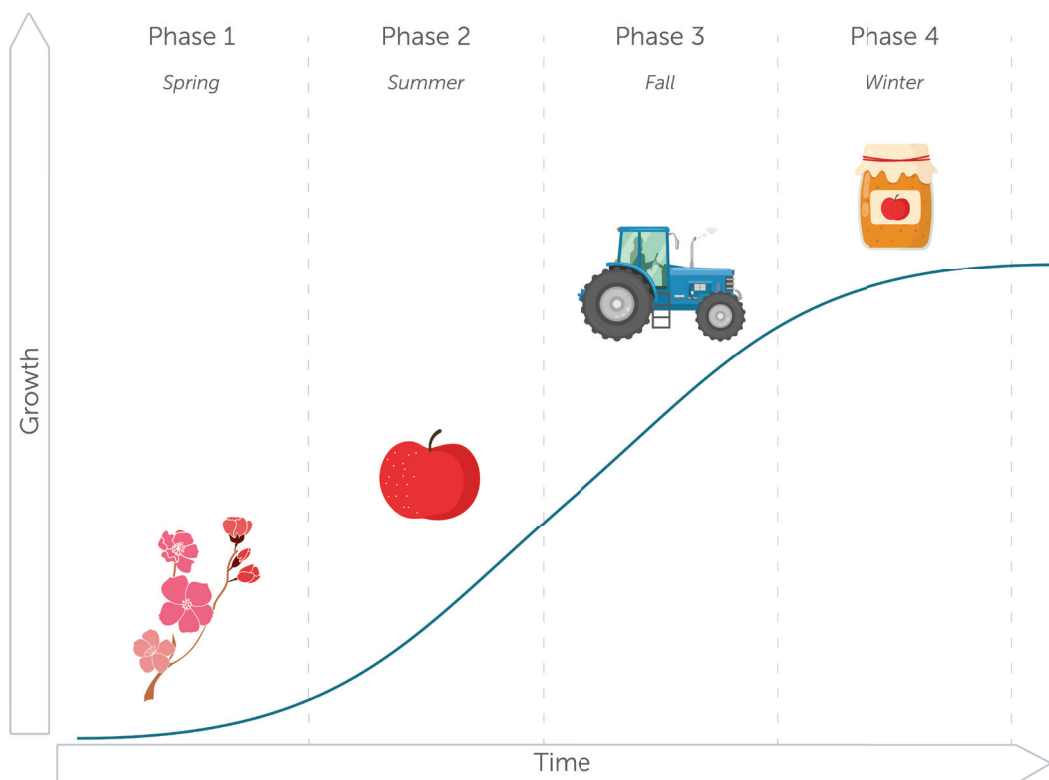


Figure 1: S-Curve of the Lifecycle of an Apple

⁵ Siefert, R. (2020, September 8). The best apple orchards in America [web blog].

<https://www.thedailymeal.com/eat/best-apple-orchards-us-ranked-gallery>.

The s-curve and its apparent utility in mapping growth has been used by strategists for decades to chart the trajectory of development of various technologies—from jet engines to fertilizers to disk drives and lamps ⁶. Figure 2 illustrates this same four-phased pattern of growth for a generic technology (represented by a computer chip). Phase 1 (Explore & Innovate) is when there is exploration and innovation, typically in the research and development (R&D) departments of large organizations. Once there is a tested prototype, it is time to move on to Phase 2

(Build & Design) where a product is placed in the market and sales and production departments move into full swing. Phase 3 (Optimize & Regulate) is when quality and service processes become extremely important and vital to maintaining the cashflow to keep the business going and the customers happy. Phase 4 (Guard & Preserve) is when the full success of the product is felt throughout the organization and the marketplace. Legal and accounting departments become important in preserving the product’s success (the “brand”).

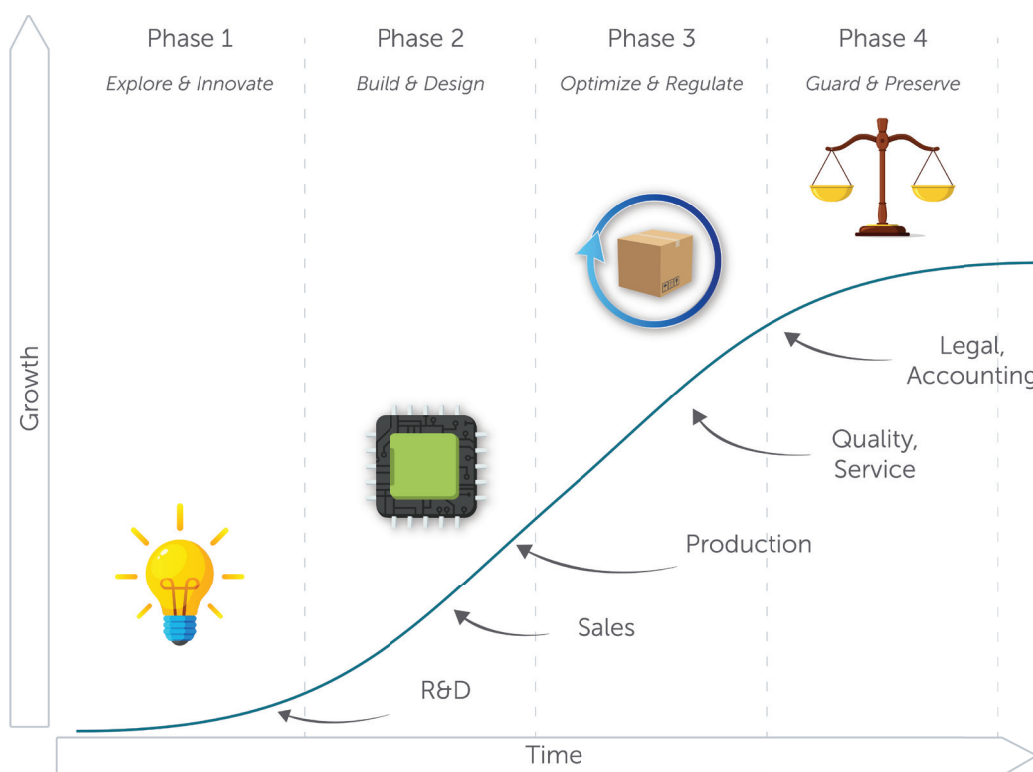


Figure 2: Lifecycle of a Technology

⁶ Asthana, P. (1995). Jumping the technology S-curve. *IEEE spectrum*, 32(6), 49-54



Again, the s-curve can tell an interesting story of the birth and growth of many living and non-living entities, but there is something else it also charts: the inevitable and eventual death.

Part of the apple orchard’s winter experience, no different in County Line Orchard in northeast Indiana than anywhere else, is a sort of death. Leaves change colors and drift to the ground. The tree that gave the Fuji or the Pink Lady or the Golden Delicious goes into a dormant state where no leaf, no bud, no apple is produced. The demise of the apple is part of its lifecycle.

This is true of technologies and systems as well. A product will eventually die off or fade away. It is a natural law that is inescapable; nothing lasts forever. Not even organizations. They too follow an s-curve path of growing life and quick demise. But organizational leaders want to keep a company alive for years, especially if there is to be any economic stability and any money to feed mouths and give purpose to the employees and leaders who work therein. Of necessity then, the organization must “jump” to a new s-curve (see Figure 3) ⁷.

“The best time to innovate,” said the Wharton School of Business, “is when everything is going well.” Serguei Netessine, a professor at Wharton, further expounded by saying, “Paradoxically, most businesses don’t do that because they’re kind of hostages to their success. Why bother if we are making money and the current business model is working just fine?” ⁸ But what we learn from the apple orchard is that, essentially, the organization must prepare for and create its own “apple-blooming spring season” while the apples are still hanging from the branches.

The apple tree, though living has no brain, but is incredibly perceptive as to the timing of its production. It knows full well that Autumn is upon the orchard because fruit is ripe on the tree. There is a temperature drop that stimulates the changing color of the leaves and their release to the ground. The tree prepares to lay dormant in a microscopically productive sleep where it prepares next year’s bloom. Two processes of growth and decay are managed almost simultaneously to jump to next year’s spring. Organizations must be as smart as the apple tree to succeed.

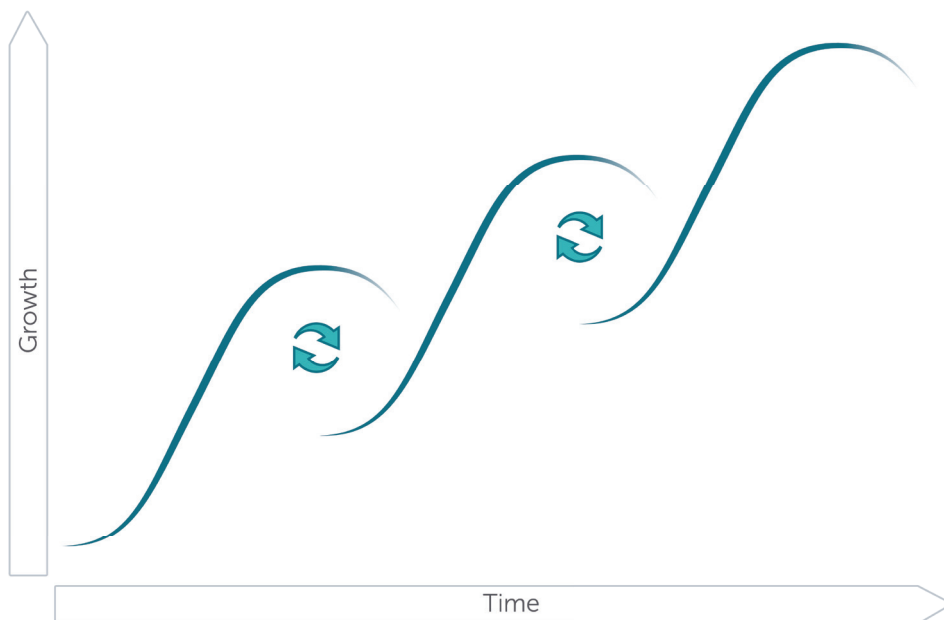


Figure 3: Sustaining Innovations Through Jumping S-Curves

⁷ More on timing technological transitions: Foster, R.N. (1985). Timing technological transitions. *Technology in Society*, (7), 127-141.

⁸ Netessine, S. (2021, June 7). Innovate or perish: What businesses should learn from the pandemic. *Knowledge@Wharton*



“It is as if two separate objectives are functioning.” A celebrated ecological economist by the name of C.S. “Buzz” Holling penned those words when he was describing the “adaptive cycle”—the behind the s-curve work that helps biological systems, like apple orchards, and human organizations live to see another s-curve of growth and success. The late Dr. Holling used an infinity loop (Figure 4) to illustrate this somewhat sequential process.

“The first [s-curve] maximizes production and accumulation; the second maximizes invention and reassortment. The two objectives cannot be maximized simultaneously but only...sequentially. And the success in achieving one inexorably sets the stage for its opposite.”⁹

To begin working on this regenerative process is a time of “novel recombination [that] can unexpectedly seed experiments that lead to innovations in the next cycle.” Therefore, a paradox where two opposites are embraced exists: “growth and stability on one hand, change and variety on the other.” The trick then, in the analogy of

the apple orchard, is to begin planning and developing next year’s spring exercises at an acceptable level while harvesting. And while this explains the enormous juggling act required of managers and leaders to innovate, it does not fully illustrate the reason behind the extreme difficulty leaders have in implementing innovation.

Humans are not stupid and really capable leaders of the world’s best organizations are anything but. Yet stupid decisions by good leaders—like Blockbuster’s refusal to buy Netflix or reinvest into online video streaming—are common. Humans are imperfect, but if they have their head on their shoulders, they’re not going to metaphorically injure themselves and thousands of employees and call it success. So, there must be something below the surface that prevents leaders from making the time to innovate in a way that helps them sustain success. In other words, there must be something deeper than mindless obedience to rules that has intelligent, competent human beings becoming blind in destroying their own companies.

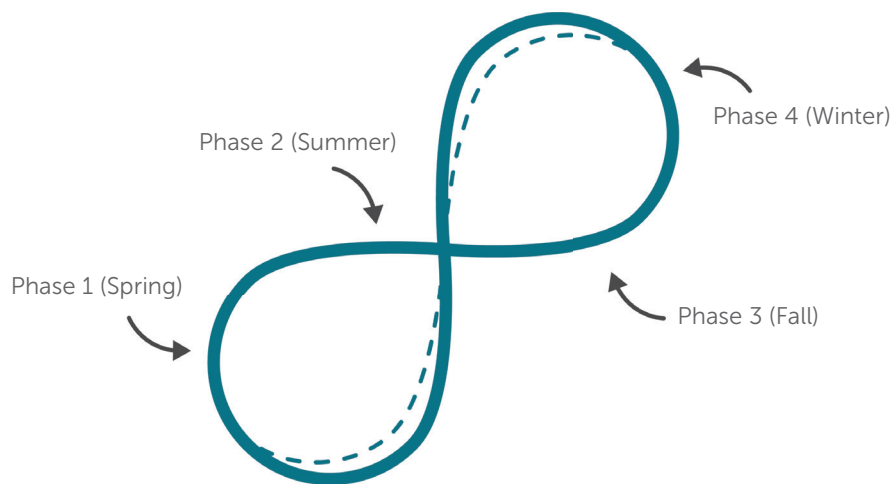


Figure 4: The Infinity Loop of Growth, Decay, and Adaptive Regeneration.

Note. Adapted from C.S. Holling (20021). Use of the seasons is to help outline the initial S-Curve of growth. The dotted outlines the adaptive process that begins a new growth phase.

⁹ Holling, C.S. (2001). Understanding the complexity of economic, ecological, and social systems. *Ecosystems*, 4(5), 390-405.



The Cognitive Dilemma

During the 1980s, Dutch psychiatrist Peter Robertson, felt that theories and concepts of biological systems better explained human systems and behavior than those from the typical psychology department. He was not the first (nor will he be the last) to do research using biological systems theories and frameworks to understand human behavior. But his work resulted in an interesting assessment called the AEM-Cube that mapped out, with incredible accuracy, the patterns of human thinking around s-curves.

To help translate what we've already discussed about s-curves into human behavior, imagine a parent going with their child to a new and unfamiliar place (see Figure 5). The child stays close to their parent, focused on how to make the most of just being by what is familiar; by keeping the status quo. However, the child sees in the distance a ball in a large grassy area. Slowly, overtime, the child takes

leave of its parent and makes its way to the ball and is ready to play and explore.

Figure 5 offers a visual for this hypothetical account and labels the far-right end of the dimension where the parent and the child are close together as "stability-oriented" while the extreme left-hand end of the dimension where the child is exploring with the ball is labeled, "exploration oriented." Robertson along with several other past and contemporary researchers who studied human behavior under a more Darwinian lens, observed that people sometimes remain more stability-oriented throughout their lives while others more exploratory. Figure 6, then, maps the same behavior as illustrated in Figure 5, but on the slope of an s-curve, with stability-oriented behaviors more at the top of the curve and exploratory behaviors more near the bottom of the curve.



Figure 5: Example of Exploration Dimension

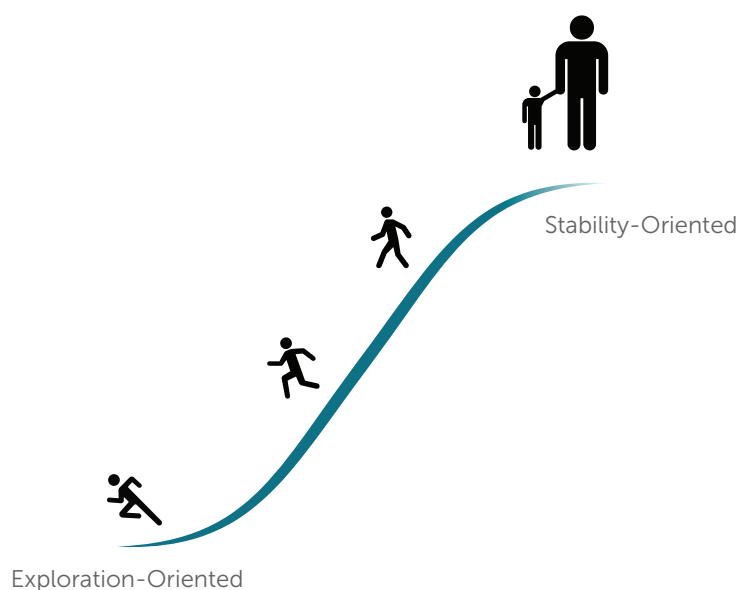


Figure 6: Example of Exploration Dimension on the S-Curve



What Peter Robertson discovered in developing his assessment is that all of us have preferences for how exploratory or stability-oriented we are throughout our lives. As one takes the AEM-Cube assessment, they can see their results plotted on an s-curve revealing their preference for more exploratory or stability-orientations when in response to change. This provides some interesting information as it relates to the contributions we make in the systems and organizations we find ourselves in.

Look at Figure 7, which displays on the left-hand side, the AEM-Cube results for a hypothetical team. For this discussion, the height and y-axis placement of the pins are irrelevant. What is important is the right-to-left, x-axis placement of the pins in the cube—the full exploration dimension (as previously described in Fig. 5 and 6). The exploration dimension in the cube reads right-to-left, the yellow to green border. But the reading of this cube is flipped when placed on the s-curve (the right image in Fig. 7), going from left-to-right, bottom-to-top. The pins of the cube become points on the s-curve, which plots out one's type of contribution they prefer to give when it comes to work and life. If a person is higher on the s-curve, being more stability-oriented, they will be more comfortable maintaining the status quo; optimizing processes and systems that achieve greater levels of efficiency. They are risk averse, hoping to stick to established rules and guidelines. Trusting the process, they are well suited to leading and working in areas where they can implement and maintain systems that bring order, organization, and optimization to the organization. Without these people who instinctively operate at the top of s-curve, there would be no order, no products shipped, and customers cared for.

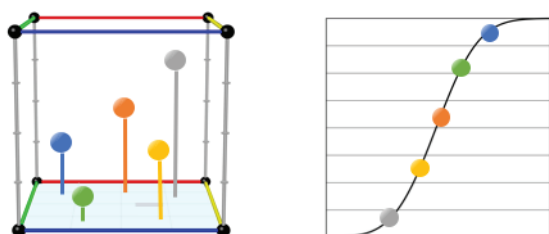


Figure 7: AEM-Cube Readout with S-Curve Results

On the other hand, people who have their results displayed towards the bottom, left-hand part of the s-curve are more driven to find the “new thing”, sometimes even for the sake of it just being novel and different. Individuals that are more exploratory are eager to discover, to invent, to innovate, to toss out the old and get in the new. They believe in transformation and change and do so rapidly and willingly. Without these individuals, there would be no radical changes that bettered society or products that improved our lives.

Thus, the s-curve can not only represent a set of progressive stages of growth in living and human systems, but it can also describe a sort of mindset; patterns of thinking that inform and determine our behavior. And a case study in the first few years of a medical startup company can demonstrate just how impactful and significant this finding is.

Fourteen keen innovators with eyes and specialties geared towards to medical technologies, developed a particular medical device that they believed would transform the way in which hospitals delivered their care. This would not be an inexpensive device as it was sold to hospitals for \$750,000, excluding service, training, and maintenance. The company of fourteen put their product on the market, sold a number of their products, and was ready to keep traveling up the growth curve.

Figure 8 has three important images that provide an interesting and accurate picture of where the organization was at the beginning of its founding in 2008. At left is pictured the AEM-Cube results as reported by the fourteen members themselves. The center image pinpoints the stage of their product at the time of the assessment. The last image (on the right) displays the results of the team members' ratings of each other on the AEM-Cube. Essentially, this far right image suggests what roles the individuals were playing within the company in the context of an s-curve. By comparing the first and the last image of AEM-Cube reports, one can see that the individuals are contributing in ways to the organization that are relatively consistent with their psychological preferences for exploration and stability.

¹⁰ For information on how to read the AEM-Cube visit www.human-insight.com.



But what is most interesting is the composition of this company. These are mostly high exploration-oriented individuals with a focus on innovation and transformation. They are intuitively going to put their time and attention to creating their new product. For a startup medical company, this combination—simply based on their plotted results on the s-curve—is quite competitive, but what is their clear strength is also the very thing that could undermine everything they set out to do.

The first 30 months were flawless. The device was working, the feeling and hype around a startup was infectious. But as the products were getting sold, complaints from clients started pouring in about poor service delivery. The training and the training manuals were too technical and there were long delays in getting any customer service help. As the grievances piled up, so did the issues internally.

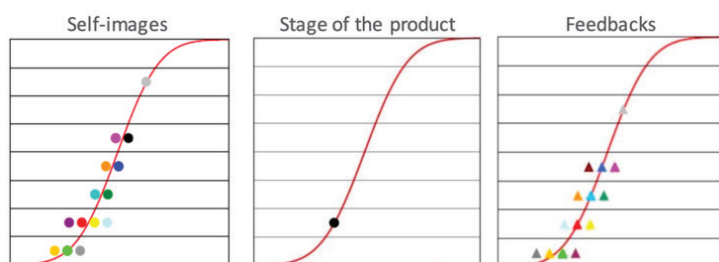


Figure 8: AEM-Cube Readout of Medical Device Company in 2008

Note. The first image (left) is the results of the self-report version of the AEM-Cube. The next image (center) illustrates the stage of the product. The final image (right) displays the results of the team members' ratings of each other on the AEM-Cube.

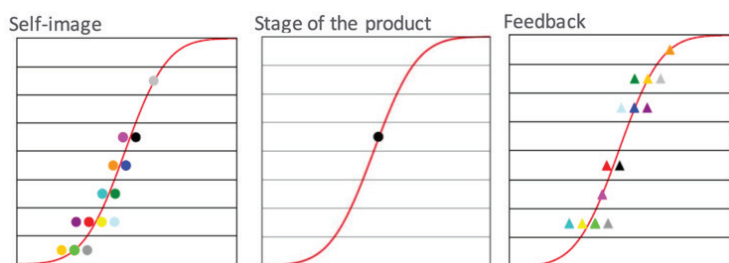


Figure 9: AEM-Cube Readout of Medical Device Company in 2011

Note. The first image (left) is the results of the self-report version of the AEM-Cube. The next image (center) illustrates the stage of the product. The final image (right) displays the results of the team members' ratings of each other on the AEM-Cube.

Figure 9 is a mirror image of Figure 8 in that it has, from left-to-right, AEM-Cube self-reporting for the individuals within the startup, an s-curve image to illustrate the stage of the product in its lifecycle, and a final image with team members reporting the functions and roles their co-workers were taking on in the company. However, a few things are different, the first being the most obvious as this second assessment was completed in 2011. The next major difference is that the product has progressed to a higher position on the s-curve; the product is out of the R&D phase and into the hands of customers. Lastly, the spread of the points on the s-curve on the peer assessment is in great contrast from that on the left and even from that of Figure 8. These results tell a compelling story.

As the company aged, progressing up its inevitable s-curve of growth, the startup crew had to take on roles that were best suited for higher s-curve thinking and processes. But what these entrepreneurs discovered very quickly was that their new job functions in 2011 were poorly matched for the way their brains were wired. They were an exploration-oriented group who liked to break the rules with their innovations but were then trying to establish rules and systems that would meet the needs of their customers with consistency, and they were failing. In the metaphor of the apple orchard, people designed for spring season work were being thrown into fall's harvest and they couldn't keep up. After all, there are no blossoms in October.



A Final Natural Law

There are two reasons, then, as to why innovation is so counterintuitive. The first, is well stated in the words of Peter Robertson: “over-controlled, efficient, streamlined, bureaucratic systems are not [strong in] promoting the existence of [a range of values from the growth curve] or, in other words, are simply not-self-sustainable systems.”¹¹ In other words, as organizations move up their s-curve of growth and success, they become larger and more efficient and, quite often, top-down in structure and practice. They have the resources and the time and ability to keep up with the pace of technology, but because of the way they function at the later stage of their growth, they become blind to the opportunities that lie in developing innovations that come from investing in products and systems that are at the beginning stages of the growth-curve.

The second reason is because leaders who are psychologically best fit with managing top of the s-curve processes are not well suited to simultaneously manage bottom of the s-curve activities of innovation and rapid change. Rather, they are busy with the day-to-day tasks that make their customers happy and bring in the steady harvest of high returns. In plain words, they are good managers who are living by the rules of the phase of growth they are well-matched to lead. Because of this fact, they are often unintentionally blind to the need-to-have innovation processes that must be created, invested, and experimented on within their organization. How do we avoid becoming hostages to our own terminal success and our own cognitive DNA? The solution lies within a beautiful law of physics discovered by a young man from Romania.

Adrian Bejan grew up during a time when Eastern European countries lived under the shadow of

communism. Dictator Nicolae Ceaușescu of Romania was cruel and conniving; his leadership squelched freedom. It seems this environment of suppression provided some inspiration for Adrian’s discovery. While working to understand the barriers and flow of conduction in electronic components, he came to understand a law of physics that describes the evolution of systems:

“For a finite-size system to persist in time [to live], it must evolve in such a way that it provides easier access to the imposed currents that flow through it.”¹²

The Constructal Law, as it was later named, seems very related to what we have already discussed here in our story of the growth-curve: some of the rules have to change for long-term sustainability to be possible. Having an organization “get stuck” in one part of the growth-curve slows down its “flow” towards the next phase. Therefore, by removing those barriers and thus opening the flow of the organization, its evolution towards new growth curves can be achieved.

Water, crosswalks, and general economics all seem to abide by this law. And because of this ubiquity, there is great utility. Now, Dr. Adrian Bejan of Duke University often advises companies in how to “open the flow” within their organization. He says the first place to start is through people. “CEOs need to attract the type of individuals who excel at opening up the flow and [provide] greater access,” he says. In other words, cognitively diverse teams comprised of people who think and work at different stages of the growth-curve can ensure that no one phase dominates over the others. Growing research supports that cognitively diverse teams and organizations solve problems faster¹³, are more innovative¹⁴, and have a greater likelihood of achieving long-term success and sustainability¹⁵.

¹¹ Robertson, P. P. (2014) Why top executives derail: A performative-extended mind and a law of optimal emergence, *Journal of Organisational Transformation & Social Change*, 11(1), 25-49. doi:10.1179/1477963313Z.00000000024

¹² Elegem, L. V. (2021, August 5). *The physics law that will help you better understand your organization and make it thrive*. nexxworks. <https://nexxworks.com/blog/the-physics-law-that-will-help-you-better-understand-your-organization-and-make-it-thrive>.

¹³ Reynolds, A., & Lewis, D. (2017). Teams solve problems faster when they're more cognitively diverse. *Harvard Business Review*. Retrieved from <https://hbr.org/2017/03/teams-solve-problems-faster-when-theyre-more-cognitively-diverse>.

¹⁴ Lamm, A. J., Shoulders, C., Roberts, T. G., Irani, T. A., Snyder, L. J. U., & Brendemuhl, J. (2012). The influence of cognitive diversity on group problem solving strategy. *Journal of Agricultural Education*, 53(1), 18-30. doi:10.5032/jae.2012.01018

¹⁵ Robertson, P. P. (2005). *Always change a winning team: Why reinvention and change are prerequisites for business success*. London, UK: Marshall Cavendish Business & Cyan Communications Limited. See also, Robertson, P. P., & Schoonman, W. (2013). *How people contribute to growth-curves*.



Teams and organizations with cognitive diversity can still have their challenges, however, when there are unnecessary siloed structures impede the “flow” of ideas¹⁶. Robertson’s quote at the beginning of this section highlights that very idea. Therefore, flattening the hierarchy opens the floodgates where more than one voice can be heard and acted upon. Yet even this notion can be an extreme challenge of agility for organizations on the top of the s-curve that are set in their ways. But there is immense hope. As we hope this article reveals, every problem and potential solution for the manager’s innovation dilemma can be explained by natural law. Thus, a leader can take the leap with full knowledge that not only have these laws been tried and tested for eons across the universe, but they can be utilized to an organization’s benefit with actual success.

Conclusion

Let us end where we began: in Sarah’s office. Her great quandary was wondering whether she should work in or work on her business. Being a good manager dictates that she should do the former but being a leader that propels the organization forward demands she focus on the latter. But the reality is that this is a false conundrum. The decision is not an either/or but a both/and scenario. She needs to do both. And the lessons of the s-curve show us how.

At no point in the s-curve is there only one focus of either working in or working on the business. Rather, like apple trees, the processes are practically simultaneous. In other words, the ratio never is 0/100 for either working in or working on her business. Sarah, and all the leaders like her, need to infuse both approaches (i.e., ratios of 50/50 or 30/60 or 80/20, etc.) into her leadership. Focusing too much on one over the other is just not sustainable. Dr. Christensen, Dr. Robertson, and others have well documented that a leader’s strict adherence to good rules of management become their very downfall. Through some of the lessons of the s-curve, we know well that there is a blindness that can occur in our leaders, in our organizations, in ourselves as we climb to new heights that then impairs us in being able to tackle equally

pressing and important matters, like innovation. And while it may feel that our choice to take time to innovate will sacrifice quality for efficiency, we ought to re-evaluate our priorities and even reframe our work.

Our 28 manufacturing leaders we studied may not have the time to innovate now, but they will need to make the time at some point, or they will bring about the very end they are hoping to prevent. Like your own organization, our research participants may be stuck in their to-do lists because they are focused on their organization’s current placement on the growth-curve. They may also find innovation’s required agility difficult to summon because they lack the cognitive diversity needed to open the flow of their organization. But if they can avoid the pitfalls of narrowly focusing on only one stage of growth and align ourselves and our organizations with these natural laws of growth and sustainability, then we can enjoy many seasons of happy and productive harvests of success.

The new challenge then for Sarah, and the leaders like her and the academics, educators, and consultants who influence people in her position, is to draw from tools and frameworks that help the Sarah’s of the world find the shifting balance between the demands of the day and the need to innovate for tomorrow. More than effective time management and going “lean,” the frameworks to help leaders balance polarizing yet mutually beneficial priorities will need to be as adaptable and flexible as the leaders ought to be.

The efforts to balance and make these types of changes will be counterintuitive. They will be uncomfortable. But innovation and our daily to-do lists really do build off of one another, we just have to take off the lenses of our narrow focus and be willing to incorporate the whole experience, all the work of each of the phases of the s-curve into our business. To do this, we may need to hire some divergent thinkers. We may need to restructure our organization. But really, in the end, the immense challenge for all of us is to ensure we make the time to make the change.

¹⁶ Reynolds, A., & Lewis, D. (2018). The two traits of the best problem-solving teams. *Harvard Business Review*.

