

Article

Illumina Accelerator: Next-Gen Corporate Accelerator with a Customer-Creation Focus

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ABSTRACT

We describe the history, design and expansion of Illumina for Startups — a case that represents a company with strong entrepreneurial capacity engaging in open innovation, through a startup accelerator now expanding internationally with different models. This case highlights the strategy and tactical reasoning behind Illumina's approach.

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I. CONTEXT

IN OUR 2019 paper,¹ *Four Models for Corporate, Transformative, Open Innovation*, Art Boni and Diana Joseph described four different ways that corporates can and should engage with startups, to be selected depending on the corporate's strategic and tactical innovation capacity. Illumina Accelerator represents an elegant example of the Corporate Accelerator, a direct model suitable for companies with strong innovation-oriented cultures and leadership. The Corporate Accelerator model is a well-known approach made famous by companies like Microsoft, Citrix and Telefonica.² (Author Diana Joseph led curriculum development for the Citrix Startup Accelerator in the mid 2010's). Traditionally, a startup accelerator has four key traits: A limited timeframe, a cohort, learning support, and a culminating demo day based on pitching the startup's merits to investors. Accelerators often provide startups with resources like funding, space or equipment, and take a small percentage of equity.³ Corporates were inspired to form their own accelerators by independent programs such as Y Combinator — an accelerator famous for producing

“unicorn” companies with relatively small outlays of capital and resources on the accelerator's part.

Corporate accelerators have fluctuated in popularity over time, with programs opening and closing on a regular basis. For example, the Citrix Startup Accelerator opened in 2010 and closed in 2016.

The genomics sequencing company Illumina created its accelerator in 2014 and has only increased its footprint and impact. What has made Illumina Accelerator shine, and how might other corporates benefit from its example? Illumina for Startups is Illumina's way of accelerating innovation in the entrepreneurial community by partnering with leading venture capital investors and entrepreneurs to create, launch and grow genomics startups. Illumina for Startups initiatives include Illumina Accelerator SF Bay Area, founded in 2014; Illumina Accelerator Cambridge, UK, founded in 2020; and Sequoia Capital China Intelligent Healthcare Genomics Incubator, Powered by Illumina, launching Fall 2021. In collaboration with startups and venture capital investors, Illumina for Startups advances breakthrough applications in genomics and multi-omics, including therapeutics, diagnostics, agriculture, synthetic biology, software and direct-to-consumer applications. In this

article, we describe the history, principled design and future of Illumina for Startups, and highlight key lessons to inform corporate decision-making about startup engagement.

II. HISTORY

Illumina Accelerator was founded in 2014 when former CTO Mostafa Ronaghi, a successful serial entrepreneur, successfully made the case for an accelerator to Illumina's leadership team and board. He identified four key motives: Create, grow and stay close to the market. Get exposed to emerging applications. Partner with the brightest entrepreneurs and investors in the field, and obtain an equity stake in emerging companies and generate a financial return.

Illumina's mission is to "improve human health by unlocking the power of the genome," and Illumina recognizes that fulfilling this mission is necessarily a collaborative effort. Illumina has a very specific role to play in the ecosystem — namely, that of a sequencing technology innovation company. The purpose of Illumina Accelerator is to catalyze the startup innovation ecosystem.

INNOVATION MATURITY

In *Four Models for Corporate, Transformative, Open Innovation*¹, we argued that corporates need to choose the right open innovation model based on their operational and cultural maturity. As a corporate seeking to innovate with startups, Illumina has the advantage of being close to its entrepreneurial roots. Founding CEO Jay Flatley and other C-suite leaders were entrepreneurs themselves.⁴ They were familiar with how startups work, operationally, technically and socially. They were ready as leaders to champion the risks of working with startups. In addition, Illumina's culture fosters entrepreneurial mindsets and behavior, for example in the corporate values below (see Figure 1). Illumina is widely

recognized for its breakthrough innovation. "Flatley's Law" is Illumina's answer to "Moore's law" — through Illumina's leadership, size, speed and cost of sequencing machines are improving even faster than the tech industry's standard. In short, Illumina was already mature in its operational, strategic and cultural innovation readiness. When Ronaghi brought forward the accelerator concept, company leadership was very much ready to receive it — by consensus committing resources toward lab space and personnel.

CREATING THE RIGHT TEAM

By the time this approval came through, Ronaghi already had his eye on Amanda Cashin to lead Illumina Accelerator. Cashin, an author of this paper, was a trained PhD-level chemical biologist turned successful corporate investment leader. Her deep ties into the life science investment ecosystem and her entrepreneurial spirit brought her to Ronaghi's attention. They first connected at an industry dinner where Ronaghi was struck by Cashin's breadth of investment experience across life science therapeutics, diagnostics, and research tools as well as her track record of picking winning investments. Technical expertise, business expertise, track record, and network: Clearly Cashin was a great fit for the leadership role. But hiring her was by no means a foregone conclusion.

OVERCOMING ASSUMPTIONS

Cashin notes: In 2013, when she first heard that Illumina was considering an accelerator, she was skeptical — a position many corporate innovation leaders share. This skepticism is reasonable. As of 2013, many corporate-startup programs had disappeared, including Citrix Startup Accelerator (where author Diana Joseph had led the Accelerator's curriculum function), the Pfizer Incubator⁶ and Biogen Idec's.^{7,8} Cashin perceived these abandoned vehicles as lacking sustained internal

Our values



Innovation is in our DNA



We are relentless in the creation of great products



We collaborate deeply



We move fast and embrace change



We are open

Figure 1 From Illumina (2020) Corporate Social Responsibility Report⁵

support, lacking strategic fit, and worse yet, risking damage to the startups who participated. Cashin was in fact so skeptical that when she received Ronaghi's job posting for a Head of Illumina Accelerator, she forwarded it on to other candidates.

Ronaghi knew Cashin through the San Francisco Bay Area bioscience business community and by reputation, so he reached out to her directly. Over a cup of coffee, Ronaghi and Cashin realized they had a similar vision, and together they could create a sustainable corporate accelerator at Illumina that would be purposefully designed with two important principles in mind:

***Founder-friendly.** As a recent entrepreneur himself, Ronaghi understood what this meant in practice and was fully committed to centralizing this principle as a foundation in the design of the program.

***Ecosystem-focused.** The purpose of Illumina Accelerator is tied to the ecosystem necessary to the company's long-term health — not to any short-term metric.

With these considerations addressed, Amanda joined the team as its founding leader.

Together, CTO Ronaghi and Head of Accelerator Cashin covered bioscience expertise, entrepreneurial experience and bioscience investor background. The team also included a key scientist who could guide experiment design and use of Illumina's sophisticated DNA sequencing instruments to form the original team.

ACCOMPLISHED TRACK RECORD

Over the past nearly seven years, across two sites, Illumina Accelerator has launched 54 startups who have collectively raised over \$1B in venture capital from leading VC firms. Impressively, 93% of the Illumina Accelerator graduates to date have gone on to raise capital. Approximately 56% of Illumina Accelerator startups have a female co-founder, 22% are led by a female CEO. And, 85% of the capital raised by Illumina Accelerator startups was secured by teams with female co-founder(s).

Now reporting to Illumina's current CTO Alex Aravanis, Cashin remains at the helm in leading a talented global team of investment professionals, company builders, genomics experts and ecosystem developers.

III. DESIGN OF ILLUMINA ACCELERATOR

The Illumina Accelerator design is inspired by well-known startup engines in technology and biotechnology,

including the classic accelerator Y Combinator and top tier life sciences VCs known for company creation.

WHAT IS THE DESIGN OF THE STARTUPS' JOURNEY?

From the standpoint of a startup, the Illumina Accelerator journey looks like this:

***Application:** A startup finds Illumina Accelerator through a variety of routes. They may already know Illumina Accelerator and its excellent reputation and visibility in the genomics space. In addition, startups are often well connected to Illumina employees and commercial networks, who can help a startup determine if Illumina Accelerator is the right fit for them. And, fellow entrepreneurs and VCs frequently recommend startups to apply to Illumina Accelerator. Startups complete Illumina Accelerator's straightforward four-page application.

***Selection:** Candidate teams visit Illumina Accelerator in person (during non-pandemic times). This visit serves to demonstrate commitment on the part of the startup and to provide insight into the team and team dynamics — ultimately Illumina Accelerator vets whether the team is VC backable. Illumina Accelerator then selects a non-competitive cohort of three to five startups per site with strong teams who stand to benefit from Illumina's technology and guidance. Notably, the selected startups are pursuing breakthrough genomics ideas downstream or upstream of Illumina's sequencing technology — never in the same space as Illumina.

***Onboarding:** Selected teams form a partnership with Illumina Accelerator, committing to work onsite for the six-month funding cycle and to provide 8% equity in return for access to space, expertise, Illumina sequencing equipment and consumables, business and technology coaching, as well as potential funding from third-party investors.

***Residency:** Startup teams move into Illumina Accelerator's site in the San Francisco Bay Area or in Cambridge, UK, which are co-located with Illumina's innovation campuses. During this six-month funding cycle, the Illumina Accelerator team provides weekly coaching and selectively pulls in internal and external experts on an as-needed basis. Startup teams meet a network of sophisticated seed and VC investors along the way, for example during a private investor roundtable that helps kickoff fundraising. Illumina Accelerator intentionally

neither requires nor offers a structured curriculum for startups to follow. By definition, startups thrive in flexible environments and require agency to achieve their vision. The Illumina Accelerator team's role is to guide founders to dream big, stay focused, and pursue the path that makes them successful.

**Graduation:* Upon completing the six-month funding cycle, the startups have achieved significant business and technical milestones, generated terabases of sequencing data on Illumina's platforms, grown their teams, and raised capital. Graduation is marked with a simple internal celebration.

**Post-Accelerator:* Once a startup graduates from Illumina Accelerator, it's not the end of the road for the relationship. As a common shareholder in each startup, Illumina Accelerator is incentivized to continue to support and nurture the graduates along their journeys. The graduates continue to draw on the Illumina Accelerator network, including other portfolio founders, investors and industry experts for advice on fundraising, building teams, strategy, and scaling up.

WHAT MAKES ILLUMINA ACCELERATOR'S DESIGN FOUNDER-FRIENDLY?

To attract the best entrepreneurs from across the globe, Illumina Accelerator was intentionally designed to be founder friendly.

**Interests are aligned* with the founders and the co-investors in seeking both a financial return (through Illumina's equity stake in each startup) and in making an impact in human health and beyond. By partnering with startups, Illumina has potential financial upside and the startups are helping Illumina achieve its mission of unlocking the power of the genome to improve human health.

**Illumina Accelerator companies are Illumina customers*, and purposefully not potential acquisition targets to bolster Illumina's pipeline. This strategy sends a clear signal to the market — all participating startups are high-quality and supported by Illumina. Decisions about exit opportunities and investment opportunities are driven by the market, not Illumina.

**Illumina's brand is enhancing* for its startups. Illumina is a/the leading brand in the genomics sequencing space — Illumina's expertise and presence on the cap table validates the quality of the early stage startup.

**Illumina Accelerator religiously respects founders' time.* In addition, while Illumina Accelerator very much wants to see interaction between its startups and Illumina employees, they are strict about ensuring that this only happens when it benefits the startups. Typically this kind of contact is pull-only — Illumina Accelerator leaders reach out to arrange contact with Illumina employees when and only when their expertise will benefit a startup. Illumina employees take this role very seriously, for example, Ronaghi himself typically dedicated significant time mentoring companies.⁹

IV. GOING GLOBAL

After working for over 3.5 years and 7 cohorts of startups, the Illumina Accelerator team summed up their findings, and reported them to the C-Suite and Board of Directors. The team felt they were onto something valuable and were ready to expand. Leadership never blinked — they supported the move to go global immediately.

In the background of all of this decision-making, Cashin tapped into the wisdom of non-competitive peers through the Corporate Accelerator Forum (CAF) — Cashin is a founding advisor and sponsor for CAF, co-author Diana Joseph is CEO. This curated community of corporate innovators who work with startups delivers the tools, practices, cases and relationships that corporates need to unlock open innovation. Joseph invited Cashin to bring the "Going Global" challenge to the CAF Annual Meeting in 2019. Acting as a "discussion host," Cashin raised the question of how best to go global to a self-selected group of 10 or so other large organizations with similar startup engagement programs. A key takeaway for Cashin — in each location, determine which elements should be shared with the home-base site, and which can change, balancing efficiency and consistency, with local conditions. In a similar environment like Cambridge, 80% of the framework can match its parent site. In a very different environment like China, perhaps only 20% will match. The team identified a core set of non-negotiable elements, and allowed the rest to adapt as needed for the region.

CAMBRIDGE, UK

With the decision to "go global" made, the next question was where, and how. China was a compelling choice given the size of the market and dramatic trends in sequencing activity in the late 2010s. Still, the challenges were significant — distance, cultural and economic differences would have to be considered. In this moment

of possibility, Illumina's commercial leader in Europe, Middle East, and Africa saw the penny drop from her vantage point – the United Kingdom was entering a sweet spot of timing: the United Kingdom had become a global leader in genomics investment, and Cambridge was ripe for new company creation in genomics. The Illumina Accelerator team from San Francisco flew to London and received a warm welcome from VCs, startups and other ecosystem partners. The message: Now is the time for the UK! In 2020, Illumina Accelerator opened its second site, co-located with Illumina's innovation center, in Cambridge — during a pandemic! Generally speaking the UK site followed the Bay Area site's playbook: secure space adjacent to Illumina's innovation campus, secure third-party funding, apply the company creation framework, learn and tune the system cohort by cohort.

SHANGHAI, CHINA

By starting in Cambridge, Illumina bought itself more time to sort out a model that would make productive sense in China — a very different setting than the SF Bay Area in terms of national culture, entrepreneurial culture and the economy. In January of 2021, Illumina announced the Fall 2021 opening of *Sequoia Capital China Intelligent Healthcare Genomics Incubator, Powered by Illumina*.¹⁰ The genomics incubator in China carries the strengths and relationships of a local world-class partner in Sequoia Capital China and is located in a central innovation district in Shanghai. This approach simultaneously leverages Sequoia's track record in backing companies in China, and Illumina's track record in creating genomics startups. The genomics incubator follows a customized playbook for Greater China: secure a local VC partner that can not only fund the startups but also run the incubator, apply the company creation framework, learn and tune the system cohort by cohort.

BROADENED STRATEGY

Clearly the global expansion demanded a larger staff, new offices and advanced teamwork. To ramp up this new Illumina for Startups model swiftly and smoothly, Cashin brought in Martin Global Leaders who provided team and executive coaching in Q1 2020. This became more complex quickly with the COVID-19 pandemic. From April 2020 to Summer 2021, team coaching addressed six major arenas:

- Build strong trust and working relationships

- Become aligned on objectives and strategy and stakeholder expectations
- Develop standardized processes for expansion
- Help team members support each other dealing with working from home
- Learn tools and protocols for advanced team learning

Martin Global Leaders CEO, Craig Martin comments: "It is remarkable how this team came together powerfully to create a new global operation during a time of great upheaval, while not missing a beat supporting their startups. It's a great example of teamwork that in turn benefits the startups and their ability to bring new innovations to the market."

With a seven-year track record, Illumina for Startups continues to broaden its strategy and double down on the future: Expect to see new models with new partners in new locations, expanding to companies at every stage in the startup lifecycle.

V. CONCLUSION: FIVE KEY QUESTIONS TO ASK IF YOU'RE DESIGNING AN ACCELERATOR

Over the last five years at the Corporate Accelerator Forum, we've studied dozens of corporate-startup engagement engines, from formal accelerators like Illumina Accelerator, to incubators like Bayer CoLaborator, to third-party supported programs such as Techstars and Plug & Play, to internal incubators, to corporate VCs and scouting programs. Based on these investigations, we've come to understand several important lessons this Illumina Accelerator case elegantly reveals.

If you're a corporate innovator eager to work with startups, ask yourself these five questions:

1. Why do you want to engage with startups?

Crystal-clear goals will keep you on track in designing, executing and monitoring your program. Is your goal to stay at the cutting edge of your field? To explore new markets? To improve your technology? To be recognized as an innovator? To foster an internal entrepreneurial culture? Each of these goals would drive a different design and a different set of metrics and key resonating stories.

Illumina's goals were crystal clear: to catalyze new market applications for Illumina's technology. Their startup engagement engine was shaped to address this goal by fostering a thriving startup ecosystem and building future customers.

2. *What is your company's appetite for startup engagement?*

What is your company's current capacity for innovation? To what degree are senior leaders prepared to champion innovation and entrepreneurial behavior? Do they themselves have an entrepreneurial track record? How is the culture set to support innovation — for example, are incentives in place to reward risk-taking?

Illumina began with a strong entrepreneurial culture and leadership eager to commit their own time to the project.

3. *What is your plan to maintain alignment with internal stakeholders?*

How will you set expectations at all levels? What metrics and key resonating stories will you use to communicate progress, and how often? A design and metrics tool to consider is the Innovation Dashboard 2.0 — the Dashboard acts as a one-page canvas for making expectations explicit and shared.¹¹ Illumina Accelerator influenced the development of the dashboard.

Illumina maintains a very strong relationship between Illumina for Startups and the C-Suite, based on personal time spent on a day-to-day basis, as well as regular leadership presentations.

4. *What is your plan to maintain alignment with startups?*

The startup world is small — corporates develop a reputation very quickly. Why will your startups sing your praises? How will you align your incentives with those of the startup founders? How will you ensure that your signals to the market are positive so that even companies you don't acquire are glad they had the experience?

Illumina Accelerator's design is very careful in this regard: Startup partners are upstream or downstream from Illumina's technology, equity aligns incentives on both sides, cohorts in each site are selected to preclude startups that compete with each other, and startup's time is treated as precious.

5. *How will you leverage best practices and prior art?*

Where will you go for advice, stories and examples from the front line of corporate-startup partnership to learn from others' experience?

Amanda Cashin draws on her Corporate Accelerator Forum experience as a regular component of her startup engagement work. A weekly live CAF audio session called Weak Signals allows her to practice forecasting based on small market observations. The bi-weekly public CAF WaterCooler is there when she is looking to expand her network. Bi-weekly

private CAF members-only sessions provide ad-hoc consulting. As a Founding Sponsor, Cashin sits on the leadership team to guide the Forum calendar, and therefore her most compelling questions are addressed directly — for example, the "Going Global" session described above. And the CAF Annual Meeting brings together corporate open innovators in a carefully crafted, curated, private conversation where Cashin can speak frankly, and frankly provide feedback to her colleagues in this setting designed for corporate innovators, by corporate innovators.

Answer these five questions as a foundation to selecting the right model, the right goals and the right expectations for your company.

Because Illumina Accelerator had clear answers to the questions above, as well as clear goals and expectations, its designers were able to zero in on a logical key that resolved many of its challenges: They chose to focus the accelerator on Illumina's customers. Customers don't compete with the corporate. Customers understand that when they do better, the corporate does better. Appearing on your customer's cap table is a strong positive signal. Customers' experience informs the corporate about markets. The corporate CFO, CTO, CEO and COO are all on the same page about wanting customers to thrive.

Collaborating with customers is not the only path to a strong and sustainable accelerator design logic — the key is to understand the corporate context and zero in on a design that aligns goals and expectations from the start.

In these dynamic times, corporations do not have the luxury of sitting on the sidelines of innovation. Sticking to the core is more comfortable than doing something new — but it may be even more risky. While we don't know exactly which disruptions will occur, or when, or from where. But we can be certain that *some* disruption will occur that will be material for every organization. The COVID-19 pandemic has made that abundantly clear. As innovation author Adi Mazor Kario¹² says to corporates: Innovation is your insurance policy!

There are as many paths to startup engagement as there are corporates — each organization has its own strategy, ecosystem, strengths, weaknesses, opportunities and threats. The story of Illumina for Startups describes one compelling, logically consistent path to startup engagement that measurably serves both its internal and external stakeholders. What will be your path?

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