POINTERS

MEASURING THE SUCCESS OF YOUR INNOVATION PROGRAM

EXPERT GUIDANCE ON INNOVATION STRATEGY

Making new stuff happen in an established organization isn't easy. So one of the things we try to do at Innovation Leader is provide as much guidance and data, and as many case studies and concrete examples, as we can.

Some of our biggest allies in that mission are the strategic partner firms that regularly share their advice with Innovation Leader's members — at live events, in our website's Thought Leadership area, in our print magazine, and in this series of PDF publications.

For this edition of Pointers, we asked our partners to focus on a topic that we know many corporate innovation and R&D leaders grapple with: measuring the success of your innovation efforts. We encourage you to share this document with others that will find it useful.

What metrics are you utilizing? Are you doing some things that are working? What shouldn't you be measuring? I'd love to hear from you...

Scott Kirsner
Editor & Co-Founder
Innovation Leader
editor@innovationleader.com
@innolead

More on metrics:

Innovation Leader members can download our 2015 special research report on innovation metrics at https://www. innovationleader. com/2015- metrics-report/

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Getting Started with Innovation Metrics

BY AMY MULLER, **STRATEGOS**

It seems an oxymoron to some that, a process as spontaneous and creative as innovation can and should be measured. Here at Strategos, we firmly believe that innovation can be taught, learned and systematically implemented by establishing the right processes, systems, structures, skills ... and metrics. Metrics are important to track and guide the development of your innovation system.

If you don't know what's broken, how do you fix it? And as Peter Drucker once said: "You can't manage what you don't measure." Metrics are important in sending a signal you are serious about innovation and in establishing the desired innovation behaviors. Metrics help managers make informed decisions based on objective data, which is especially valuable given the long-term nature and risk associated with some innovation projects. Maintaining and posting an "innovation dashboard" keeps innovation progress front and center for employees and executives.

Many companies struggle with creating and implementing innovation metrics, because the whole idea of measuring innovation seems complex, cumbersome and generally daunting. In an attempt to make the topic a little less intimidating, it seems to be the right time to review some of the key guidelines to help you get started in designing and implementing innovation metrics.

INPUT – PROCESS – OUTPUT

The most popular innovation metrics have traditionally been output metrics: the number of patents, the percentage of products less than 3 years old, percentage of revenue from new products, etc. In our view, output metrics alone cannot tell the whole story and are certainly of little help in steering and improving an evolving innovation capability. We define:

Input metrics – measure those variables which set the preconditions for successful innovation. They can be measured in terms of money, talent, and time devoted to innovation. Examples: Fraction of the work force trained in innovation, amount of leadership time spent on innovation vs. day to day operations, fraction of the capital budget that is invested in innovation projects, number of ideas coming from customers or partners, number of innovation tools and methodologies available to employees

Process metrics – address those variables that affect the movement of ideas through the pipeline process. Examples: Average time from idea generation to first revenue, number of (actionable) ideas submitted by employees/month, fraction of opportunities moving on to the next stage, number of innovation processes that have been codified and widely embedded

Output metrics – measure the results of innovation. Examples: Number of new products or services launched, revenue and profit contribution from new products or services, ROI on innovation spending, number of new customers or new markets entered, social impact or public awards.

GETTING STARTED WITH INNOVATION METRICS

Here are a few guidelines that we have found to be useful in helping clients to develop innovation metrics.

1. You can't measure what hasn't happened – focus on input. For companies starting on the innovation journey, you need to build the system and processes, before you can measure the output. Focus on metrics that encourage training and innovation skill development and on recruiting individuals with the right attitude and mindset for innovation.

2. One size does not fit all. The most important variable is the level of "innovation maturity." Metrics should be tracked that encourage the development of your innovation system – no matter what the starting point.

Amy Muller
Managing Partner

Also, metrics will vary across industries because some of the competences and skills required for innovation will be different.

3. Keep it simple. Avoid the tendency to collect every possible piece of data. Create metrics that are simple, meaningful, and intuitive. Metrics will have the greatest impact if they can become commonly used and understood throughout the company.

4. Leverage existing metrics and methodologies. There may be innovation metrics in place somewhere in your company – seek them out and assess them for wider use. Also, if your company currently uses a method such as Balanced Scorecard or Value Based Management, reconcile your metrics with that methodology. If your company uses a management dashboard, make sure the innovation metrics are included. In our experience, "modified" metrics are more readily accepted than additional brand new metrics.

5. Don't be afraid to modify or adapt the metrics. Consider metrics a living thing. As your company evolves towards greater innovation maturity, your metrics should reflect that maturity. If a particular metric isn't providing the insight or guidance that you had hoped, adjust it or replace it.

6. Align your metrics with the goals of your innovation program. Are you seeking game-changing, radical innovation or incremental innovation or both? Is the goal to innovate in the core business as well as building future businesses? Are you seeking to build a company-wide innovation that invites everyone to participate or will innovation be the job of a select group of innovators? Will you rely only on internal ideas or seek innovations from customers, partners and other outside sources? Are there specific targets or markets for your innovation program? Specific problems you want to solve? First, be very clear about the goals of your innovation program and select metrics that measure your progress towards these goals.

7. Include at least one or two customer-driven metrics. Measure customer-driven metrics such as sales from new products to complement the internally focused metrics, because if your innovation doesn't

matter to customers, it probably needs to be re-focused.

8. Communicate your innovation progress. A simple dashboard of your 2 or 3 most important innovation metrics goes a long way in building an innovative culture. Review your innovation dashboard in leadership meetings to keep executive attention focused on your innovation progress. Let everyone know you are on the right track, and when innovations come to fruition, make sure you communicate the impact.

Always keep in mind the purpose of your innovation metrics: to track your progress towards a robust and productive innovation system and capability and to communicate that progress to employees. With these starting guidelines in mind, it should be less of a daunting task to measure your innova-

> ## "Always keep in mind the purpose of your innovation metrics: to track your progress towards a robust and productive innovation system and capability."

tion progress. Ultimately, a company must go beyond a corporate slogan to produce results. Having business units and individual performance synced up with goals is the only way to generate a sustained change in behavior.

Don't assume that a sophisticated or comprehensive measurement system replaces the need for management deliberation and decision making. Successful innovation pioneers develop their innovation system in tandem with business decision processes that take advantage of the rich information that metrics can produce. In the end, it's not just about better knowledge – it's about better decisions enabled by better knowledge. Start small ... but keep your eye on the real goal: a prolific, profitable and engaging innovation engine.

Amy Muller (amuller@strategos.com) is a Managing Partner at **Strategos** (strategos.com), an innovation advisory firm with 20+ years of experience in helping companies achieve sustainable growth.

Creating A Culture of Innovation — Validating Success With Numbers

BY JENNIFER S. CREECH, **EZASSI**

While companies tend to focus their efforts on providing customer satisfaction, employee satisfaction and engagement is even more important and vital to the ongoing success of the company. Developing a culture of innovation can seem daunting for most, but utilizing a winning strategy will make it worthwhile.

Developing a culture of innovation internally leads to higher employee engagement, empowerment of your employees to assist on solving some of your most vital problems, an effective method for capturing their ideas and acting on them and finally, an increase in cost-savings.

Plenty of companies try to build a culture of innovation, their success isn't for a lack of trying. It's in the planning, implementation, execution and continued follow through to engage and sustain the culture.

If you build it, will they continue to come? If you use these proven strategies, they will.

Creating a culture of innovation is not a one-off solution. When an organization decides to take the leap to fully embrace and implement a culture of innovation, plan to be in it for the long haul. This is not a quick, one-time training scenario where the internal, employee-based innovation team will take the ball and run with it.

Most innovative ideas come from employees. On average, 42% of ideas come from employees. Why wouldn't all businesses want to capitalize on their top innovators, to leverage this statistic? This strong statistic shows that we should provide an environment where our greatest resource can freely innovate. Who better to innovate with than those engaged each day in the business?

The feeling of empowerment goes a long way. When your employees feel they are empowered, whether through the sharing of ideas, co-creating with colleagues, or even more importantly, taking a risk that may potentially fail, success is practically a guarantee. Empowering your employees, as innovators that matter, provides a sense of ownership and leadership.

Success in numbers, utilizing key "culture of innovation" strategies. Just think about what you could accomplish with your internal innovators, with a strategic plan to fully utilize your company's most innovative resource.

A culture of innovation with your most innovative asset and innovation software technology. Launch a culture of innovation program with timed internal challenges that will fully engage your internal innovation audience. At a minimum, you will want to launch quarterly innovation challenges to encourage participation. Challenges can be specific to a technology innovation you are looking to solve for and/or a challenge that guides and engages your innovators to think and innovate. Using an innovation software platform to promote these types of challenges is beneficial to your success in many ways.

Starting to engage your employees is quite easy. Start with a simple problem your company is faced with. Perhaps by asking where your employees think you could begin to save money. You'll be amazed at how much your employees know about your company and how eager they are to make it better and more efficient.

Innovation software automation for sustaining & engaging users. Keeping up with your innovation efforts can be a full-time job, but it doesn't have to be. Instead, by using innovation software with automated alerts

Jennifer S. Creech
CEO

and notifications to trigger communication efforts and reminders and updates, your employee engagement will consistently hold strong and lend themselves to a successful innovation outcome.

Assign key performance indicators (KPIs) or goals. Innovation software platforms can allow for you to engage your employees for the lifecycle of your culture of innovation program with metrics to track innovation success, engagement activity and KPI targets.

Motivate employees with engagement activities. Employees can be motivated on a continuous basis through innovation engagement activities including: idea submission, collaboration participation, idea voting, commenting, idea review and advancement workflow activity.

CULTURE OF INNOVATION SUCCESS IN NUMBERS

On average, when an internal innovation program is launched, 96% of employees actively participate. On average, 75% of employees exceed innovation engagement goals, with 55% recognized as power users. More than 75% of employees engage at a high level and exceed their KPI goals, typi-

cally engaging 50 or more times per year.

We've seen, with our own clients, that within the first year, more than 35% of employees will introduce unique, innovative ideas into the system.

> ## "When an organization decides to take the leap to fully embrace and implement a culture of innovation, plan to be in it for the long haul."

More than 55% of ideas submitted will reach an advanced review stage for new technology innovation. Through the KPI measurements regularly tracked within the innovation software platform that measure and report on employee activity, your company can expect more than 75% of employees to meet or exceed their goals. Creating an innovation strategy, paired with the right platform, is proven to have a dramatic effect on your company's internal innovation efforts with metrics to support.

Jennifer S. Creech (j.creech@e-zassi.com) is CEO of **Ezassi** (ezassi.com), an innovation management software technology company.

The Four Types of Innovation Metrics

BY SARA HUSK, **IMAGINATIK**

Innovation metrics are hard. Casual observers typically assume that innovation, as a "fuzzy" art, can't be measured at all. This is an unfortunate belief, because it unduly complicates innovation's crucial role in driving firm-wide value.

Although measuring innovation is possible – and necessary for success – it's still a touchy subject for most innovation leaders. There are four reasons why.

Innovation is new to the business and ambiguous. For the vast majority of companies, innovation is either an occasional or newfound discipline. Making it into a repeatable, scalable set of practices tends to highlight organizational roadblocks and politics – even with deft, careful leadership. The conversation about innovation metrics can be polarizing.

Innovation is inherently unknown. Most innovation leaders face a difficult challenge when translating the potential value of ideas into quantitative measures. While a common reaction is to go straight to the bottom line with measures such as ROI, innovators know these metrics can kill early-stage promising concepts. The organization must develop a comfort level with ambiguity as a means to learn key lessons along the way.

Innovations have long time horizons. Measuring transformative innovations is an exercise in patience. Potential new products that are mere concepts today may take years to enter the market, and even longer to demonstrate ROI. Very few innovation programs have the luxury of waiting multiple years before delivering quantifiable results.

Measuring innovation requires partners. Demonstrating the effects of a strong innovation program typically depend on active involvement from other units and functions in the company. For example, innovation is also leveraged to drive culture change – but how is that really being measured and monitored? At the very least, this implies a strong partnership with the HR and Operations functions, to create the environment where such questions can be answered. These interdependent partnerships are net-new when building an innovation program, and not always obvious.

Because innovation metrics are difficult to unravel, we're asked about them on a weekly basis. Teams are looking to understand what to measure, what others are measuring, what really matters, and why. Through the years, we've learned there are four key types of metrics that mature innovation programs utilize.

To unpack which metrics to use when, it's helpful to categorize them along two dimensions – Inputs vs Outputs, and Operations vs Strategy.

FINANCIAL RETURNS – THE PATH TO LEGITIMACY

The first few years of a formal innovation program are a critical period. Future success depends on whether the innovation group can demonstrate or "prove" its value to the company.

Because most organizations already have an abundance of metrics and KPIs in active use, it may be tempting for innovation leaders to measure everything from the beginning. Although well intentioned, the "measure everything" approach should be resisted, at least initially.

It's far better to start with a few simple, carefully-chosen metrics. Ideally, they're adapted from tangible and data driven measures already in widespread use within the organization. This helps multiple stakeholders get comfortable with innovation's activities from the outset, driving internal credibility and influence up-front.

Tracking financial returns is the best lever for gaining trust and influence. They're typi-

Sara Husk
Chief Solutions Officer

cally variations on familiar themes: measuring new revenue generated (topline oriented) or costs saved and efficiencies gained (bottom-line oriented). These metrics send the most unequivocal, unassailable signals to leadership and the organization about how innovation efforts are faring.

The specific choice of financial metrics depends on how your company's innovation strategy dovetails with organizational goals and KPIs. The early metrics focus areas will also be driven by which innovation activities can be measured most readily, and which leaders or functions are most willing to partner with the innovation group. Common examples include: **Cost Savings, Process efficiencies, and Incremental revenues.**

These incremental value metrics act as a bridge between the time when the innovation program launches, and when the value of new-to-the-world products, services, and customer experiences can be established.

It's important to understand incremental innovation is simply a place to begin, and that a mature program includes a blended portfolio of adjacent and transformational innovations as well.

PRODUCTIVITY LEVELS – PRIMING THE PUMP

In the early days, it's also important to gain a handle on innovation's productivity levels – primarily as an internal barometer for the health of the program's balance of activities.

Typically, these metrics track throughput across each stage of the ideas to innovation cycle. These measures look at overall volume of the pipeline: **Ideation volume**, **Engagement levels**, **Projects launched**, **HR-oriented measures**, **Functional metrics**, **and Board**-level consideration.

PORTFOLIO HEALTH – REACHING A HIGHER GEAR

Elite athletes undergo rigorous training regimens to convert natural talent into world-class results. They develop the ability to "reach another gear" – attaining extraordinary performance well beyond their untrained capacity.

We've observed a similar phenomenon

with innovation programs.

After several years of development and maturation, it's common to approach an upper limit on innovation's potential impact.

To reach an elite level, comparatively pedestrian measures of baseline operational results are no longer sufficient. Diversification into a balanced portfolio of short-, mid-, and long-term innovation bets is necessary.

At this point, innovation's ability to generate financial returns should no longer be in question. Along with other mature corporate functions, innovation now plays an instrumental role in leading the charge for overall growth and corporate success. Strategic objectives, and corresponding metrics, are pivotal.

"It's important to understand incremental innovation is simply a place to begin."

Typically, measuring the strategic layer of an innovation program means assessing portfolio health. Bigger, more impactful bets come with longer payback periods and higher degrees of uncertainty. Lagging indicators such as validated financial returns are not useful in placing and executing these bets. By the time you know the score, the game is over.

Thus, tracking the portfolio is predictive rather than retroactive, thus tied to a synthetic understanding of long-term ecosystem trends: **Customers**, **Technologies**, **and Ecosystem.**

A holistic view of these trends provides an evolving yardstick by which to measure innovation portfolio health. You can start with a lightweight approach by creating a foundational innovation strategy based on validated views of these trends. From there, qualitative assessments of the portfolio are possible through spider-grams, progress meters, and other executive dashboards.

Even better, use scenario modeling as the foundation of your innovation strategy. Running simulations based on models of

the future will indicate whether the portfolio of innovation projects, if carried forward, will contribute materially to expected strategic imperatives over time. Although somewhat heavier, the scenario-based approach provides both added flexibility, analytical rigor, and a substantially augmented predictive richness.

ACTIVITIES MIX – SECURING THE FUTURE

Expanding the activities mix is pivotal as innovation evolves into a mature function. Many programs begin simply, by crowdsourcing ideas and executing on projects. That's a fine start. But for innovation to protect the firm's strategic interests, you need to have a more complete set of capabilities in place, including: **Trend scouting**, **Incubation**, **Co-creation, and Scale-up.**

USING INNOVATION METRICS IN PRACTICE

Shrewd innovation executives continuously keep score of their progress, and then calibrate metrics to fit their program's current level of sophistication and staying power.

Sara Husk (sara.husk@imaginatik.com) is Chief Solutions Officer at **Imaginatik** (imaginatik.com), an innovation consulting and software company.

From Data to Stories: How to Make Your Metrics More People-Centered

BY JACOB O'BRIEN, **XPLANE**

So often data is overwhelming. It comes to executives in an incomprehensible wall of data, as a spreadsheet, or as a lengthy deck with poorly conceived charts and graphs that are equally confusing. It doesn't have to be that way.

Great data storytelling shows a meaningful and clear relationship with the reality it represents. People should be able to quickly and clearly understand how that data relates to a goal or a strategy, so they can actually take action to reach that goal or implement that strategy.

Over the last two decades, XPLANE has developed a framework that allows us to turn complex data into stories that are at the right level and with the right narrative arc for the audience to clearly understand the story.

FRAMEWORK FOR ESTABLISHING THE AUDIENCE'S NEEDS

Great data stories are more than using a lot of data and a dozen ways to slice and dice it. In fact, telling data stories requires restraint and alignment on selecting and showing only the data that supports the needs of the audience.

The key to crafting the right story doesn't start with the data; it starts with the users and a people-centered design process. Consider the following questions: Who are the users? How will they use data? What are their goals? What are their priorities? Understanding the user helps us hone in on the KPIs and data points that will support the narrative.

Then, good data storytelling follows a fairly simple narrative arc: setting the stage, establishing the tension or the challenge, and then bringing a resolution. That requires us to take our understanding of the user and focus on three key questions:

1. Where does the audience need to focus? This is the starting point, setting the stage for the audience; it should help them quickly see the landscape or the scene where they are beginning.

2. What do they need to do? Define the action. What do people need to act on? What are opportunities and challenges for them? What is the pressing problem?

3. How do they do it? This is the diagnosis, the resolution. It looks to the data to find the solution and to resolve the challenge.

Once you answer these questions, you have the elements of your story and a clear sense of the business objectives driving decision-making. The next challenge is to approach the design in a way that clearly represents the narrative driving the data story and allows users to quickly and intuitively make the right decisions.
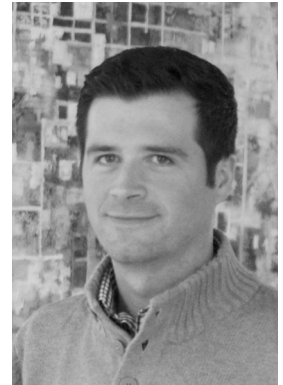
DESIGNING DATA STORIES

We start the process by looking at how to group the data. So often in large organizations, managers develop their own reports using different data sources and methodologies. This often results in a set of reports that can't roll up into a cross-organizational view that is useful for an executive.

To develop a common language, we ask our clients to identify what data story would be useful. By framing things this way, it frees up their thinking, getting away from the columns and rows in the spreadsheet, and starts them think about how the data might relate to the broader business objective. We can then begin to select KPIs and groupings of data that will support that objective.
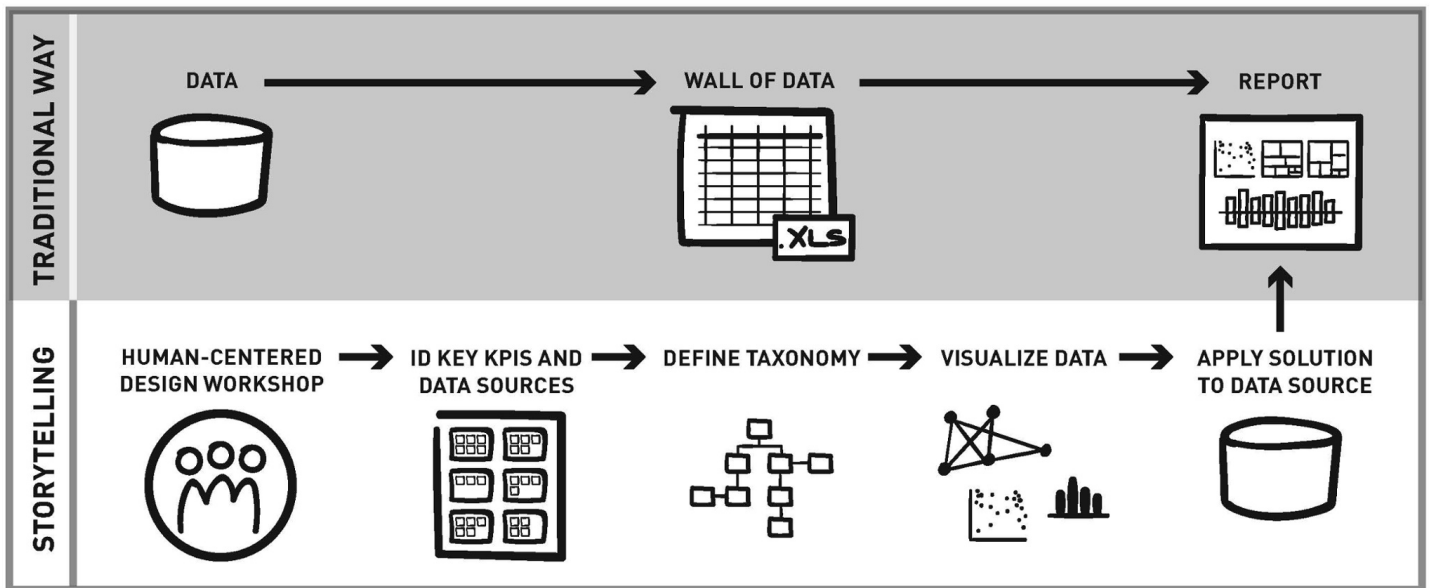
FOCUS ON TAXONOMY

Once we have a sense for the elements that make up the common language, we focus on

Jacob O'Brien
Senior Designer (former)

TRADITIONAL WAY

DATA → WALL OF DATA → REPORT

.XLS

STORYTELLING

HUMAN-CENTERED DESIGN WORKSHOP → ID KEY KPIS AND DATA SOURCES → DEFINE TAXONOMY → VISUALIZE DATA → APPLY SOLUTION TO DATA SOURCE

taxonomy. That means understanding the relationships and hierarchy of information and putting the data into information categories. For this to be successful, we again have to rely on understanding users.

Different users in different roles will need to see data at different levels of granularity. We need to know how and when different people use it, so we can organize data with fidelity to support their needs. For example, an executive might only need a few key data points to know if the new strategy is working, but a CFO might want to know what aspects of the strategy are going well and what action needs to be taken to affect the outcome.

VISUALIZING THE DATA STORY

Finally, we think about how we represent the data on the page. What's the right chart or graph to express the data? While a scatter plot might be a great way to a see distribution across a few dimensions, it's not the best way to view trends over time. In addition, cognitive considerations are made around color and space. Which colors will elicit the reactions we are looking to communicate? A lot of warm colors on a page might create alarm even when that's not the intent; a page with too much information or too many things going on might create confusion about what to focus on. Finally, considerations such as type and labeling are important to establish the proper relationship among elements and provide clarity and context where needed.

Jacob O'Brien was a senior designer at **XPLANE** (xblog.xplane.com), an global consulting partner that utilizes visual thinking to help large organizations transform their business and accelerate results.

Five Things You Should Measure About Your Innovation System

BY LARRY SCHMITT, **INOVO GROUP**

The task of developing good innovation metrics [1] is complicated. Research [2] reveals hundreds of suggestions about what to measure about the effectiveness of your innovation system and the value of the products, services and businesses that result.

An analysis was undertaken of hundreds of actual and proposed innovation metrics documented in the literature. This analysis was used to create an innovation system framework and model to help understand and categorize the various metrics. What emerged were the following five categories of innovation measurement. These can be used as an organizing framework to create a measurement capability for any organization's innovation system.

1. Value – What is the uncertainty-adjusted value of the innovation pipeline?
2. Flow – What is the rate of opportunity generation, throughput & yield of the pipeline?
3. Network – How well are the internal and external knowledge-creating networks working?
4. Stretch – Are the company's extended boundaries compatible with strategic intent?
5. Jobs – Is our innovation system doing the right jobs and is it doing them the right way?

When these are effectively measured (with specific KPIs), tracked over time and normalized by the costs incurred, a picture of both activity and impact emerges. With this picture, we can now begin to accurately assess the effectiveness of an innovation system.

THE PROBLEM WITH MEASURING INNOVATION

How do you measure something that could have an (uncertain) impact 3, 5, 10 or even more years from now? What measures are causal and what are merely correlative? Measuring innovation is difficult for many reasons but the ultimate cause of the difficul-ty is that current actions and decisions are often widely separated in time from ultimate outcomes [3]. Unlike other business processes, innovation can take years and substantial amounts of capital and expense before its outcomes can be effectively measured. During this time, many things can intervene that are not at all related to the quality of the underlying opportunity. The intended outcomes are often far into the future and, thus, they are inherently uncertain and difficult to predict.

To create a credible method of measuring an innovation system, it is useful to create a framework that describes the various dimensions of a measurement system. A framework that has proven to be useful in creating an effective measurement system consists of the following components:

Activity and impact – Companies can use (1) metrics of activity, which are usually objective, precise and relatively easy to gather, and (2) metrics of predicted outcomes which are most always subjective, imprecise and also relatively easy to gather. Knowing which is which and using them in the proper context is important.

A-priori and post-hoc – Predict what future outcomes or wait to get actual data. This is a constant tension in any innovation management system and an area in which new, AI-based tools will have significant impact in this area.

Individual opportunity and opportunity pipeline – Individual opportunities need to be measured along a variety of dimensions (not covered here) that are collectively used to predict the opportunity's potential. However, individual opportunities should never be assessed in isolation but always in relation to other opportunity options. The innovation system needs to be measured on its ability to

Larry Schmitt
Managing Partner

produce a steady stream of high potential opportunities.

Real-time and long-term – Immediate course corrections and long-term improvements are both desirable and an innovation measurement system should provide information for both.

Measurement Categories, KPIs, Instrumentation, Data and Dashboards – In many cases, defining what and how to measure gets confused. Clear distinctions between Key Performance Indicators (KPIs), the instrumentation needed to track the KPIs, the data produced by the instrument and how the data is used are confused. An explicit measurement taxonomy is useful in clearing up much of the confusion.

None of these framework dimensions is an either-or proposition and they all interact with each other. For example, activity and outcome are intimately entwined and both need to be measured both predictively and post-hoc. The complex interactions between these various measurement dimensions can best be understood and developed using an explicit model of the innovation system.

A MODEL INDICATES WHAT AND HOW TO MEASURE

We know that certain activities and decisions lead to better innovation outcomes but often don't explicitly connect the two in our measurement systems. We know that it is awfully hard to predict outcomes (especially for very early disruptive opportunities) but we want to try to do it anyway. We want to make decisions about individual opportunities, about collections of opportunities at similar stages of development and about the entire opportunity pipeline. We want to use our measurements in real-time, but also take a long-term view so we can improve the system over time.

To do all of this and to connect the various parts of an innovation measurement system and design the proper KPIs, measurement instruments and information representations, it is extremely useful to have a model of the system you want to measure. A model can indicate to us precisely where we need to instrument the innovation system, what we need to measure and how to connect activity (process) with outcomes at each stage.

The diagram below depicts a (simplified) model that can inform the measurements we need to take to see how well the innovation system is operating and how it could be improved.

This model has four (4) phases labeled A, B, C and D (phase X is important but outside the scope of this article), five (5) operational outcomes labeled 1-5, and five (5) categories of measurements to be implemented. The four phases are as follows:

X. Strategy – This phase establishes the environment within which the innovation system operates. It is critical to the operation of the innovation system, but the activities involved in developing strategy usually take place outside
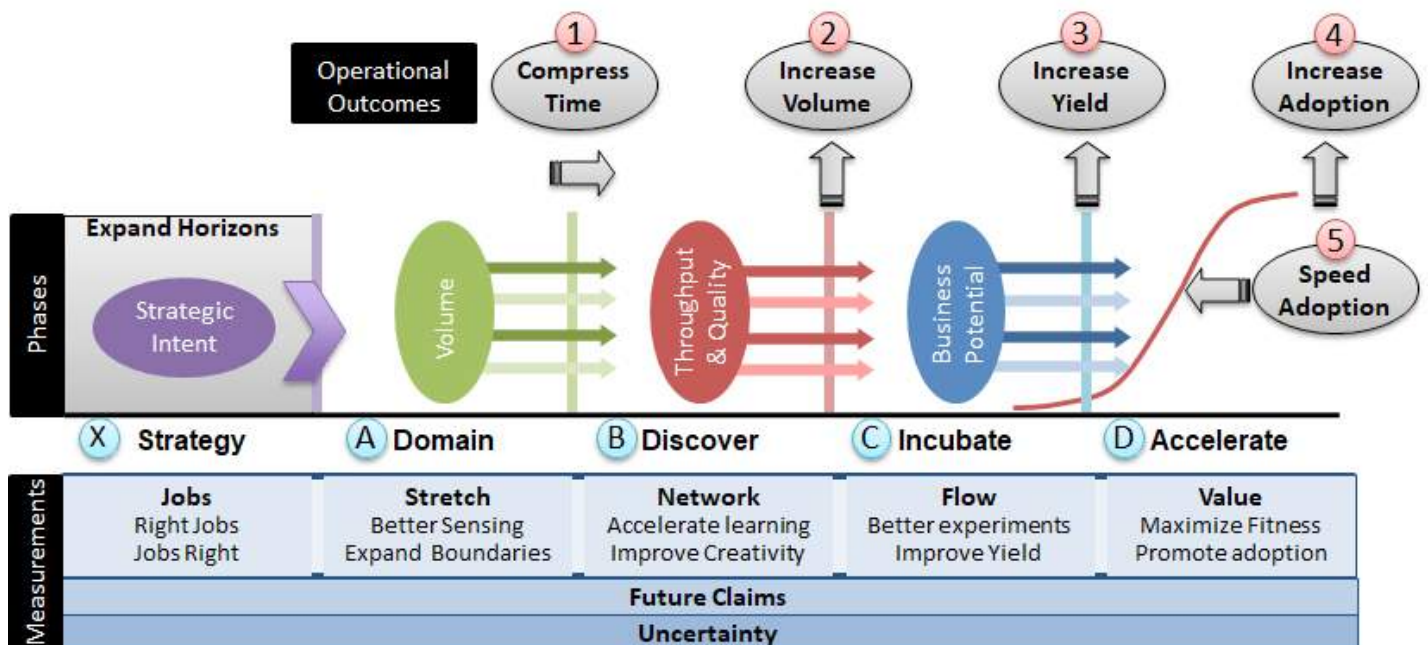
of the innovation system itself (although they shouldn't). Measurements of the Strategy process are not addressed here except in the context of the overall environment within which the innovation system operates and the 'jobs' that the innovation system is doing for the company.

A. Domain – Domains and the activity of 'Domaining' translate strategic intent into innovative action by defining where the organization should look for new opportunities. The key thing to measure about your Domain phase is whether it is stretching the boundaries of the organization enough and in the right directions.

B. Discover – The Discover phase is where new opportunities are identified. Employing a number of different channels and means of discovery is useful here and each will have its particular characteristics. Volume and quality are important but the primary measurement goal for discovery is assessing the breadth, depth and pace of learning (and as a result the creative concept formation) from the various networks employed for that purpose.

C. Incubate – This phase is where specific opportunities get tested through real-world experimentation and iteration. The flow of opportunities through this phase needs to be measured to ensure that the right opportunities enter and 'graduate" when they are ready. It is also necessary to ensure that the company has the absorptive capacity to accelerate the opportunities that graduate.

D. Accelerate – It is only at this phase that actual economic and adoption outcomes start to unfold, and can therefore be directly measured. With a model such as this, one can identify specific operational outcomes that can and should be measured and start to answer 'what-if' questions.

WITH A MODEL, YOU NOW CAN MODEL

In the above model, four phases of an innovation system are identified and connected to create a continuous flow of opportunities from concept to reality. In this system, five high-level operational outcomes have been identified.

1. Compress Time – The faster you can take a concept from inception to reality (or kill it along the way) the better. The velocity of opportunity creation and development influences the mechanisms for identifying new concepts (see below) and for learning, evaluating and selecting (decision making) among opportunities to invest in.

2. Increase Volume – Volume makes a difference because it lets you select among opportunities instead of evaluating each one in isolation. In this way, opportunity volume is like deal flow to a venture capitalist, the higher the deal flow, the more selective (and presumably better) you can be.

3. Increase Yield – Yield typically refers to the error-rate of a process. How many defects per X number of opportunities. In this case, a defect is an opportunity that won't be successful. Letting these opportunities through the system lowers its overall yield.

4. Increase Adoption – To the extent that you can get a new product, service or business model to be more widely adopted, its value will increase. Increasing adoption among the targeted customers, or, in some cases, unexpected customers, is a desired outcome.

5. Speed Adoption – The faster the adoption of a product, service or business model, the more value it creates. Speed of adoption depends on many factors but measuring the speed in real time is pretty straight forward.

Note that one thing that many people focus on, how much money (revenue, profit, ROI etc.) will an opportunity create, is not in this list. That is not because it is not important, it is because it is a dependent variable that can be (and should be) derived from these outcomes. Other 'size of potential market' factors are taken into account when estimating potential adoption size and rates as well as overall opportunity value (see below).

Given these 5 operational outcomes, we can 'run' the model to see what the results of improvement in each of these areas would be. The following is a chart showing what a 10% improvement in all 5 of these outcomes would result in.[4]

The chart above shows the expected difference in revenue between baseline (existing

Revenue chart showing Revenue – Baseline and Revenue – Accelerated over Y1 to Y5.
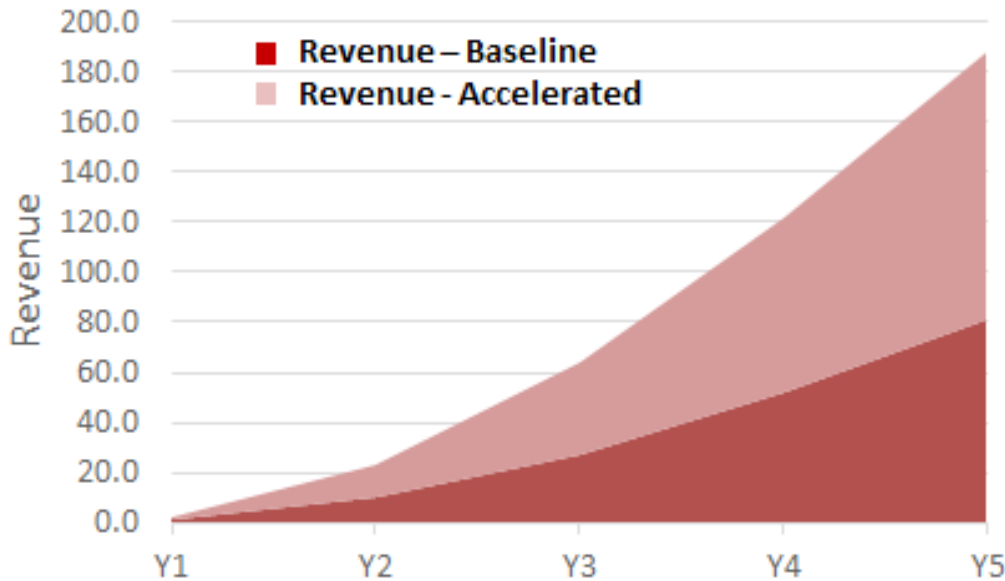
innovation system performance) and an innovation system that operates 10% better in all five of the listed performance areas. As you can see, there is a potential to more than double the revenue created by an innovation system over 5 years.

CATEGORIES OF MEASUREMENT AND SOME POTENTIAL KPIS

The model above identifies key operational outcomes of an innovation system and lists five measurement categories needed for monitoring these operational components. This model can be used to identify specifically what to measure, how to measure it and how to use what is measured

Each measurement system setup will be different. There are different processes, methods and tools used, different governance rules and responsibilities, different organizational structures and different people involved. Each measurement system needs to be customized to the specific situation by choosing the specific KPIs to use, how to instrument the system, how the data is collected and processed, how the data is visualized and what is acted on. Despite this customization, the five general categories of measurements identified above are the ones that are important to keep in mind when creating a specific set of KPIs, instruments, data analytics and visualization.

Value – What is the uncertainty-adjusted value of specific opportunities as well as the total innovation opportunity pipeline? You need different measurement tools and methods for opportunities at different phases:

· Discovery – 1st order approximation of yearly revenue. Estimates based on educated guesses derived from triangulation of supply – demand – system and existing analogs in the market
· Incubation – 2nd order approximation of yearly revenue. Prediction of survival, growth and size based on experimental data and advanced analytics.
· Acceleration – 3rd order approximation of yearly revenue and costs. Company standard methodology (e.g. BASES)

Flow – What is the rate of opportunity generation, throughput and yield of the pipeline? What is the flow per $ spend and how is this changing over time?

This is a set of values and ratios based on when opportunities achieve certain levels of readiness (i.e. specific uncertainties have been eliminated). From this data, the following things can be calculated.

· Number at level – Count of the # of opportunities at each readiness level
· Time in level – Average time an opportunity spends at each level

- Level attrition – % of opportunities that do not move on to next level
- Resources at level – total $ and FTEs spent on each level
- Throughput – Phase transitions (Discovery to Incubation to Acceleration per unit time
- Yield – Throughput/ Value, how it is trending

Network – How well are the internal and external knowledge creating networks working to facilitate learning and creativity? Are the internal and external networks robust and effective for knowledge and relationship creation and assimilation?

Measures of how connected the organization is, internally and externally and how effective the network is at creating and assimilating new knowledge.
- Automated analysis – Natural language analysis of e-mail, phone calls, calendars, channel conversations etc. for network structure, contact frequency and content value.
- Number and depth of network events and activities – meetings, workshops, fairs etc.
- Self-assessment – Surveys of network participants

Stretch – How is the company's strategic intent being pursued and how are the company's boundaries being extended in appropriate ways?

Measures of how the organization is expanding into adjacent and new areas that are strategically aligned and important.
- Expanded Ansoff Score – Technology, Market
- Strategic Innovation Score – New to World, New to Company
- Advanced portfolio measures using core/non-core, sustaining/transformational dimensions

Jobs – Are we doing the right innovation jobs and doing these jobs right? How are jobs changing? Note that these are not the jobs of individual people, they are the jobs that the innovation system is doing for the company.

Perform a periodic assessment of the jobs the innovation system is doing and should be doing.
- Innovation Strategy Canvas and Roadmap – Benchmark and plan for the evolution of the innovation system
- Job analysis and assessment – Update list of innovation system jobs and rating of each job on importance and performance.
- Gap assessment – analysis of gaps, roles, responsibilities, proficiencies and team that are revealed by the analysis of jobs to do.

With a model and its corresponding measurement strategy, we can focus on developing and using better instruments for measuring activities and predicting outcomes.

FUTURE UNCERTAINTY – THE HEART OF INNOVATION

The fundamental condition at the heart of any innovation endeavor will always remain – the future is uncertain. Uncertainty about the future is, after all, what an innovation system is setup to exploit.. Paradoxically, a well-functioning innovation system should both create uncertainty (for yourself and for others) and resolve it. It creates uncertainty through the constant imagining of new things the world has never seen. It should manage and reduce uncertainty by changing how the world behaves in ways that allow the innovations it produces to be adopted.
- Every innovation we create is a statement about what we believe the future will be. How well we anticipate the future is a critical aspect of how well we innovate. Our ability to formulate potential futures in a structured, precise, and unbiased way can be measured.
- Creating new-to-the-world artifacts is an uncertain (not to be confused with risky) endeavor. How well we create, and then resolve, uncertainty, is a critical aspect of how we innovate. Uncertainty can, and should, be measured.

Uncertainty plays a central role in innovation and, therefore, it makes sense for an innovation measurement system to directly measure and track this. As far as we know, this has not been tried. Consider what follows as a modest proposal to experiment with a different way to measure innovation.

INNOVATION MEASUREMENT USING FUTURE CLAIMS AND UNCERTAINTY

The principle behind a new measurement approach is that what really matters for an innovation system is how well you can create claims about the future in the face of inherent uncertainty about those claims. The approach goes something like the following.

1. Any opportunity concept is, in large part, represented as a collection of claims about the future. One need look no further than the 'pitch decks' used by entrepreneurs and intrapreneurs to sell their ideas to investors).

2. Each claim about the future has derivable levels of uncertainty assigned to it. This uncertainty can have multiple dimensions and, hopefully, declines over time.

3. Each claim about the future has a derivable measure of impact (along multiple dimensions) and likelihood of happening. The impact and likelihood of the future claim can change over time. Low levels of change (i.e. low variability) is a property of an effective innovation system that can create accurate future claims.

4. The effectiveness of the innovation system is measured through a combination of how accurate the future claims are, how impactful and likely those claims are and how quickly uncertainty is reduced across all claims of all opportunities.

There are numerous details to be worked out and experiments to be done before a measurement approach such as this can be validated, but it is intriguing nonetheless since it points to some very real areas of research and development using new AI and machine learning based tools and methods.

CONCLUSION

As a company's innovation system becomes more critical to the long-term success of the company, the desire to measure and improve it increases. Innovation, however, unlike other business processes, is an area that defies the development of precise and unambiguous metrics.

The temporal decoupling of cause and effect, the ambiguous and complex nature of information and knowledge and the inherent irrationality of human behavior create tremendous uncertainties that are not seen elsewhere in business and which complicate the creation of meaningful metrics and the means to measure what makes a difference.

One of the things that can help in the effort to create a meaningful innovation measurement system is to have a clear framework and model of how the innovation system is constructed and how it works. With such a framework and model, it is possible to identify exactly what should be measured to increase or decrease, compress or expand the desired outcomes. It is then possible to design the most useful KPIs, instrumentation, data gathering and analysis and decision support tools possible.

In the future, as our innovation tools get better, as they become more automated with AI and machine learning, the measurements required will simultaneously become simpler and more complex. Simpler for the humans who are running the system but more complex in their internal data gathering, analysis and predictive capability.

The effectiveness of our future innovation systems depends on our ability to measure how effectively they are operating and our ability to use these measurements to keep evolving our innovation systems. If we do not do this well, we will ultimately be the victim of those who do.

Larry Schmitt (lschmitt@theinovogroup.com) is Managing Partner at **The Inovo Group** (theinovogroup.com), an innovation consulting firm that aids technology-driven companies succeed at strategic innovation.

[1] One of the issues of innovation metrics is that the word 'Innovation' can be used as a verb, as in 'we are innovating', and as a noun, as in 'our innovations drive growth'. Innovation, as used here, refers to the activity (verb) of innovating and the term 'opportunity' is used to refer to the output of the activity of innovating. Both need to be measured.

[2] For just one example of how many and varied innovation metrics can be see The Conference Board Working Paper 'Signposts of Innovation: A Review of Innovation Metrics'

[3] Recent years have seen significant efforts to reduce the time between action and outcome (and thereby make measurement much easier). The whole lean-startup, test and learn movement is directed at doing precisely this.

[4] The results shown here are based on model parameters such as rate of opportunity concept generation, % of opportunities that make it to next phase, % of commercial offerings that fall short, meet or exceed ROI targets, average time per phase, time to midpoint on adoption curve (months), and many others. For more details on the model, please contact the author.

2017 Crowdsourced Innovation Report

BY **IDEASCALE**

In 2016, a survey was sent to 735 board members and executives worldwide. Executives were asked to rate 30 issues from 1 to 10 based on how much impact they expect them to have on their companies in the coming year. And after the more routine concerns about economic fluctuation and regulatory changes and the growing risk of cyberthreats, the number one concern that those executives were worried about was the rapid speed of disruptive innovation.

This isn't surprising. It's hard to conceive of the new accelerated pace of change. More than 50% of the Fortune 500 are gone in under a decade. It took the telephone 75 years to reach 50 million users while Angry Birds was able to do it in less than two months . It used to take a company 3 years to bring a new product to market, now we're seeing companies do it in a matter of months. So how are companies managing to keep up in spite of all this change? To answer that question, IdeaScale began exploring innovation trends in their own system data as well as through primary research with their clients and in doing so developed some answers to the following questions:

1. What is the profile for an organization's innovation program?
2. What sorts of problems are organizations solving with the help of the crowd?
3. What are the biggest challenges in the innovation space today?
4. What sorts of results can one expect from an innovation program?

The results are summarized in the 2017 Crowdsourced Innovation Report. Below is an excerpt from the report that focuses on metrics:

How are innovation programs performing and how are they explaining their value? With so many of these programs still in the proof-of-concept phase, there is still a lot of variety in results and metrics, but we are beginning to see some standardization across these programs.

To begin with, there's a strong trend for collaboration on idea implementation. In fact, 40% of respondents stated that ideas are implemented based on the nature of the idea – unique teams for each idea. The most common implementation after that is the dedicated innovation group who stewards numerous ideas through to completion. Another discovery is that innovation management isn't like other practices, the value of an innovation program doesn't usually happen on day one, but after some initial ideas have been implemented and some initial results.

The majority of respondents stated that value happens between one and six months of the launch of a new innovation program. Finally, innovators measure value in a number of different ways (from employee satisfaction to top-line revenue growth), but the number one metric for overall program success was the number of ideas implemented. Most were hoping for an implementation rate of about 10% but, of course, that rate depends a great deal on the nature of the program or challenge. Here are the other metrics for success (in order of most common usage):

1. Number of implemented ideas
2. Employee Satisfaction
3. Customer Satisfaction
4. Time Saved
5. Money Saved
6. Revenue Generated

IdeaScale (ideascale.com), is an idea management platform that uses crowdsourcing to help you find and develop the next big thing.

IdeaScale
Crowdsourced
Innovation Report

How We Measure Success at Cisco

BY ALEX GORYACHEV, **CISCO**

Some people say that innovation can't be measured. I disagree. Innovation can and should be measured. However, one of the biggest mistakes companies can make is applying traditional measurements to transformational work such as innovation. Financial measurements such as Net Present Value or Rate of Return really aren't always relevant when gauging the success of an internal innovation program.

Innovation projects also have different levels of risk, uncertainty and relationships in both the short- and long-term that require new ways to determine success. They require a vision, a leap of faith.

In addition to revenue impact, we measure things like employee engagement, formation of informal networks, or the growth and strength of our community of innovation mentors and coaches. We also look at the impact of the program on attracting and retaining the best talent and uncovering novel technologies and business models.

Of course, the ultimate measure for any internal or external innovation program is to create new solutions that add leapfrog value for customers, the solution provider and their employees. Not all innovation projects can be monetized. Strong teams might not necessarily bring in money, but they may help the company down the road.

Here's how we're measuring our success and accomplishments:

· Unleashing new disruptive ideas that have the potential to bring tangible value to Cisco, our customers, and employees.

· Stimulating employee engagement across organizations, functions, geographies, and grade levels.

· Bringing together siloed innovation organizations that are now working together toward common end-to-end innovation goals.

· Forming and linking an informal and passionate community of innovators, experts, mentors, coaches, and executives who are now sharing their ideas with each other.

· Augmenting corporate initiatives to attract, develop, retain, and reward top talent by creating new avenues for growth.

· Reinforcing Cisco's brand as a leading innovator and a great place to work.

Alex Goryachev
Senior Director

Alex Goryachev (agoryach@cisco.com) is a Senior Director at **Cisco** (www.cisco.com), the worldwide leader in IT that helps companies connect the previously unconnected.

Overcoming the Limitations of Stage-Gate in New Product Development (NPD)

BY TIMI OLOTU, **PATSNAP**

The Stage-Gate process can be defined as a framework where large innovation programs are divided into phases (stage). Each phase is preceded by a review session (gate), where ideas are assessed and deemed worthy of further development or not.

Just as Stage-Gate exposed the gaps within organizational processes, innovative organizations are revealing gaps within the Stage-Gate process.

Run a Google search on "weaknesses of Stage-Gate" and you won't be short of results.

CEB (of Gartner) found in its 2017 survey of senior R&D leaders that they are still wrestling with many of the challenges that Stage-Gate was supposed to alleviate. Top of the list of challenges is "We struggle to communicate the return on investment of our R&D".

On the surface, it may appear as if the Stage-Gate process is failing to remove fuzziness from innovation—as it promises to do. But an alternative view suggests Stage-Gate isn't the problem—the way it's being used by organizations might be.

I'll explore how organizations might be hurting their results by misunderstanding the role of their Stage-Gate process—and how you can upgrade yours.

Stage-Gate is not the vehicle, it's the chassis—you need other parts to get anywhere. There's a dark specter that hovers over the spirit of innovation—it's called risk. When your job is to constantly step into the realm of the unknown, it follows logically that you *cannot* predict whether you're making the right moves.

This is compounded by the fact that persistently breaking through limitations is expensive. Like, trillions of dollars kind of expensive. Which means R&D is funded by commerce.

Business people prioritize predictability and calculable returns on their investment (it's how they got so rich). Innovation offers minimal predictability (at best). You see how things can get tense.

Stage-Gate has been so enthusiastically embraced by innovative organizations perhaps because they think it helps them minimize risk and maximize predictability.

In fact, it doesn't—it simply accounts for the existence of risk.

To illustrate, the fact that a project passes through all phases of the stage-gate isn't an inherent indication that it is likely to succeed in the market. It's simply an indication that a group of people have regularly asked themselves whether they think that project is likely to succeed.

Robert Cooper, pioneer of Stage-Gate, seems to me to suggest as much in his in-depth analysis of how the methodology has evolved: "Today's fast-paced Stage-Gate is flexible, allowing the project team considerable latitude in deciding what actions are needed and what deliverables are appropriate for each gate, and adapting to dynamic information."

Stage-Gate is just a shell—for it to drive you to the promised land, you need to regularly fine-tune the engine you put inside it.

What really affects the success of a project is the quality of the metrics used when assessing whether that project is equipped to exploit opportunities and avoid dangers.

So, I'd like to talk about a source of high-quality metrics that can turn your Stage-Gate process into a supercar, with a turbo-charged engine—IP data.

Specifically, I'll talk about why intellectual property (IP) data is more insight-driven, actionable and R&D-friendly than most other data sources.

WHY FOCUS ON IP DATA?
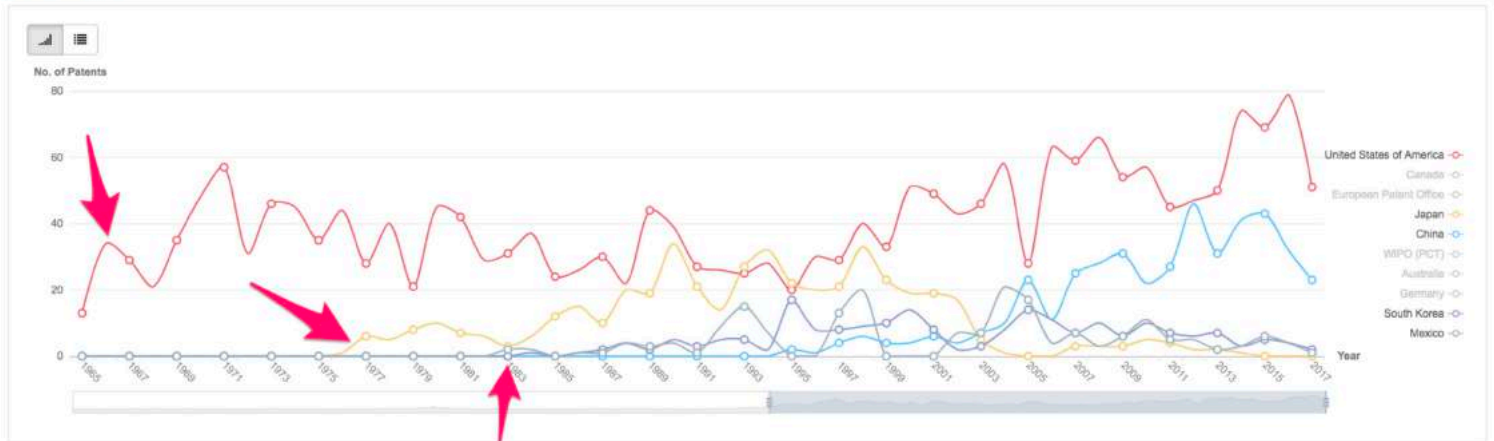
Patents are a monopoly right granted by the

Timi Olotu
Head of Content

Annual Geographic Filing Strategy
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Show Description ▾

state, in exchange for publishing details of how your invention works.

Meaning each patent makes public lots of valuable technical information—and just because you can't copy that information doesn't mean you can't use it.

Patents are also documents which follow a defined structure—for example, all patents contain claims, drawings, summary pages etc. And the type of information contained in each section is clearly defined.

There are also hundreds of millions of patent documents in existence today. This uniformity means, with enough computing power, you can extract patterns and insight from billions of common data points.

IP data is particularly useful to R&D teams and Stage-Gate because:

1. It is inherently biased towards providing insight (not just numbers)—it comprises a combination of quantitative (numbers-based) and qualitative (descriptive) data
2. It is still overlooked by most companies and so represents a huge competitive advantage for those who use it
3. Its records go back to the 1700s, so trends in the data have a healthy historical context
4. It contains data about what competitors and other external parties are doing
5. It contains data indicating the past, current and future direction of markets
6. It is inherently innovation-focussed because it concerns multiple aspects (e.g. technological and legal) of new inventions

I must emphasize that patent data isn't valuable as a blunt measure of how innovative a company or market is—this is a common and damaging misconception. Not all innovative ideas are patented and patenting intensity is not uniform across the world.

Insight from patent data is more useful for seeing trends in behavior and technology. It also "telegraphs" how other innovators foresee the future and are reacting to it. And, of course, it reveals things like infringement dangers, partnership opportunities and more.

IP data is valuable in an environment where new frontiers must be continually explored because it not only reveals what companies are doing—it reveals what they are preparing to do.

This means that while you can't predict what will happen, you can draw educated conclusions about what the market thinks is likely to happen—bringing a level of foresight to a fundamentally unknowable variable (i.e. the future).

What's the net effect of this approach? The BCG Global Innovation Survey of 2016 shows companies that are good at exploiting data originating externally, are the same companies that have the most successful innovation programs.

Using examples from Robert Cooper's report, "What Leading Companies are Doing to Reinvent their NPD Processes", I will illustrate just how IP data can help you plug holes in your Stage-Gate process.

HOW IP DATA COULD HAVE ENHANCED AN EXEMPLARY PRACTITIONER OF STAGE-GATE

Mr Cooper's report opens by pointing to Emerson Electric as being exemplary of Stage-Gate processes.

The company uses "gates with teeth", regularly reviews its Stage-Gate process (not just the ideas passing through it) and incorporates the voice of customers, among other things.

So, I analyzed Emerson's activities and strategies to see if they could actually be enhanced by IP data. Two things were immediately apparent:

Robert Cooper felt one of the reasons Emerson was so successful in using Stage-Gate is that it recognized that "Making the right project choices is another area where significant gains could be made."

Chuck Knight, the former Emerson CEO who sadly passed away earlier this month (September 2017), was renowned for making "controversial moves into the global marketplace."

In a 2017 Economist article analyzing the shift in business from globalization to localization, Emerson is pinpointed as "...a conglomerate that has over 100 factories outside America, sources about 80% of its production in the region where it is sold." Chuck Knight actually began moving Emerson into the global market soon after he became the youngest CEO of a billion-dollar company, in 1973.

Emerson began filing patents in Japan (1977), then China and South Korea (both 1983)—while US patenting activity was already up and growing well before this time.

And of the 6 patents filed in 1977 (in Japan), 2 concerned "DC motors." This indicates Emerson had spent lots of time and money on this technology area, likely with specific plans for the Japanese market.

While Emerson was making the risky move of entering a new and unfamiliar market, would it not have helped to have learned from the activities of those who'd been in the market far longer? Emerson could have exploited the technical knowledge and trends revealed by the innovators in its market.

Perhaps more importantly, it could've seen that Nitsuki Densou KK filed a patent in the same year, relating to a technology that was eerily close to one of Emerson's—DC motor speed control.

How does this relate to Stage-Gate? Emerson's focus on "localized internationalization" began in 1973 and remains today. So, this scenario has likely repeated itself after Emerson's adoption of Stage-Gate.

Maybe when it began patenting in Colombia (1995) or Indonesia (1999).

As established by Robert Cooper, "adapting to dynamic information" is a key tenet of a flexible and effective Stage-Gate process.

Is there a better illustration of adapting to dynamic information than exploiting the current (and evolving) trends in IP analytics, as a company enters a new market?

IP data would enhance not only the choice of ideas to develop (with infringement and partnership opportunities laid bare on the landscape), but also the direction of development (with ample technical information rendered accessible).

And I can guess what you're (probably) thinking: that the kind of computing power necessary to access this information wasn't available in 1977.

That's true. Yet many modern organizations still make uninformed decisions, as if such rich and actionable data were not available today.

That makes Emerson's example from 1977 more apt. Whereas IP big data used to be inaccessible to all companies—nowadays, most organizations choose to ignore it at their own peril.

> ## "IP data would enhance not only the choice of ideas to develop, but also the direction of development."

COMBINE IP DATA WITH STAGE-GATE TO BOLDLY GO WHERE NO MAN HAS GONE BEFORE

Robert Cooper, in his in-depth report, itemizes ways to improve several facets of Stage-Gate—I'm going to explain how IP data can support you in 3 main areas.

1. Optimize your Stage-Gate process by making it risk-adjusted and scalable

Robert Cooper states that one of the big mistakes organizations make is having "gates with no teeth"—i.e. stage reviews that amount to knowledge-sharing sessions, rather than opportunities to weed out bad ideas and reinforce good ones.

He emphasizes the importance of "go/kill decision points", stating: "In many firms, too much emphasis is on getting through the process—that is, on getting one's project approved or deliverables prepared for the next gate... In a major shift, P&G changed its emphasis to winning in the marketplace as

Innovation
Leader

the goal..."

He also mentions the importance of having truncated versions of stage-gate, to handle smaller, lower-risk projects (which don't require the bureaucracy of the whole shebang). These truncated versions would presumably contain appropriately miniaturized "teeth".

IP data is one of the few sources of innovation intel that can keep up with fast-moving product development pipelines—and provide big or small data.

Scott Collins, President and CTO of TeVido, states that one of the big benefits of IP data to his company is that it alerts him to new developments in the company's technology area.

Numerous patents are filed every day, across the world. With access to current IP data and insight, you can see if an infringement threat or novel application appears half-way through a project life cycle.

You can adjust commercialization strategies with the emergence of licensing or partnership opportunities, and use countless other data points to keep your project on track.

If you're dealing with a big project, you can dig deep into the IP data. If you're dealing with small projects, surface readings of patterns can give quick indications on how to proceed.

2. Improve your Stage-Gate process by adding flexibility, using simultaneous execution

Robert Cooper explains, "Today, stages are even allowed to overlap in NexGen Stage-Gate... long lead-time activities that are usually reserved for subsequent stages (e.g. ...preparation of marketing collaterals...) can be moved into the previous stage to accelerate the project..."

But he also says, "Simultaneous execution usually adds risk to a project."

If you're going to start printing marketing collateral before a project is finalized, you need to be able to prevent what ex-Xerox R&D chief, Mark Myers, calls the "Oops Factor". This is a situation where companies forge ahead with a project only to discover (millions of dollars later) that it can't be commercialized.

Often, obstacles to the commercialization of ideas are patents. If you're in the business of R&D—especially if you want to make your Stage-Gate process more flexible—it's simply reckless to ignore IP data.

Just ask Dow Chemical, which was forced to dismantle an entire business unit and abandon a multi-million dollar project because it failed to keep an eye on the IP landscape.

3. Improve your Stage-Gate process by focusing on portfolio management

Robert Cooper notes, "There are two ways to win at new products: doing projects right and doing the right projects. And that's where portfolio management—picking the right projects—comes into play."

He also notes, "Lack of data integrity is one of the top issues identified in a recent APQC portfolio management study."

IP data is valuable because the issue of data integrity is neutralized—all patent documents are reviewed and approved by independent bodies, following long-standing criteria.

Concurrently, IP data works well as either a "shield" (for defending the value of a project) or a "sword" (for cutting down flawed ideas). It reveals threats (e.g. competitor strategies and infringement dangers) as well as opportunities (technological trends and partnerships).

John Frieden, R&D Director at Wilbur Ellis, says about IP data, "I expect over time, the next innovation we come up with will have been found based on PatSnap's patent reports—it has improved my success rate."

IN SHORT, GIVE YOUR STAGE-GATE PROCESS AN IP DATA-DRIVEN ENGINE

I won't suggest IP data is the solution to all Stage-Gate related problems. But I think it's fair to say, you'll never own a fully optimized process unless you incorporate IP data.

Don't strategize as if your Stage-Gate process needs to operate by the rules that existed in 1977, when your business needs to win on the competitive landscape of 2017.

I'll leave you with Robert Cooper's closing words from his report on the Stage-Gate process:

> "Take a hard look at your current and potentially out-of-date NPD process and systematically reinvent the process to build in the latest thinking, approaches and methods in order to move to the NexGen Stage-Gate system."

Timi Olotu (tolotu@patsnap.com) is a Senior Copywriter at **PatSnap** (patsnap.com), an innovation intelligence platform that provides insights from the world's most comprehensive register of ideas—patents.

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