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Innovation and Transformation: A Lifecycle Model

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Abstract

The lifecycle model has been used many times to illustrate the growth, maturity and decay of an organization. The normal-curve product cycle and the s-curve are both visual examples. In this paper, the lifecycle model is used visually to explore the dynamics behind innovation: when to innovate, characteristics of the parent and child organizations, and some uses of innovation in transformation.

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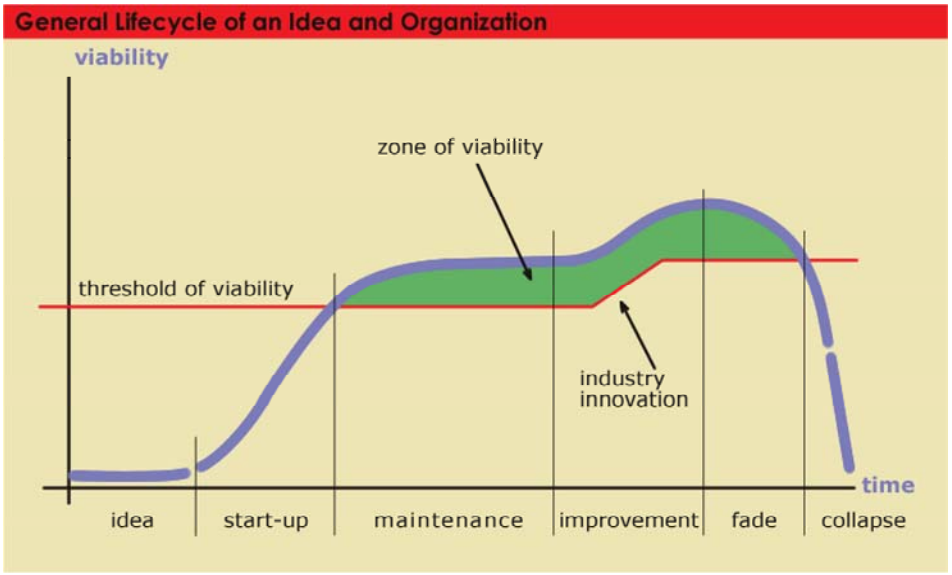
Defining innovation and a few consequences

An innovation is defined as "something new or perceived of as new." This invokes a wide range of examples, from a bar of soap with the words *new and improved* stamped across the package to the discovery of carbon nanotubes. Innovations may spring from a variety of sources: improvements that come about through quality programs; brand new business or product ideas that arise through innovation programs; and ah-ha ideas that spring up out of serendipity.

Most organizations understand the need to innovate but may not have a clear picture of why it's necessary, or of the consequences of putting an innovation in motion, particularly if the innovation is of a larger scale or different scope than its parent organization. Often, innovations will radically change the game for an organization, and while the promise of increased success and profitability beckons, the existing organization can feel threatened.



A general lifecycle model

For a simple look at this dynamic, we present a model which depicts a stylized lifecycle of an organization. Organizations start as ideas, usually ideas about products or services, not about organizations. Once the idea has enough credence, an organization must coalesce around it. Without the organization, the idea can never appear in the marketplace and realize its utility. Once the organization is formed, it both attracts and consumes resources. In the start-up phase, the consumption of resources outstrips the attraction of resources (capital and revenues). At some point this relationship inverts and the organization and its idea crosses a threshold of viability. By viability we mean *capable of separate existence.* The organization may continue to draw upon external capital for support but at the simplest level, its revenues cover its expenses; cash in exceeds cash out.

Viability may have many different kinds of metrics, depending on what's being graphed on the curve (an organization or an industry for example). Simple measures include profitability, positive cash flow, ROI, ROCE, among others.

As the organization nears the maintenance stage, it *figures out how to play the game*. In other words, it learns which combinations of processes and structures will help it reach viability. These processes and structures are formalized into systems and codified, or standardized to

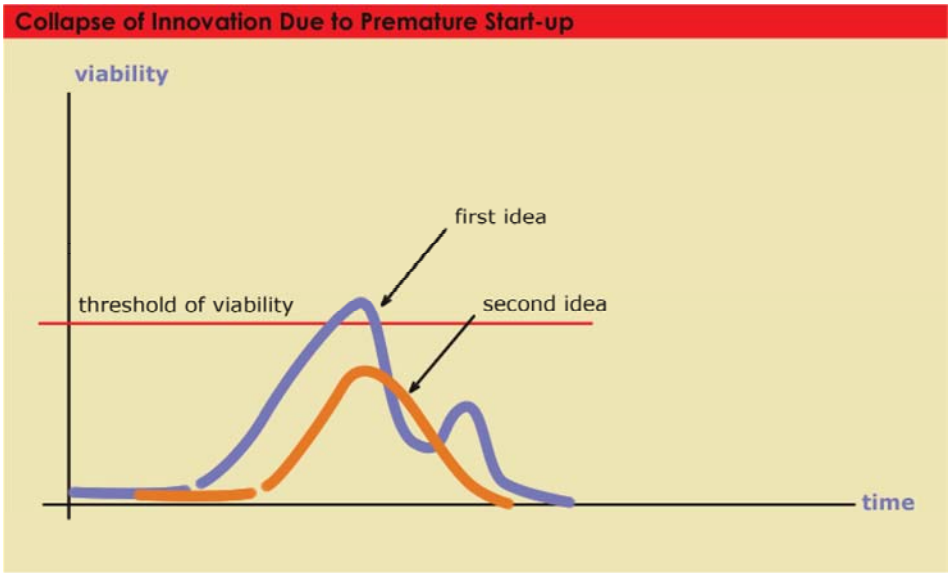
whatever degree possible, depending on the industry. In part, it's this codification that allows for efficiencies that push the organization above the viability threshold. There are other factors, such as adjusting the features of the product to harmonize more with customer wants and needs and figuring out which channels to use for marketing.

The organization then enters a stage of maintenance. Its current systems are sufficient to keep it viable. Then as competition puts pressure on pricing or creates new innovations, the threshold of viability increases. This places a demand on the organization to improve its processes, products, services and structures in order to remain viable. It may go through several rounds of this improvement over its lifetime. If the bar is raised dramatically, it will place a demand for radical innovation on the organization and also set a window within which the organization can respond before it runs out of reserves.

At some point, either because of internal changes or external forces, the organization will experience fade, reducing viability. It's possible to recover from fade, but for the sake of generality, the diagram on the preceding page shows the organization crossing the threshold of viability once more and falling into collapse.

Innovating too early

Somewhere within this cycle the organization will be forced to innovate. It takes time for an idea to reach maturity. Some formal processes for innovation can accelerate the process but whether it's accelerated or not, it also requires resources. The parent organization must be in a condition to either generate these resources internally or find them from external sources. Therefore, there are some logical times for an organization to innovate and some less than logical times. During ideation and start-up, resources are fully deployed in trying to achieve vi-

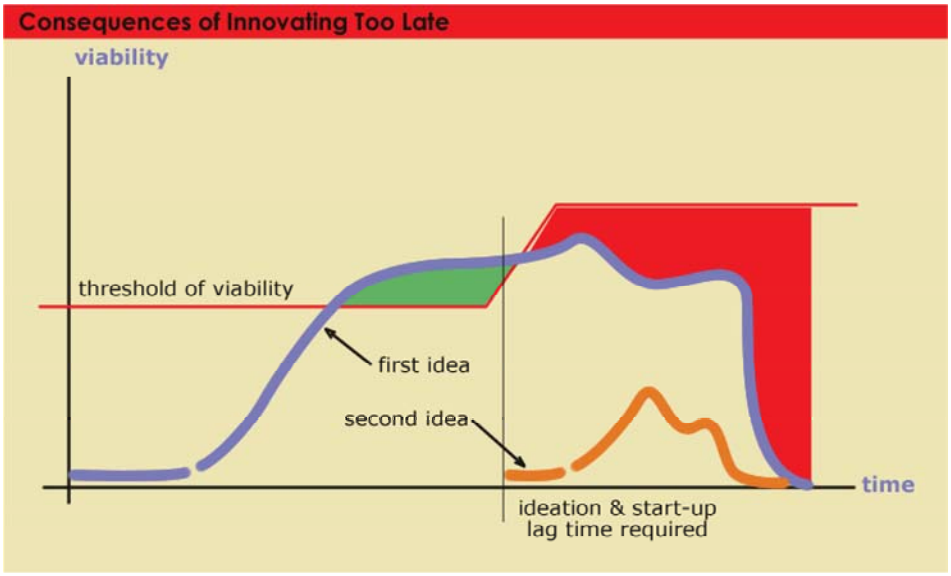


ability. To take on an additional start-up can add stress to the system and overburden it, causing premature collapse. It's not impossible, and there are some innovators who are brilliant at keeping several ideas alive at once on shoestring budgets. But most organizations will have

trouble bringing multiple ideas through start-up at once.

Innovating too late

It's just as common, perhaps more so, for organizations to attempt innovation when it's too late. The threshold for viability has been raised through some external forces and the organization mounts an effort to counter the increase in order to stave off lack of viability. However, because of the lag time involved in finding the idea and bringing it to fruition, the organization suffers sliding growth, reduced profitability and lower returns in the interim. If it wants to remain alive, it is forced to downsize, and downsizing involves watching the company's expertise and codification of success walk out the door. Only so much of an organization's success model can be codified in documents or practices outside of the human interpersonal experience. It simply can't be captured. In the effort to maintain viability, the organization may simply consume itself and fall further into collapse.



Both of these cases are extreme examples of pathological behavior. In practice, many organizations do pull out of a late cycle innovation and others can run multiple ideas in start-up. However, there are always consequences in terms of individual and organizational stress.

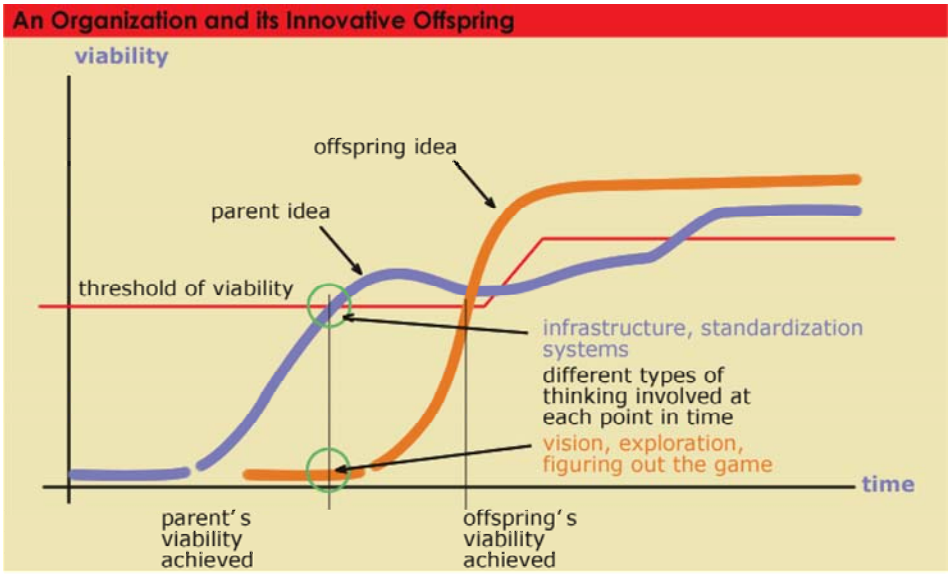
There is an optimal zone in which an organization can innovate. After the start-up is complete and systemization is well underway and hopefully before the competition or external conditions force a radical shift of the threshold of viability upwards. Because the first condition can be known, but the second condition is unknown, risk can be reduced by starting the ideation phase more to the left, and conducting the ideation on a regular basis over the life of the organization. That way, resources don't have to be radically shifted all of a sudden to support a nascent innovation process. They're already in place.

When you begin an innovation cycle, it's important to remember that you will push your own threshold of viability up. Why? Simply because

the organization now has to eat for two. If the organization is large and the innovations are smaller, this may not be so much of a factor. But another reason that organizations fail to innovate when they should is because the feeding of resources to a new idea and start-up within the company cuts into profitability and makes the organization more susceptible to variability in the marketplace whether it's due to competition or the economy in general. Many organizations therefore innovate *only when they have to*, which means it's too far towards the right side of the curve. To survive while eating for two, they'll risk entering semi-starvation.

General model of the parent and offspring in the innovation process

The next diagram shows a model of a healthy innovation cycle. Note that the parent organization shows a dip in viability due to the support of the new idea until it reaches maturity. Note also that when the new idea reaches maturity, it becomes the factor that raises the viability threshold for the rest of the industry *and also for its parent* assuming they're both in the same industry.



Some other features can be highlighted. While the parent organization is in its own maturity, its innovative offspring is in adolescence or childhood. The two idea-organizations therefore require different handling and usually different types of people to guide them. Often there is one senior management team or group of organizers working with both and it's hard for these people sometimes to keep the two ideas separate in their thinking and actions. They may place the same demands on the adolescent idea that they place on the parent. They may wish to consolidate the two and treat them as one. They may place the demands of innovation in the hands of already overburdened operations people who are more focused on improving efficiency.

The parent has been through a whole cycle of codification and has learned how the game is played. The adolescent—except in the most trivial improvements and innovations—is learning how to create and

play a new game. It can't be held to the same standards of codification and efficiency as the parent.

Two types of people and two related types of thinking must exist at the same time. Not only that, they must still collaborate with one another so that the new innovation doesn't cannibalize the parent. If the two can work in harmony, then they may realize synergies. One type of thinking is focused on the effectiveness, efficiencies and infrastructure development of the parent and the other is focused on the vision and system creation of the offspring.

Many organizations are not acutely aware that these two modalities of thought and action must coexist. They tend to think of the innovation as an integral part of the parent whose purpose is to feed and save and support the parent. They treat it as if it were either mature, or as a thing that requires no organic process of growth and exploration. Adolescents make mistakes in order to learn. It's not a question of tolerating failure, but of understanding that this is how learning happens. If the adolescent organization doesn't learn, then its solutions will rise no higher than that of the parent and the innovation threatens to become incremental, thus squandering much of the investment. At the same time, it's easy for adolescent ideas to collapse, so they must be subjected to a combination of rigor and nurturing.

Innovation and transformation

The word *transformation* is used as commonly and generally as innovation. Anything—from changing the overnight delivery vendor to a large merger—can qualify as a transformation. We will describe three different types of transformation and the role that innovation plays in them: transforming to attain scale, transforming to drastically raise the threshold of viability, and transformations to find new market space (possibly replacing the parent in the process).

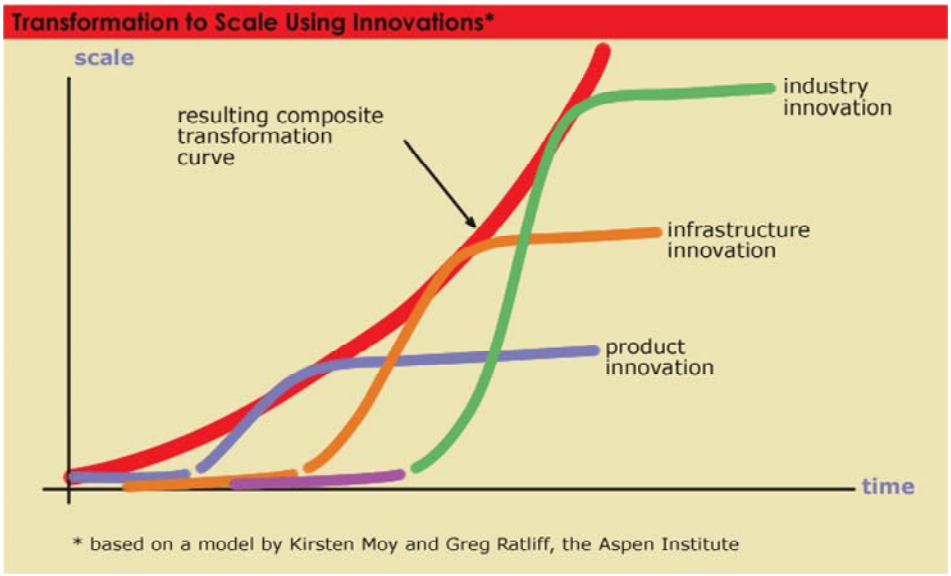
Transforming to achieve scale

An idea can become manifest as an organization and cross the threshold of viability but still fail rapidly after that. Success attracts attention and competition. All start-ups know that they're in a race to achieve scale. Distribution must grow to attempt to find market saturation. In some industries, the difference between achieving scale and not is fatal: different formats for DVD players is an example. One will win and one will lose.

Kirsten Moy and Greg Ratliff of the Aspen Institute's Economic Opportunities Program have created a nice model describing three phases of innovation that accompany the push to scale in collectives and networks but the model is applicable more generally for all organizations. Their three phases are product innovation, infrastructure innovation and industry innovation. First, the product is designed for scale, including efforts at standardization and simplification (in manufacture, delivery and perception). Next, infrastructure, partners, capital and technology are employed to till the field, so to speak, making it ready for planting. In the case of a major innovation like the automobile, infrastructure innovation included the creation of filling stations, paved roads and distribution for repair parts. Finally the industry phase includes

regulatory policy, strategic positioning, the development of intermediaries, and often new sources of capital.

These three stages overlap one another, so that while the product is being innovated, the infrastructure starts its own process and after an



appropriate lag, the industry innovations kick in. The resultant curve allows the organization—and in fact all organizations in the original product's ecosystem—to go to scale. It also has a side effect of possibly creating barriers to entry as the threshold for viability continues to rise.

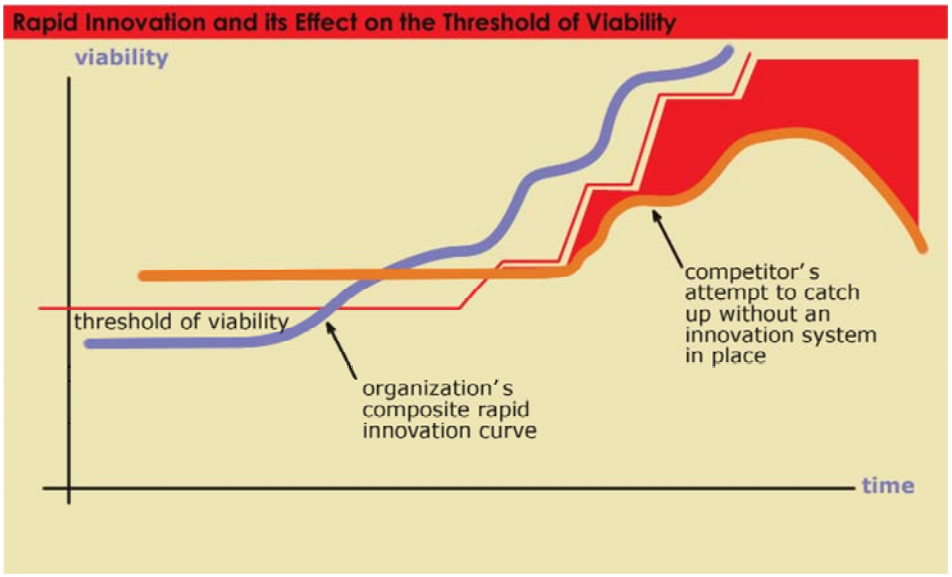
Transforming to radically increase the threshold of viability

Scale can increase the threshold of viability but usually a subset of the industry tags along. Sometimes increasing the threshold serves to open doors for the competition. Innovating the infrastructure around a product-idea can make it easier for incumbents to expand their offerings through channels created by the infrastructure. An example is the laying of fiber in long haul, city rings and last mile applications. Fiber's radically improved bandwidth allows for tremendous follow-on product innovations and makes it easier for many companies to get their products into the virtual marketplace. But it also raises the bar because customers now expect more from a web presence than a digital brochure.

An organization may choose to radically raise the viability bar through a product innovation, a process innovation or a business model innovation, just to name three. An example is Apple with its iPod—a true transformation in the mp3 player field. In addition to capturing market share, the innovative design raises the specifications for performance from other manufacturers, setting off waves of innovation in their organizations.

Some organizations create havoc for their competitors by not trying to raise the threshold all in one shot but by making innovation a standard way of doing business. They spin off rapid fire innovations that are almost impossible to respond to on an incremental or one-off basis. Inno-

vation has become a system for these types of competitors. They simultaneously create problems for their competitors and increase barriers to entry in the market. Also, old products may be rapidly discarded be-



cause this kind of innovation can create commoditization in earlier product generations. Indeed, it's common for rapid cycles of innovation like this to bounce from product to product instead of focusing on a single product and its underlying technology, systems or processes.

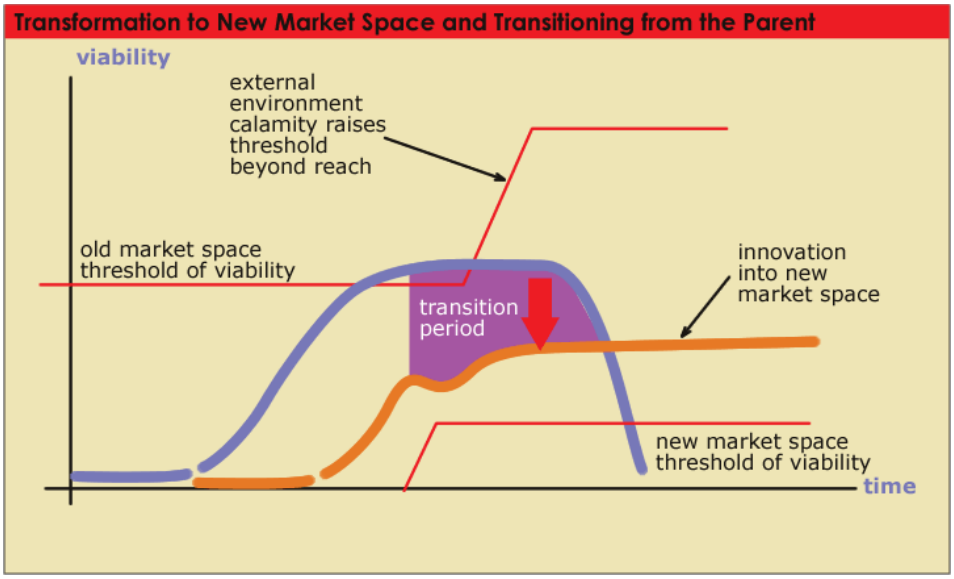
Transforming to find new market space

A third kind of transformation relies on finding new market space—one that is relatively unoccupied by other players. These are the *blue oceans* popularized by W. Chan Kim and Renée Mauborgne in their book *Blue Ocean Strategy*. A move into new market space can be a coup in several ways. It may be a way to bail out of a troubled industry and it also may lower the threshold of viability, making it easier for the transforming organization to make the shift. This means it might be easier to become profitable or to generate return in the new space than it was in the old space. The transformation may result in a spin off of a new business, new product lines or new applications for modified, existing products.

In some cases an organization seeks to innovate in order to so transform the parent that it disappears in effect, though the name may remain. Long term sustainability depends on the use of this method upon occasion because the business the organization originally got into no longer exists. The organization really needs to learn how to play a new game because no one is going to be playing the old one for long. If the organization is unused to innovation and doesn't have a systematic approach to it beyond process improvement, it will be much more difficult to discover a new market space. This discovery can't be made without any relation to the previous business—there must be some sort of migration path at least in the knowledge base represented by the employees and managers of the parent company.

This leap is also hard to make in a humane way without destroying many lives in the process. Organizational transformation on this scale

involves individual human transformation as well because many of the jobs in the parent will disappear in the offspring. When possible, people ought to be facilitated to make the transition to the offspring or to organizations in adjacent industries that are not so severely touched by the external changes calling for the transformation.



Pathologies in Innovation Transformation

We recognize at least five pathologies in transformation efforts. Two of them were covered at the beginning of this paper.

1. Innovating too soon on the parent's curve, before the parent has stable viability and can support itself and the new idea at the same time. There is too little time and attention available and resources are tight.
2. Innovating too late when the parent is losing viability and fighting for survival. In this case there are also too few resources to spread around the maintenance of the parent, the stress of downsizing if required, and the support of a new organization.
3. Not realizing that there are two ideas and organizations occupying the same parent and that they need different treatment, resources, expectation, dialog and skills. This happens in organizations with formal innovation processes but it also happens when an innovation is attempting to emerge organically in an organization without going through a formal process. Everyone admonishes the innovator to get back to work and drop the silly idea.
4. Not letting go when the new idea achieves adulthood. Sometimes innovations are subsumed inside the parent but even in those cases, they need some of their own space for expression because they've likely discovered a few new rules and the old system will kill them even after they become viable. Not letting go tends to stunt the growth of the new idea and distracts or dissuades the parent from getting to work on the next idea.
5. Cannibalizing resources in either direction can also be destructive. The offspring can't siphon off too much from the parent and the parent needs to avoid the tendency to look to nascent innovations for resources when times get a little tight.

Summary

The lifecycle model has been used many times to illustrate the growth, maturity and decay of an organization. The normal-curve product cycle and the s-curve are both visual examples that have been used to demonstrate life cycles. In this paper we've used a stylized lifecycle model to visually explore the dynamics behind innovation: when to innovate, characteristics of the parent and child organizations, and some uses of innovation in transformation. We've identified at least five pathologies in transformation efforts. Two of them were covered at the beginning of this paper.