Understanding Gartner's Hype Cycles

Published 20 August 2018 - ID G00370163 - 51 min read

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Initiatives: Enterprise Architecture; Analyst Relations Best Practices; Analyst Relations Impact on the Business; Analyst Relations Leadership and Evolution; Digital and Self-Service Customer Service

Hype Cycles and Priority Matrices offer a snapshot of the relative market promotion and perceived value of innovations. They highlight overhyped areas, estimate when innovations and trends will reach maturity, and provide actionable advice to help organizations decide when to adopt.

Newer version of this document

23 September 2019 Understanding Gartner's Hype Cycles

Overview

Key Findings

Hype Cycles:

- Establish the expectation that most innovations, services and disciplines will progress through a pattern of overenthusiasm and disillusionment, followed by eventual productivity.
- Provide a snapshot of the relative market promotion, maturity and value of innovations within a certain segment, such as a technology area, horizontal or vertical business market, or a demographic audience.
- Show the speed at which each innovation is progressing through the Hype Cycle by indicating how long it will take to reach the Plateau of Productivity and the start of mainstream adoption.
- Help strategists and planners by evaluating the market promotion and perception of value, business benefit, adoption rate and future direction of innovations.

Recommendations

IT leaders building a world-class EA discipline or exploring trends and innovations for the opportunities they can provide should:

- Avoid investing in an innovation just because it is being hyped. And do not ignore it just because it is not living up to early overexpectations — that is, it's in the Trough of Disillusionment.
- Be selectively aggressive and move early with innovations that are potentially beneficial to your business. Let others learn the hard lessons of innovations that are of lower impact, delaying your adoption until the innovation is more mature.
- Use the Priority Matrix that accompanies each Hype Cycle to evaluate the potential benefit of each innovation and determine investment priorities.

Analysis

What Is the Hype Cycle?

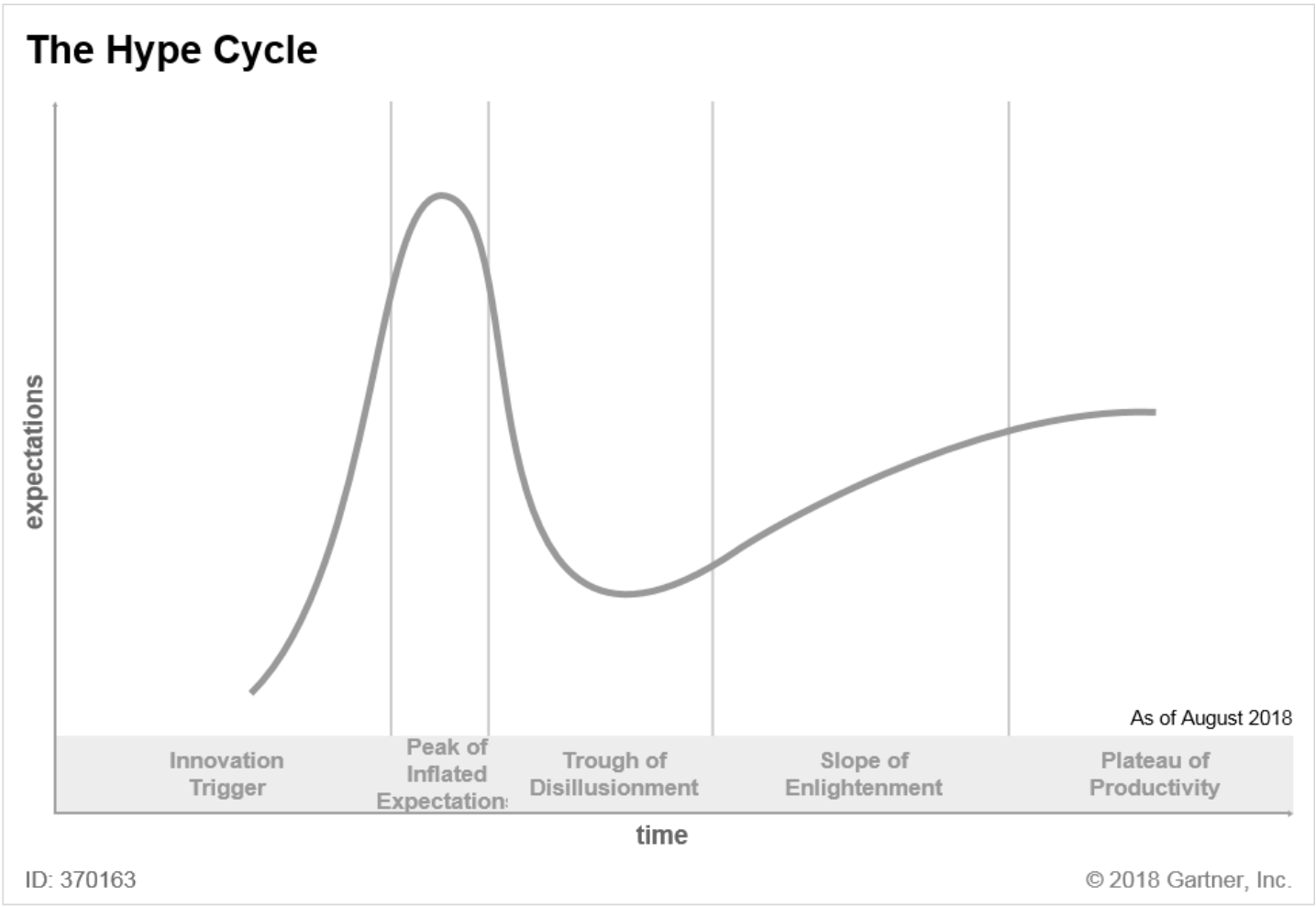
The Hype Cycle is a graphical depiction of a common pattern that arises with each new technology or other innovation. Although many of Gartner's Hype Cycles focus on specific technologies or innovations, the same pattern of hype and disillusionment applies to higher-level concepts such as IT methodologies and management disciplines. In this document, we refer to the individual elements mapped on the Hype Cycles as "innovation profiles." But in many cases, the Hype Cycles also position higher-level trends and ideas, such as strategies, standards, management concepts, competencies and capabilities.

Each year, Gartner creates more than 100 Hype Cycles in various domains to enable clients to track innovation maturity and future potential (click here for the complete list of our 2018 Hype Cycles). This document is a companion to Gartner's Hype Cycles. It explains:

- Why Hype Cycles are important for organizations deciding which new innovations to adopt and when
- How Gartner determines the positioning of innovation profiles on the Hype Cycles
- What actions strategy and technology planners should take based on knowledge of Gartner's Hype Cycles

Hype Cycles characterize the typical progression of innovation, from overenthusiasm through a period of disillusionment to an eventual understanding of the innovation's relevance and role in a market or domain (see Figure 1).

Figure 1. The Hype Cycle



Source: Gartner (August 2018)

A technology (or related service and discipline innovation) passes through several stages on its path to productivity:

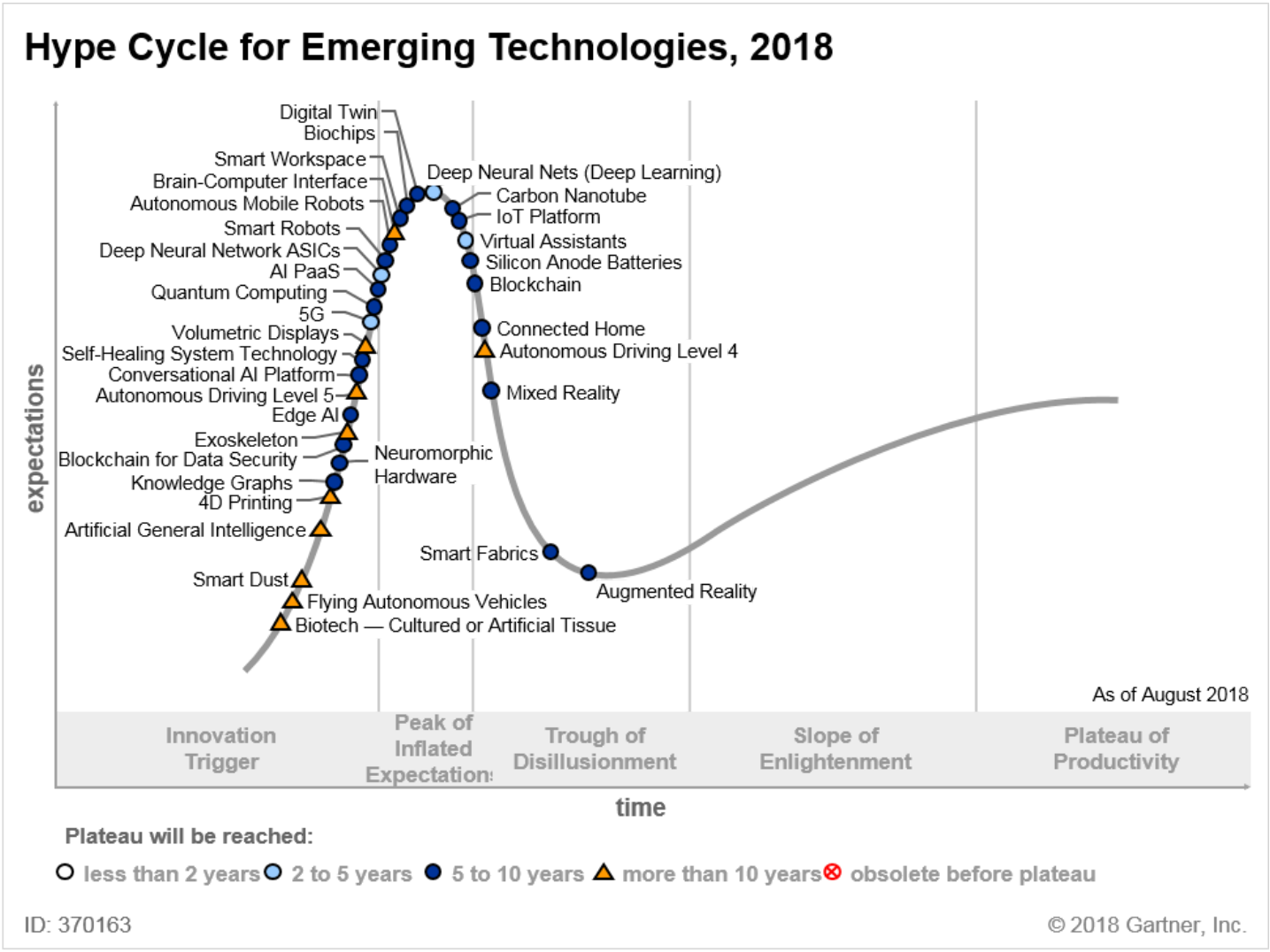
- **Innovation Trigger (formerly called Technology Trigger):** The Hype Cycle starts when a breakthrough, public demonstration, product launch or other event generates press and industry interest in a technology innovation.
- **Peak of Inflated Expectations:** A wave of "buzz" builds and the expectations for this innovation rise above the current reality of its capabilities. In some cases, an investment bubble forms, as happened with the web and social media.
- **Trough of Disillusionment:** Inevitably, impatience for results begins to replace the original excitement about potential value. Problems with performance, slower-than-expected adoption or a failure to deliver financial returns in the time anticipated all lead to missed expectations, and disillusionment sets in.
- **Slope of Enlightenment:** Some early adopters overcome the initial hurdles, begin to experience benefits and recommit efforts to move forward. Organizations draw on the experience of the early

adopters. Their understanding grows about where and how the innovation can be used to good effect and, just as importantly, where it brings little or no value.

- **Plateau of Productivity:** With the real-world benefits of the innovation demonstrated and accepted, growing numbers of organizations feel comfortable with the now greatly reduced levels of risk. A sharp rise in adoption begins (resembling a hockey stick when shown graphically), and penetration accelerates rapidly as a result of productive and useful value.

See Figure 2 for an example of a Hype Cycle.

Figure 2. Hype Cycle for Emerging Technologies, 2018



Source: Gartner (August 2018)

The horizontal axis of the Hype Cycle is labeled “time.” This is because a single innovation will progress through each stage as time passes. In practice, most Gartner Hype Cycles are a snapshot showing the relative positions of a set of innovation profiles at a single point in time. However, single-topic Hype Cycles can be useful for predicting the future path of an innovation. One notable example was the e-business Hype Cycle published in 1999, which accurately predicted the dot-com bust of 2001 and the eventual emergence of e-business as “business as usual.”

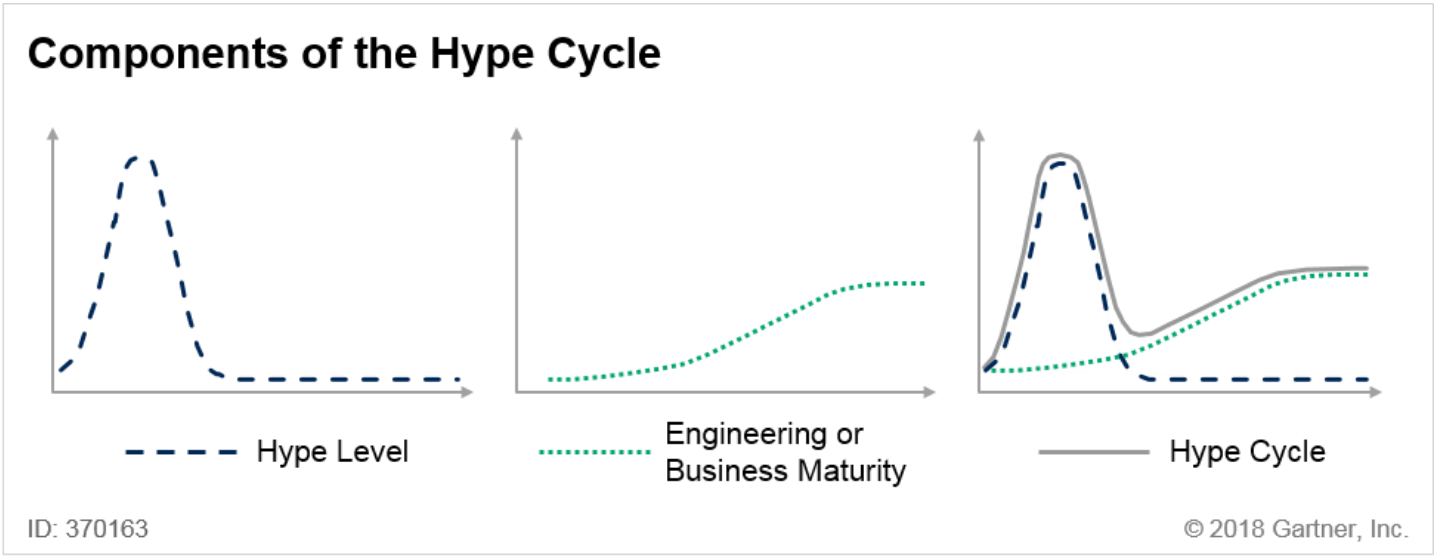
The vertical axis is labeled “expectations.” The distinctive vertical shape of the Hype Cycle curve shows how expectations surge and contract over time as an innovation progresses, based on the marketplace’s assessment of its future expected value. Originally, the vertical axis was labeled “visibility,” but we changed this in 2009. The original label focused on the level of buzz and market discourse that drives the peak. The current label more accurately reflects the deeper root cause and nature of the buzz as the innovation progresses. For example, an innovation may be in the trough yet still visible in the form of negative press. In particular, the current label highlights the changing views of potential and actual adopters of the innovation, and the shifting pressures surrounding investment decisions.

The Hype Cycle shows two stages of upward direction (that is, increasing expectations):

- The rise up to the Peak of Inflated Expectations
- The rise up to the Slope of Enlightenment

The first rise is due to the excitement about the new opportunities the innovation will bring, driven mostly by market hype. Excitement occurs in a rush, rises to a peak and dies down when early expectations are not met rapidly enough (see the first curve in Figure 3). The reason that expectations are not met is that the innovation’s maturity is usually still low when excitement is peaking (see the second and third curves in Figure 3). High expectations and low maturity lead to the drop into the Trough of Disillusionment. The second rise of increasing expectations is driven by the increase in maturity of the innovation, which leads to real value and fulfilled expectations.

Figure 3. Components of the Hype Cycle



Source: Gartner (August 2018)

The vertical scale of each innovation’s hype curve typically varies, based on the innovation’s overall perceived importance to business and society. For visualization purposes, we have normalized the scale of these individual hype curves so they all fit in one Hype Cycle graphic.

For example, mesh networks are an interesting method of using peer-to-peer wireless networking bandwidth. But they are relevant mainly to wireless network service providers, thus reaching a relatively low degree of overall expectation and hype. Other innovation profiles that appeal to a large number of companies (for example, cloud computing) or consumers (for example, media tablets) attain much higher levels of exposure and hype. Therefore, even when mesh networking is at the peak of its hype curve, it may still receive less overall "hype volume" than cloud computing or media tablets.

The Hype Cycle ends at the start of the Plateau of Productivity, where mainstream adoption of the innovation surges. As with the height of the Peak of Inflated Expectations, the final height of the Plateau of Productivity varies. Its height reflects whether the innovation is broadly applicable and highly visible, or benefits only a niche market. For a model that tracks innovation profiles through their entire life cycle until they can no longer be viably used or exploited, see "How to Use Gartner's IT Market Clocks."

Innovation profiles do not move at a uniform speed through the Hype Cycle. We assign each innovation on the Hype Cycle to a category that represents how long it will take to reach the Plateau of Productivity from its current position. In other words, we assign it to a category that shows how long the innovation is from the start of mainstream adoption. The categories are:

- Less than two years
- Two to five years
- Five to 10 years
- More than 10 years
- Obsolete before plateau (that is, the innovation will never reach the plateau, as it will fail in the market or be overtaken by competing solutions)

Positioning an Innovation on the Hype Cycle

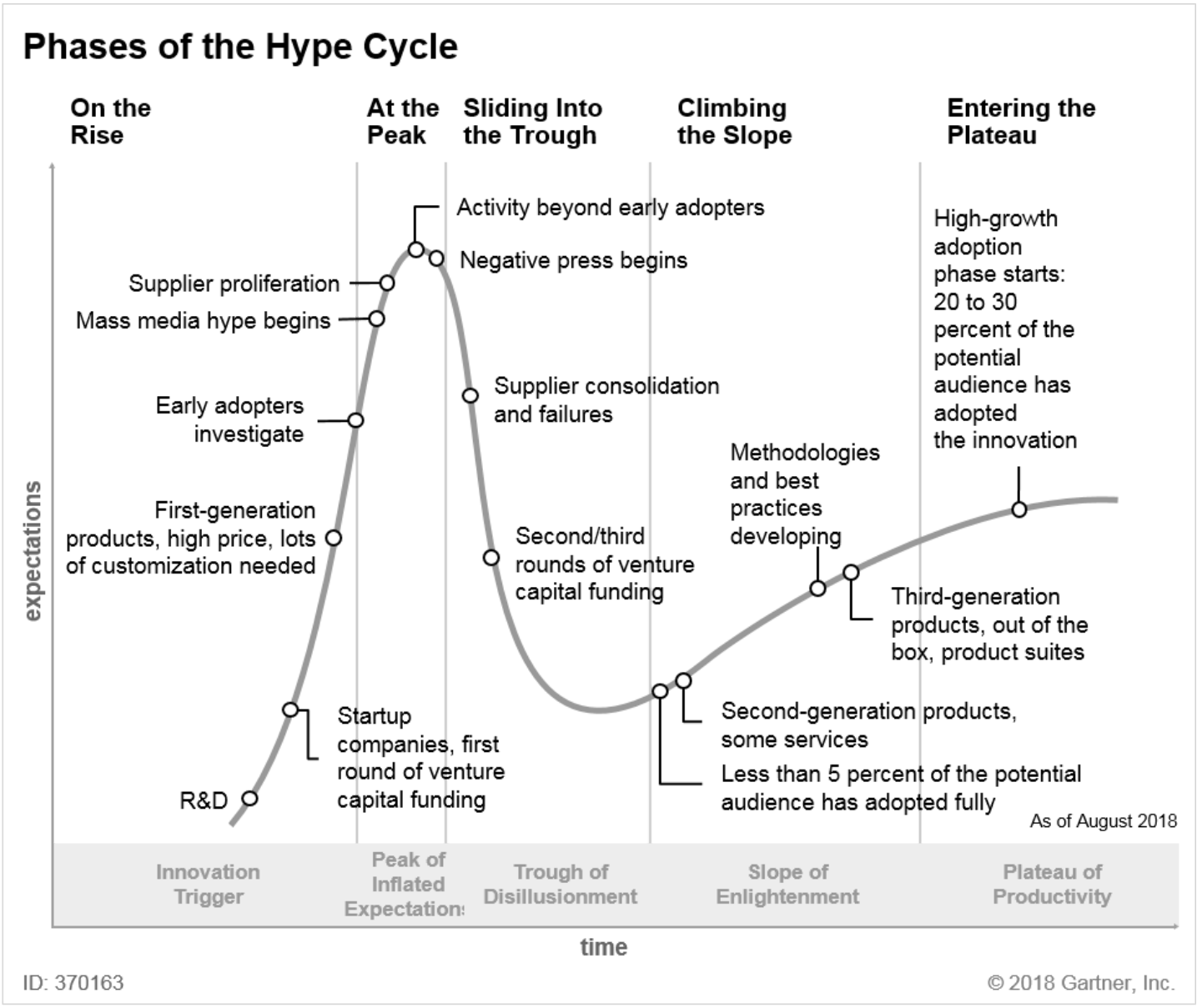
We position innovation profiles on the Hype Cycle based on a consensus assessment of hype and maturity. We select a variety of market signals and proxy indicators to establish the level of expectations. Some of these inputs may be quantitative but, overall, the Hype Cycle is a structured, qualitative research tool. During the first part of the Hype Cycle, many uncertainties exist regarding an innovation. At this stage, its position on the curve is guided more by its hype levels and market expectation than by its maturity. At the later stages, as more information about maturity, performance and adoption becomes available, hype plays a lesser role in determining the innovation's position on the Hype Cycle.

An innovation may have radically different positions on different Hype Cycles. This occurs when there are different applications of a technology. For example, haptics for mobile devices is more mature (after the Trough of Disillusionment) than haptics as a general-purpose user interface (before the Peak of Inflated Expectations). Application considerations may lead to different positions of the same

innovation on different application (for example, CRM sales) or industry (for example, life insurance) Hype Cycles.

In Hype Cycle reports, innovation profiles are grouped into five categories representing the various stages of the Hype Cycle (see Figure 4). These stages are characterized by distinct investment, product and market patterns that we use to determine where an innovation is on the Hype Cycle. Technology planners creating their own Hype Cycles, or adding their own innovation profiles, can use these patterns as a positioning guide.

Figure 4. Phases of the Hype Cycle



Source: Gartner (August 2018)

On the Rise

An Innovation Trigger is anything that sets off a period of rapid development and growing interest, and it will be different for each innovation. It may be a product launch, a major improvement in price/performance, adoption by a respected organization, or simply a rush of media interest that

socializes and legitimizes the concept. It may also be a trigger external to the IT industry, such as new legislation or the demands of an economic or political crisis. Some innovation profiles can have an extremely long R&D preamble before they reach a meaningful trigger point, including several false starts with minor peaks and troughs. The Hype Cycle cannot start until a sufficient number of interested parties are actively discussing the innovation's potential.

Many types of innovation that are not usually thought of as technologies can be charted on a Hype Cycle. These include innovations such as management techniques (for example, enterprise architecture, digital business and agile software development). For this reason, we now refer to the beginning of the Hype Cycle as the Innovation Trigger, rather than the Technology Trigger as we had previously.

The gap between trigger and peak is often quite short. For an innovation that takes 10 years from trigger to plateau, the rise from trigger to peak might take only one to two years. Consumer-driven innovation, such as social media, often experiences a particularly short prepeak period because the trigger for success is rapid, viral adoption.

The most common indicator that an innovation is past the trigger is that it is available for purchase from a commercial vendor rather than a lab. Other indicators that an innovation is past the trigger but has not yet reached the peak include:

- Only a few suppliers are selling the innovation (often only one or two).
- The suppliers are funded by seed rounds of venture capital.
- An established provider brings a radically innovative product to market (such as Apple's iPad).
- The innovation requires significant customization to work in an operational environment. The customization is performed mainly by the supplier.
- The price is high relative to the cost of production and to the cost of related, but more established, products.
- Suppliers are not yet able to provide references or case studies.

At the Peak

At the Peak of Inflated Expectations, the innovation seems to be featured on the front cover of every business and industry magazine, or be the subject of every computing-related blog or tweet. Suppliers use the latest buzzwords in their marketing to make their offerings more attractive, and the marketplace is flooded with overlapping, competing and complementary offerings. When investors see an emerging hot spot in the market, they want "one of those" in their portfolio, which encourages the proliferation of companies with similar offerings.

As word of the innovation spreads, companies that like to be ahead of current thinking adopt it before their competitors. The suppliers of the innovation boast about their early prestigious customers, and

other companies want to join in to avoid being left behind. A bandwagon effect kicks in, and the innovation is pushed to its limits as companies try it out in a range of settings. At this point, the innovation is viewed as a panacea, with little regard for its suitability for each application. Stories in the press capture the excitement about the innovation and reinforce the need to become a part of it or be left behind. The pressure on companies to adopt it, in many cases without a full understanding of the associated challenges and risks, is intense.

Hype in the consumer world may last from a few months to a year or more. In the commercial world, the peak of hype usually lasts at least a year because of the slower pace of corporate decision making and investment. Major peaks, such as the dot-com era or “green” technology, may last for two or three years.

Indicators that an innovation is at the peak include:

- The trade and business press run frequent stories about the innovation and how early adopters are using it.
- A popular name catches on in place of the original, more academic or specialist engineering terminology. For example, the wireless networking technology called “802.11g” became “Wi-Fi.”
- Analysts, bloggers and the press speculate about the future impact and transformational power of the innovation.
- Simple, exaggerated, nonspecific declarative marketing slogans appear, such as “I have cloud power” and “cloud is the answer.”
- A surge of suppliers (often 30 or more) offer variations on the innovation.
- Suppliers with products in related markets align their positioning and their marketing with the theme of the innovation.
- Suppliers can provide one or two references of early adopters.
- Investors aggressively seek a representative supplier for their portfolio. Some early stage venture capitalists may sell at this point.
- Established companies buy one or two early leading suppliers in expensive, high-profile acquisitions toward the end of the peak.

Sliding Into the Trough

The same few stories of early success have been repeated over and over, but now a deeper look often shows those same companies still struggling to derive meaningful value. Many of these failures center on inappropriate uses of the innovation. Less-favorable stories start to emerge as most companies realize things are not as easy as they first seemed. The media, always needing a new angle to keep readers interested, switches to featuring the challenges rather than the opportunities of the innovation.

The innovation is rapidly discredited because it does not live up to the early, overinflated expectations of organizations and the media.

There is not always a drop in the overall adoption numbers as an innovation slides into the trough. Instead, the anticipated rapid growth in adoption may simply be delayed. What suppliers and investors expected to be a “hockey stick” uptake remains a slow-growth path. As a result, supplier consolidation and failure occur because there is too little adoption growth to sustain so many similar products.

The length of the trough is one of the most variable parts of the Hype Cycle. With the average length of the trough ranging from two to four years, a rapidly moving innovation may suffer a temporary setback of six to nine months. Consumer-class innovations often have a particularly brief trough, usually associated with the security and compliance issues of adopting them for business purposes. Some innovations with challenging engineering or business case issues remain in the trough for a decade (see the Fast Track and Long Fuse sections).

Amid the disillusionment, trials continue and vendors improve products based on early feedback. Some early adopters benefit from adopting the innovation. For some slow-moving innovations, workable and cost-effective solutions emerge and provide value in niche domains, even while the innovations remain in the Trough of Disillusionment.

Indicators that an innovation is, or will soon be, in the trough include:

- Press articles turn negative, featuring the challenges and failures of the innovation. Terms such as “failure” and “backlash” are used in headlines.
- General cynicism exists about the transformational potential of the innovation.
- Supplier consolidation starts, including buyouts by larger companies and investors.
- Suppliers need second- and third-round funding from investors.
- Suppliers use the same few case studies and references of successful adopters.

Climbing the Slope

Over time, an innovation matures as suppliers improve products on the basis of early feedback, and overcome obstacles to performance, integration, user adoption and business case justification. Methodologies for applying the innovation are successfully codified, and best practices for its use are socialized.

By the time the innovation climbs the Slope of Enlightenment, many of the big lessons have been learned, and the reputation of the innovation is rising again. What is learned is incorporated into second- and third-generation products, and methodologies and tools are created to ease the development process. For some innovations, there is a significant new capability or a performance improvement that changes the value proposition and makes the innovation more broadly useful. The marketing of these

maturing products or the new capability often acts as a minitrigger to launch the innovation out of the trough. In other cases, the change or improvement is slow and subtle. It may catch organizations unaware unless they are actively tracking progress.

At the beginning of the Slope of Enlightenment, the penetration often is significantly less than 5% of the potential market segment. This will grow to 20% to 30% as the innovation enters the Plateau of Productivity. The journey up the slope may last from one to three years.

Indications that the innovation is moving up the slope include:

- Suppliers of the innovation offer second- or third-generation products that work with little or no consulting from the supplier.
- Suppliers of technology innovations offer product suites that incorporate the innovation into a broader range of tools.
- Consulting and industry organizations publish methodologies for adopting the innovation.
- Press articles focus on the maturing capabilities and market dynamics of the suppliers.
- New success stories and references start to proliferate.
- Reliable figures regarding costs, value and time to value become available.

Entering the Plateau

The Plateau of Productivity represents the beginning of mainstream adoption, when the real-world benefits of the innovation are predictable and broadly acknowledged. By the time innovations reach the plateau, they are increasingly delivered as out-of-the-box solutions. As an innovation matures, particularly if it is a major, high-profile innovation, an “ecosystem” of related products and services often evolves around it. This may trigger a fresh Hype Cycle of the components of the ecosystem.

As an innovation achieves full maturity and supports thousands of organizations and millions of users, the hype around it typically disappears. The hype is replaced by a solid body of knowledge about the best ways to apply and deploy the innovation.

Indicators that an innovation has reached the plateau include:

- Trade journals and websites start to focus on best-practice articles about how to deploy the innovation.
- Clear leaders emerge from the many suppliers that joined the market on the Slope of Enlightenment.
- Investment activities focus on acquisitions and initial public offerings.
- Many examples of successful deployments exist in multiple industries.

- The terminology connected with the innovation becomes part of everyday speech. Examples include Googling, texting and blogging.

Why the Hype Cycle Matters: Traps and Opportunities

The constant barrage of positive and negative hype often leads organizations to behave in ways that may not represent the best use of their resources. The peaks and troughs of the Hype Cycle exert pressure on organizations to adopt risky technologies or innovations without knowing their potential value. They also mask opportunities to embrace less visible innovations that may be highly relevant. This leads to the four traps of the Hype Cycle — adopting too early, giving up too soon, adopting too late or hanging on too long (see Figure 5):

- **Adopting Too Early and Giving Up Too Soon:** Do not adopt innovations just because they are at the Peak of Inflated Expectations, and do not automatically abandon them at the Trough of Disillusionment. Rather, identify which innovations are potentially beneficial and evaluate them earlier in the Hype Cycle. The additional risk of adopting early is justified only for potentially high-benefit innovations. Although this sounds like common sense, the intense market pressure to "keep up" with other organizations creates a bandwagon effect of trend-driven innovation adoption. For example, this happened with social media from 2007 through 2009, and with cloud computing from 2008 through 2010.

  A major role of those who understand and work with the Hype Cycle is to "flatten" the peak and trough within their organizations to drive more realistic expectations. The Hype Cycle is most useful in explaining why the recommendations of technology planning groups may be different from what organizations are hearing or reading in the media. At the Peak of Inflated Expectations, technology planners will caution, "Don't get caught up in the hype. Let's adopt it only if it is strategically important to us. Otherwise, let's wait for others to learn the hard lessons." In the Trough of Disillusionment, technology planners will recommend, "Let's start looking at the technology now because there are some solid products emerging, as well as real-world experience about how to use the technology."

- **Adopting Too Late:** Beware of the "noise filter" that most business and IT strategists apply as an essential coping strategy in a world of information overload. By blocking out all but the most visible trends, planners find their attention limited to two points on the Hype Cycle:
  - The Peak of Inflated Expectations (when the noise overwhelms the filter)
  - The Plateau of Productivity (when the actions of successful competitors become a problem)

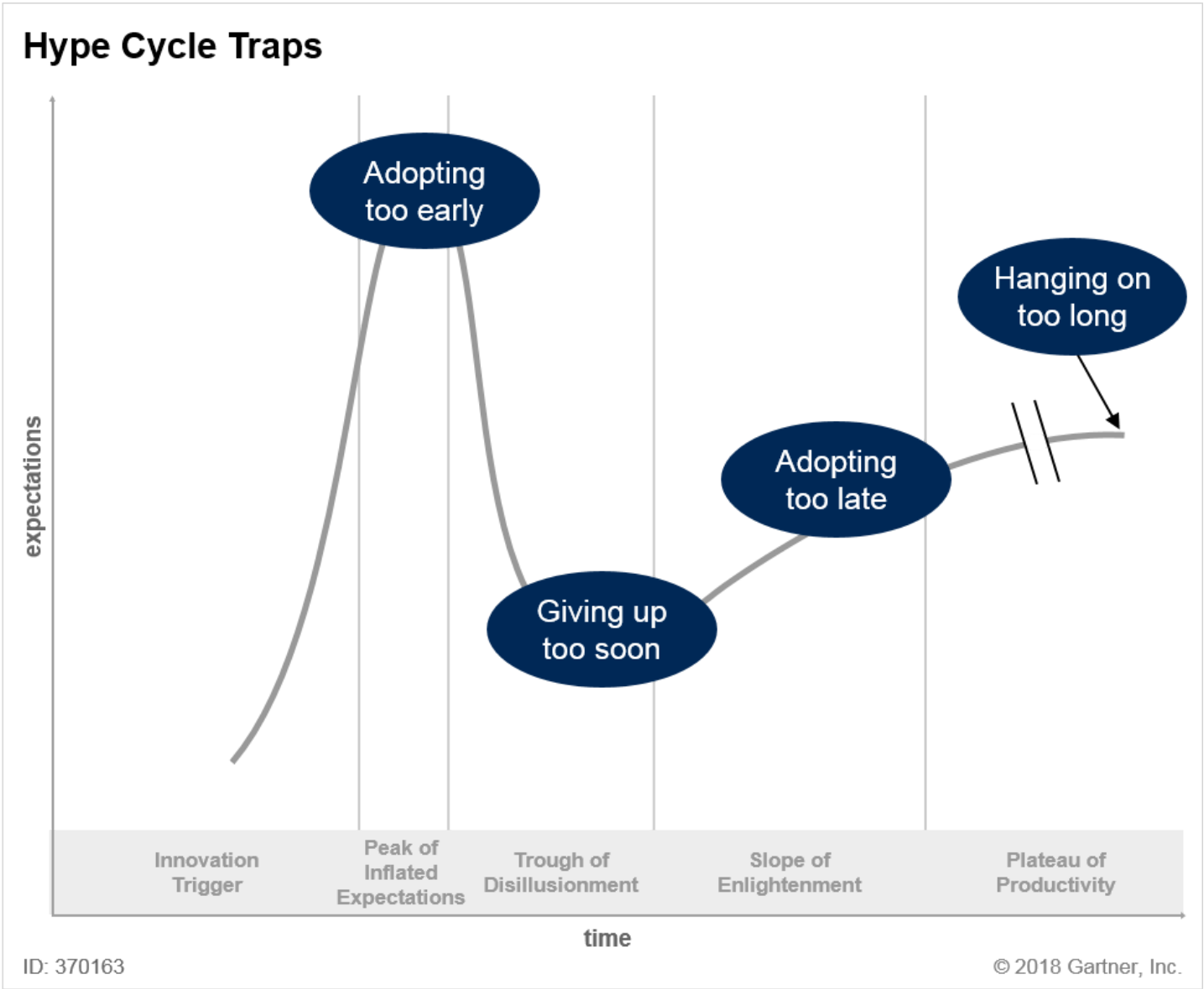
  During the Trough of Disillusionment and early Slope of Enlightenment phases, the filter can create a blind spot that may cause an organization to miss some urgent and important opportunities. This is compounded by the fact that the peak and trough are very visible shifts, but the beginning of the slope can be a much more subtle change and easier to miss. If planners feel that an innovation early in the Hype Cycle is not yet ready, a good strategy is to identify target performance levels or price points.

Then track progress through the “quiet phase” to identify when the innovation is finally ready to drive value.

- **Hanging On Too Long:** Although Gartner plots innovation profiles on the Hype Cycle only up to the beginning of the Plateau of Productivity, a full Hype Cycle could be viewed as extending to:
  - A “Swamp of Diminishing Returns” when legacy systems start to bog down new initiatives
  - A “Cliff of Obsolescence” where maintaining the system becomes a significant pain point

Like the beginning of the slope, the decline into these end-of-life issues can be slow and easily missed until they start to cause problems. Gartner’s IT Market Clocks address these phases of the life cycle in more detail.

Figure 5. Hype Cycle Traps



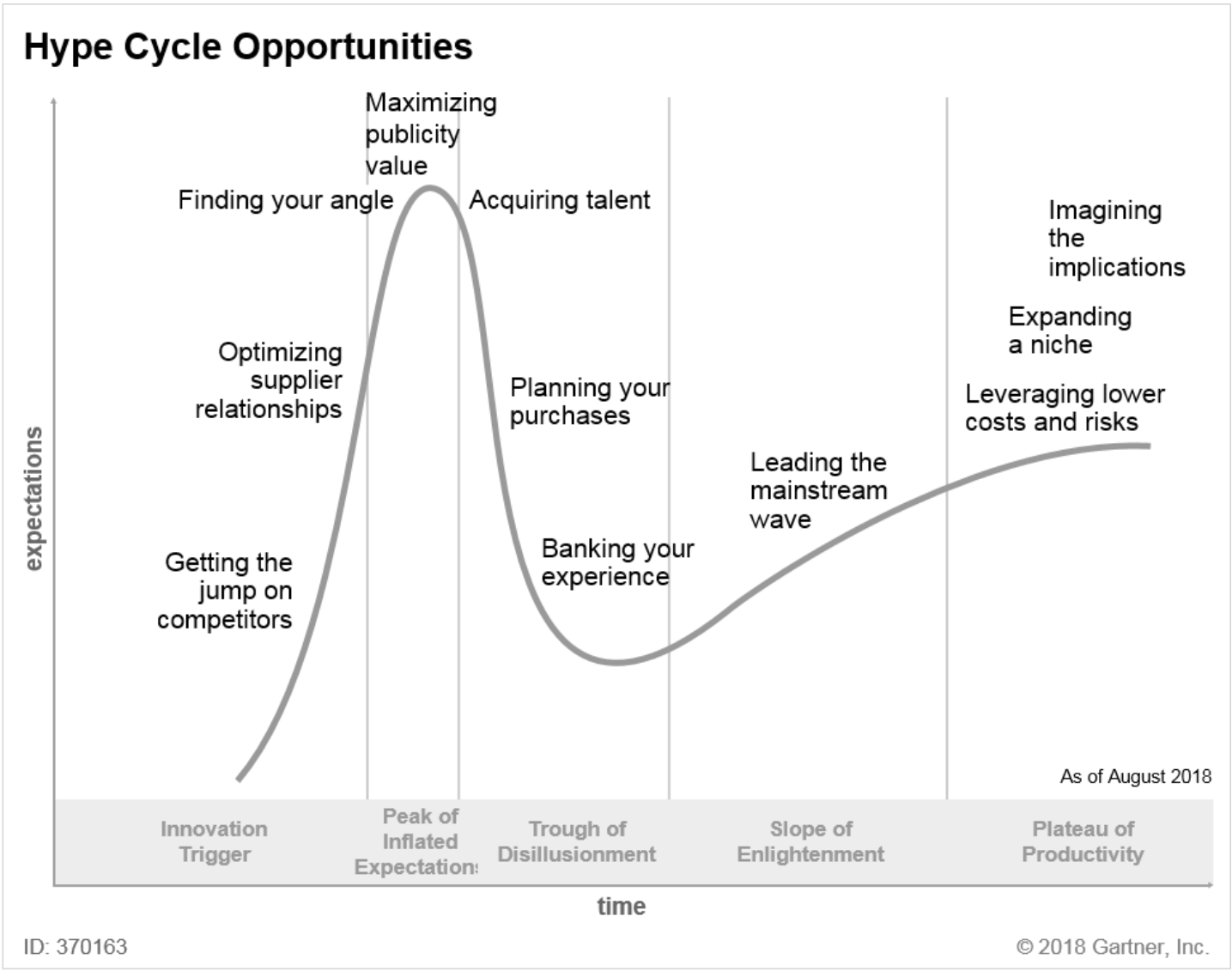
Source: Gartner (August 2018)

It is important to understand the traps that can snare unwary adopters. But it is equally important to examine the opportunities that arise from the inevitability of the Hype Cycle. Organizations that can predict major shifts in behavior — such as the major turning points on the Hype Cycle — can take advantage by being ahead of the crowd.

Two types of opportunity arise from the Hype Cycle:

- **Timing the adoption** of each innovation with precision to optimize value. Organizations investing time and money (and also some of their limited capacity for change) in an innovation must ensure:
  - It is the right innovation.
  - They invest at a time when they will receive the longest lifetime value at an acceptable level of risk.
- **Harnessing the energy** of the Hype Cycle in the broader marketplace by taking advantage of the needs and actions of other competitors. Organizations will come out ahead and find the best deals, talent, publicity and many other opportunities to advance their innovation adoption efforts (see Figure 6) if they can:
  - Be smarter than the crowd, even some of the time, in avoiding the money pits of adopting too early or giving up too soon, and the lost opportunity costs of adopting too late or hanging on too long.
  - Anticipate the tendencies of suppliers, investors, competitors and skilled individuals at each stage of the Hype Cycle.

Figure 6. Hype Cycle Opportunities



Source: Gartner (August 2018)

How to Use the Hype Cycle: Adoption Strategies

To make a good decision about when to adopt an innovation, organizations must balance three variables:

- How potentially valuable the innovation is to the organization
- Where the innovation is on the Hype Cycle
- How good the organization is at tolerating and managing risk

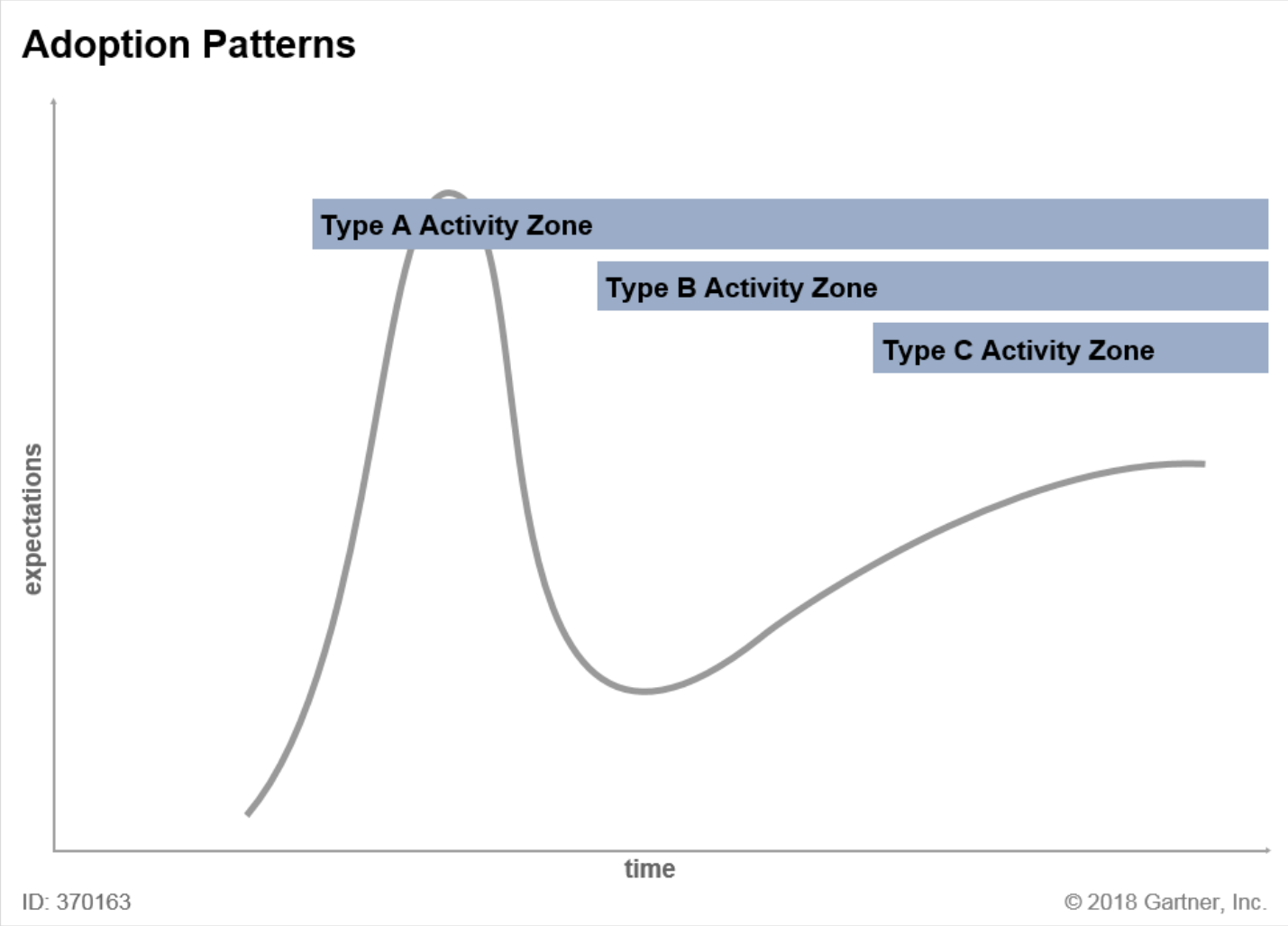
Organizations tend to be classified as one of three types with regard to innovation adoption:

- **Type A (aggressive)**: In general, these organizations try to adopt innovations early in the Hype Cycle. They are prepared to accept the risks associated with early adoption in return for the rewards.

- **Type B (the majority):** These organizations try to adopt innovations in the middle of the Hype Cycle. By doing so, they learn from the experience of Type A organizations but do not wait so long that they lag behind their competitors and become Type C organizations.
- **Type C (conservative):** These organizations try to minimize risks by adopting innovations late in the Hype Cycle, once they have reached the Plateau of Productivity.

However, organizations that operate exclusively within their comfort zones miss opportunities. They always tend to adopt innovations early, or late, in line with their organization personalities (see Figure 7).

Figure 7. Adoption Patterns by Type A, Type B and Type C Organizations

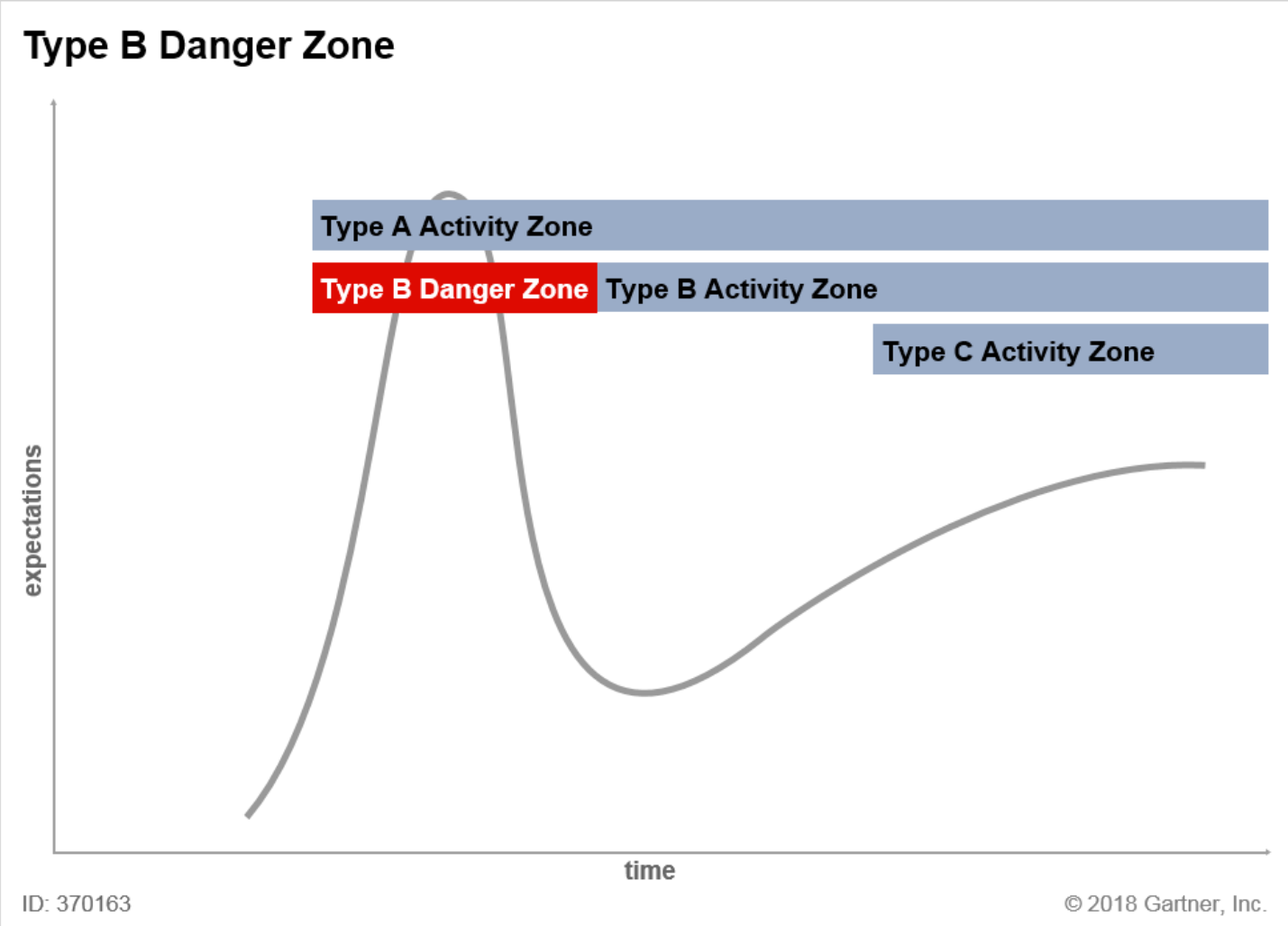


Source: Gartner (August 2018)

Organizations should recognize their risk comfort zones, but be prepared to step outside them depending on the strategic importance of an innovation. They should be *selectively aggressive*. Even Type A companies should be selectively aggressive regarding the innovations they adopt early, as not all innovations are worth the risk. Conversely, Type B and Type C enterprises should consider adopting innovations early if the innovations contribute to key business objectives. Type B companies face a particular challenge in avoiding the “adopting too early” trap, as they are lured out of their comfort zones by market hype and executive expectations (see Figure 8). Organizations should take special care at

extreme highs and lows of economic cycles when fiscal pressures compound the hype effect. Examples include the rush to e-business opportunity risk taking in 2000 and overzealous high-risk offshoring in an attempt to lower costs in 2003.

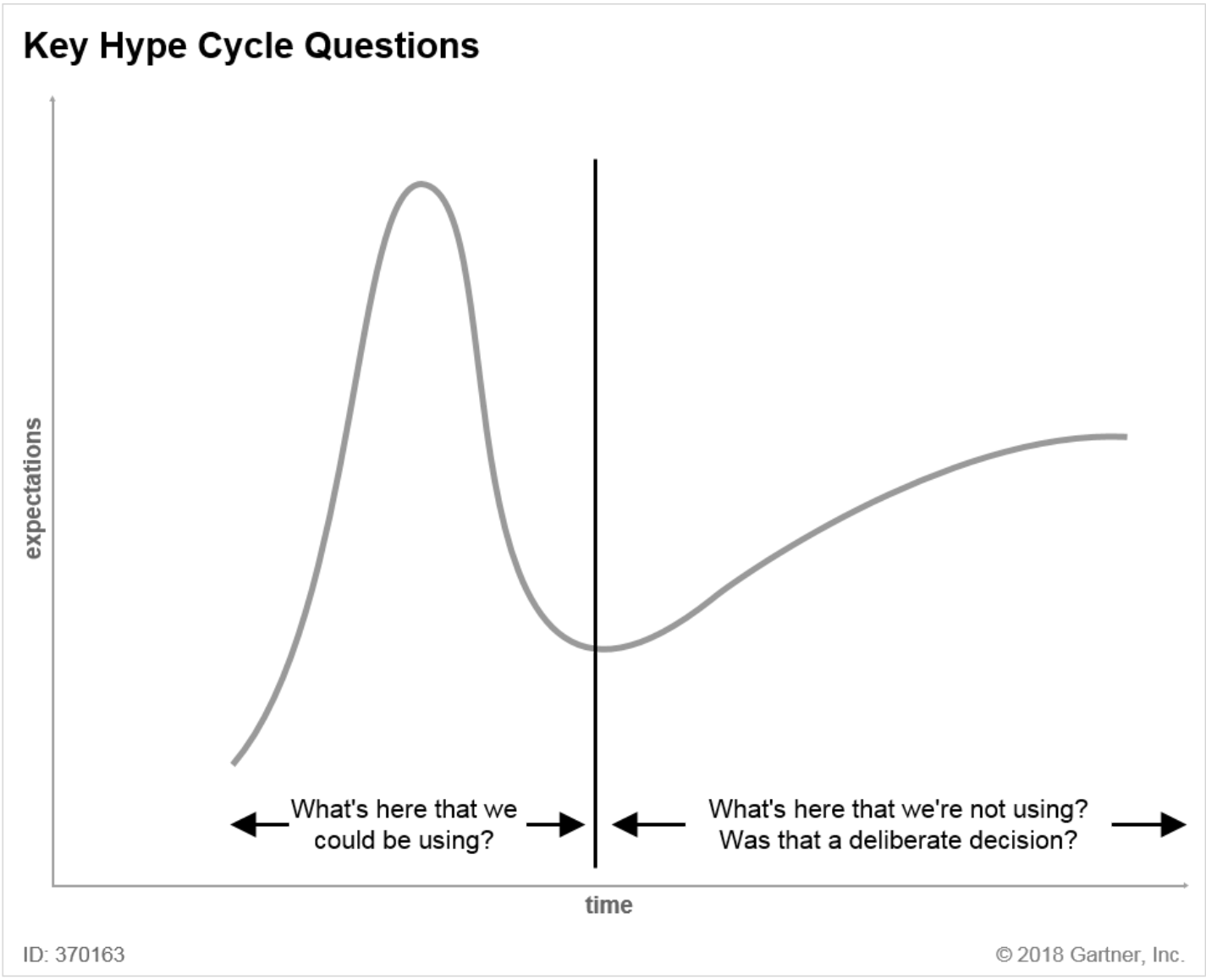
Figure 8. Type B Adoption Danger Zone



Source: Gartner (August 2018)

Some innovation leaders use Hype Cycles as a way to structure a discussion about their innovation candidates with their executives. One useful focusing mechanism is to divide the chart into two parts: pre- and post-trough (see Figure 9). For pre-trough innovation profiles, the team asks itself, "What's here that we could be using?" It discusses where it is worthwhile to adopt aggressively, even if it is outside the organization's usual comfort level. For innovation profiles positioned after the trough, the team asks, "What's here that we are not using?" In other words, the team discusses what the organization is missing and whether the team needs to do something about it. The insight from these discussions can inform an organization's ranking and prioritization decisions. For more best practices in the innovation adoption process, see "Driving the STREET Process for Emerging Technology and Innovation Adoption."

Figure 9. Key Hype Cycle Questions



Source: Gartner (August 2018)

The Hype Cycle Toolkit

The Hype Cycle Toolkit (see "Toolkit: Create Your Own Hype Cycle With Gartner's Technology Database"; we will publish an updated version in September 2018) is a planning tool based on Gartner's annual Hype Cycle research. It pulls into a single spreadsheet more than 1,900 innovation profiles featured in the Hype Cycles published as part of the annual Special Report. Innovation planners can filter, search and sort the spreadsheet entries to generate a shortlist of innovation profiles for discussion in IT portfolio and strategic planning meetings. The Toolkit also has a feature that enables users to autopopulate a custom Hype Cycle with their selected innovation profiles.

Ways to take advantage of the Hype Cycle Toolkit include:

- Filtering the spreadsheet entries to generate a shortlist of innovation profiles for discussion in IT portfolio and strategic planning meetings. For example, users can search for the innovation profiles that:

- Are transformational or high benefit
- Will reach the plateau in less than five years
- Mention “customer” in the business impact areas field

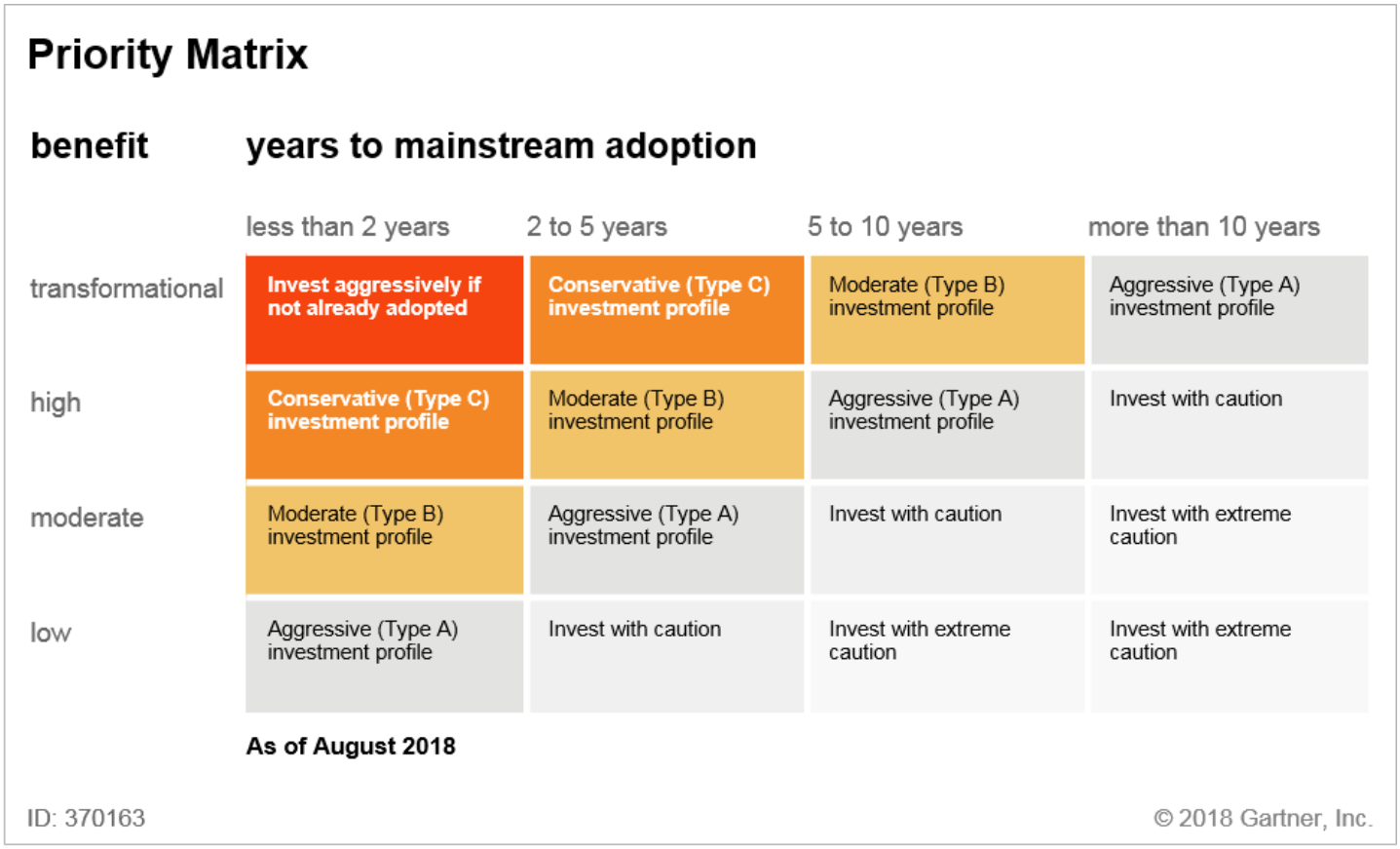
- Searching the spreadsheet for innovation profiles relevant to specific initiatives for business partners.
- Keeping the spreadsheet available as a resource for technology research and enterprise architecture planning (for example, looking up definitions or vendors).
- Creating a Hype Cycle of innovation profiles that the organization is adopting or evaluating. This will enable the organization to educate business or IT audiences about the peaks and troughs in expectations that they can expect as the innovation profiles mature.
- Using the spreadsheet to drive creativity at IT or management off-site meetings. For example, organizations can select early stage innovation profiles (with maturity levels of “embryonic” or “emerging,” or with a Hype Cycle position before the peak). They can then ask, “Could this innovation bring us a competitive advantage?”
- Using the spreadsheet as a risk-reduction tool. Organizations can check through later-stage innovation profiles to ensure they do not inadvertently miss out on a key innovation that is entering maturity. By doing so, they will avoid being left behind in their industry.

The Priority Matrix

Organizations use the Gartner Hype Cycle to provide a snapshot of the level of hype and rate of maturation of a set of innovation profiles. The Hype Cycle is an excellent educational tool for showing business and other executives the common pattern of excitement and subsequent disillusionment that accompanies innovations.

However, for internal planning and the prioritization of emerging innovation profiles, technology planners must look beyond the hype. They must assess innovation opportunities in terms of their relative impact on the organization. The Priority Matrix (see Figure 10) is a useful tool for presenting this information. Hype Cycle reports contain a Priority Matrix for the same set of innovation profiles featured on the Hype Cycle.

Figure 10. Priority Matrix



Source: Gartner (August 2018)

In the Priority Matrix, the vertical axis focuses on the potential benefit of the innovation (rather than on the hype/expectation levels presented in the Hype Cycle). Options for the benefit rating are:

- **Transformational:** Enables new ways of doing business within and across industries that will result in major shifts in industry dynamics
- **High:** Enables new ways of performing horizontal or vertical processes that will result in significantly increased revenue or cost savings for an organization
- **Moderate:** Provides incremental improvements to established processes that will result in increased revenue or cost savings for an organization
- **Low:** Slightly improves processes (for example, improved user experience), but will be difficult to translate into increased revenue or cost savings

The horizontal axis groups the innovation profiles according to the same years-to-plateau rating used on the Hype Cycle. The years-to-plateau rating is a simple measure of risk based on the projected rate of maturation for an innovation. Organizations can calculate a more complex risk rating by combining:

- The market penetration and maturity ratings
- The years-to-plateau rating and position on the Hype Cycle

- Project-specific factors, such as cost and level of organizational disruption

Innovation profiles rated as “Obsolete Before Plateau” do not appear on the Priority Matrix.

High-priority investments are in the top left of the Priority Matrix, where innovation profiles have a potentially high impact and have reached a reasonable level of maturity. Organizations that are conservative in their innovation adoption (Type C organizations) may limit their focus to this area. Organizations that are more aggressive technology adopters (Type A and Type B organizations) are probably already using innovations that will mature in less than two years. They will probably want to evaluate innovation profiles further to the right or lower on the Priority Matrix. For example, such organizations will be interested in assessing innovation profiles that will not be in widespread use for at least five years, but that may provide a competitive edge in the interim.

As with the Hype Cycle position and the years-to-plateau assessment, we provide a subjective, peer-reviewed opinion on the most appropriate benefit rating of each innovation. The benefit rating we assign reflects an average, cross-industry benefit. For industry-specific Hype Cycles, the benefit rating reflects the average benefit within that industry. The potential benefit for a specific organization may vary considerably from this average perspective. Technology planners should be prepared to replace the average benefit rating with their own customized version for innovation profiles in their portfolio.

There may also be some interorganization and interindustry variations on the horizontal years-to-plateau axis, but typically to a lesser degree than on the benefit axis.

The value of the Priority Matrix lies in concentrating the discussion on where an organization should focus its evaluation of emerging technologies. In particular, it is a useful framework for:

- Making explicit judgments about the potential benefits of an innovation in an organization.
- Defending against personality-driven investment decisions, whereby an influential individual champions an innovation or project that may not be the best investment for the organization. The Priority Matrix enables technology planners to show how the proposed innovation compares with other candidates in terms of benefit and risk.

Other Hype Cycle Fields

In addition to the data points used to create the Hype Cycle and Priority Matrix graphics, Gartner Hype Cycle reports contain descriptions of each innovation profile on the Hype Cycle. These descriptions include:

- A definition of the innovation
- A justification for the innovation’s positioning
- User advice

- The innovation's business impact areas
- Benefit rating
- Sample vendors (examples, not a comprehensive listing)

These descriptions also include two other ratings: maturity and market penetration.

Market Penetration

The ranges for market penetration — the current penetration as a percentage of the anticipated target market — are:

- Less than 1% of target audience
- 1% to 5% of target audience
- 5% to 20% of target audience
- 20% to 50% of target audience
- More than 50% of target audience

For some innovation profiles, assessing the market penetration is relatively straightforward. For a mobile phone, for example, the percentage of the population that owns one would be a simple measure of progress. However, there are a number of complicated aspects in deciding a figure for market penetration, including:

- **Estimating the ultimate penetration level.** At the start of an innovation, the projected target market may be wildly misjudged. When mobile phones were first commercialized in 1984 at approximately $4,000, the target market might have been viewed as "all mobile business executives." More ambitiously, some may have hypothesized that the maximum extent of the market would be that, one day, every person in a country might have a mobile phone. Some might also have predicted the amount of use based on substituting half, or even all, of the existing landline telephony minutes consumed per person at that time. Nobody would have forecast the volume of minutes consumed today, the time spent using devices for other things (such as game playing) or that the total number of active handsets would commonly exceed 100% of the population. For the purposes of Hype Cycle research, the expected target market is likely to be the saturation that analysts expect in 10 to 20 years.
- **Determining when an individual has adopted an innovation.** If a user has joined a social networking site but has visited only twice in the past year, should that user be viewed as having "adopted" social networking in determining the current penetration? In general, we regard an innovation as adopted only if it is used regularly.

- **Determining when an organization has adopted an innovation.** Organizational adoption is complicated by the distinction between an organization's acquisition of an innovation and its use of it. An innovation may penetrate deeply in a small number of organizations or only slightly in a large number of organizations. So the percentage of organizations using an innovation does not necessarily equate to the number of actual current users (for example, as measured by seats or copies of software) as a percentage of all future users. When assessing the penetration level, we must consider the number of copies or seats of a technology deployed and used regularly within the organization. This issue is compounded by the proliferation of cloud and SaaS models.
- **Determining the appropriate measure of granularity for adoption.** For some innovation profiles, the "target user base" within the organization is not individual users. The target user base may be development teams (for example, reusing service-oriented architecture [SOA] across a large organization) or whole business units (for example, opting into a master data management [MDM] strategy). For these complex organizational innovations, progress is harder to measure because it involves the scope of adoption. Using SOA in a couple of small projects is not the same as full-scale adoption of SOA as an organizational standard. Deploying one function in a CRM suite is not the same as rolling out a customer-centric corporate strategy. When measuring the current penetration of complex technologies and innovations, we must consider the level of sophistication of current deployments compared with what is possible in the midterm to long term.

To stay true to standard industry definitions of market penetration, we use the following default measure for Hype Cycle market penetration:

> *The number of copies/seats acquired to date and used by customers as a percentage of the number of copies/seats that can be reasonably expected to be deployed across the life of the innovation or discipline.*

We review market penetration levels for each innovation with each update to reflect changes in adoption and the addressable market. In cases where the addressable market grows significantly, we may reduce our figure for market penetration.

In some cases, the more relevant statistic is the raw percentage of organizations that have adopted an innovation or discipline, without regard for the level of internal penetration. In these cases, we use the percentage of adopting organizations instead of true market penetration. When we do this, we explain it in the Position and Adoption Speed Justification or Business Impact section of the innovation profile's description.

Correspondence Between Hype Cycle Fields

Table 2 shows the expected correspondence between the various fields of an innovation profile. Exceptions to this typical pattern may exist. Examples include when an innovation is mature but has not achieved good penetration (niche technologies), or when an innovation is very slow moving, is climbing

the slope but is still more than five years to the plateau. We explain such exceptions in the Position and Adoption Speed Justification section of the innovation profile's description.

Table 1: Typical Correspondence Between Hype Cycle Fields

Hype Cycle Section	Maturity Level	Time to Plateau	Market Penetration as Percentage of Target Audience
On the Rise	Embryonic or Emerging	More than 10 years or five to 10 years	Less than 1% of target audience or 1% to 5% of target audience
At the Peak	Emerging or Adolescent	More than 10 years or five to 10 years or two to five years	1% to 5% of target audience or 5% to 20% of target audience
Sliding Into the Trough	Emerging or Adolescent	Five to 10 years or two to five years or less than two years	1% to 5% of target audience or 5% to 20% of target audience
Climbing the Slope	Adolescent or Early Mainstream	Two to five years or less than two years	5% to 20% of target audience or 20% to 50% of target audience
Entering the Plateau	Early Mainstream or Mature Mainstream (rarely used)	Less than two years	20% to 50% of target audience or more than 50% of target audience (rarely used)

Source: Gartner (August 2018)

Maturity Rating

Table 1 shows the options for the maturity rating, although mature mainstream, legacy and obsolete innovation profiles are not typically included on Hype Cycles.

Table 2: Maturity Levels

Enlarged table in Appendix

Maturity Level ↓	Status ↓
Embryonic	In labs
Emerging	Commercialization by vendors Pilots and deployments by industry leaders
Adolescent	Evolving innovation capabilities, methodologies, and associated infrastructure and ecosystems Adoption levels typically between 5% and 20% of target audience
Early mainstream	Innovation is proven and value is relatively predictable in many environments Capabilities continue to evolve Adoption level typically ranges from 20% to 50% of target audience
Mature mainstream	Proven innovation with well-understood value proposition Innovation is commoditized; not much evolution in vendors or capabilities Adoption levels above 50%
Legacy	Still functional, but not appropriate for new developments Vendors focus on maintenance revenue Cost of migration constrains replacement
Obsolete	Used/resale/maintenance markets only

Source: Gartner (August 2018)

Hype Cycle Q&A

Here we answer some frequently asked questions about Hype Cycles.

Q. Does the Hype Cycle apply to IT only or does it work for areas such as surgical treatment, politics, biofuels and management techniques?

A. We devised the Hype Cycle by observing innovations, but it works for many situations where the following conditions exist:

- An innovation is clearly identifiable and has a defined scope — whether it's a new management technique, medical treatment, etc.
- There is an ecosystem of stakeholders involved, such as those developing the innovation, those funding it and those applying it in their organizations.

- The innovation evolves as stakeholders learn more about it and apply it in practice.

People outside of Gartner have applied the Hype Cycle to many non-IT topics, such as nanotechnology, medicine and food products. Gartner has created Hype Cycles in non-technology-centric areas, such as sustainability and business trends (see "Hype Cycle for Blockchain Business, 2018"). However, the Hype Cycle does not apply to pure fashion or fads. These tend to trend up and down with nothing — no artifact, core idea, talent or other value — to pull them out of the trough and on to eventual productivity.

Q. Why is it called the Hype Cycle, when it's not a true cycle, just a curve?

A. The actual shape of each Hype Cycle is a dampened wave, not a cycle — it does not have a loop backward like a true cycle would. This is because it is not the innovation profiles themselves that loop around. They progress inexorably toward maturity (or obsolescence), albeit at a slower pace than we want or expect. The cycle relates to the behavior of *people*. As individuals, as members of organizations, as marketplaces and as industries, we follow a cycle of enthusiasm and disillusionment with each innovation or trend.

Q. Is the Hype Cycle based on empirical science?

A. The Hype Cycle is a structured, qualitative analytical tool. There is no single measure for expectations (the vertical-axis variable), but we find evidence, such as surveys and forecasts, useful in helping establish positions. The Hype Cycle is not a mechanically derived quantitative chart. Its strength lies in combining evidence data and expert human judgment. The Hype Cycle is a working management decision tool, not an academic endeavor. But we welcome third-party research that further evolves the model and guidance on related adoption decisions.

Q. Is the Hype Cycle the same as Geoffrey Moore's "Crossing the Chasm"?

A. The Trough of Disillusionment coincides with the "chasm" in Geoffrey Moore's classic book on technology marketing, "Crossing the Chasm: Marketing and Selling Disruptive Products to Mainstream Customers." [1] During this stage, vendors need to increase product adoption from a few early adopters to a majority of organizations to begin the climb up the Slope of Enlightenment. The chasm model does not have the equivalent of the Peak of Inflated Expectations. The vertical axis of the chasm represents adoption levels, as described in Everett Rogers' "Diffusion of Innovations," [2] rather than expectations. We view Moore's chasm work and the Hype Cycle as analytic yin and yang. The chasm is written from the innovation originator (vendor) perspective, while the Hype Cycle takes the innovation adopter (buyer) point of view. The main management issues and key decisions faced by each side are different.

Q. Does everything take the same time to pass through the Hype Cycle?

A. No. People often misunderstand this by skim reading, or seeing the Hype Cycle republished on the web without its supporting key. We show each item taking a different time to plateau. There is no fixed

timeline on the Hype Cycle. Fixing the timeline on the horizontal axis would make it impossible to compare disparate innovation profiles because they move at different rates.

Q. Do things go around the Hype Cycle several times?

A. In most cases, no. Rarely, over a very long period, there may be more than one Hype Cycle iteration as an innovation seems to cycle between the peak and the trough. We refer to these as "phoenix innovations." Agents are a prime example of a phoenix innovation. Agent technology is embedded in certain product classes that have matured (for example, network management and comparison shopping), but there are many other capabilities and interpretations of agent functionality that re-emerge year after year. In this case, the individual applications move through the Hype Cycle, while the higher-level concept seems to cycle.

Q. Do things fall off the Hype Cycle?

A. Very little "falls off" the Hype Cycle if innovations are tracked based on capabilities, rather than specific ways of delivering the capabilities. Failure typically occurs where there are multiple ways to deliver the same capability or benefit. For example, broadband connectivity has made its way through the Hype Cycle over the past decade, but some of the techniques to deliver it (such as ISDN and broadband over power lines) have fallen off the Hype Cycle. Other techniques (cable modem and DSL) have reached maturity. The actual capabilities — broadband, speech recognition, biometrics and videoconferencing, for example — do not fall off the cycle. But specific techniques, protocols, operating systems, products and devices may be supplanted by alternatives. Obsolescence before the plateau is most common in the area of telecommunications and standards. But true obsolescence (rather than just renaming or becoming embedded in a broader technology) is rare on the Hype Cycle.

When we remove an innovation profile from a Hype Cycle, we explain why in the Off the Hype Cycle section of the Hype Cycle report.

Q. Do organizations and products follow the Hype Cycle?

A. Occasionally, and under very specific conditions, the fortunes of an organization can follow the Hype Cycle. As an example, for Amazon's first eight years, its stock price followed a perfect Hype Cycle curve. For this to happen, the organization must be associated with only a single innovation. However, it is not usually helpful to use the Hype Cycle in this way. We typically use the Hype Cycle to track innovation profiles at the "class of products" level, rather than at the level of individual products and organizations. So "cloud computing" appears on a Gartner Hype Cycle rather than "Amazon S3."

Sometimes a single vendor becomes so synonymous with a new capability that devising a generic description feels unnatural. Most people identify with "YouTube" more than "consumer-generated media" and "Twitter" remains more recognizable than "microblogging," even as the capability becomes embedded in other social networking tools. But, in general, the capability level, rather than a specific organization, product or service, is a more useful way to track and evaluate an innovation.

Q. Can an innovation be at different points on the Hype Cycle in different industries or regions?

A. Yes. Gartner creates industry-specific and region-specific Hype Cycles to show that some innovation profiles are more important, and may be at different positions in different industries or regions. In some industries and regions, technologies may be further behind or ahead than the general position, but in most cases the variation is more specific than that. For example, even though technology adoption may be lagging in many emerging economies, mobile peer-to-peer payments are much further ahead than in developed nations because of the lack of alternative infrastructure for centralized banking.

Q. How do the Hype Cycle and Priority Matrix relate to Magic Quadrants and IT Market Clocks?

A. The Hype Cycle and Priority Matrix are two of several graphical tools that Gartner uses to assess technologies and innovations:

- **Magic Quadrants:** Some Hype Cycle entries are also associated with a Magic Quadrant that provides detailed analysis of the innovation's marketplace. Clients use Magic Quadrants as a first step to understanding the technology providers they might consider for a specific investment opportunity. Magic Quadrants provide a graphical competitive positioning of four types of technology providers, where market growth is high and provider differentiation is distinct:
  - Leaders
  - Visionaries
  - Niche Players
  - Challengers
- **IT Market Clocks:** Hype Cycles track the expectations of innovations from their emergence through early maturity. IT Market Clocks highlight the market progress of IT assets from the first time they can be used to when they must be retired. Both models depict "relative time," and the two overlap, although the coverage of IT Market Clocks is longer. IT Market Clocks are complementary to Hype Cycles and fulfill a separate objective. In simple terms, Hype Cycles support "technology hunting" decisions about innovation adoption, while IT Market Clocks support "farming" decisions for assets already in use. Many innovations that move off Hype Cycles when mature continue to be represented as assets on IT Market Clocks as they progress through their useful market lives.

Q. Has the Hype Cycle accelerated since you introduced it?

A. We are asked quite frequently whether the Hype Cycle has "sped up" since we introduced it in 1995. At the heart of this question is a feeling that the pace of innovation has accelerated and that innovations are appearing at an ever-increasing rate.

One type of innovation does seem to move at a much higher speed through the Hype Cycle. These are the innovations that arise from the consumer web world, in particular those that involve collaboration and social networking. These technologies, as typified by YouTube, Facebook and Twitter, seem to launch fully formed and move rapidly from the Innovation Trigger to the Peak of Inflated Expectations, often in less than a year. There is still some disillusionment as individuals decide how to manage a new source of potential information overload, and organizations wonder how to find the business value. For corporate adoption in particular, it may still take several years for the innovation to move from the peak to the Plateau of Productivity. But overall, the path is distinctly more rapid than that of an innovation on a traditional, multidecade Hype Cycle.

The feature that distinguishes these innovations is that they emerge not from years of visible, documented laboratory R&D, but from the viral melting pot of the web. For every Facebook and Twitter, a thousand similar ideas were mooted that did not have quite the right set of features, or the right interface, to rise above the crowd. Once the next viral site emerges, it has already won a Darwinian battle and is ready for broader adoption.

Outside of this class of innovation, in most cases the overall speed through the Hype Cycle has not increased. Some of the innovations that are currently at the peak — such as 3D printing — have already been in the labs for decades. In particular, innovations that involve fundamental hardware advances, such as a new type of display or networking capability, tend to have a long period of laboratory fermentation. Overall, the pace varies considerably. Podcasting took only three or four years to travel through the Hype Cycle, but mobile commerce has taken 15 years so far and probably has another five or more years to go.

It is likely that a growing proportion of innovations will arise in the consumer world, particularly with the growth of platforms and app stores that encourage and reward a broad set of innovators. It will be important to track these sources, as well as traditional labs and vendors. But the Hype Cycle seems to be holding up as a pattern that reflects our attitudes to most types of innovation. Perhaps what is accelerating is not so much the pace of innovation itself, but rather society's splintering levels of attention. These are causing us to cycle more rapidly between our peaks of enthusiasm for each new thing.

Advanced Hype Cycle Topics

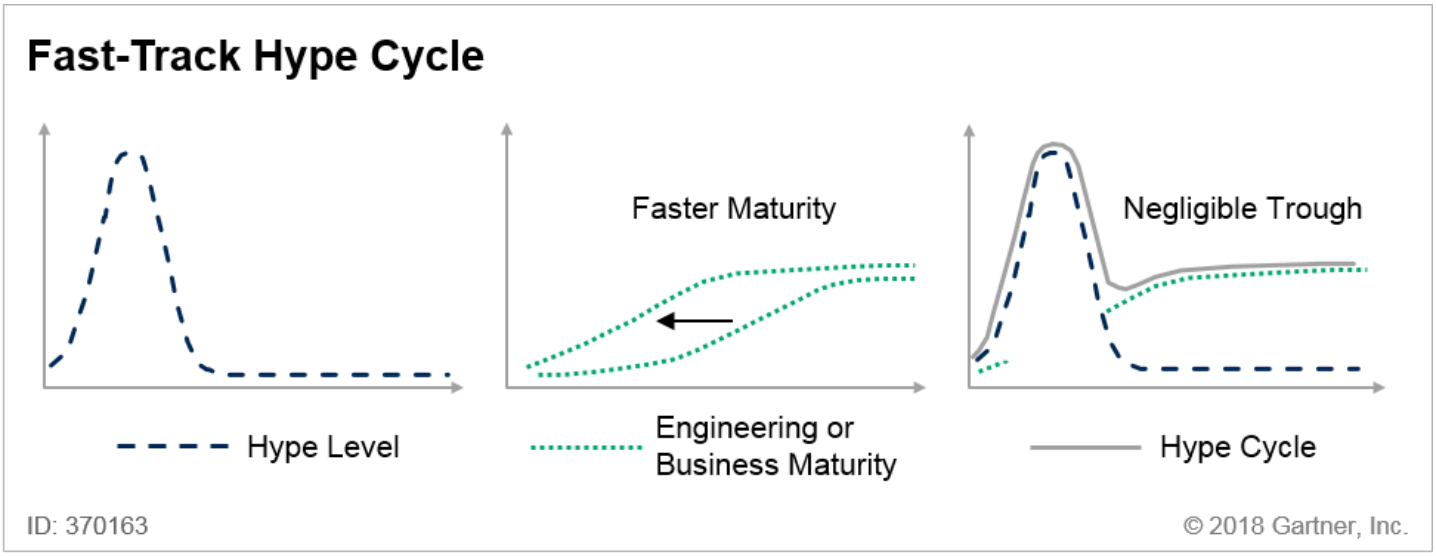
Hype Cycle Speed

It usually takes years for an innovation profile to travel through the Hype Cycle — some may take decades. Normal innovation profiles with relatively few inhibitors usually travel through the Hype Cycle in five to eight years. Those that move faster are referred to as "fast track"; those that progress particularly slowly are called "long fuse."

Fast Track

Fast-track innovation profiles go through the Hype Cycle within two to four years. This occurs when the maturity curve inflects early in the life cycle of an innovation (see Figure 11).

Figure 11. Fast-Track Hype Cycle



Source: Gartner (August 2018)

Many fast-track innovation profiles arise from the consumer web world. The move from consumer technology to the more demanding constraints of the organization (with respect to security, compliance, retention and more) is usually the cause of the trough in these cases.

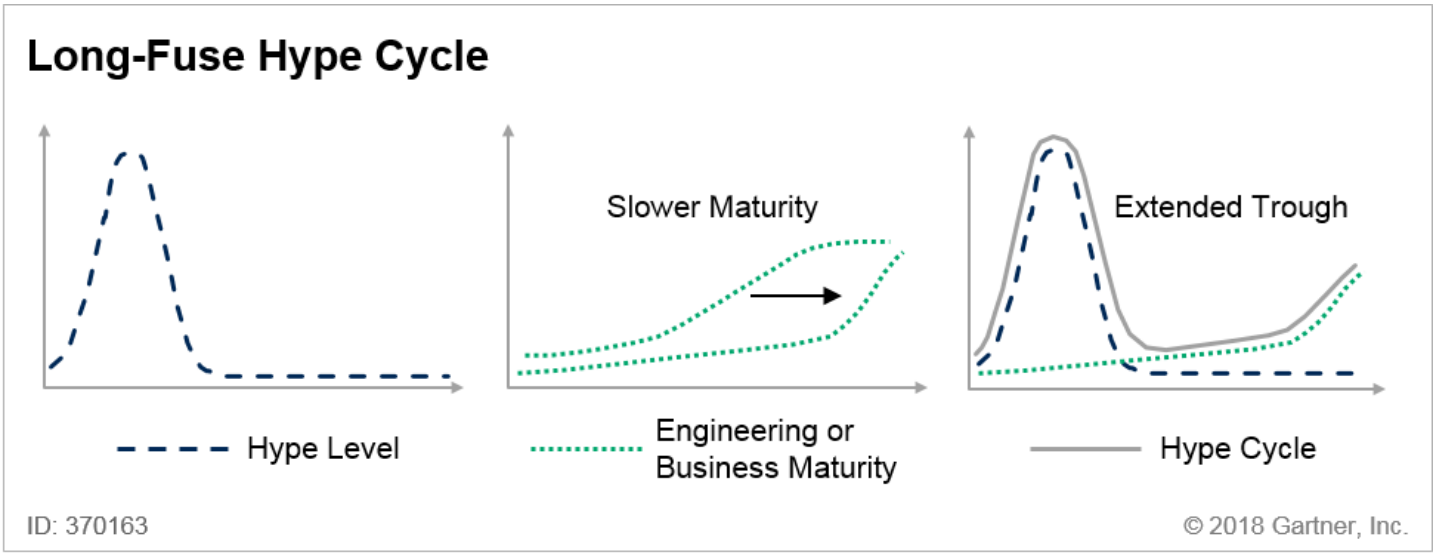
Fast-track innovation indicators include:

- High value
- Simplicity of use by organizations and users
- Visibility of others using the innovation, which encourages viral adoption
- Several strong vendors that support the innovation
- Use of the current infrastructure
- Rapid transition from consumer to corporate use

Long Fuse

Long-fuse innovation profiles spend a longer-than-average time in the Trough of Disillusionment, resulting in a slower overall journey through the Hype Cycle — sometimes as long as one or two decades (see Figure 12). For example, PDAs were in the Trough of Disillusionment for several years after the launch of Apple Newton, until the PalmPilot was launched and firmly established a viable new class of device. Another example is object orientation, which took 10 to 15 years to migrate from academia and other research organizations to become a mainstream development technique. Object orientation took so long to cross the Hype Cycle partly because of skills and development process barriers.

Figure 12. Long-Fuse Hype Cycle



Source: Gartner (August 2018)

Long-fuse innovation indicators include:

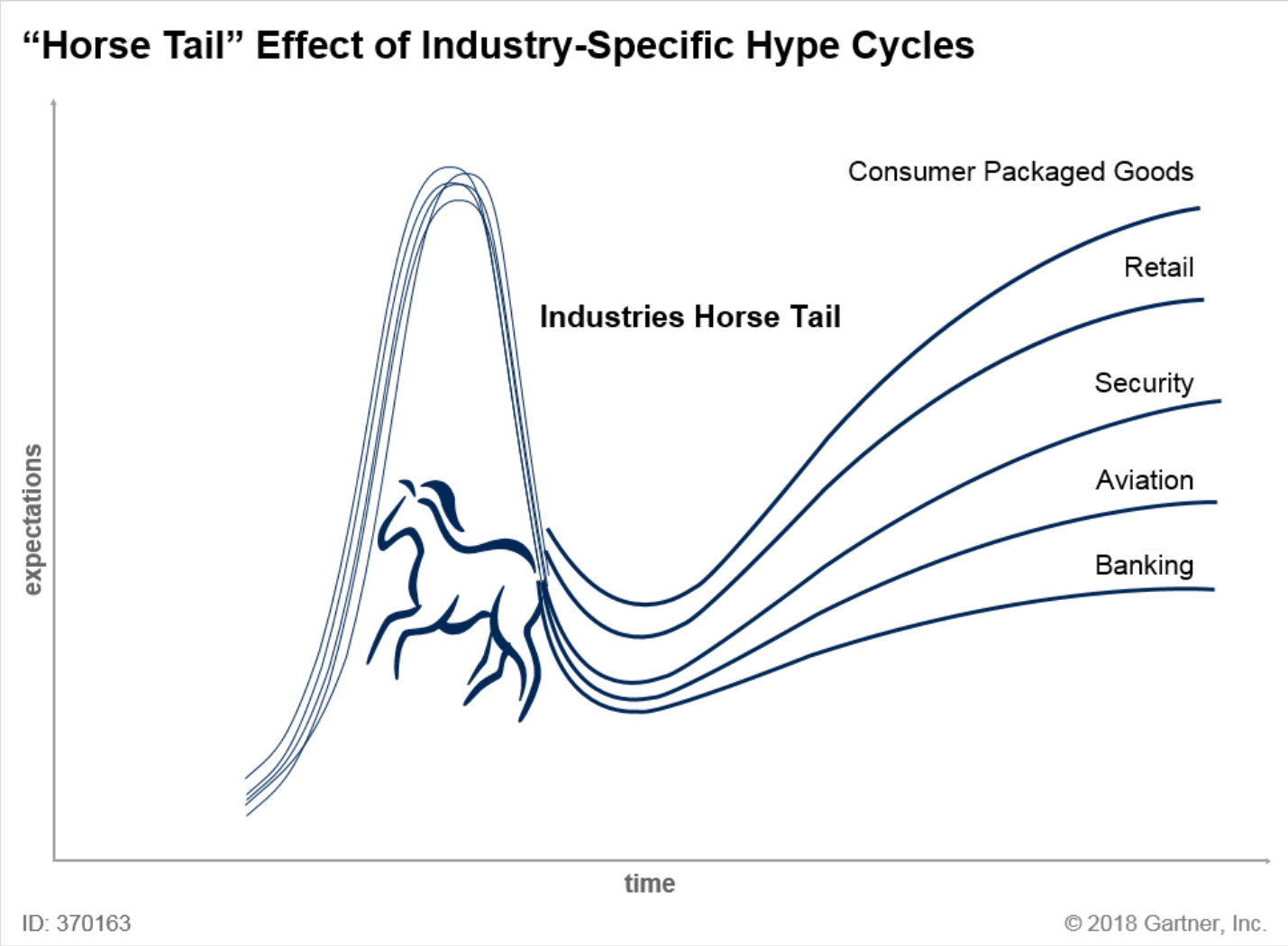
- Inherent complexity that requires advances in basic science and engineering (for example, quantum computing and head-up displays).
- User acceptance or regulatory issues (for example, biometrics).
- Reliance on a new infrastructure or ecosystem that needs time to evolve (for example, online marketplaces with micropayments that facilitated the legal purchase of digital music).
- Dependence on professional skills that are unavailable or in short supply (for example, analytics, simulation or complex design).
- Major changes to business processes or the creation of a new business model (for example, CRM).
- A science-fiction-style fascination with the innovation that is far ahead of its real capabilities (for example, artificial intelligence, nanocomputing and robotics).

Industry Variations

The shape of the Hype Cycle can vary significantly across industries. As the number of uses for the innovation expands across different industries, the uses follow different paths up the Slope of Enlightenment and reach different Plateau of Productivity heights. Figure 13 shows this effect as a “horse tail” of plateau heights. It shows a simplified view of the evolution of RFID and its applications during the past decade. For a while, during the mid-1990s, the earliest proponents of the technology, such as Texas Instruments, were exploring many possible uses. As the market for RFID became more serious during the early 2000s, it focused on applications that would optimize the consumer packaged goods (CPG) supply chain to retail (following the so-called “Walmart mandate”). Other uses, such as

airline baggage tracing, failed to show value in early pilots. As a result, RFID has settled at a lower level of adoption in the aviation industry than in retail.

Figure 13. "Horse Tail" Effect of Industry-Specific Hype Cycles

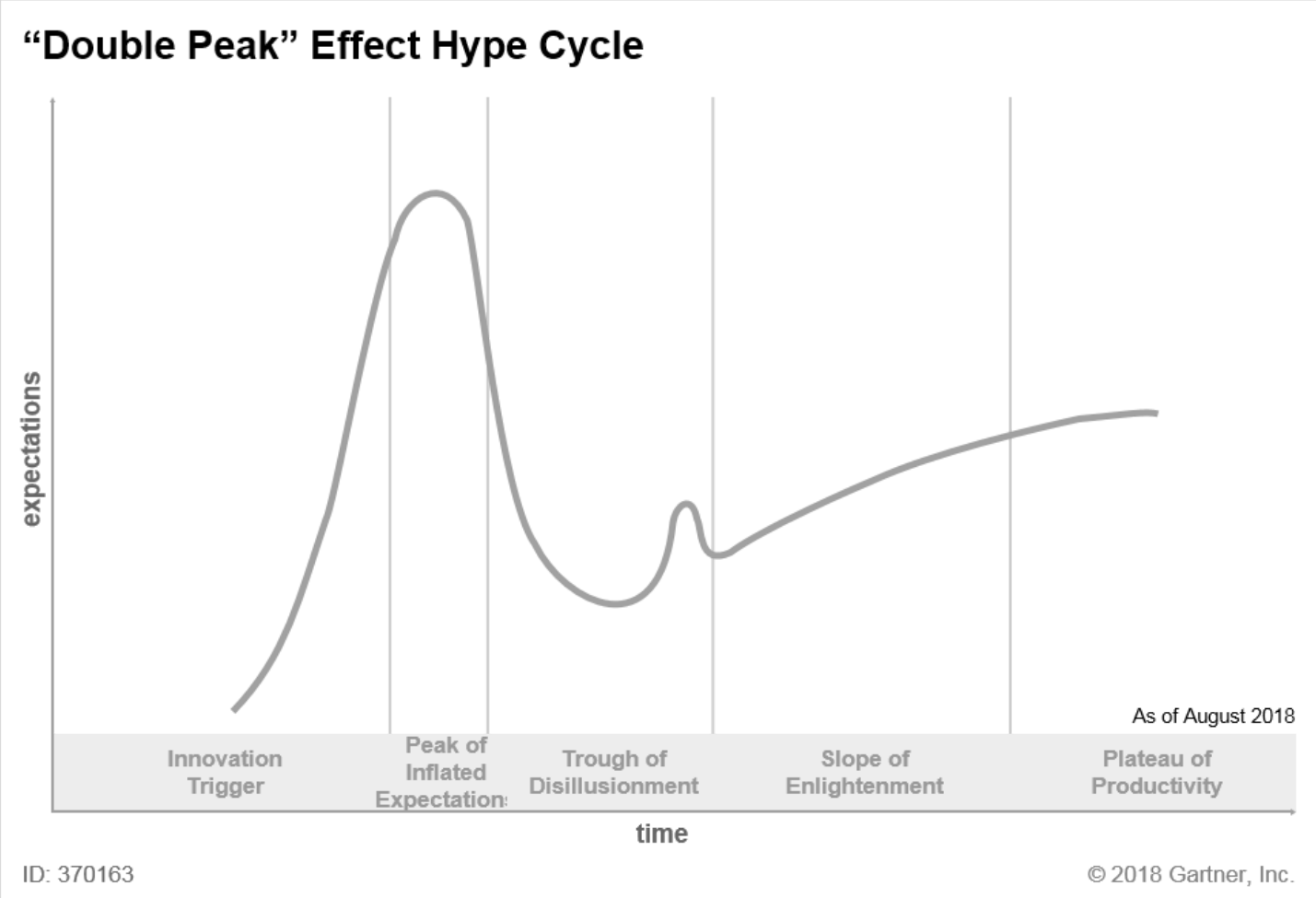


Source: Gartner (August 2018)

"Double Peak" Hype Cycles

In many technology markets, a second "minipeak" of hype may occur, triggered by product vendors. This launches the innovation up the Slope of Enlightenment (see Figure 14). As with the first peak, this minipeak often plays a beneficial role in alerting people that something has changed in the maturity or value proposition of the innovation.

Figure 14. “Double Peak” of Hype Triggered by Meaningful Improvements and Adoption



Source: Gartner (August 2018)

Special Hype Cycle Circumstances

Innovation profiles can experience special or unusual circumstances as they move through the Hype Cycle:

- Innovation profiles can become embedded. They cease to exist as a technology category or concept. Instead, the functionality is embedded in other products. For example, neural networks are now delivered as one of multiple techniques in analytic tools, rather than as the stand-alone products of the early 1990s.
- Innovation profiles can be split into several subconcepts (for example, cloud computing splits into public cloud and private cloud), as users differentiate between different application contexts and contextual requirements. Similarly, innovation profiles from different disciplines can merge and then re-emerge. For example, in the 1990s, machine learning from artificial intelligence and regression models from statistics merged to form data mining.
- Phoenix innovations continually cycle through enthusiasm and disillusionment (for example, intelligent agents and biometrics). Major events such as terrorist attacks or disease outbreaks can focus new attention on an innovation before it is even close to deserving peak status. Even prominent

media articles can make some innovation profiles cycle through repeatedly. These innovation profiles are usually extremely slow-moving and have scientific or methodological challenges.

- "Zombie" innovation profiles (for example, internet terminals, interactive TV and video on demand) are placed on hold because they have failed to deliver on their promises. These innovation profiles work, but do not have enough user interest or business justification to drive adoption. They are usually in the Trough of Disillusionment for a long time before they become obsolete or re-emerge, often as embedded functionality in other innovation profiles.
- Innovation profiles can become obsolete or "extinct" before reaching the Plateau of Productivity. This premature obsolescence typically results from the emergence of a competing technology — for example, analog high-definition TV gave way to digital high-definition TV.

As part of the normal evolution of technology, the target audience for the innovation may change from that originally intended. The innovation's applicability may grow to encompass new classes of users or shrink to become successful only in niche applications. Innovation profiles that have been reduced to niche applications include the artificial intelligence innovation profiles that were hyped during the 1980s, such as expert systems, virtual reality, genetic algorithms and fuzzy logic. Their original hype indicated that they should have had more impact. However, these innovation profiles may re-emerge from their current niche applications as part of a renewed focus on smart machines and cognitive technologies.

Evidence

[1] G. Moore. "Crossing the Chasm: Marketing and Selling Disruptive Products to Mainstream Customers." Collins Business Essentials. 2014.

[2] E. Rogers. "Diffusion of Innovations." Free Press. 2003.

Document Revision History

Understanding Gartner's Hype Cycles - 23 September 2019

Understanding Gartner's Hype Cycles - 2 July 2013

Understanding Gartner's Hype Cycles, 2012 - 28 June 2012

Understanding Gartner's Hype Cycles, 2011 - 19 July 2011

Understanding Gartner's Hype Cycles, 2010 - 9 July 2010

Understanding Gartner's Hype Cycles, 2009 - 10 July 2009

Understanding Gartner's Hype Cycles, 2008 - 27 June 2008

Understanding Gartner's Hype Cycles, 2007 - 5 July 2007

Recommended by the Authors

2018 Hype Cycles: Riding the Innovation Wave, A Gartner Trend Insight Report

Gartner

Toolkit: Create Your Own Hype Cycle With Gartner's Technology Database

Driving the STREET Process for Emerging Technology and Innovation Adoption

4 Starting Points for Digital Business Transformation

How to Design Digital Business Transformation

Gartner

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Source: Gartner (August 2018)

Gartner

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