



Global

Corporate

Venturing

2017

Price: \$750



CORPORATE VENTURING **101**
Recipes for **SUCCESS**



INTRODUCTION

Thierry Heles

In 2016, Global Corporate Venturing identified 60 new corporate venturing units and a total of 142 venture capital funds that involved a corporate. They are impressive numbers, and dealflow has been strong, but importantly such figures illustrate that there is a need for supplements such as CV101 that help ensure burgeoning investment subsidiaries are off to a great start – and perhaps provide a refresher to more established divisions.

GCV Analytics, the deals database of Global Corporate Venturing, shows a total of 1,942 investments made by corporates last year, led by established players – pharmaceutical firm Johnson & Johnson conducted 63 deals, conglomerate Alphabet made 61 and semiconductor manufacturer Intel was closely behind with 60 transactions.

However, only the top 51 corporates out of 464 conducted 10 deals or more, with the vast majority conducting five or fewer.

The number of deals over the past 12 months is nearly 2.5 times the number of transactions identified five years earlier, when Global Corporate Venturing identified 790 deals in 2011. At the time, Intel led the pack with 90 commitments, followed by internet company Google – which has since restructured as a subsidiary of Alphabet – with 60 and conglomerate General Electric with 33.

With telecoms conglomerate SoftBank's gargantuan \$100bn Vision Fund set to make a significant impact in 2017 and beyond, corporates with smaller coffers may have less to offer startups when it comes to capital, but their ability to be agile and offer sector-specific knowledge and networks may yet give them an edge.

To help new units do just that, CV101, a sister publication to The World of Corporate Venturing, offers answers to questions such as whether an investing corporate should sit on the board of directors or simply observe, how fund structure might affect performance and how to move beyond a simple investment to create a strategic value chain.

CV101 should, therefore, provide a good starting point for companies joining the ecosystem and help ensure their long-term survival. Issues are addressed by a wide range of industry experts, who we would like to take this opportunity to thank for their valuable insights. Their expertise will undoubtedly help avoid some of the pitfalls of the corporate venture capital world.

Global Corporate Venturing

Address:

52-54 Southwark Street,
London SE1 1UN

Published by Mawsonia Ltd™, all rights reserved,
unauthorised copying and distribution prohibited. © 2017

Editor-in-chief: James Mawson

Email: jmawson@globalcorporateventuring.com

News editor: Rob Lavine

Email: rlavine@globalcorporateventuring.com

Reporter: Thierry Heles

Email: theles@globalcorporateventuring.com

Chief operating officer: Tim Lafferty

Tel: +44 (0) 7792 137133

Email: tlafferty@globalcorporateventuring.com

Production editor: Keith Baldock

Website: www.globalcorporateventuring.com

Contents

4**The Global Corporate Venturing Survey 2017**

Thierry Heles

14**The state of corporate venturing: moon shots vs CVC funds**

Thomas Grota, Deutsche Telekom

16**Optionality for the future or the value of a venturing unit**

Kaloyan Andonov

24**How experienced corporate venturers manage informal relationships with VC funds**

Paul Morris, UK Trade & Investment

26**General Electric: an evolving approach to corporate venturing**

Kaloyan Andonov and Thierry Heles

29**Board observer versus board member**

Mark Radcliffe, DLA Piper

31**How fund structure impacts performance**

Paul Asel, Nokia Growth Partners

33**Profile: Merck**

James Mawson, Robert Lavine and Toby Lewis

36**Corporations walk tightrope in buying portfolio companies**

James Mawson

40**Venturing and innovation: does failure tolerance matter?**

Martin Haemmig and Boris Battistini

44**Moving beyond investment**

Andrew Gaule, GCV Academy and Aimava

46**Corporate innovation partnering – the unknown frontier**

Toby Lewis, Novum Insights

48**Corporate venturing units leading Moneyball investments**

Thomas Thurston, WR Hambrecht Ventures

50**DataTribe: a startup crucible**

Bob Ackerman, Allegis Capital

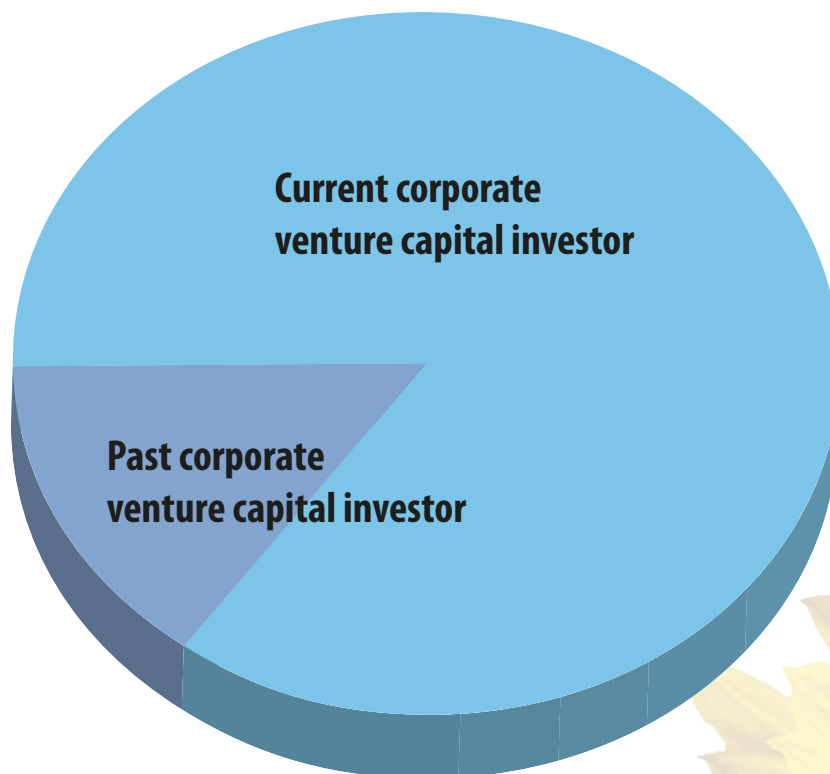
The Global Corporate Venturing **SURVEY 2017**

Beginning at the end of October 2016, and lasting six weeks, Global Corporate Venturing along with academics from Stanford, Harvard and Chicago university business schools, conducted a survey into best practices in corporate venture capital, market corporate venture capital to policymakers and the public, and guide academic research. The results provide an insight into what established players in the CVC industry are doing and shows what steps newly established units may want to pursue themselves to become successful.

Of the 235 active CVCs that responded, the majority had just one parent and were broadly spread by sector. The CVCs said they often had multiple goals, such as developing new business, supporting existing businesses as well as often having financial objectives. For those with multiple goals, about half said developing new business was their most important objective, followed by those tasked with supporting existing businesses.

However, a quarter said financial returns were their priority, which fitted with the broad numbers who invested off the balance sheet, such as through dedicated

Respondents to our survey



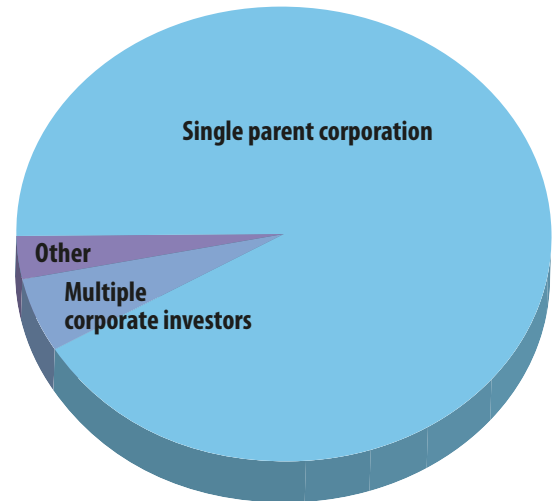
First published in Global Corporate Venturing January 2017

funds where it can be easier to track returns and attribute performance fees.

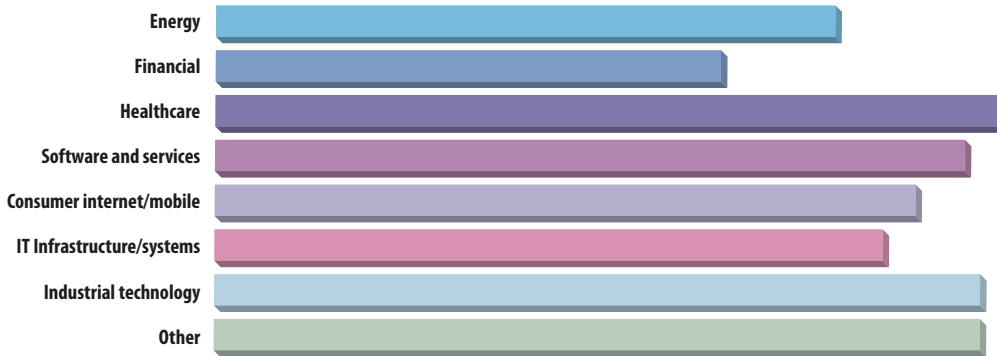
In total, the survey was answered by 275 respondents and GCV's academic partners, Paul Gompers, Harvard University and National Bureau of Economic Research, Will Gornall, University of British Columbia, Steven Kaplan, University of Chicago Booth School of Business and National Bureau of Economic Research, and Ilya Strebulaev, Stanford University Graduate School of Business and National Bureau of Economic Research.

The survey was a follow-up to the academics' largest-yet survey of institutional venture capital earlier in the year and so allows an unprecedented view across two parts of the wider innovation capital ecosystem.

Do you have a parent corporation to which you are closely tied or multiple corporate investors?



Single corporate parent: In what industries is your parent corporation involved?



Single corporate parent: What are the main objectives of your company's venture investments?

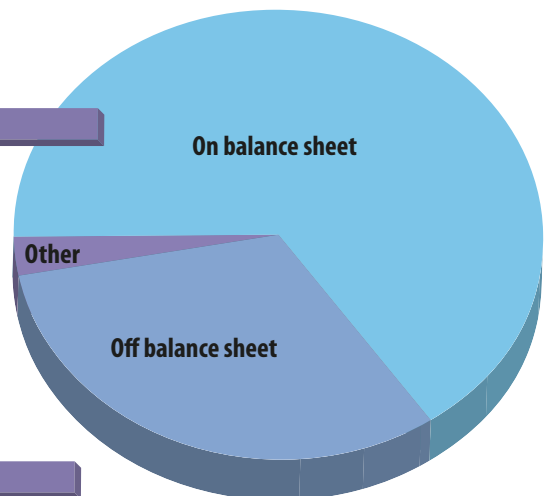


Multiple choice question

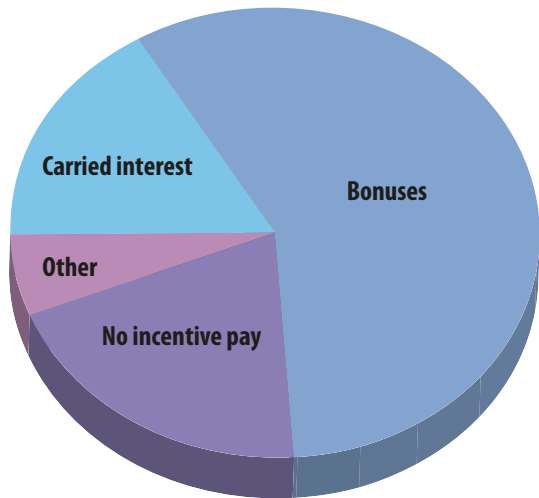
Single corporate parent: What is the most important objective of your company's venture investments?



Single corporate parent: Is your unit run on or off balance sheet?



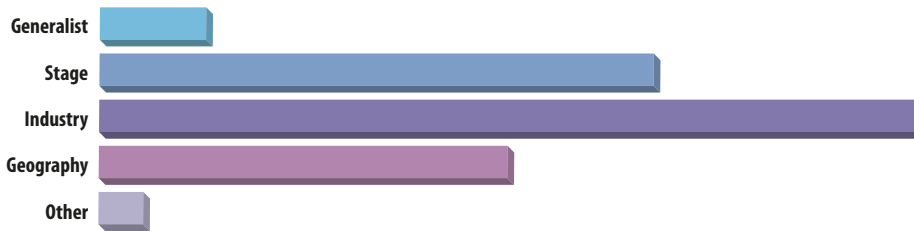
How does your unit reward the performance of investment executives?



What goals inform compensation decisions?



Do you target a particular stage, industry or geography?



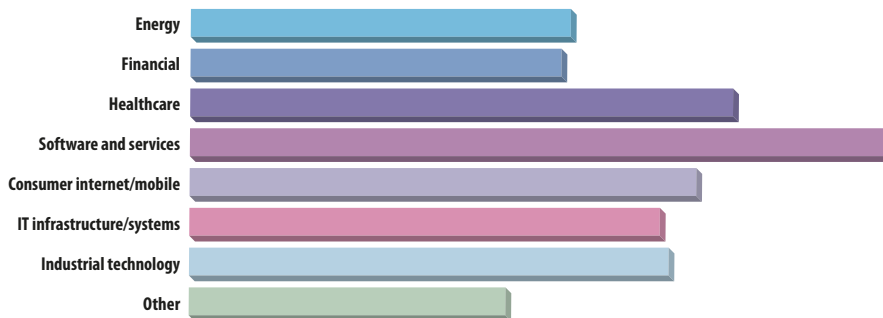
Fewer than a quarter of CVCs received no incentives for their performance, with those that did receive such bonuses gaining them primarily for having at least some strategic delivery.

Stage specialists: What stage do you target for your first investment?

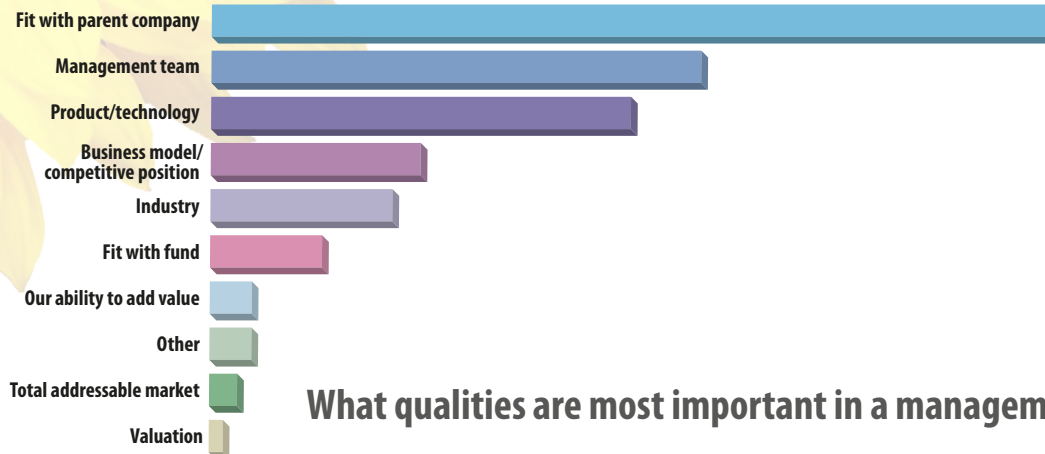


The majority of CVCs, regardless of strategic or financial goals, focused on specific industries to develop their investing advantages. And rather than target later-stage deals to try and show synergies with the parent, the majority of those focused on development at the portfolio company said they were looking at a seed or early-stage.

Industry specialists: What industries do you target?



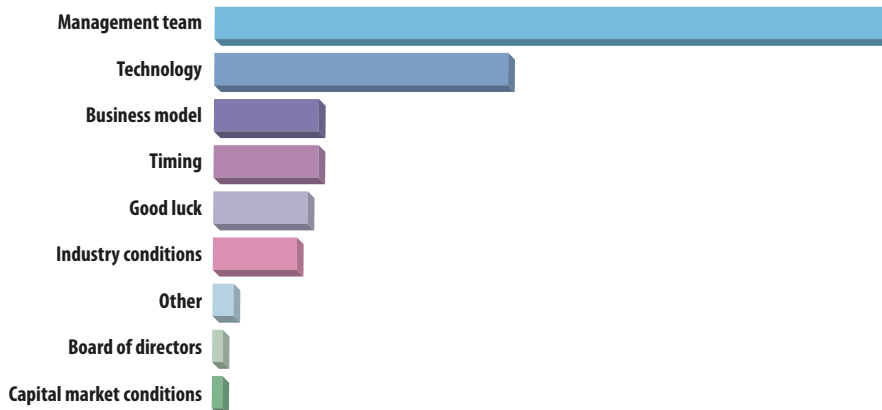
What is the most important factor when deciding whether to invest?



What qualities are most important in a management team?



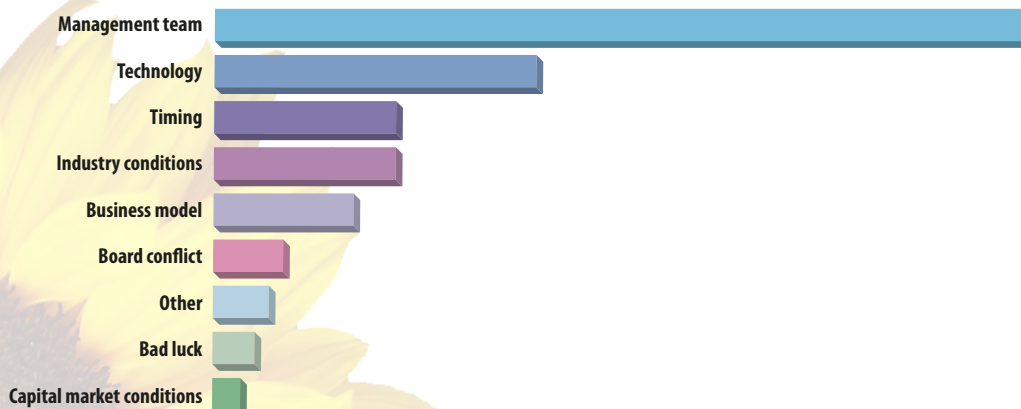
What factors most contributed to your investment successes?



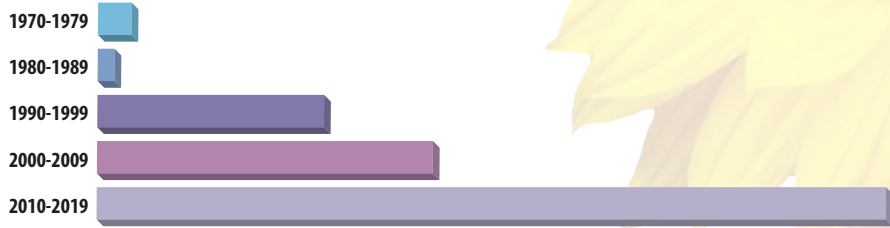
Fit with parent company was still the most important factor for about a third of CVCs when deciding whether to invest, even above management team. When judging managers, however, their perceived ability, entrepreneurial experience and industry experience were the top criteria.

Management team was the primary characteristic behind both success and failure, above technology or business.

What factors most contributed to your investment failures?



When was your corporate venture capital unit established?



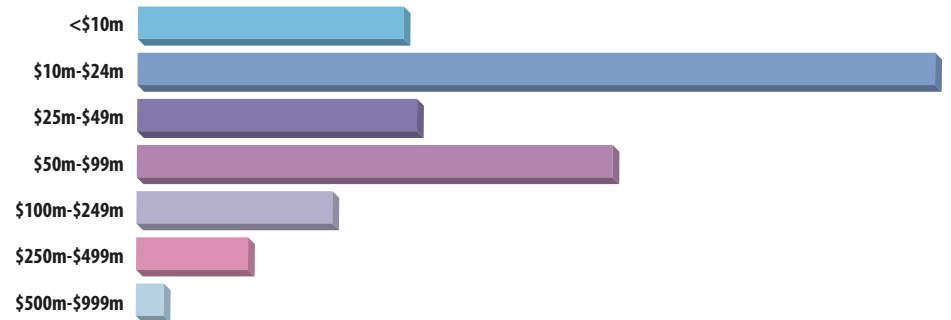
The academics said the average CVC unit was set up in 2007, reflecting both the largest number formed since 2010 (94) as well as the handful tracing their history back before 1990.

However, the size and scale of corporate venturing commitments has dwarfed historical allocations to the average VC fund given companies are trying to compete with the top tier. Twenty-four CVCs are investing at least \$100m per year, which would put this subset on average investing nearly \$7bn per year at the mid-point of their ranges and the equivalent of a \$1.5bn fund size invested over a five-year period.

By comparison, from 1995 to 2008, the average US venture capital fund size increased 3.5 times from around \$100m to \$350m, according to Daniel Blomquist, a principal at VC firm Creandum in a paper presented last year to Kauffman Fellows. This was nearly four times the average size of European VC funds – at final closing – of €61m in the 2007 to 2012 period (\$80.5m at 2012 exchange rates) and when the median fund size only amounted to €27m, according to trade body Invest Europe.

Put another way, almost every CVC has been investing more

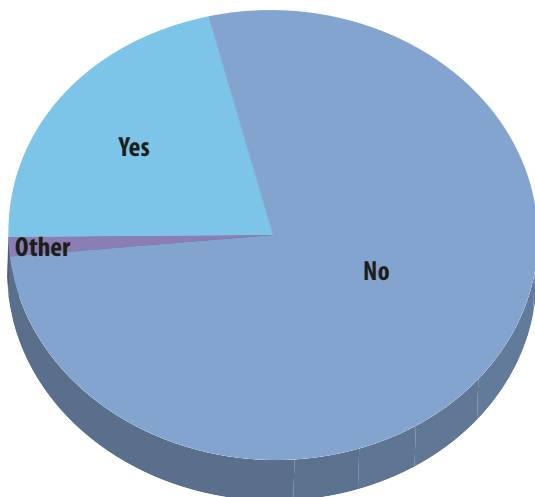
How much does your unit aim to invest in a normal year?



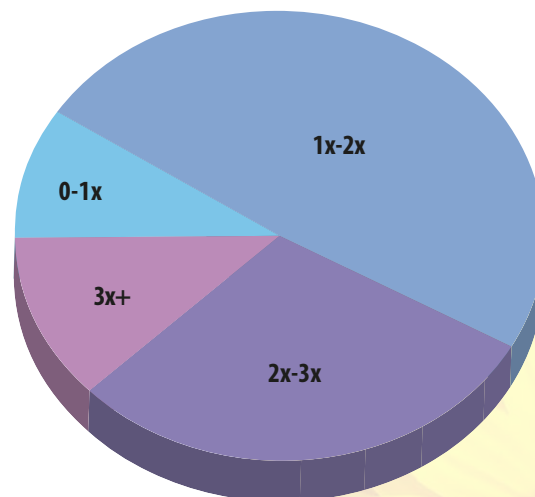
per year than an average European VC fund closed in 2012 and investing over a standard five-year period.

And they have been successful in finding the best deals, with 31 CVCs saying they were currently an investor in a so-called unicorn – a company valued at more than \$1bn – and more than three-quarters delivering at least 10% annual rates of return per year and at least their money back. However, these figures included unrealised investments and almost all CVCs said unicorns were overvalued, which could affect these returns, and fewer than half said they hit the median 20% internal rate of return IRR. However, most groups adjusted their target IRR depending on perceived other factors.

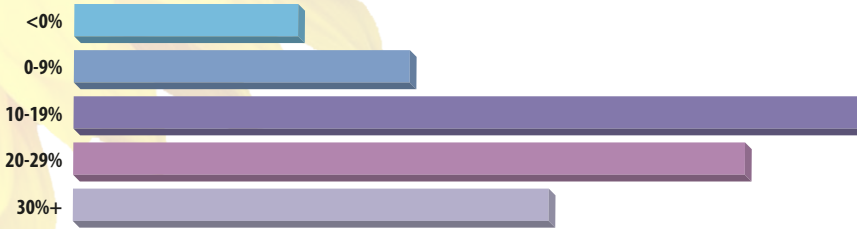
Do you currently invest in any unicorns – companies valued over \$1bn?



What multiple of invested capital has your unit generated since inception, including unrealised investments?



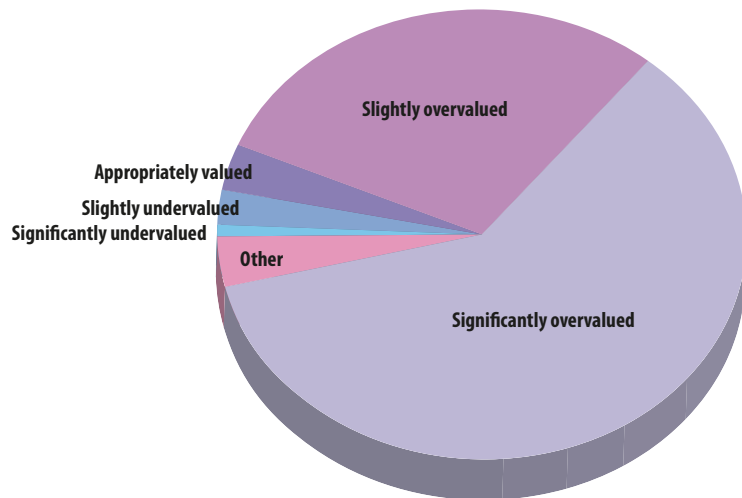
What is the internal rate of return on your past investments, including those unrealised?



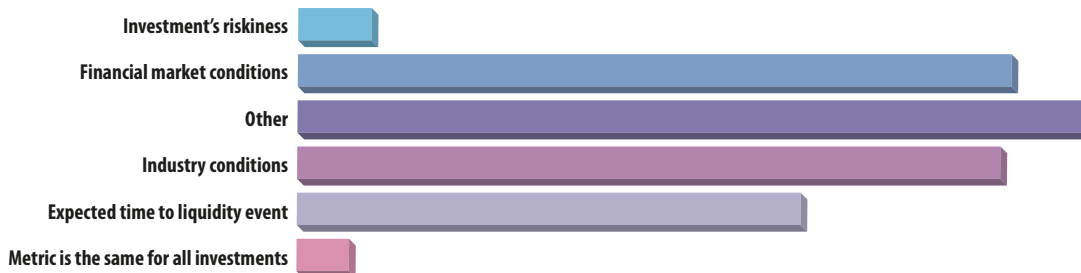
Allied to the experience of CVCs, the amount of capital deployed by groups has been significant, with 15 investing at least \$1bn since their formation. This is almost the same number as top-tier VCs, given US trade body the National Venture Capital Association (NVCA) estimates 60% of money now raised in funds was being secured by the top 16 firms. Still, CVCs are trying to help the VC ecosystem in more ways than just buying portfolio companies and syndicating deals, with more than half committing to a VC fund.

And, while the number of active VCs has shrunk – with 211 US firms conducting at least five deals a year now compared with 1,000 or more in 2000, according to the NVCA – so corporate venturing has increased. At least 143 having five or more deals a year, according to Global Corporate Venturing Analytics.

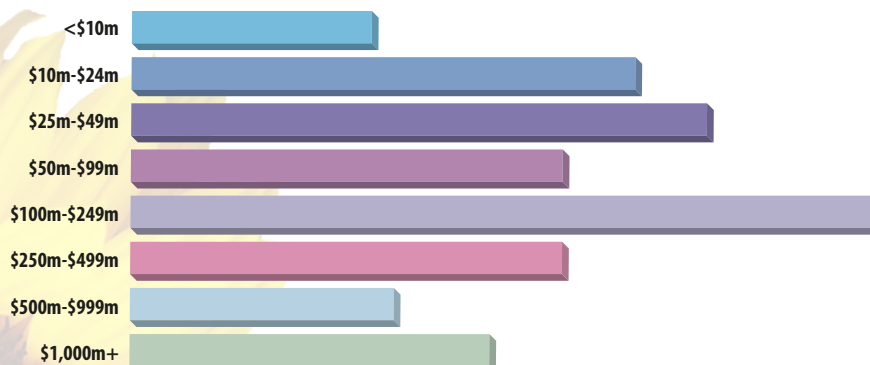
Do you think unicorns are overvalued or undervalued?



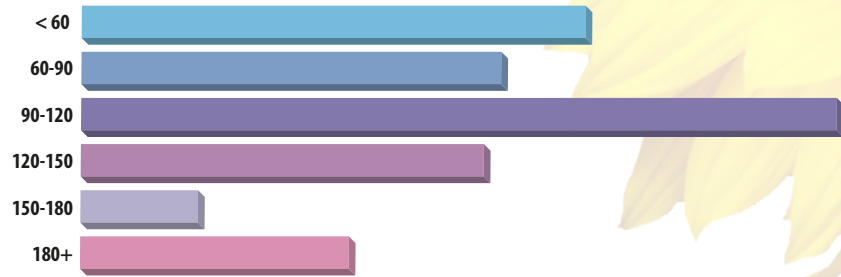
What factors influence your favoured metric?



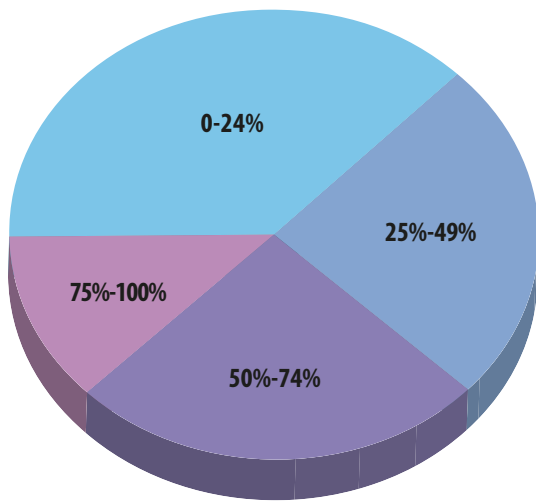
How much has your unit invested in its history?



After a pitch, how many days does it take to close the deal?



In what percentage of your deals is your unit or another CVC the lead investor?

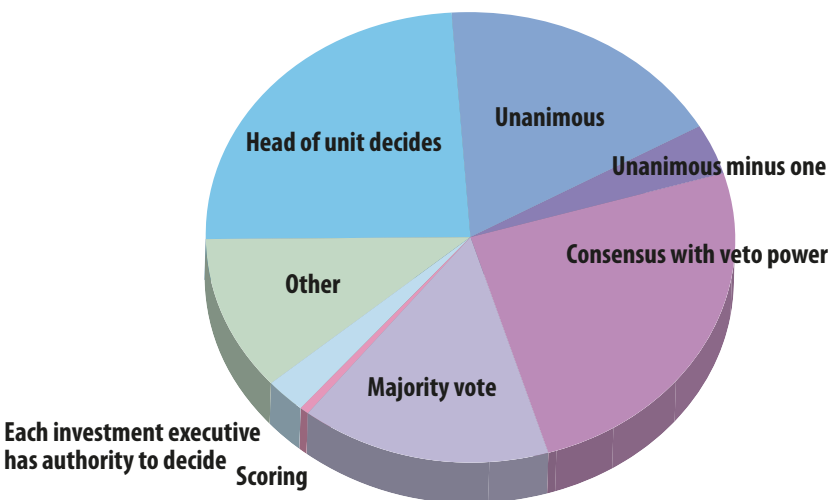


The average number of days to close a deal by CVCs was 95 days, with a fifth usually taking under 60 days.

With CVCs being relatively more active, they are leading more deals. However, corporate venturing units are relatively lean, with about half of respondents working in teams with up to three investment partners. But as the CVC industry professionalises, so it has attracted investment executives from outside the parent corporation with only half having at least 60% of their team from the parent.

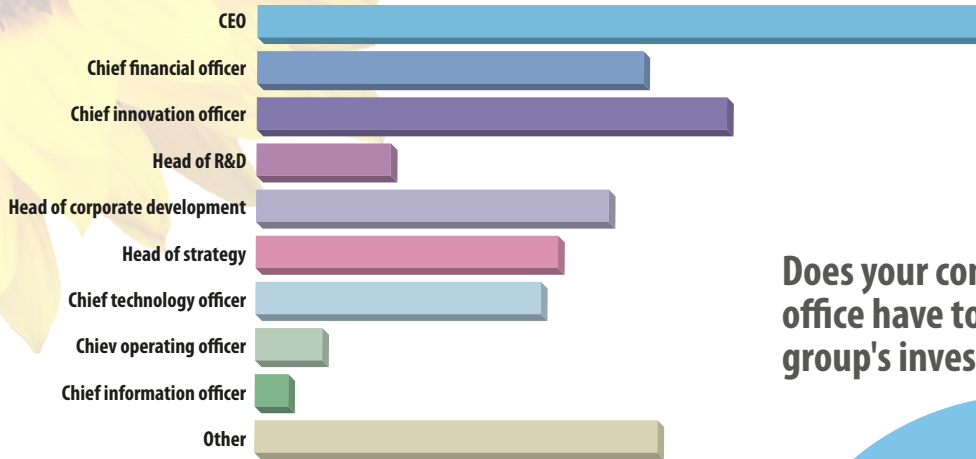
CVC units were broadly split in how they decided on deals, with a quarter requiring consensus with members of the investment committee having a veto power to block a decision. At the other end the spectrum, nearly a quarter of the 164 respondents said the final decision was left to the head of the unit.

How does your unit finally decide whether to invest?

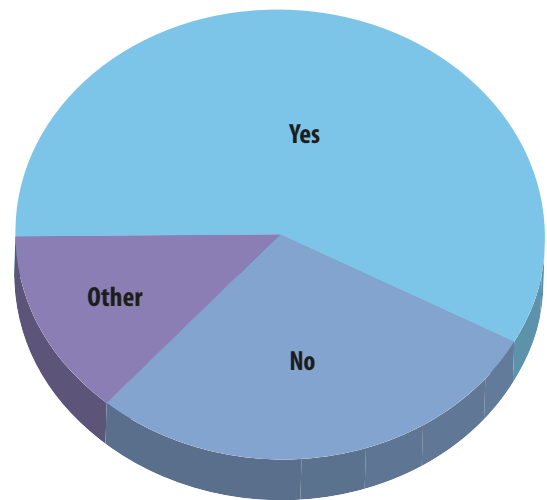


Each investment executive has authority to decide

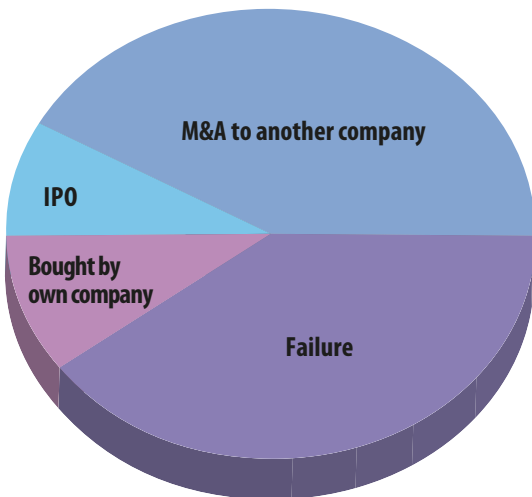
Which C-level executive does the head of your unit report to?



Does your company's head office have to authorise your group's investment decisions?



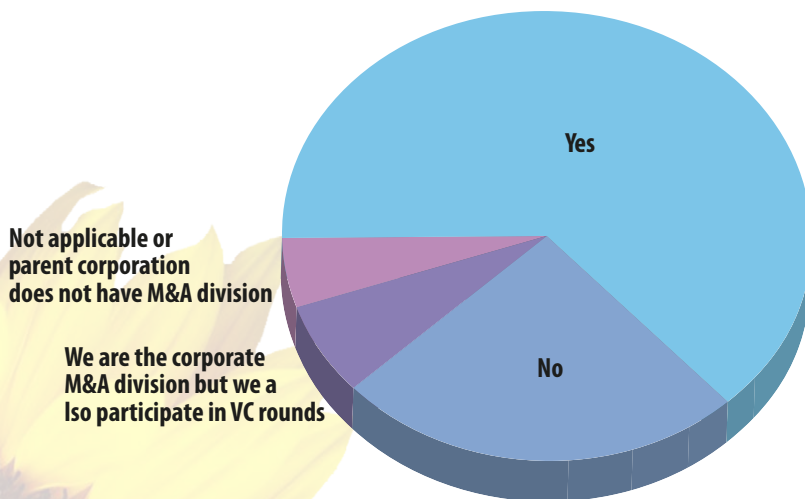
How have you exited investments?



This CVC head most commonly reports to the CEO or head of innovation, such as chief innovation officer, although it is likely most of the CVCs with a stricter financial focus could report to the chief financial officer.

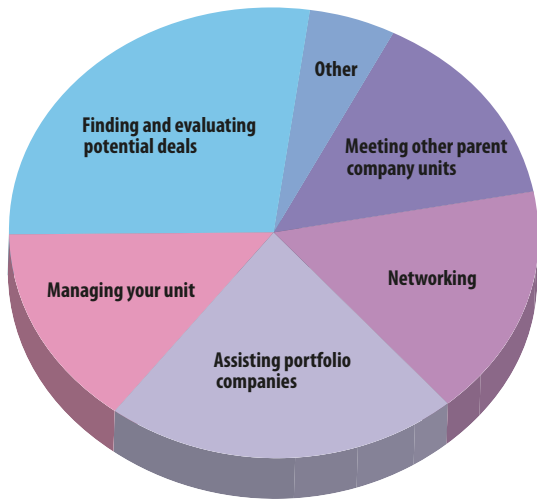
And, while parent corporations retain usually close oversight on deals made, with more than half needing the head office to authorise investments or have committees including C-suite executives decide, CVCs are increasingly influential in impacting a company's strategy.

Do you help your corporation's M&A team identify or buy your or other venture-backed portfolio companies?



Seventy percent of CVCs said they either were their corporation's corporate development team or they helped the mergers and acquisitions team identify or buy venture-backed portfolio companies. About 10% of the 1,160 exited companies had been sold to the CVCs' parents, with about 40% failing. Taking "parent acquisition" as a proportion of M&A exits (52% in total), the 20% figure was in line with GCV's M&A analysis in December.

How many hours a week do you spend on the following tasks?



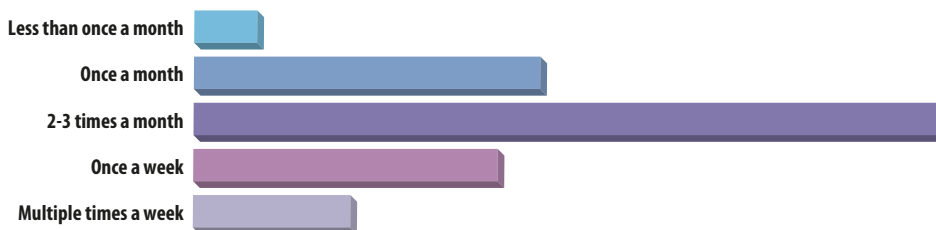
Given CVCs' often multiple goals, the average week was a busy one, with more than 48 hours worked, about half on finding deals and managing portfolio companies. The average CVC was on three boards and engaged with portfolio companies at least once a month in the first half year.

Part of this help involved directing most portfolio companies to the parent's business units for potential commercial deals together.

How many portfolio company boards do you sit on?



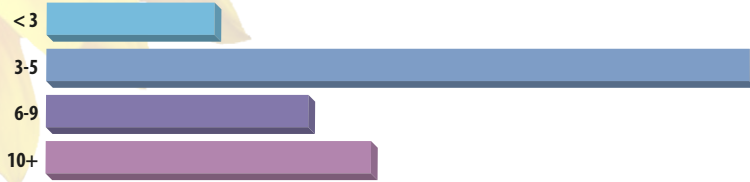
In the first six months of an investment, how frequently do you interact substantially with a portfolio company's management?



How many hours do your investment professionals spend on due diligence and researching a company before investing?



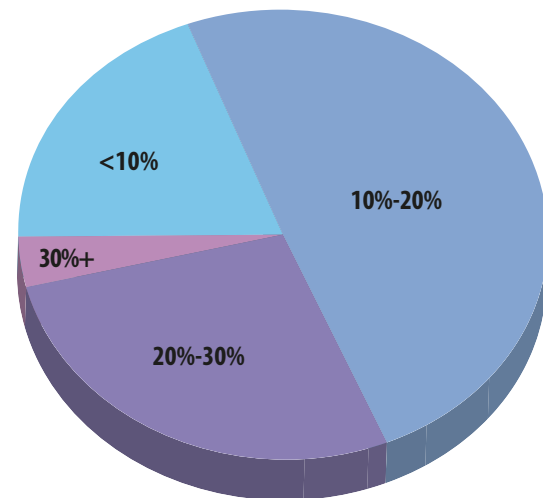
In performing due diligence, how many references do you normally call?



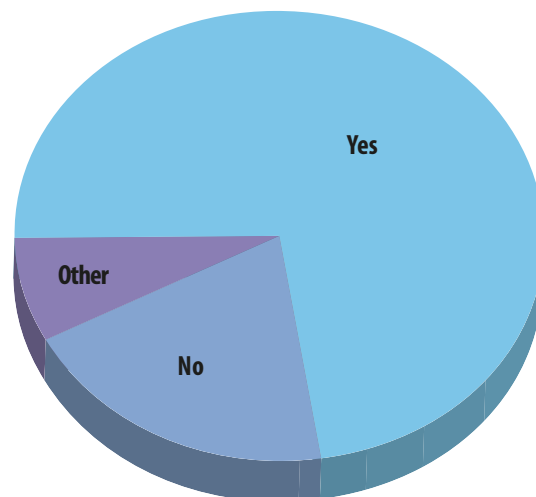
And given the 100 potential investments the median CVC considered in a year, they said they and colleagues spent on average 132 hours on each deal. Of this, part goes on checking references, with almost all taking at least three as of due diligence and an average of about seven. For this effort, CVCs usually targeted taking up to 30% of a portfolio company's equity.

Dealflow and selection were together the most factors behind a CVC's value creation and about three-quarters said they tried to forecast the financials of portfolio companies.

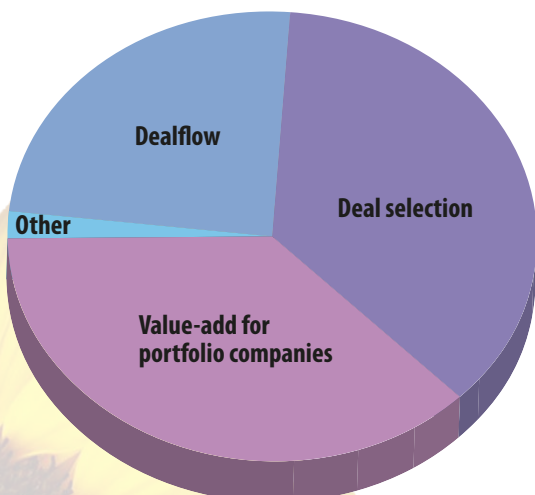
What is your target ownership stake?



Do you forecast the financials of your portfolio companies, such as revenues or cashflows?



What is the most important contributor to your value creation?



The state of corporate venturing: **MOON SHOTS vs CVC FUNDS**



Thomas Grota,
investment director, Deutsche Telekom

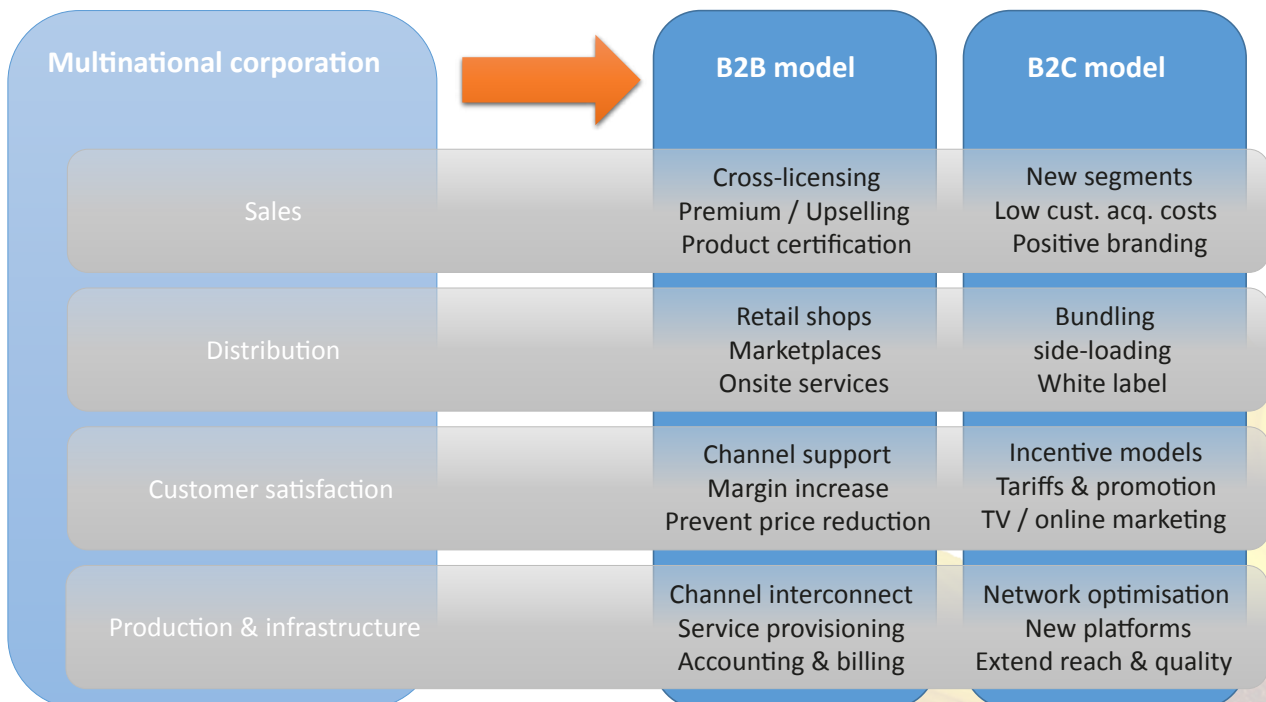
While the world is discussing the impact of unicorns and internet giants of this century and which of them will prevail into the next decade, the most interesting trend is happening in the board rooms of corporations. Most of the funding in mature startups is invested in customer acquisition via marketing, promotions and margin cuts and as we learned with ride-hailing app provider Didi's takeover of Uber China recently, this price war will end in a draw with no winner.

On the other side of the table, more established corporations are taking the ridesharing business serious as well. Alphabet started its own carpooling services via their matured Waze application based on a large and organically grown community with low customer acquisition costs.

Daimler as the owner of European market leader taxi app MyTaxi made a big bet on opening the shareholder structure

to bringing in outside investors to their own business with the acquisition of Hailo in London in an all-share deal. This turned out to be the beginning of a process later announced by Daimler CEO Dieter Zetsche to push the whole company into digitisation across all business units.

Historically, corporations have been looking to partner startups to learn and benefit from cooperation. However, the



Private investors have different goals

500 Startups, Y Combinator
Seedcamp, Startupbootcamp

1x

@500: c. 900 invests, 50 exits, 3 unicorns
@seedc: 240 invests, 12 exits, 0 unicorns

Accel, Index, Bessemer, KPCB, Sequoia, A16Z,
Fidelity, Highland, Kinevik, Global Founders, RI

8x

IPOs, unicorns,
1,000+ investments

Salesforce, Intel, Samsung,
SAP, Google Ventures

2x

*"The good, the bad,
the ugly..."*

Alphabet Capital, Facebook, SoftBank, Elon Musk, ...

na

**"Big bets on
moon shots"**

Seed stage

Late stage

rather complex hierarchies in corporations and the different market approaches resulted in several challenges – targets are hard to align and only a limited choice of joined activities are possible (see figure opposite).

Fortune 500 corporations have understood that smaller investments in return for minority stakes may not be sustainable for their innovation strategies. While it makes sense to learn from fast-moving and innovative startups, the investments in these businesses have fewer synergies to offer today.

In fact, innovation-driven projects inside larger corporations may point at a future where the money will increasingly be spent in-house. Fewer funds may be available for startups through corporate venture capital or fund-of-funds investments. While we are arguably at an early stage of such a development in the global funding cycle, the impact of such a change may become visible in the next five years.

Comparing the performance of various funds, the disadvantage of synergy-driven CVCs is obvious (see figure above).

CVCs are limited in their fields of investments, amount of funds available per investments and realised gains from their investments. By contrast, VCs usually have larger funds and are able to make pure financially driven decisions on their portfolio at all stages. While seed funds are realising one-times multiples on their invested capital, VC firms are way up in eight-times and CVCs are best in class if they achieve two-

times multiples.

If corporations want to invest in innovation-driven projects they must focus on support for their core business and not on financial gain. All those initiatives have one focal point in common: large investments in long-term and disruptive projects.

If corporations want to invest in innovation-driven projects they must focus on support for their core business and not on financial gain

These so called "moon shots" are becoming increasingly common across industries. The performance of such projects – undertaken, among others, by conglomerate Alphabet, social media company Facebook and internet company Tencent – will be measured by the contribution to the overall business.

These will be prominent projects like Aquila and Loom as well as datacenter optimisation, JavaScript and chipset development. It does make sense to separate units which are focused on those strategic projects from those units hunting for capital gain in their

technology base because their performance is measured by different metrics.

The way for corporate investors will be driven by the following key points:

- More corporations need to invest & partner;
- Many bets on small ideas is good marketing;
- Big bets on "close to core" businesses need focus;
- CVC funds are nice to have – but less efficient;
- Investments from the balance sheet is the way to go.

Optionality for the **FUTURE** or the value of a **VENTURING UNIT**



Kaloyan Andonov,
reporter

Throughout April and May 2016, GCV Analytics conducted a survey on the strategic value of having venturing unit. The study was generously sponsored and backed by PricewaterhouseCoopers. A total of 50 respondents took part in the survey, which implies a notably representative sample of the estimated over 1500 corporate venturing units that are currently making investments around the globe.

The survey questionnaire consisted of 33 questions encompassing various aspects of venturing units. The response rate per question varied depending on participants' willingness to disclose information about their unit. In the survey, a participant's identity was not associated with his or her responses to any question, thus preserving anonymity.

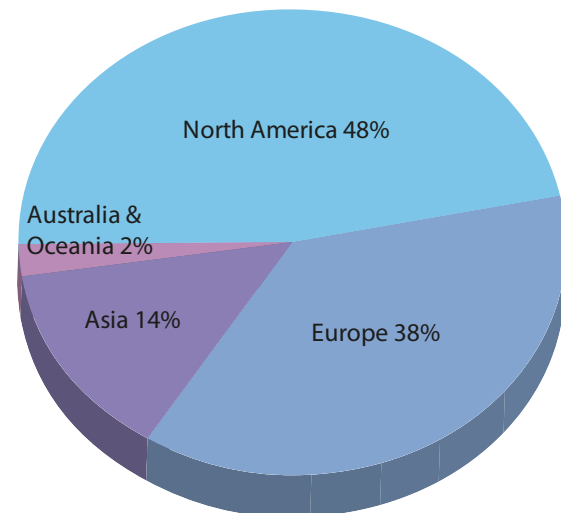
Survey results are presented in a statistically aggregated fashion only. Additional one-on-one interviews were subsequently conducted by telephone and e-mail with several corporate fund managers willing to participate in the study and be quoted in this article.

Corporate demographics

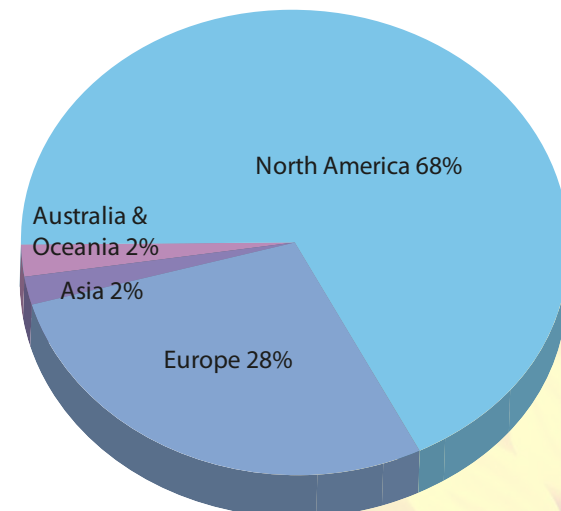
It is interesting to examine the demographic traits of corporations involved in venture capital investments rounds.

To form a clear idea about the representative nature of the sample, one must look at the data in terms of geographical scope. Most parent corporations of venturing units participating in the survey were reported to be based in North America (48%), Europe (38%) and Asia (14%).

Headquarters of parent corporation



Headquarters of venturing unit



The venturing units, however, are based primarily in North America (68%), indicating that the US is perceived as the global innovation powerhouse not only by domestic corporations but also by players from all over the world. More than half the units in North America are based on the West Coast, underlining the importance of Silicon Valley as hotbed of innovation.

Venturing units' geographies of interest are also focused on the US – 92% of them cited North America, 82% Europe and 47% Asia. Within the US, corporate investors show a preference for the coastal regions but have a healthy interest in the rest of the country.

A great majority of corporations engaged in venturing (72%) have a market capitalisation above \$30bn. More than half (52%) have a market capitalisation above \$50bn. This implies that, while corporate venturing is not exclusively reserved for large and mega-cap firms, it is dominated by them.

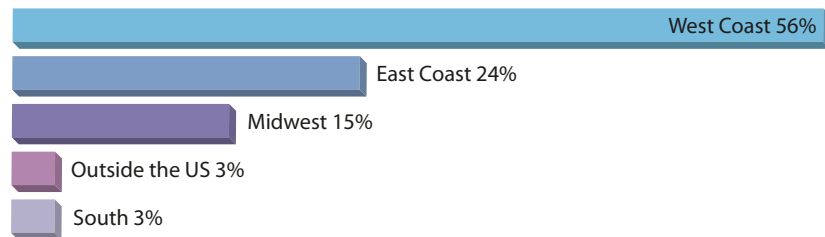
The three major reasons reported by corporations for establishing and maintaining a venturing unit are making financial returns (64%), second, forming an ecosystem (62%) and third, gathering market intelligence (62%). François Badoual, who runs Total Energy Ventures, the venturing arm of the France-based oil and gas company, said this went beyond mere intelligence gathering. "It is not just a learning and business intelligence tool," he said. "It is also a tool with which we try to foresee some of the changes in our ecosystem. We try to stay on the margins and explore things that could be applied for growth in the future."

It is, therefore, not surprising that creating acquisition opportunities for parent corporations appears to be relatively low on the priority list – 44% of respondents cited this. Acquisition opportunities would simply depend on the proven potential of the new technology in question.

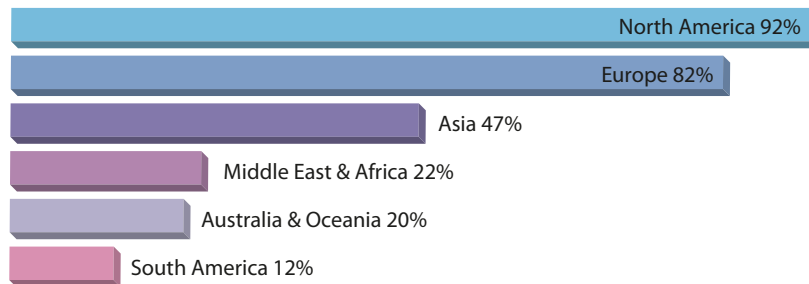
One of the inherent disadvantages of a survey is that it may simplify the reality of corporate venturing units. Dirk Nachtigal, managing director of BASF Venture Capital, the venturing subsidiary of the Germany-based chemical conglomerate, explained how the strategy and overall role of his unit evolved over time.

"At the beginning, we started building a network, establishing contacts, filling in the pipeline. We were focused mostly on making more investments and getting a window on technology. After four or five years, however, we realised that there were a lot of interactions going on between the

Location of CVC units based in North America



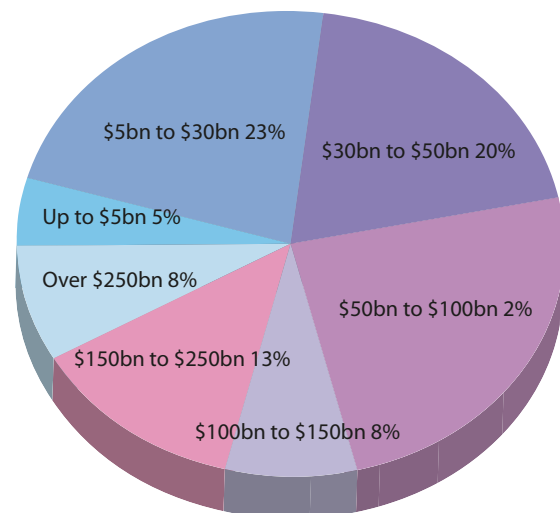
Interest in global investment geographies



Investment geographies of interest in the US



Market capitalisation of parent corporations of respondents



startups and the parent company, so we decided to pay attention to this and focus on it – so much so that we now have 50 to 60 joint development agreements (JDAs) for the parent company, while investment activity has remained relatively the same – we make three to four investments a year

on average. The parent company has also done some acquisitions as a result of our activities. So now our strategic approach is based on establishing relationships, initiating JDAs and, if applicable, acquisitions.”

It is important to bear in mind that corporate venturing units differ greatly according to circumstance and history.

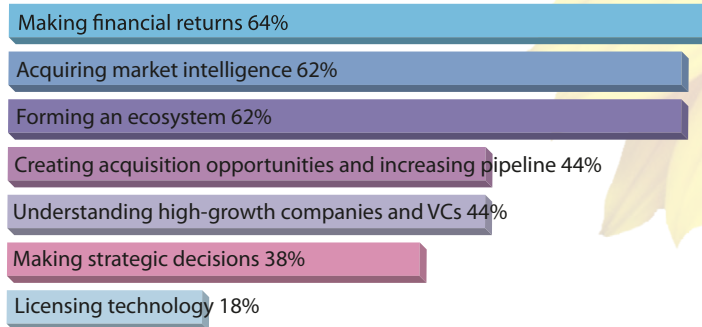
Venturing aims and objectives

Almost a third of units say strategic returns are a priority (32%) when investing. Almost a quarter (24%) say financial returns are a priority. The remaining 44% base their investments on a blend of financial and strategic considerations.

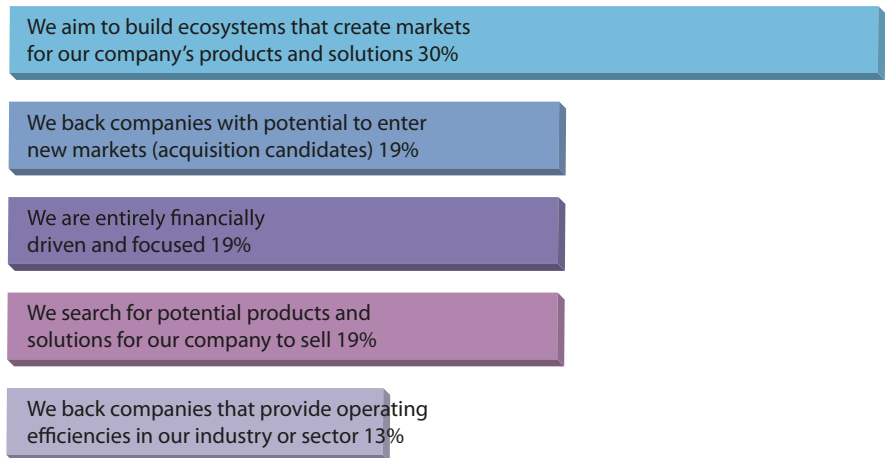
François Badoual of Total Energy Ventures said both strategic and financial factors guided the unit’s purpose. “A venturing unit is an ideal tool to engage with the broader ecosystem the corporate operates in, but we also do so with financial discipline. We are financially-driven because we want to make money. The latter also gives us legitimacy within our own parent company, in addition to being able to unlock innovation that could percolate through its entire business.”

With mixed adherence to financial and strategic imperatives, the way units perceive their own effectiveness is informative. A full 61% of respondents saw the venturing subsidiary as very useful to core corporate operations, assigning a high

Main reasons for having a venturing unit



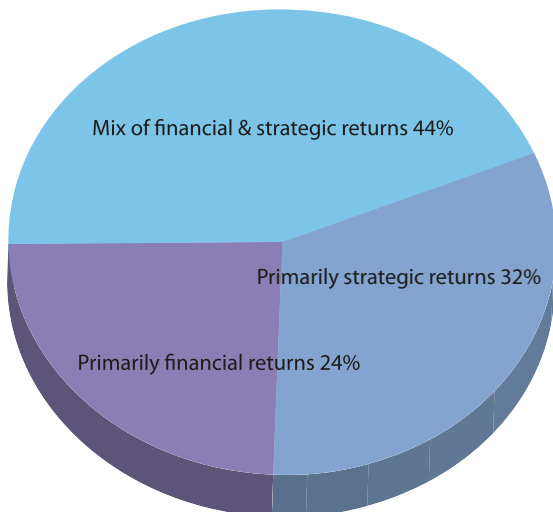
Objectives of CVC units



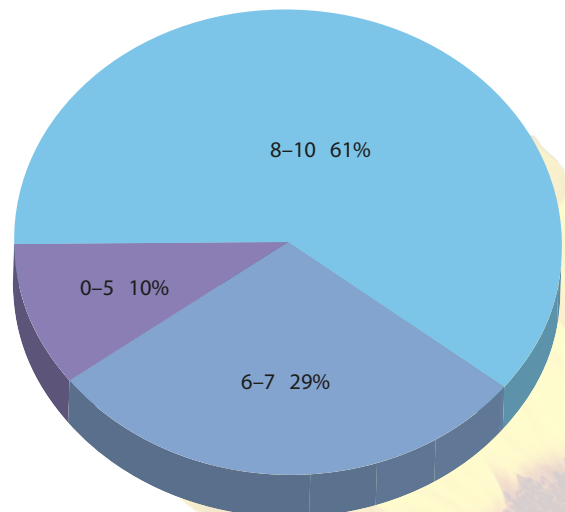
utility score of 8 to 10 points on a scale from 0 to 10.

Girish Nadkarni, president of ABB Technology Ventures, puts it rather crisply. “If you asked me in a single sentence what it is that we do and what it is that corporate VCs should do, I would say essentially, we create optionality, as in the financial

Returns priority for venturing units



Self-evaluated utility of units to core corporate operations



concept of an option. There are plenty of new technologies at the moment which may substantially disrupt the market and change the world. However, we don't know for certain which ones will. There are a great deal of technology and market risks involved but we cannot simply sit on the sidelines and say: 'We don't care.' So the best approach is to take some options – the point being, the cost of an option is much lower than buying the whole share. Thus we have a limited downside and significant potential upside. To me, the crux of every venturing group is to create optionality."

One possible way to approximate this usefulness in some quantitative terms may be by examining the number of strategic partnerships secured through venturing units. According to our survey, 80% of corporate parent companies have secured at least three strategic partnerships via their venturing units, 50% have secured more than five and 30% have secured more than 10.

Investments and financial results

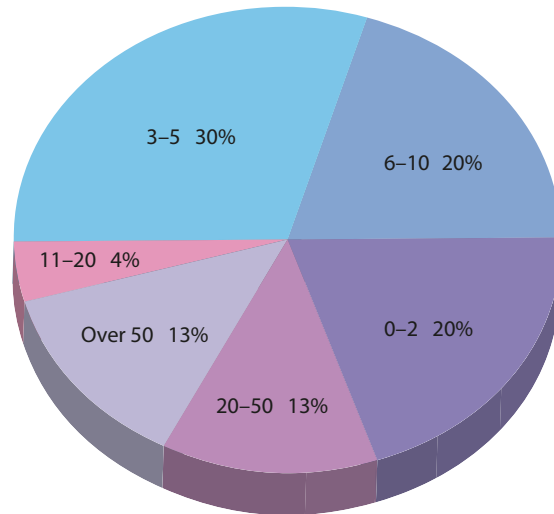
To shed more light on the value of venturing units, our survey also looked at their investment characteristics and behaviour. Portfolio size is one indicator. About three of every 10 venturing subsidiaries have up to 20 companies in their portfolio. About as many (31%) have between 20 and 50.

Another indicator may be portfolio write-offs – 22% of corporate respondents say they have never written off a portfolio company, and almost half (48%) say they have written off fewer than five companies.

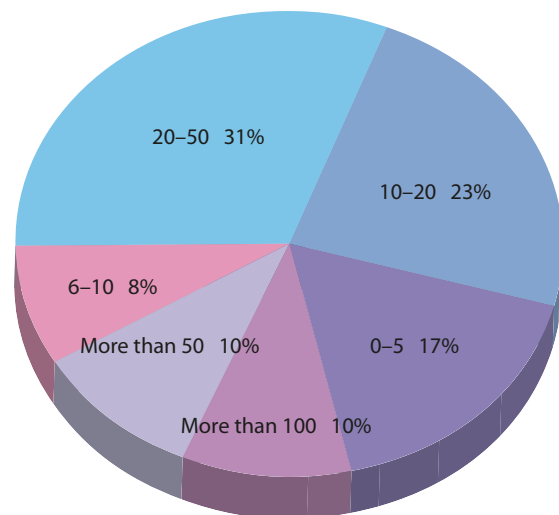
The average size of a commitment per portfolio company as reported by most respondents (71%) is between \$1m and \$5m. This average amount is consistent with the idea of providing optionality and limiting exposure to long-term risks.

The most common venture rounds involving corporate venturing subsidiaries are, in order, series B, A and C – with 84%, 78% and 55% respectively. Given the strategic business considerations of many of these investors, this is hardly

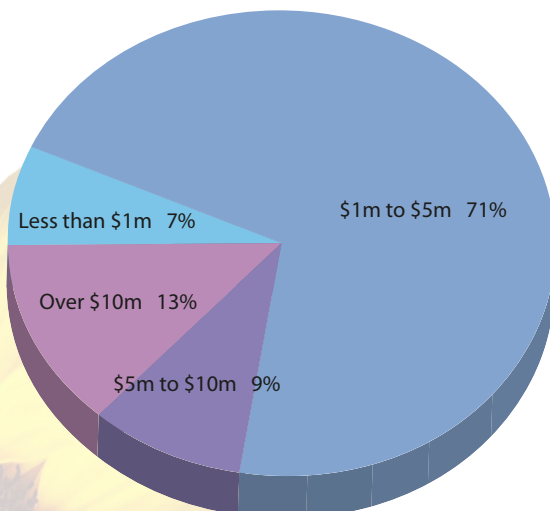
Number of strategic partnerships secured through the unit



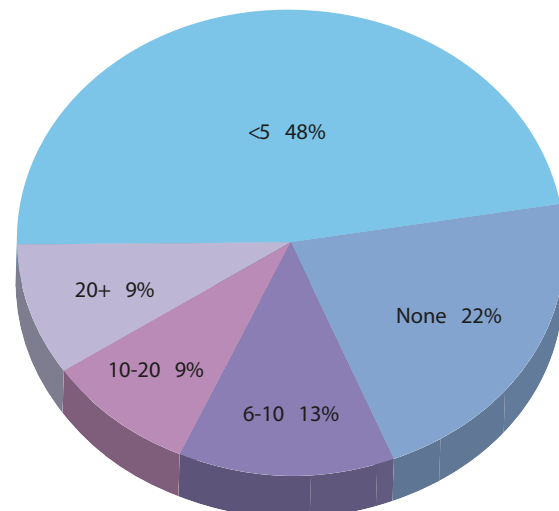
Number of companies in portfolio



Average size of investment



Companies written-off of CVC portfolios

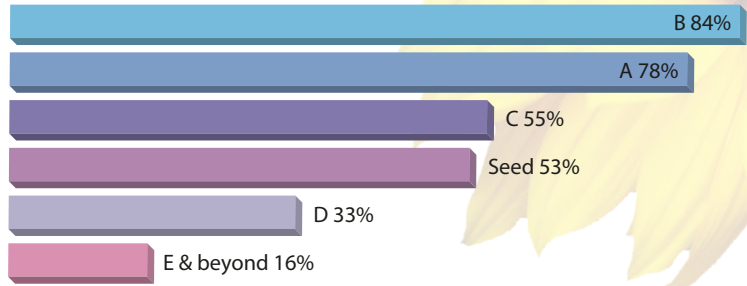


surprising, as companies at such funding stages are much less likely to pivot and radically change the direction of their product or service offering, which may be strategically important to the parent corporation. Akira Kirton, co-head of BP Ventures, said of BP's investments: "By investing in growth-stage companies, we try to broaden our options and utilise the parent company's ability to bring successful technologies to fruition on a large scale."

Industry and sector go a long way to dictating how long a venturing unit holds on to an investment. Slightly more than a third of corporate investors (35%) keep a portfolio company for two to five years before exiting, but for the majority (63%) the holding period is between five and 10 years.

While 22% of corporate venturers say they have deployed

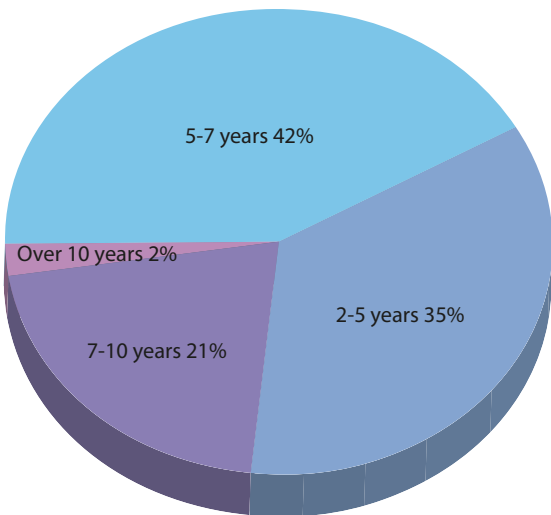
Most common investment rounds



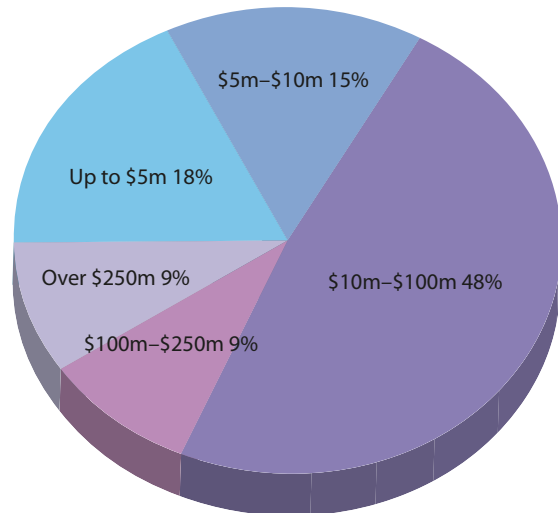
between \$10m and \$25m of capital historically, well over half (55%) report deploying at least \$100m. On an annual basis, almost half say they receive average annual funding of between \$10m and \$100m to invest in portfolio companies.

Financial performance metrics are key in understanding the investment behaviour of corporate venturing units.

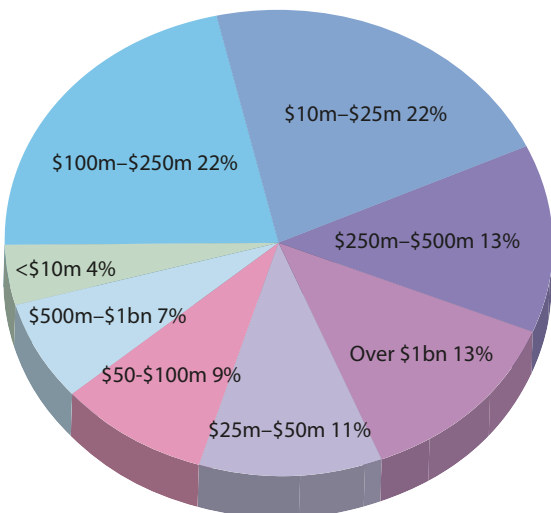
Average holding period for a portfolio company



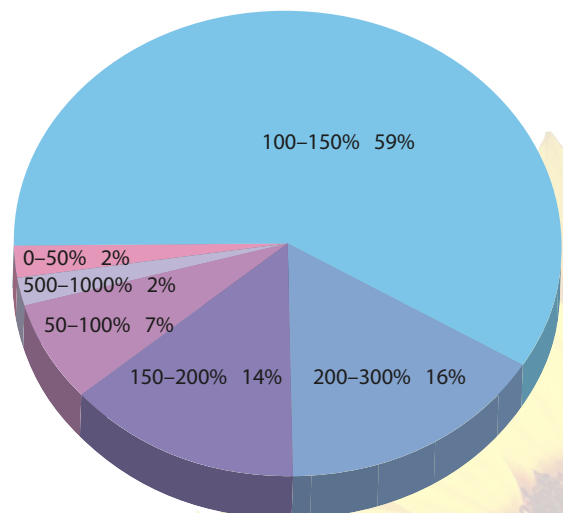
Average annual funding for portfolio



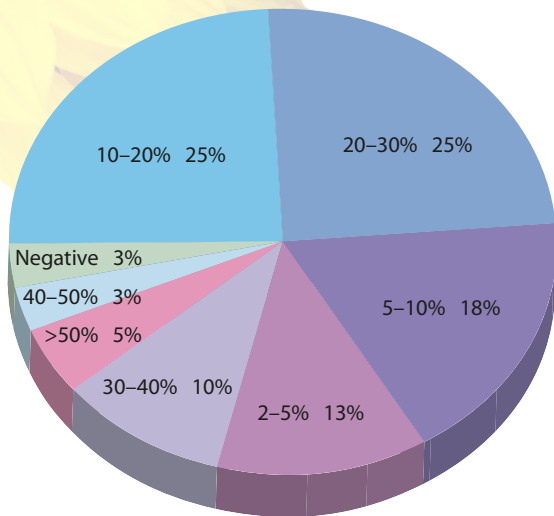
Total capital deployed by unit



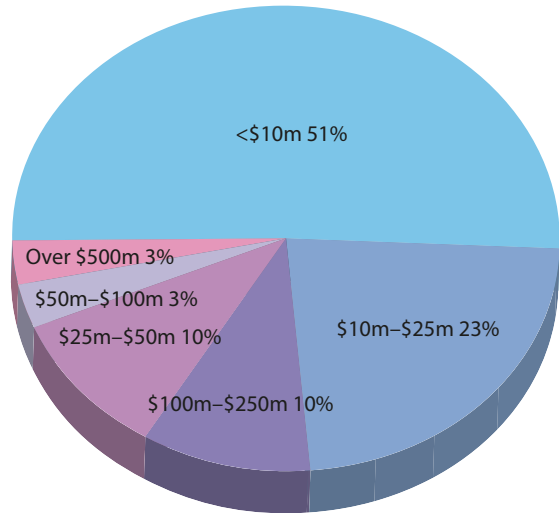
Value of portfolio compared with net asset value by multiple



Portfolio internal rate of return



Average annual contribution by unit to corporate revenues

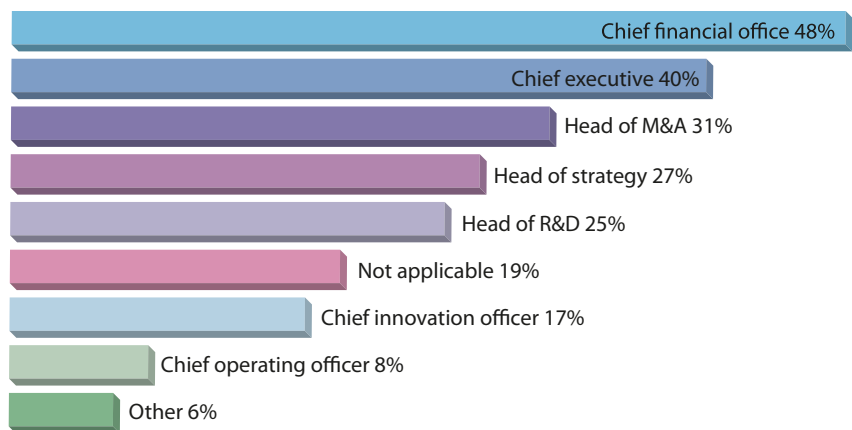


Responses to some of the questions in our survey has given us a glimpse into this area, which fund managers are often reluctant to talk about in more specific terms.

About six out of every 10, or 59%, of units say their portfolio value compared with net asset value amounts to a multiple of between 100% and 150%, and half report an internal rate of return (IRR) of between 10% and 30%. These figures are comparatively similar to findings from previous surveys conducted by Global Corporate Venturing.

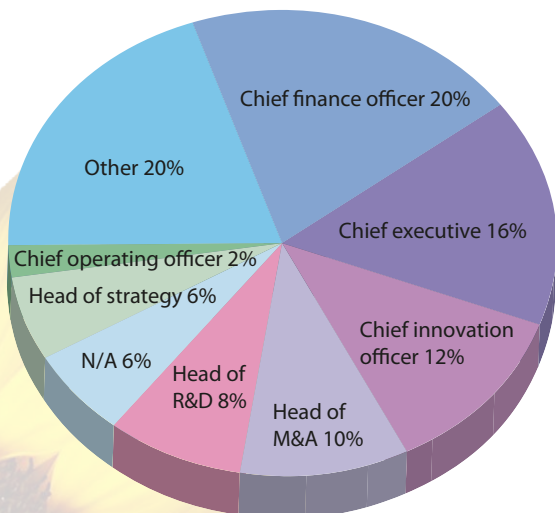
About half (51%) say they contribute less than \$10m to corporate revenues every year. However, there are venturing subsidiaries that claim to contribute substantially more – 23% say they generate from \$10m to \$23m, while

Executives sitting on unit's investment committees



10% claim between \$25m and \$50m, and another 10% between \$100m and \$250m. The range is contingent on a number of factors related to the emerging enterprises in a portfolio, such as sectors targeted, stage of development and company valuation.

Executives to whom CVCs report



Reporting and structure

An aspect of corporate venturing firms our survey was able to examine was reporting structure. Chief finance officers, chief executives, and heads of M&A divisions and of strategy are most commonly found sitting on the investment committees of venturing units.

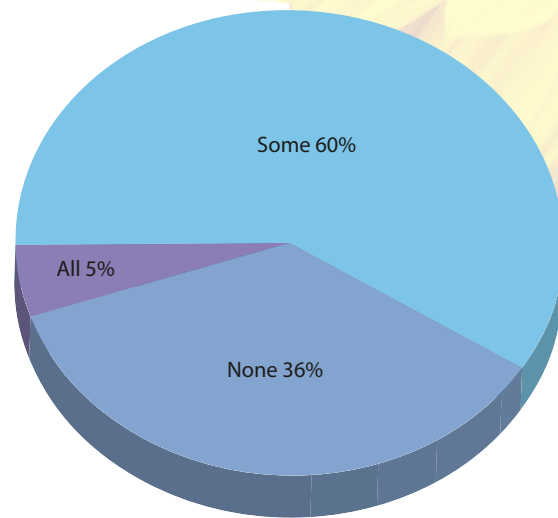
Managing directors of corporate venturing units most often report to the chief finance officer, chief executive or chief innovation officer of the parent corporation. But some report to a range of other positions, including head of mobility services, and of corporate development, chief marketing officer, chief technology officer, chief operating officer, as well as head of R&D. These responses can indicate the degree of a unit's integration with other corporate business units.

Six out of every 10 venturing subsidiaries claim to have some level of integration and synergy with other innovation-related programs within the corporate structure, while 36% claim to have none. The level of such integration varies from unit to unit, depending on the respective strategic vision – whether such integration was deemed beneficial, or the corporation aimed to set up a venturing unit acting as independently as possible from the parent structure.

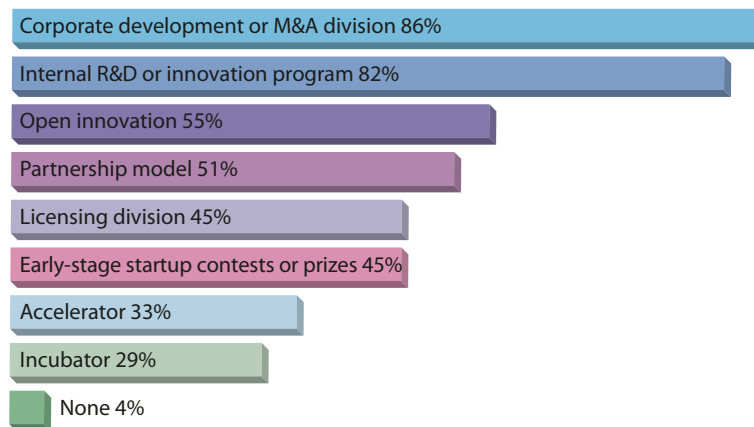
The three most common innovation-related programs with which venturing units tend to be associated are the corporate M&A division (86%), an existing internal R&D program (82%) as well as open innovation programs (55%), often involving work with universities or other partners. Notably, integration with accelerator and incubator initiatives is not the most common. About 33% of corporates involved in venture investing also back an accelerator program, while 29% support an incubator program.

It is instructive to find out how corporate venturers perceive their own effectiveness relative to other initiatives within the company. Corporate venturing units, M&A divisions and partnership models are regarded as the most effective types of programs. Open innovation initiatives ranked lowest in terms of such perceptions.

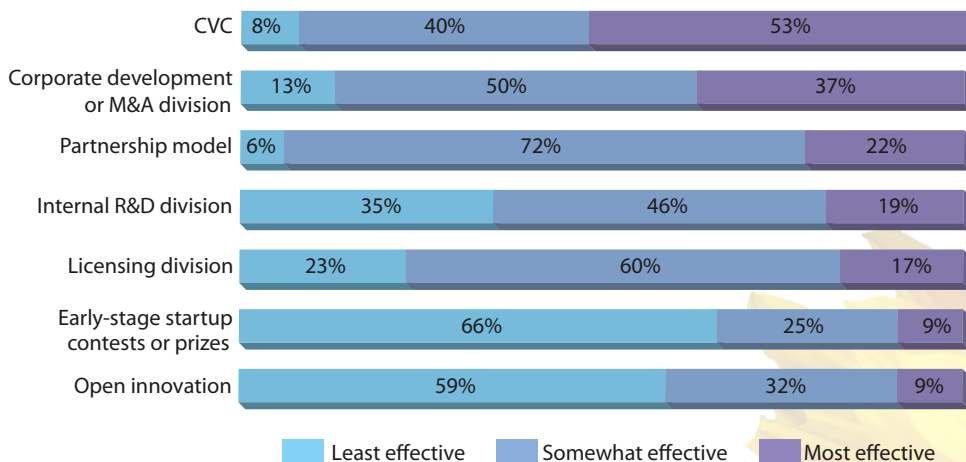
Integration of other innovation-related programs with CVC unit



Other innovation models and programs used by corporate investors



Perceived financial effectiveness of innovation programs



Turning Raw Data into Meaningful Insights

Global Corporate Venturing Analytics delivers corporate venture teams the data and tools they need to develop their insights and data-driven decisions.

GCV Analytics Unique Features

- 7,000+ global CVC deals since January 2011 for you to analyse. It's the best global CVC data available.
- Quickly and easily create charts, maps and graphs to download to Excel or as a PDF - ideal for presentations and reports.

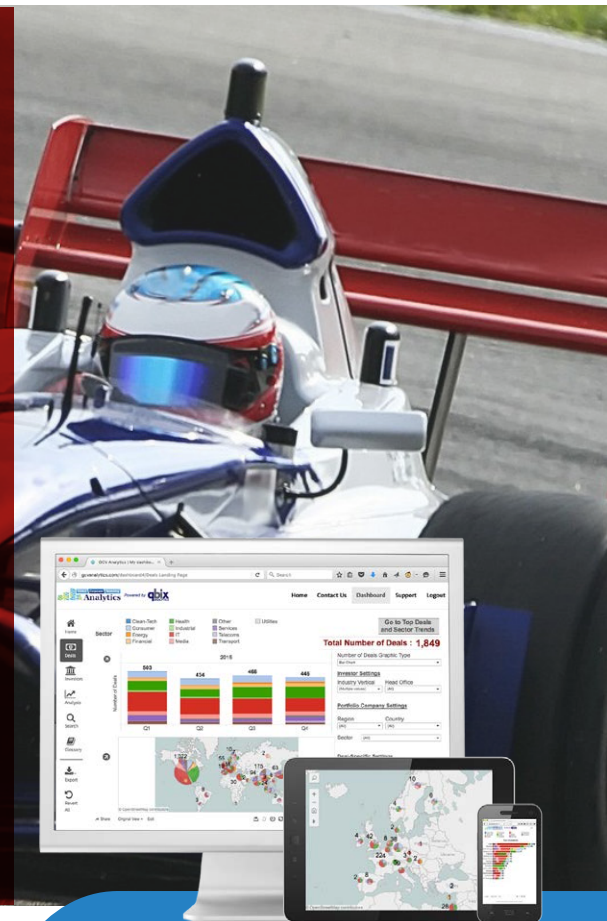


If you're an investor or a start-up, GCV Auto & Mobility Analytics can help answer the following questions:

- Who are the leading corporate VCs in automotive and mobility?
- How are the patterns of investment changing?
- Who are the new entrants?
- Which sub-sectors are attracting most capital?
- What is the region-by-region break-down?
- Who are the relevant decision-makers in the CVCs?
- What is the corporate venturing activity on a sub-sector basis?

Key areas of focus include:

- > Autonomous driving
- > Car connectivity & cybersecurity
- > Car insurance
- > Driver assistance
- > Driving risk & safety management
- > Logistics, food and grocery delivery, other delivery services
- > Mapping, navigation & localisation
- > Sensors & LIDAR
- > Truck fleet telematics
- > Vehicle battery storage
- > Vehicle efficiency & equipment
- > Vehicle maintenance & repair



Arrange Your
Free Demo Now

Contact Tim Lafferty for more information
tlafferty@globalcorporateventuring.com

Taking away the time-consuming manual processes in giving you the information you need

www.gcvanalytics.com

How experienced corporate **VENTURERS** manage informal **RELATIONSHIPS** with VC funds



Paul Morris, director, corporate venture capital, UK Department for International Trade venture capital unit

Every active corporate venturer will come into regular contact with a range of independent VC funds, irrespective of whether the corporate actively seeks such engagement or not. It is essential that a corporate venture capitalist has a proactive strategy for interacting with VC fund managers. Many today follow a more passive or reactive strategy, resulting in sub-optimal outcomes and missed opportunities.

Some 25% to 30% of corporate venturing units have invested as a limited partner (LP) in an independent VC fund. Experiences vary, along with how each corporate calibrates successful outcomes. Where a careful process of general partner (GP, the fund manager) selection has been observed, and there is active and regular interaction with the GP, outcomes tend to be positive.

However, a corporate venturer can establish and maintain productive and valuable relationships with selected independent VC funds without necessarily having to commit to the limited partnership as an investor. Here are seven benefits that experienced corporate VC units enjoy through carefully managed external fund relationships.

Syndicate partners

Most VC-backed companies will count several different investors on their shareholder roster. It is rare for a company to be funded from inception to exit by a sole VC investor. A corporate VC with a portfolio of 20 companies may have more than 50 syndicate partners, many of which will be VC funds. A strong working relationship between the CVC and its VC fund syndicate partners is essential if the CVC is to achieve its individual investment objectives.

Key interactions may include board meetings, follow-on funding round negotiations, and raising awareness and understanding of the CVCs strategic and business objectives over and above its financial return target. Where the CVC

has existing portfolio companies that are seeking to raise additional capital, the CVC should be able to facilitate introductions to VC funds from its network.

Dealflow sources

Venture capital fund managers can be valuable sources of pre-screened dealflow, notably those with partners who have been active in a particular sector for many years and have built strong reputations. A VC fund may be willing to share dealflow with a corporate VC regarded as a desirable syndicate partner. The VC fund may also invite the CVC to join a funding round of a company in which the VC fund has previously invested. Such exchanges usually require the CVC to have previously interacted with the VC fund and to have established a mutual interest to explore opportunities together.

This can help mitigate the fact that GPs will favour CVCs that are LPs in their funds over CVCs who are not LPs when it comes to sharing dealflow. A CVC should actively research which are the leading VC funds in each of the sectors in which the CVC invests, each of the main geographies that the CVC is targeting, and each stage at which the CVC desires to invest – in practice, seed, early-stage and growth stage.

Sources of investment expertise

VC fund partners with extensive investment experience can be valuable sounding boards for corporate venturers, particularly – but not limited to – those who are new to



investing. The willingness of the VC fund manager to commit time and effort to such communication will, however, be far greater if the CVC is an LP in the fund, or – note well – is considered to be a potential future LP.

Due diligence

Many VC fund partners have deep expertise in certain technologies and sectors. Where a CVC has a strong enough relationship to tap into this wealth of knowledge, considerable time and effort can be saved in doing due diligence.

The fund partner may have already assessed a particular company that is of interest to the CVC and may be prepared to share the key outcomes with the CVC. Corporates can build such relationships by reciprocating where they have internal technology and market expertise.

Human capital

For much of the past 15 years, corporate venturers have been frustrated to lose high-calibre investment professionals to independent VC funds. In the past five years, however, CVCs have flagged this issue much less frequently. Indeed, as CVC continues to expand and some independent VC fund managers struggle to raise new funds, there has been a flow of talent in the opposite direction.

The opportunity or otherwise to earn carried interest – a share of investment returns – will continue to be an important factor in any such job transfer deliberations. CVCs that are

looking to expand their teams should consider VC funds as a potential source of human capital.

Market and sector information

Experienced VC fund managers will often have cutting-edge technology and market information for the sectors in which they are active. In certain cases the relevant partner may be a key influencer in a sector via participation in governing bodies, thought forums and conference keynotes. The partner can convey not only his or her knowledge but also the collective wisdom of all the portfolio companies that person manages.

Experienced VC fund managers will often have cutting-edge technology and market information for the sectors in which they are active

Geographic reach

A VC fund active in a geography that is unfamiliar to a CVC can provide valuable insights into opportunities in that region. The VC fund manager may be prepared to share these openly if the CVC becoming active locally is seen as a positive development by the VC.

In summary, careful selection and active management of working relationships with VC fund managers should form a key element in any corporate venturing strategy. This does not necessarily require formal LP-GP positions. Corporate venturing leaders who nurture selective relationships with VC funds will find that these can contribute significantly to achieving the corporate's strategic investment objectives. VC fund managers can enhance their ability to deliver desired financial returns by working more closely with selected corporate VCs.

General Electric: an **EVOLVING APPROACH** to corporate venturing



Kaloyan Andonov and **Thierry Heles**,
reporters



Every active corporate venturer will come into regular contact with a range of independent VC funds, irrespective of whether the corporate actively seeks such engagement or not. It is essential that a corporate venture capitalist has a proactive strategy for interacting with VC fund managers. Many today follow a more passive or reactive strategy, resulting in sub-optimal outcomes and missed opportunities.

Many large corporations have made multiple efforts to develop their corporate venturing strategies. New York-listed industrial conglomerate General Electric (GE) has spent more than 20 years working on its own initiatives in this area.

Its latest iteration, GE Ventures, has been highly regarded as an industry leader, viewed increasingly by other groups as a model of best practice. Its five main units are equity investing, which invests in and partners startups, GE licensing, new business creation, Healthymagination and Catalyst, its new early market development discipline. Sue Siegel heads GE Ventures as chief executive, reporting to GE vice-chairman Beth Comstock, who runs GE Business Innovations, developing new businesses, markets and service models.

GE Ventures launched in 2013 with a commitment from the parent company to invest \$150m a year. However, while GE Ventures may appear to be a relatively young undertaking, its parent's interest in the corporate venturing sphere goes back to 1995 through its GE Capital, equity division, which has made more than 1,000 investments at growth stage through debt underwriting – companies with at least \$35m in annual revenues – and in more mature mid-market companies, with a current portfolio of \$1bn managed by 20 professionals, according to its website.

Under Thomas Gentile, former president and chief operating officer of GE Capital since mid-2014, the operation shifted to what he called “a smaller non-systemically important financial institution focused on GE verticals”, for example aviation, healthcare and energy, with a number of its senior team, including Michael Fisher, Ed Hrvatin, Mark Holroyd, Ethan

Drake and Chris Fowler leaving to form RIN Capital in October as an investment vehicle for Manoj Bhargava, founder of 5-hour Energy.

Prior to the launch of GE Ventures, the conglomerate also made investments in promising energy technologies and disruptive business models through its Energy Ventures and \$100m Ecomagination Innovation Challenge, GE's first open innovation program announced in 2010, and GE joined forces in 2011 with New York-listed utility NRG Energy and oil major ConocoPhillips to form Energy Technology Ventures, which over the following four years funded 19 venture and growth-stage companies to accelerate emerging energy technology.

Under Siegel, GE Ventures has become the primary unit backing earlier-stage entrepreneurs. Siegel remarked at the Global Corporate Venturing & Innovation Summit in California last January: “We earn our stripes by being engaged in corporate strategy for our business units, educating on new business models, emerging technology trends, and working to always sense emerging trends. We have helped do this through the infusion of talent from the VC and entrepreneurial world. These are among a few things that we have done and yet there is much more to do both internally and externally.”

Nearly half her team – 19 of 40 listed on GE Ventures' website after analysis by Global Corporate Venturing – were internal moves from GE. Siegel herself joined GE from venture capital firm Mohr Davidow Ventures along with partners Marianne Wu, Alex De Winter and Rowan Chapman, who was named one of Global Corporate Venturing's Rising Stars in January,

from energy and healthcare beats respectively. Leslie Bottorff was previously at Onset Ventures, while Risa Stack had been at Kleiner Perkins Caufield & Byers. Karen Kerr was previously at Arch Ventures and Intellectual Ventures.

Others in her team, which is nearly equally gender weighted, joined from corporate venturing peers, including Michael Dolbec from LG, Ricardo Angel from Chevron and Eric Bielke from Siemens, Ralph Taylor-Smith from Battelle Ventures, or from business backgrounds.

Siegel refers to the GE Ventures platform as a business toolkit – a multipronged approach aimed at accessing innovation. This toolkit consists of traditional corporate venture capital investing, new business creation, licensing and early market development practices. She said five new businesses had been created over the past 18 months through New Business Creation, a practice area led by Risa Stack. Add to this toolkit Catalyst, an early market development practice that put in place “a discipline that helps identify and develop collaborations with leading scientist entrepreneurs creating breakthroughs that are market disruptors and could be the next big thing”, as Siegel said.

Among these new business creations has been Evidation Health, a digital healthcare company using predictive analytics to improve patient outcomes. Evidation is the result of a collaboration between GE Ventures and Stanford Health Care, the university hospital of Stanford University.

Other startups being created are Current, which aims to provide a sustainable energy ecosystem, and GE Fuel Cells, which has developed fuel cell technology that uses stainless steel instead of platinum and rare metals to reduce costs and increase efficiency.

Siegel also pointed to the Healthymagination platform, which works on catalysing solutions for major global health challenges. The HealthyCities initiative and brain health efforts are two examples. Siegel added that “as a CVC, we are being asked to expand our focus to move beyond the role of tech scout and equity investor” in the quest for future growth. She affirmed that “GE Ventures has expanded GE’s access to the innovation ecosystem, its technologies, new business models and practices, and the incredible entrepreneurs that power them”.

And GE Ventures has set up its Edge program under Lisa Coca, managing director of corporate venture investments and

commercial development at GE Ventures, to provide what Siegel said was support for “our portfolio companies through what we can bring to their growth and development by providing access to our research and development experts, our distribution channels, our worldwide footprint and our regulatory and policy expertise. We have really fuelled this effort by also offering leadership educational programs at our Crotonville campus, with a curriculum ranging from leadership skills, hiring to marketing, and the art of storytelling, geared at enhancing entrepreneurs’ development”.

Corporate venture capital investments “aimed at transforming industries and generating meaningful returns, might require more capital or global access than what a financial VC might be interested in doing”. Siegel also emphasised the importance of collaboration among players in the field. “Corporates understand that innovation is broad and diverse, and that we cannot do it alone. Partnerships are key and GE welcomes partners in the growth journey.”

To date, GE Ventures has inked more than 100 equity deals, technology and commercial collaborations across its five focus areas – software and analytics, healthcare, energy, advanced manufacturing and corporate productivity and operational efficiencies.

In terms of investment trends, Siegel said: “Everything is going digital in every industry. Everything will be connected via the cloud. Data is the new currency.

Business models that are established in the tech vertical will be widespread into other verticals such as healthcare, energy and in oil and gas, to name just a few.”

GCV Analytics, Global Corporate Venturing’s insights-as-a-service data platform, indicates that GE is currently the top seventh investor with 103 deals. The majority of its investments have been in the healthcare sector, where it committed capital to 31 deals.

Some of these deals, however, date from the days before GE Ventures, as the company has been active in the corporate venturing space since before the dot.com bubble. In fact, GE Ventures’ website indicates it has 25 healthcare portfolio companies and 27 energy companies – its most active sector.

GE Ventures has shares in 15 software and analytics startups, seven advanced manufacturing businesses and two corporate services companies.



Sue Siegel

It has invested most frequently alongside VC firms Andreessen Horowitz and Khosla Ventures, as well as energy corporation ConocoPhillips and oil company BP, which each co-invested in four deals. BP was part of three rounds in the energy sector and one in the consumer sector, while ConocoPhillips invested alongside GE in two energy deals, one software company and one cleantech company.

GE's largest investment tracked by GCV Analytics so far dates from 2011, when it participated in a \$200m series C round for US-based electric car company Better Place. That round increased the company's total funding to \$750m and also featured holding firms Ofer Group and Israel Corporation, banks UBS, HSBC and Morgan Stanley's Investment Management unit, as well as VC firms VantagePoint Capital Partners and Maniv Investments, which contributed funds through its Maniv Energy Capital arm.

Better Place, however, failed to generate a return for its stakeholders, losing more than \$800m and selling only 950 vehicles before filing for bankruptcy in 2013, with assets acquired for a fraction of the invested dollars.

Germany-based online gaming company Bigpoint, meanwhile, proved a much more lucrative decision. GE sold the majority of its shares to private equity firms Summit Partners and TA Associates as part of their commitment to invest \$350m in the startup in 2011.

Siegel said: "On the financial side, SolarEdge had a successful IPO last year [raising \$126m in its Nasdaq flotation in March]. On the strategic side, Rethink Robotics products are being used in a number of our businesses, while other investments are helping us optimise our manufacturing processes. We have also seen big wins in our licensing division, such as our PFS [potassium fluorosilicate] program [using red phosphor in light-emitting diodes], which identified non-core intellectual property in one of our businesses to enable great growth through both licences and supply."

US-based energy management company Opower was previously the biggest IPO exit from a GE portfolio company, raising \$116m in proceeds in 2014. GE first invested in the company when it won the group's Ecomagination Challenge in 2010, splitting a total of \$55m with 11 other winners. GE held less than 5% in Opower.

GE Ventures, however, has not been directly responsible for all investments since inception. In 2013, the company invested \$104m in Pivotal, a spinout of data services provider EMC/VMWare in return for a 10% stake. That deal was made by the GE software centre's business development team and, according to an insider, "since it was such a large deal, it is not considered GE Ventures for the purpose of budget, but it went through the same channels".

In 2013, GE Ventures signed an agreement with crowdfunding platform OurCrowd that gave the corporate venturing unit the right to co-invest in select early-stage companies

operating in the healthcare, energy, software and advanced manufacturing.

At the time, OurCrowd had already helped 28 startups raise combined funding in excess of \$22m, eight of which secured more than \$1m each. Siegel said at the time: "OurCrowd has created a unique platform for dynamic early-stage origination and funding. They offer a quality investment environment and the partnership will give GE increased access to early innovation."

That partnership did not remain the only agreement that GE Ventures has sought out. Together with Startup Health Academy, the venturing unit welcomed applications until November 4 2015 from healthcare businesses working on payment and virtual health services. The partners expect to select a new batch of startups later this year around new themes.

GE Ventures also lists a partnership with healthcare fund Rock Health on its website, but it provides no details, and GE Ventures is not named as a partner on Rock Health's website.

Evidation Health did not remain GE Ventures' only collaboration with a university. The corporate venturing division gives special attention to HourlyNerd on its portfolio page, a spinout from Harvard Business School that operates an online consultancy marketplace for businesses to seek expert advice. GE Ventures participated in a \$7.8m series B round in February 2015 alongside fellow corporate investor conglomerate Kraft Group and several VC firms and private individuals.

Another startup highlighted by GE Ventures is Mocana, a US-based device security technology developer. GE contributed funds to a round of undisclosed size in 2013, alongside security software producer

Symantec, as well as Shasta Ventures, Southern Cross Ventures and Trident Capital.

A significant investment in the healthcare sector was Omada Health's \$48m series C round in September 2015, led by financial services firm Wells Fargo's VC affiliate Norwest Venture Partners. Health insurance provider Humana and healthcare system Providence Health & Services also took part, alongside Rock Health, Andreessen Horowitz, US Venture Partners and DRx Capital. Omada's software helps prevent chronic diseases related to obesity, such as diabetes and heart disease.

In 2014, GE Ventures invested in US-based Kwantera, which is working on a predictive analytics platform aimed at the energy market. A regulatory filing indicates the round was \$4.4m and names CoView Capital and Allied Growth Strategies and Management as additional investors.

Finally, in the advanced manufacturing sector, GE Ventures backed drone hardware, software and cloud services platform Airware. GE made a strategic investment in the US-based startup in 2014 as part of an agreement to help with technology development and provide access to GE's industrial customers.

"Corporates understand that innovation is broad and diverse, and that we cannot do it alone – partnerships are key"



Board **OBSERVER** versus board **MEMBER**



Mark Radcliffe,
partner, DLA Piper

One critical issue for corporate venturing units is the decision to request either a board observer or a board member in a portfolio company. Until recently, virtually all corporate venture capitalists would, at most, ask for a board observer. However, as corporate investors have become more experienced and begun to lead deals, they have increasingly requested board members.

The business difference between board members and board investors is very important.

Decision-making:

- A board member has legal authority to decide major corporate issues for the portfolio company, such as approving new financings and hiring or firing officers.
- A board observer has no authority to make decisions for the portfolio company.

Influence:

- Startup boards, by their nature, are limited in size, generally from three to five members. Consequently, a

board member provides the corporate investor significant influence over the portfolio company.

- A startup can have an unlimited number of board observers. The board observer role is generally a more passive role.

The actual influence of board observers varies dramatically between startups and depends on the culture of the board. Some boards expect that the board observers will simply observe and not participate in board discussions. Yet other boards encourage the board observers to participate actively. In fact, I have attended many board meetings where you cannot tell who is a board member and who is a board observer by their degree of participation.



The legal responsibilities of board observers and board members are quite different.

Both California and Delaware corporate law – and most other US state corporate laws – impose on board members the fiduciary duties of care and loyalty to all stockholders, not just the corporate investor. The duty of care requires that the board member serve, in good faith, in a manner that he or she believes to be in the best interests of the portfolio company and its stockholders and with such care, including reasonable inquiry, as an ordinarily prudent person, in a like position, would use under similar circumstances.

The duty of loyalty requires that a board member make decisions based on the best interests of the portfolio company, and not any personal interest. The duty of loyalty is said to prohibit self-dealing by board members. Fiduciary duties are the highest duty imposed by law and courts are particularly sensitive to the potential for conflict of interest by board members.

These responsibilities are personal duties of the board member – not the corporate investor – and the breach of these duties can impose personal liability on the individual who is serving as a board observer. Therefore, if an employee of a corporate investor serves as a board member for a portfolio company, the board member must not advance the interests of the corporate investor at the expense of the portfolio company or its stockholders.

On the other hand, the legal responsibilities of a board

observer are governed entirely by contract. Generally, these obligations are limited to maintaining board information in confidence and recusing themselves in certain defined situations, such as discussions relating to transactions with the corporate investor or with the competitors of corporate investors. In fact, some portfolio companies try to impose fiduciary duties on board observers by contract. We recommend against agreeing to fiduciary duties for board observers.

If the corporate investor decides to request a board member, the corporate investor should take the following steps:

- Ensure that the individual who will serve as the board member has training to understand his or her role.
- Ensure that the board member has appropriate legal protection, including indemnification in its charter or bylaws, indemnification agreements, directors and officers insurance in appropriate circumstances, and, where permitted by state law, a provision in the corporate charter exculpating the director from personal liability for a breach of the duty of care, but not the duty of loyalty, and limiting the scope of the corporate opportunity doctrine.

Deciding whether to request a board observer or a board member will depend on the strategy of the corporate investor, the availability of qualified individuals to serve as board members and the importance of the portfolio company to the corporate investor.

How fund **STRUCTURE** impacts **PERFORMANCE**



Paul Asel,
managing partner, Nokia Growth Partners

Corporate venturing has changed significantly since my first foray into the sector nearly 20 years ago. A fledgling activity has blossomed into a vibrant industry. US corporations invested \$33bn representing 41% of total venture investments in 2015. CVC programs are more established, with several programs such as semiconductor technology developers Intel and Qualcomm now more than 20 years old.

Yet corporate venturing is hardly stable. Intel and internet company Google, two of the largest corporate investors during the past decade, are reorganising their venture groups. Software company Microsoft has experimented with many different formats over the past decade. Sapphire Ventures has spun out as an independent CVC with software developer SAP as a sole limited partner. Healthcare and the auto industry are rapidly expanding investment programs as new technology transforms these sectors.

Over the past six years we have studied in depth more than 25 corporate programs to assess the impact of corporate venturing structure on performance. While there are many flavours of corporate venturing, they may be distilled to two archetypes – internal and external CVCs.

Internal CVCs are managed by corporate employees with funding provided directly from the corporation to the startup. External units operate as separate funds, usually with a sole corporate partner, with financing flowing from the corporation to the startup via the fund. External divisions have carried interest – a share of returns – and management fees similar to financial VCs.

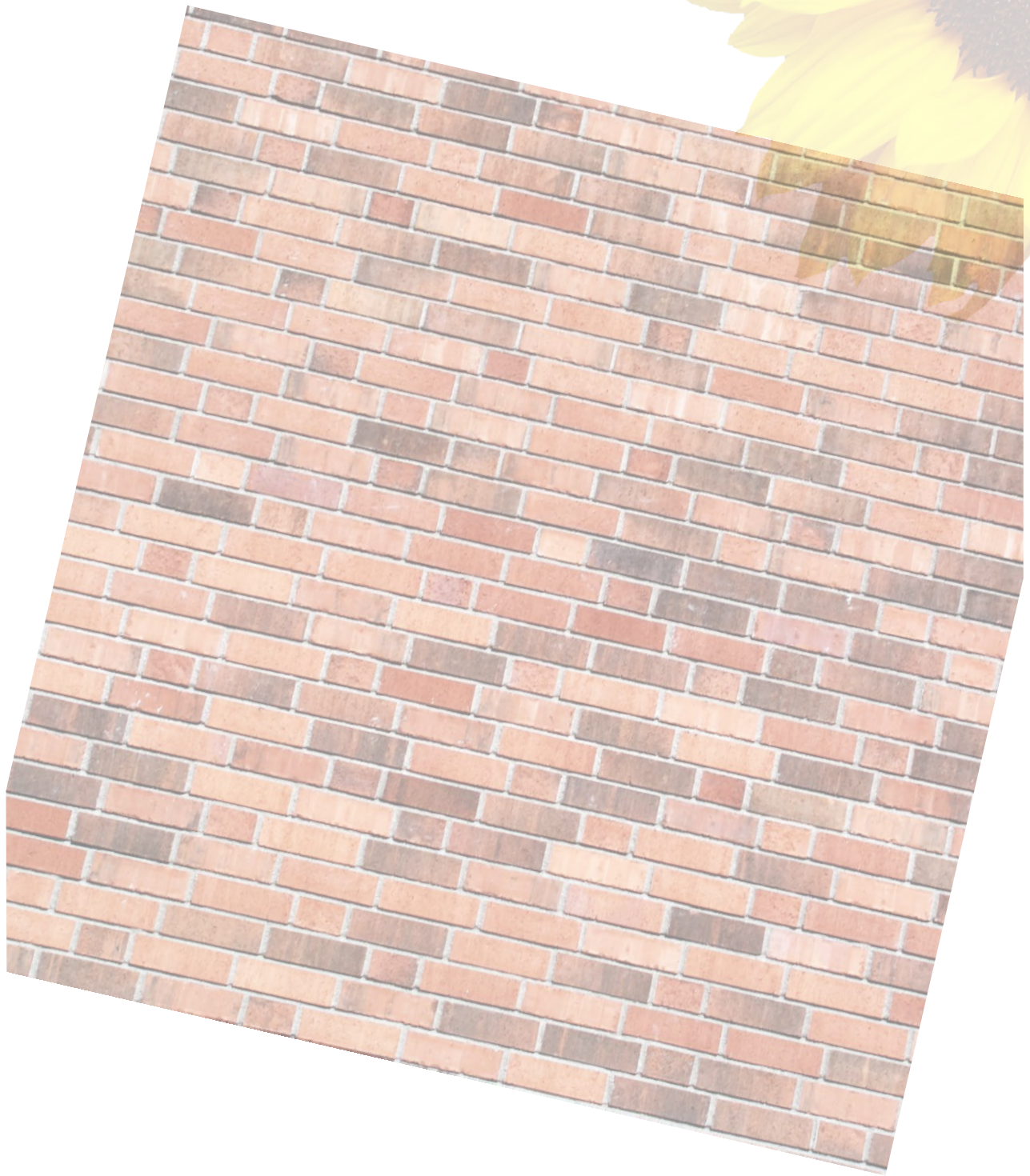
Fund structure matters. All corporate venturing subsidiaries must balance a dual mandate – deliver financial returns while furthering corporate strategic interests. Internal and external divisions equilibrate these often-competing mandates differently. Unsurprisingly, externals focus more on financial returns while internals are more attuned to strategic prerogatives. But there are other important differences as well.

- External firms are more likely to recruit personnel externally with prior venture experience. Internals have more corporate experience but also have higher employee turnover.
- Internal units have tighter corporate strategic alignment but externals are more likely to pursue disruptive opportunities.
- Externals have more consistent fund planning and management. Internals have more flexibility to make larger investments in companies that are considered strategically imperative.
- Internals are more malleable to strategic shifts, but these pivots often result in orphan investments that impact corporate venturing reputation within the startup and venture community.

One size does not fit all. Corporate sponsors should have clear objectives that predicate fund structure. Dual financial and strategic mandates need constant balancing, especially since judgment is complicated by timing and uncertainty. Strategic imperatives are often salient in the short term but harder to judge over time. Financial returns may be unclear for several years but readily measurable longer term.

There are several corporate venturing principles that apply irrespective of fund structure.

- Consistency and patience are essential to build a successful corporate venturing program. Corporate and CVC lifecycles differ fundamentally. CEOs must deliver quarterly and annual results, while venture funds are



typically measured over a 10-year life. Corporate sponsors and corporate venturing executives should be prepared to commit to an investment program for a period of at least five to 10 years.

- Corporate venturing subsidiaries must be aligned to the core of company strategy. The programs deemed as non-core will be fleeting regardless of financial performance. Yet no program will survive unless it delivers financial results. One must do well to do good.
- People matter. Investing is a distinct skillset. But corporate venturing is also distinct from venture capital investing.

Corporate venturing leadership must be attuned to the corporate sponsor and be able to work effectively in a company setting. A mix of proven venture investors and corporate executives helps balance financial and strategic objectives.

Corporate venturing is a hard model but it is powerful when done well. When consistent financial discipline is applied across investments, financial returns should be positively correlated with strategic imperative. How one structures corporate venturing activities, however, will determine how readily this can be accomplished.

Profile: **MERCK**

James Mawson, editor-in-chief

Robert Lavine, news editor

Toby Lewis, contributing editor

At the GCV Symposium 2015, Heidi Mason, managing partner of advisory service Bell Mason Group, spoke to Bill Taranto, president of Merck Global Health Innovation Fund, about his strategy-driven approach to corporate investment, together with Donato Tramuto, entrepreneur and founder of Physicians Interactive, the healthcare marketing company acquired by Merck.

Merck GHI Fund, a subsidiary of pharmaceutical firm Merck, grew in size from \$125m to \$500m in the four years to 2015, had 28 portfolio companies and had completed four exits and three acquisitions by that point.

The unit is described as having a “strategy-driven approach” which includes “combining emerging informational tools with existing health data, while leveraging health IT platforms”. Taranto explained: “We wanted to aggregate assets into a roll-up and learnt that we could not get there with venture capital alone.”

In addition to venture capital, Merck GHI now deploys growth equity and M&A as additional financial tools, and, said Taranto, “we may yet add incubation”.

Physicians Interactive, Taranto said, was taken through the stages of growth equity and M&A following a strict strategy. The acquired business, which has retained its independence with a separate board, was then combined with a similar but geographically diverse asset from within Merck, doubling Physicians Interactive’s topline revenue. Merck also financed the company’s acquisition of online health community platform Medhelp in July 2014.

“We mapped this out,” Taranto said, adding that there were still some stages to go. “We have the power to aggregate, but are essentially a pharmaceutical company and cannot go it alone. One of the next steps is to spin out a portion of Physicians Interactive to a partner.”

Tramuto commented that while it had been successful in moving the Merck asset over to Physicians Interactive, it had taken a year and a half. He described it as “like moving Cleopatra down the Nile”. He added: “When you are looking for

a corporate partner, it is not a question of what they are doing in corporate venturing, but why. Merck were fundamentally committed to the ecosystem.”

The ambition has been paying off, and Merck was named unit of the year at that year’s symposium.

Taranto had remarked a year earlier at the GCV Symposium: “If you look at the continuum of healthcare, from prediagnosis to death, the question for Merck was: How do we participate in that continuum where the pill or the vaccine makes up only one piece of healthcare?”

“There is a great deal of stuff beyond what we do as a core business that happens in healthcare, and can we actually have an impact broadly around healthcare where, again, the pill only supplies one piece of it?”

Securing blockbuster drugs is only part of the overall investment path for pharmaceutical companies, now that digital health is combining the know-how of big data, health technology and life sciences. The synergy between the IT and healthcare corporate venturing sectors is helping accelerate lab

studies and investment realisations, something that big pharma welcomes with open arms.

Taranto moved to the US-based pharmaceutical group as it made a push into non-pharmaceutical healthcare and sought a leader to be managing director of its new Global Health Innovation Fund. The \$500m fund has since invested more than half its commitments.

“Most pharmaceutical manufacturers rarely look beyond the pill and invest outside their core business,” Taranto says. “Merck was very interested in being the best healthcare company in the world and that entailed creating a venture firm that

“Most pharmaceutical manufacturers rarely look beyond the pill and invest outside their core business”

would allow Merck to look beyond the pill and give them optionality around the future.

"I came to Merck in April 2010 and recruited a team of venture experts in the adjacency healthcare space that are very good at what they do."

Taranto said the biggest change for the Global Health Innovation Fund when it first deployed capital was its movement into bigger deals through private equity, as well as mergers and acquisitions.

Today the fund is executing bigger deals with private equity and strategic partners. Taranto said the team was looking to invest in several digital health segments, including interactive cloud, security and privacy and technology-enabled care.

One such deal, apart from the above-mentioned Physicians Interactive, is WellDoc, a US-based developer of a prescription app for managing diabetes, which raised \$20m in strategic financing in early 2014 from Merck Global Health Innovation Fund and venture capital firm Windham Venture Partners. WellDoc had previously raised \$35m in debt and equity from angel investors.

"We have a belief that data will be the currency in healthcare, and that better use of this data will improve the quality of healthcare while lowering system costs. This thesis is the foundation for our investment strategy," said Taranto, who in 2016 was placed 11th on the GCV Powerlist.

This tribute was justified by Taranto's impact – he has seemingly moved heaven and earth since he moved to Merck as the group made a push into non-pharmaceutical healthcare.

On his future plans, he said: "We are focused on using our growth equity firm to create ecosystems around oncology and infectious disease."

Taranto came to Merck from a similar role at Johnson & Johnson, where he worked with Joe Volpe, listed as a GCV Rising Star 2016.



**Bill Taranto,
left, and Joe
Volpe, below**



Volpe moved over to Merck to rejoin Taranto and has been general manager of Merck's \$700m private equity fund as well as a managing director of GHI.

In his nomination of Volpe as a GCV Rising Star 2016, Taranto said: "Joe Volpe has been instrumental in co-developing and leading our transformation from a simple corporate venture firm into one that executes on venture capital, growth equity and M&A.

"He was recently put in charge of our growth equity company because he has shown extraordinary capabilities in building out the ecosystem strategy I have implemented at Merck Global Health Innovation. He is not just a rising star. He is a star."

On the private equity side, he added: "We are very proud to have acquired and merged Preventice Solutions and eCardio then bringing in Boston Scientific as our partner."

After a merger with eCardio and a spin out after acquisition, Volpe said the Preventice asset deal paid Merck back more than 80% of what was invested and left it still owning approximately 48% of the asset with significant value.

For this deal and the remote patient-monitoring thesis that underpinned it, Volpe won his second divisional award at Merck. This thesis was one of three ecosystem strategies he devised and put into effect with others in healthcare information technology and physician-patient engagement anchored by the Physicians Interactive platform.

However, Volpe said while such theses were useful, the parent corporation's strategy could still go in a different direction. "It is difficult digging up innovative investments in our focus areas, as well as finding companies ready to invest, as well as those entities understanding our thesis or investing strategy, as well as aligning all parties' timing, as well as mixing venture, growth equity and M&A."

He said compensation had often lagged behind comparable remuneration to VC peers. "Although getting treated fairly is important, and CVCs need to get more of a VC model from a compensation point of view, I still get satisfaction in having the ability to change healthcare for my children."

Greater changes could come if more corporations collaborate, Volpe said. "The power of combining forces and not letting greed guide you, if done correctly, will yield much more than a single entity going it alone. Our position is that Merck does not need to own or control all the assets we invest in. As a result, what we spin out and bring in is more valuable monetarily and from a functionality perspective as well."

Volpe said his main tasks for the new growth equity fund were to "strategise and execute investments around several ecosystem theses within healthcare information technology, remote monitoring and patient-physician engagement".

He added: "My attraction to CVC is primarily around the ability to look at the bigger picture within healthcare and design

and build offerings that are not a single point solution but a larger, more dynamic collaboration of offering. This creates more monetary value and is usually game-changing in nature within healthcare.

"I execute these ideas by investing in later-stage digital health entities using venture funding as well as using the growth equity fund to grow, bundle, merge and bolt on entities where appropriate. I have made more than one-third of Merck Global Health Innovation venture investments with over 45 transactions in total between venture, M&A, growth equity and follow-ons."

Having scoured investment targets by the thousand, he now sits on seven portfolio company boards. His M&A deals include eCardio, Medhelp, Tomorrow Networks, QuantiaMD and C3Nexus. There are several others in the pipeline.

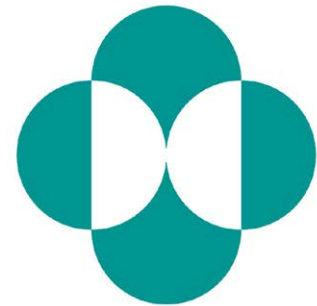
He added: "I have been fortunate to not only have had some significant exits, such as Humedica, Physicians Interactive and Preventice, within my time at Merck, but I have also been able to realise three ecosystem roll-ups and many M&A successes, yielding what I feel are very innovative disruptions in healthcare."

The Humedica deal was completed in six weeks, held for only seven months and yielded a 17-times return, he added.

Volpe has worked at Merck for just over five years and was with Johnson & Johnson for 23 years in many operational, strategic and investment roles. Before that, he was an engineering consultant at Electronic Data System and said "coming through its three-year program was one of the hardest things I have done in my life – more difficult than any degree I received".

"For fun", he is a serial marathon runner, an "avid four-wheeler" – a driver of all-terrain vehicles – and has broken bones horse-riding in the mountains of New York and Pennsylvania.

His motto of "work hard, play hard" seems appropriate.



MERCK

Corporations walk **TIGHTROPE** in buying **PORTFOLIO** companies



James Mawson,
editor-in-chief

At first glance little seems to connect General Electric's purchases of Bit Stew and ServiceMax, Monsanto's Climate Corporation subsidiary's acquisition of VitalFields, Intel buying Voke and Dr Pepper snapping up Bai Brands. Apart from the fact that they are all deals struck towards the end of 2016, they range in size up to \$1.7bn, cover a range of geographies from Estonia to the US and sectors from agriculture to soft drinks to data analytics to virtual reality.

Dig a little closer, however, and all the target companies' purchasers have been insiders, as existing shareholders through their corporate venturing units.

Earlier analysis before this decade by academic Martin Haemig indicated parent corporations on average bought between 3% to 5% of their corporate venturing units' portfolio companies. But with the wave of CVC launches since the start of the decade has come a greater emphasis on buying portfolio companies.

Since 2014 to the end of November last year, parent corporations have bought 74 of the 398 venturing portfolio companies exited through trade sales, according to GCV Analytics.

The exit data excludes the 183 flotations during this time and acquisitions of listed companies that had been CVC portfolio companies prior to the initial public offering, such as Symantec's \$2.3bn recently-agreed purchase of LifeLock, a US-listed identity theft protection services company, according to GCV Analytics.

While these CVC exits by trade sales remain only a fraction of the total number of venture capital-backed mergers and acquisitions, the proportion has been rising.

Data provider PitchBook tracked 1,191 VC exits by M&A in 2014 worth an aggregate \$77bn. Using GCV Analytics data,

Corporations buying their portfolio companies 2014-16

Year	Parent acquisitions	Total CVC exit by M&A	%
2014	26	101	25.7%
2015	28	147	19%
2016*	20	150	13.3%

*To end-November

Source: Global Corporate Venturing

this meant CVC-backed trade sales were about 8.5% of the total that year. PitchBook noted 1,173 VC exits by M&A in 2015 worth \$48bn, which meant CVC-backed stakes were 12.5% of the total, according to GCV Analytics.

In the first half of last year, PitchBook recorded 430 VC-backed acquisitions worth \$28bn, which put CVCs selling to their parents at about 16% in this period, again using GCV Analytics, although there is a potential differential depending on announced versus closing date.

Overall, M&A activity globally has been growing in recent years, hitting almost \$5 trillion in deal value last year, favoured by strong market fundamentals, such as access to low-cost capital, low organic growth opportunities, and access to new markets, among other things, according to news provider Consultancy.

In a survey of 1,700 CEOs, chief finance officers and other C-level executives from 18 sectors, accountancy firm EY's

First published in Global Corporate Venturing December 2016

Global Capital Confidence Barometer found executives were again eyeing deals after a slowdown earlier this year. Almost 50% of respondents said they had more than five potential deals in their pipeline, up from 20% in April), and more than half (57%) expected to pursue an M&A deal in the next 12 months, up from 50% in April's report.

When asked by EY about the strategic drivers affecting respondents' decision to pursue an acquisition within their sector, "growing market share" came out on top with 23% of respondents, followed by "acquiring technology or new product capabilities", at 20%, then, with 17% of respondents, executives said they would be using M&A to pick up innovative startups. Acquiring talent was cited by 15% of respondents.

Alphabet, the parent conglomerate of the Google search engine, is the heaviest acquirer of portfolio companies from its corporate venture unit GV, formerly Google Ventures, with six acquisitions in the past three years, according to GCV Analytics.

US-listed chip-maker Intel has had four in this period, while peer Qualcomm has bought three of its portfolio, the same number as China-listed retailer Alibaba.

For most acquirers of portfolio companies, however, their CVC units remain a source of only a minority of deals, while the parent corporation is usually also only a minority purchaser of CVC holdings.

In 2015, 22 of Intel Capital's portfolio went public or were sold in M&A deals, the company said at the 17th annual Intel Capital Global Summit in San Diego, California.

In late October, Wendell Brooks, president of corporate venturing unit Intel Capital, told the CEOs of more than 300 portfolio companies at its global summit that he had decided to shrink Intel Capital's portfolio from 400-plus companies to a range of 250 to 300 over the next five to six years in a bid to reduce quantity and increase quality, especially in regard to the total amounts invested in each company.

This might encourage more of Intel Capital's holdings to be sold to its parent, but given CVCs remain minority investors it is unlikely to influence either parent or entrepreneur unduly. However, as Intel Capital's deals become more strategic, the potential for these types of parent acquisitions increases.

As well as being president of Intel Capital, Brooks is also head of M&A for Intel. This year's deals for Intel include last month's acquisition of Voke, a developer of virtual reality viewing technology for sports events, months after leading a \$12.6m round for the company.

Alphabet has acquired at least 63 companies since the start of 2014, according to its Wikipedia page, indicating less than a 10th were sourced from its corporate venturing unit, even including its purchases of GV-backed Skybox, Urban Engines, Appurify and Nest among others.

However, with multiple CVCs having more than 100

portfolio companies, including GV, Intel Capital, Alibaba and Qualcomm, there is also an increased focus on private equity-style roll-ups of portfolio companies, often with buyout firm support.

In mid-2013, Google – before its creation of the Alphabet holding company – was setting up a second corporate venturing unit, Google Capital, this year renamed CapitalG, particularly to target larger, later-stage deals than those preferred by its GV unit.

Don Harrison, Google's vice-president of corporate development, who replaced David Lawee as mergers and acquisitions head when Lawee was setting up Google Capital, said at the Bloomberg Next Big Thing conference in June 2013, as well as being in the "exploratory" phase for Google Capital, Google was looking at alliances with private equity firms to help it structure deals.

Buyout firms can assist an acquirer by providing needed financing or advice on how a target could be restructured or carved up after a deal closes. While Google may invest cash to get a return on the investment, it may also take part in a deal to acquire an asset, Harrison said.

At the same Bloomberg summit, Kenneth Hao, managing partner at technology-focused buyout firm Silver Lake, said he was "excited companies like Google are showing proactive interest in private equity".

Data provider PitchBook, itself a corporate venture-backed company acquired by parent corporation Morningstar, said 64% of all US buyout activity in the first nine months of last year had been add-ons – the highest such proportion it had tracked.

But this interest can also be in applying private equity-style insights internally. William

Taranto, head of US-based pharmaceutical group Merck's \$500m Global Health Innovation Fund, in 2014 added a \$700m private equity fund. For his GCV Powerlist 2016 award, Taranto said: "We are focused on using our growth equity firm to create ecosystems around oncology and infectious disease."

He added: "We are very proud to have acquired and merged Preventice Solutions and eCardio, then bringing in Boston Scientific as our partner."

After a merger with eCardio and a spin-out after acquisition, Joe Volpe, general manager of Merck's \$700m fund and a GCV Rising Star 2016, said the Preventice asset deal paid Merck back more than 80% of what was invested and left it still owning about 48% of the asset with significant value.

For this deal and the remote patient-monitoring thesis that underpinned it, Volpe won his second divisional award at Merck. This thesis was one of three ecosystem strategies he devised and put into effect with the others in healthcare information technology and physician-patient engagement anchored by the Physicians Interactive platform. And Taranto at GCV's Shift conference in partnership with US trade body the National Venture Capital Association said it was looking at

Alphabet has acquired at least 63 companies since the start of 2014, indicating less than a 10th were sourced from its corporate venturing unit

more such deals for next year.

Other groups have moved even further in this direction. Drugs group Shire acquired peer Baxalta this year after its demerger from Baxter. As revealed by GlobalCorporateVenturing.com last month, Shire effectively shut down Baxalta Ventures, a \$200m fund – its leaders, Geeta Vemuri and Marta New, both left.

Shire's spokesperson said: "We are continuing to support the legacy Baxalta Ventures portfolio, including honouring our existing commitments, and have designated representatives from Shire to serve on the board of directors for portfolio companies as appropriate. We remain interested in investing in innovation at various stages of development. For example, from a deal perspective, as always, we remain interested in transactions in which we gain access to innovative products and technologies that fit our strategy.

"While such transactions may include equity consideration as a component, we have made the strategic decision that we will not make additional venture financing or other equity investments that are not associated with product or other strategic rights, including both new rounds for current portfolio companies beyond our existing commitments and new investments."

Graeme Martin, president and CEO of Takeda Ventures, the CVC unit of the Japan-based drugs developer, in response to questions by Michael Brigl for a Boston Consulting Group report – Corporate Venturing Strategies in Lifesciences – said: "There are fundamentally two types of CVC out there. First, ecosystem builders, for example, SR One, Roche [and] JJDC, where the purpose of any investment made is to continually push the boundaries of therapeutic innovation rather than derive specific strategic insight or positioning.

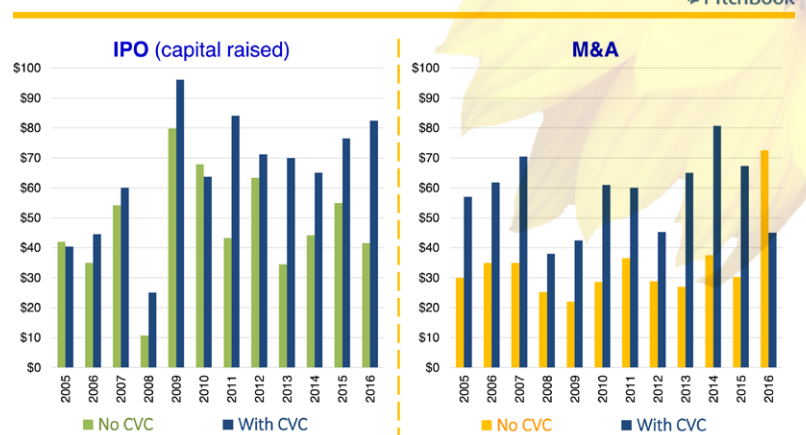
"Second, strategics, for example, Takeda, Abbvie, [and] Merck Ventures. Many of them are taking a position of supporting internal strategic goals by investing within the R&D core areas of focus as well as investing into adjacencies that continue to inform strategy.

"These groups will not invest in areas considered unrelated to current and future potential areas of commercial focus. Within this basket there is a mixed philosophy for measuring performance against either purely financial returns or strategic value derived."

Corporate venturing deals, however, are becoming more complex and, through limited partner and strategic agreements with venture capital firms, more opaque, effectively muddying the waters of what it means to be a CVC-backed entrepreneur.

Mark Wilson, director of collaboration management in Europe for the platform science and technology division of

'Global' Median VC-backed IPO and M&A Size CVC vs. pure VC (US\$)



Analysis by Martin Haemmig, Cetim

GlaxoSmithKline Pharmaceuticals (GSK), which has started offering its proprietary drug delivery technologies to external clients, said: "In addition to the number of incubator-style outreach and university-based operations that the large pharmaceutical companies have established in recent years, I believe that a major trend is the emergence of fund structures that mix some elements of traditional financial VC structures with pharmaceutical R&D input and decision-making involvement, and that are different to traditional corporate VC models, at least in this sector."

Last year, Bruce Booth, a partner at biotech-focused VC firm Atlas Venture, wrote in a blog post – External innovation: force multiplier for R&D – that changes might be occurring in the relationship between pharmaceutical and biotechnology companies and independent life sciences funds.

He said: "These CSP [corporate strategic partner] relationships are part of a macro trend in the life sciences ecosystem – larger corporate entities creating tighter relationships with venture firms as both direct equity partners in deals and as LPs and strategic partners.

"Today, over 75% of our deals have corporate venture groups as co-investment partners. This number was below 5% a decade ago. The list of relationships is significant and growing – Index linked up with both Johnson & Johnson (J&J) and GSK; Flagship with Merck; Healthcare

and TVM with Lilly on their dedicated mirror funds; MPM with Novartis and J&J; Longwood, Hatteras, Sanderling are in GSK's venture portfolio.

"Each of these strategic LP commitments has their own expectations and agreement structures. It remains to be seen which models will work best, but our belief is that the truly open-market strategic-proximity model envisioned here with our CSPs will be one of the more mutually beneficial and productive approaches."

But VC-corporate relationships are continuously changing. One healthcare corporate venturing head said in his "cynical eye", many of the new VC-CSP relationships were driven by

"Today, over 75% of our deals have corporate venture groups as co-investment partners – this number was below 5% a decade ago"

“the desire of VCs to secure easy access to capital and exits all in one bundle” and because “pharma believes that VC firms can do something magical that is beyond the pharma’s ability”, adding: “I think this will change, with smart pharma developing their own talent and external networks to do deals at a much more reasonable cost of capital.”

But with “software eating the world”, as predicted by venture capitalist Marc Andreessen at the start of the decade, technology has been the busiest sector for M&A this year, as it was in 2015, and at the second-fastest pace since 2000, according to data seen by news provider Wall Street Journal.

More corporations setting up corporate venturing units – GCV tracks more than 1,600 of them – means a wider range of sectors are increasingly active acquiring technology companies.

Newsire Bloomberg reported Accel Partners, the VC firm behind startups like Dropbox, Slack and Facebook, had summoned its portfolio companies to a meeting at a San Francisco museum and advised them to show less “disdain for established, non-technology companies that startups traditionally try to disrupt because, based on recent experience, a company like that might end up your acquirer”.

Bloomberg said from 2011 to 2014 technology companies were the largest buyers of venture-backed startups, according to PitchBook data. The peak was in 2014, when tech companies spent \$47bn buying venture-backed companies, compared with \$21.8bn spent by non-tech companies.

Last year, tech companies cut their spending on venture-backed startups to \$18.3bn, while non-tech companies spent \$17.6bn on venture-backed acquisitions. This year, by September 30, non-tech companies had paid \$25.3bn for

venture-backed businesses, compared with just \$10.7bn by tech companies.

Since then, industrial group General Electric has agreed to acquire its GE Ventures portfolio companies Bit Stew for \$153m and ServiceMax for \$915m as part of its shift towards tech, and crops company Monsanto, through its Climate Corporation subsidiary, bought VitalFields for an undisclosed sum, giving an exit to sister unit Monsanto Growth Ventures (MGV).

Climate Corp itself was acquired by Monsanto from MGV, whose head John Hamer said: “The VitalFields exit is an important one in validating our strategy.”

And while any exit can be considered important, being able to walk the tightrope of selling a portfolio company to a parent company might be one of a corporate venturer’s more testing skills.

At the Shift conference in New York in October, Urs Cete, head of BDMI, one of Germany-based publisher Bertelsmann’s corporate venturing units, said when it sold portfolio company StyleHaul to another division, RTL, in late 2014 it had taken on external legal counsel to help make sure it had good advice. Cete said some in Bertelsmann might have been surprised it had taken on the expense, but it was part of its fiduciary duty and also showed entrepreneurs that its interest was in making sure the best terms were reached.

And in a service-orientated industry, where venture investors are increasingly trying to appeal to entrepreneurs as offering the greatest help beyond cash support, this approach of trying to put the portfolio company first seems the most sensible.



Venturing and innovation: does **FAILURE TOLERANCE** matter?



Martin Haemmig and **Boris Battistini**



Over the past two decades, a large number of authoritative empirical studies have documented that innovation in entrepreneurial ventures is one of the most important drivers of economic growth and corporate innovation. While the importance of high-potential, disruptive startups for large, incumbent corporations across industrial sectors is indisputable, more systematic analysis is required to understand fully what factors facilitate innovation in startups.

A recent study in *Review of Financial Studies* investigates the relationship between the tolerance for failure and innovation. Specifically, based on a sample of venture capital-backed initial public offerings (IPOs), the study examines whether and how investors' attitudes towards failure affect innovation in their portfolio startups.

The authors of the study – Prof Xuan Tian of Indiana University and Prof Tracy Yue Wang of the Minnesota University – developed a measure of venture capital investors' failure tolerance by examining their willingness to continue investing in underperforming startups – those not meeting milestones. In so doing, they test empirically the argument that tolerance for failure is critical in motivating and nurturing innovation.

They show that IPO firms backed by more failure-tolerant venture investors are significantly more innovative, and failure tolerance is particularly important for startups subject to high failure risk due to the disruptive nature of their technology or business model. More specifically, IPO firms backed by more failure-tolerant venture capital investors are consistently associated with innovative performance.

Their innovativeness is measured by multiple indicators – for

example, such startups do not only produce a higher number of patents, but also produce patents with greater impact. As observed in the analysis, “the results are robust to alternative measures of venture capital failure tolerance and alternative empirical and econometric specifics. Moreover, these results are not driven by endogenous matching between failure-tolerant venture capital firms and startups with high ex ante innovative potential”.

Interestingly, the study also discovers that both capital constraints and career concerns can negatively distort a venture capital firm's failure tolerance. Specifically, younger and less experienced venture capitalists tend to be more exposed to these distortions, making them less failure-tolerant than more established venture investors. In fact, young and less experienced investors appear to become more failure-tolerant after a relaxation of capital constraints and after a decrease in career-related concerns. u

Reference

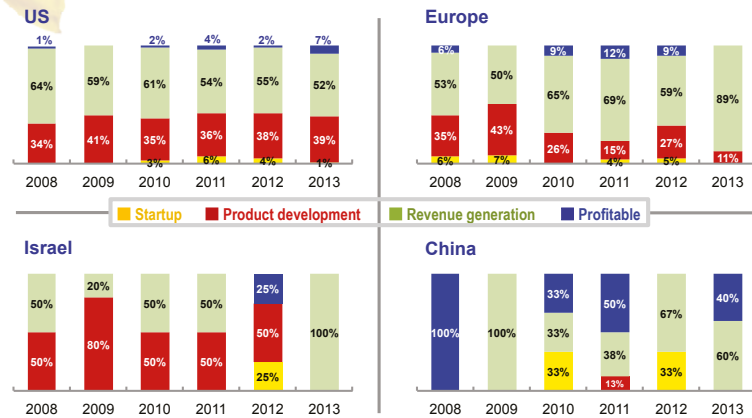
Tian, X, and Wang, TY (2014) ‘Tolerance for failure and corporate innovation’. *Review of Financial Studies*, 27(1): 211–55

Boris Battistini is an associate at Metellus, a venture capital firm based in Zürich, London and San Diego, and a senior research fellow at the Swiss Federal Institute of Technology (ETH Zürich). Email: boris.battistini@metellus.ch

Martin Haemmig is an adjunct professor at CeTIM at UniBW Munich and Leiden University. Email: martinhaemmig@cetim.org

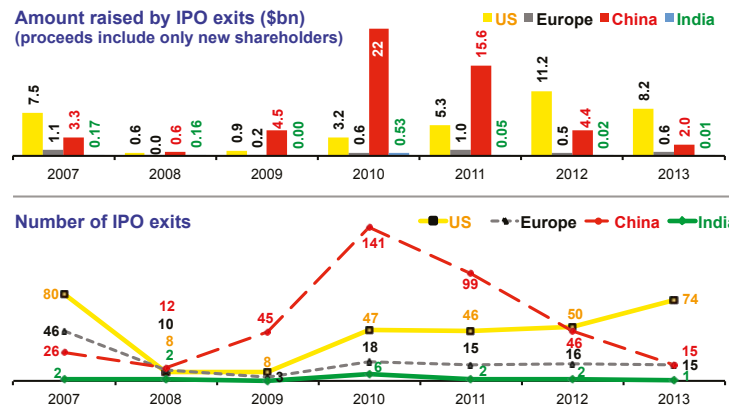
Time of corporate venturing investment by stage of development

Product development and revenue-generating stages are sweet spots



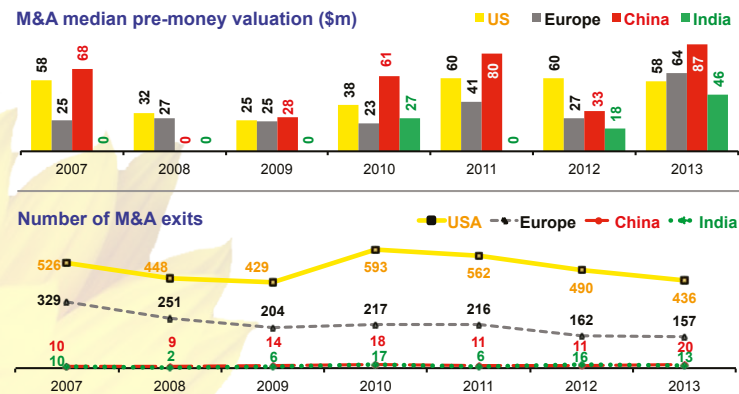
Trends by stage of development at portfolio level: For years, US corporates maintain a consistent 40% pre-revenue investment focus with the 60% balance into revenue companies, pre-profit and profitable. Corporates in European deals tend to prefer more revenue pre-profit companies, while Israel tech startups have historically enjoyed corporate investment in pre-revenue companies, mainly product development. Local and foreign corporates in China prefer revenue companies, pre-profit and profitable, since their venture capital co-investors are also much more later-stage oriented. What these graphs do not indicate is the strategic corporate investments in accelerators and incubators in these geographies, made to follow the technology, business models and market trends in these geographies in order to spot opportunities for future investments.

US, Europe, China, India: VC-backed IPOs



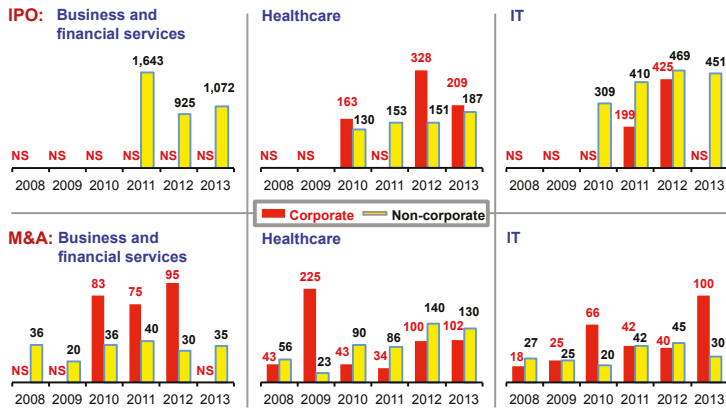
IPO exits of venture-backed companies: The capital raised at IPO – not its total valuation – dried up in 2008-10 due to the financial crisis. The exception was China, which started to pick up in late 2009 with the opening of two domestic stock exchanges for small to medium-sized enterprises and growth companies. However, in 2012 and especially 2013, China almost shut its domestic public offerings, in order to improve the quality and the transparency of its companies in the pipeline for listing. However, as of 2014, China is opening up again gradually for venture-backed companies to exit. All the above is reflected in the number of deals in each geography. The US is picking up again, with all other markets remaining sluggish. India's IPO numbers remain low compared with the amount of capital being invested.

US, Europe, China, India: VC-backed M&A exits



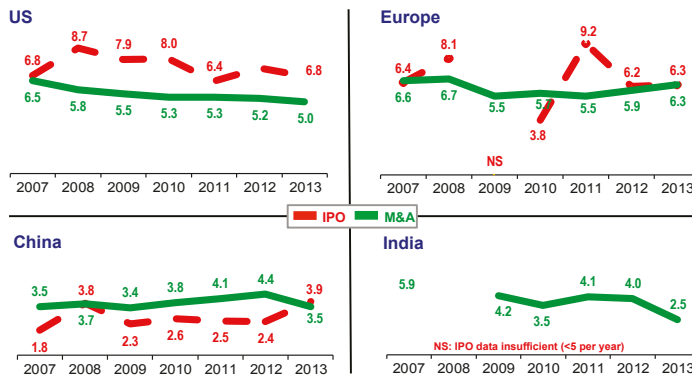
M&A/acquisition exits: M&A valuations typically mirror the overall economic environment plus public market liquidity, which drive cash reserves of corporates. Acquisitions represent the bulk of exits for venture-backed companies in the western world, whereas in China and Japan most exits are via IPO. As long as the public market is liquid this may work well, but these two nations were hit badly when the public markets were no longer accessible, resulting in few overall exits. Most acquisitions – up to 85% – are by corporates not previously invested in these venture-backed companies. In addition, it is expected that along with the rise of domestic large corporates in emerging markets, their investment pace and scale will lead to many more local and foreign strategic acquisitions.

US: median IPO and M&A valuations by sector with and without corporate investors (\$m)



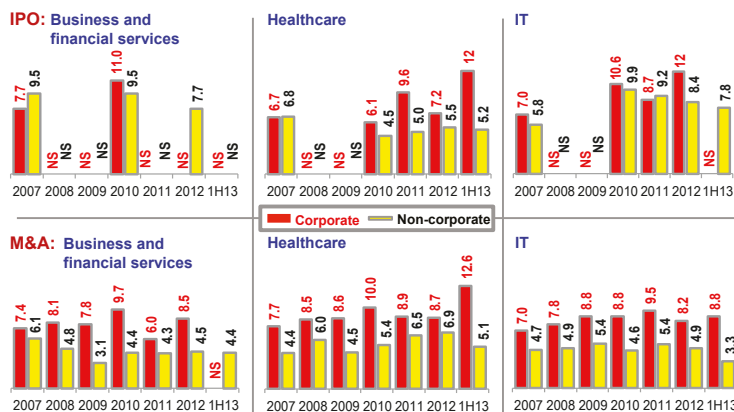
US exit valuations by sector: There are a number of misconceptions in IPO and M&A valuations, particularly if corporate investors are involved. In reality, there is no ground rule for IPOs and M&A exits when comparing companies with and without corporate investors. In both exit channels, it depends on the industry sector. US exits over the past six years illustrate this well. In the case of healthcare, IPO exits that include a corporate venturer are typically higher rated than when they involve independent venture capitalists only, while it is almost always the opposite when looking at M&A. However, when comparing IPO and M&A exits in IT, valuation patterns are the reverse of healthcare exit valuations – corporate-backed deals show higher valuations at M&A.

Global: median time to exit via IPO and M&A 2007-13: in number of years from 1st venture investment



Time to exit after first institutional venture investment: Time to exit from initial institutional venture investment is relevant, since it has a significant impact on the returns for investors. Since investment patterns in the US and Europe are similar, the time to exit by IPO and M&A is comparable. However, China and India are different in nature, because 60% to 95% of the investments are made in revenue generating pre-profit companies or profitable companies. As a result, the time to exit will be significantly lower than in more mature markets.

US: median time to liquidity via IPO and M&A with and without corporate investors in number of years



US time to exit by industry: In order to understand in more detail the impact on different industry sector exits, this graph shows the top three sectors broken down by corporate and non-corporate venture investors in the US. The pattern becomes clear that having a corporate involved leads in almost all cases to a longer time to liquidity, specifically when looking at acquisitions. Independent venturers are more interested in faster financial returns, while corporates are willing to spend more time on technologies and solutions. This is reflected also in exit valuations, where corporate-backed companies will yield a significantly higher return compared with purely venture capital-backed companies. The only exception is in healthcare, where corporates tend to prefer IPOs as an exit route for higher valuations.

Source: Martin Haemmig with E&Y VC Insights Team. Data: VentureSource/DowJones (Q3 2013)



Global Corporate Venturing
Leadership Society



GCV Leadership Society and ICVCA missions:

The GCV Leadership Society is for corporate venturing leaders and aims to be the pre-eminent provider of data, information, events and other services for the global corporate venturing community. The Society helps develop the corporate venturing leaders of the future.

A separate CVC trade body, the International Corporate Venture Capital Association, chaired and majority governed by practicing corporate venturers, has also been created to help the industry communicate its work to third parties, such as entrepreneurs, VCs, corporate management and through regional trade bodies and local networks that provide government lobbying.

	ICVCA (Organisation/ Individual) \$499 per year	Premium* (Company) \$12,500 per year	Luminary (Company) \$50,000 for 2 years
Right to join and use the 'ICVCA' Name	✓	✓	✓
Get the Weekly Community Newsletter	✓	✓	✓
Entry in the Member App	✓	✓	✓
Pro Bono - Bridging communications to third parties	✓	✓	✓
Enhanced Company Profile in the Directory app		✓	✓
Free Ticket to either the annual Summit or Symposium		TWO	THREE
Executive Advisory Role - act as GCV Leadership Society Ambassador for a three-year period			✓
GCV Subscription** for up to 2 users for 12 months - access to the monthly magazine (pdf), news website and special reports	10% Discount	FREE	FREE
GCV Analytics for 1 user for 12 months (add an extra user for \$5,000 more) - access 8,000+ deals through GCV Analytics for bespoke reports	10% Discount	FREE	FREE
Branding on Leadership Society materials as Luminary members			✓
NDA Club			✓

*GCV Subscribers can upgrade for a limited time. Subscription fee already paid will be subtracted from the amount due on a pro-rated basis.
 **Includes access to Global Government Venturing and Global University Venturing.



Moving **BEYOND INVESTMENT**



Andrew Gaule,
leader of GCV Academy and CEO of Aimava

If you are reading this article then I would expect you and maybe your organisation have recognised that you need to innovate and change. You may have already invested in a fund, set up a corporate venturing fund, conducted direct investment, launched an incubator or are involved in other forms of open innovation. However, these processes may not be joined up and aligned to a strategic purpose. They are unlikely to connect technology, startups and the corporate in new business models that will truly move your organisation to what I term “innovative new value chains”¹.

Organisations with effective corporate venturing units that have survived beyond a three-year lifespan are now considering the next phase of venturing. In my view, there is now sufficient technology at a good level of maturity to deploy, there are plenty of startups and too many incubators and accelerators. The key challenge is how corporates can orchestrate connecting the technologies and startups and navigate the corporate to a position where they can add and capture value.

A generic perspective of an innovative value chain is a device, often called the internet of things (IoT), which is related to a product or service – for example taking large data (cloud) which can be used to drive intelligent solutions (artificial intelligence or AI) and be paid for in new ways (peer-to-peer, insurance, incremental pricing, advertising). This also results in a key factor of having a new and closer relationship to the consumer.

To bring this to life I will use an example in health and wellness. Aimava has been working with car maker McLaren as well as consumer, health utility, media and other businesses to develop innovative new value chains. At the state-of-the-art McLaren factory we looked at the current approach to testing pregnant women for gestational diabetes. Currently pregnant women have to fast the night before coming to the clinic to have a diabetes blood test, then they are required to have a glucose drink, then after two hours they have another diabetes test.

¹ “Innovative new value chains” is a trademark of Aimava Ltd



Andrew Gaule at McLaren

The uptake of this procedure is less than 25% when all women should be tested for diabetes during pregnancy. Diabetes is a big issue that many startups and incubators are trying to address.

We brought along a very interesting venture, Telemed, which has developed an innovative and proven test that can be used on a one-off basis by users. The technology transfers the data results remotely and provides results to clinicians. However, this solution requires an innovative new value chain, as selling it to clinicians, labs and users does not fit the current approach as a point solution. It requires the device to be delivered to the woman, with clear instructions for use, secure data capture, analysis, flow of information and outcome.

The engagement with the consumer, the pregnant woman, is then not just a positive or a negative result but a wider and more effective support. With more information and better engagement, care for the woman and child, diet, exercise, treatment – such as for temporary diabetes during pregnancy – or treatment can be provided.

This is a different approach from the current business models, where pharmaceutical businesses are really looking only for sick people with diabetes, clinics cannot manage with all the extra tests, pharmacies just want to “dispense tablets or sell beauty products”, payers in state-funded systems such as the UK’s National Health Service caring for sick people, or insurance payments to solve a problem all not really caring. The challenge for the corporate participants we had in our program was how they address the opportunity for adding and capturing value.

We are seeing these innovative new value chain opportunities in many sectors that are changing – industrial solutions, automotive, agriculture, consumer, utility, finance, insurance and media to name just a few.

Examples from different sector where illustrated on the panel CV3.0: Innovative New Value Chains, at the GCV Symposium in May and available on YouTube – <https://www.youtube.com/watch?v=BCoqqdrYe2s>.

Jonathan Tudor of BP Castrol InnoVentures spoke at the GCV Academy about how they looked at stitching their investments and collaborations together to create new propositions. They are looking at solving customer problems which are related to the change to connected vehicles when these ventures and investments are coming together.

Tudor describes how Castrol have invested in Repair Pal, a service identifying trusted garages, and how this is connected to investments made in Zubie, a data gathering and aggregation business. There are also collaborations across garage workshop planning and customer calendar systems to provide quality services at lower cost using information from across this chain. These can then be developed and tested across new geographies where the brand is strong and they are meeting new customer needs. They are looking to test and build new propositions that are not the normal business model for the corporate.

Phil Giesler of British American Tobacco on the GCV Symposium panel also described new opportunities and challenges moving from traditional tobacco to the new models in next-generation products. These new products required new devices, flavours, new ways of interacting with the customer and high levels of innovation. This is a challenge for an industry that has been stable for more than 100 years of mass-producing these consumer-products.

Sarah Fisher of Johnson & Johnson has described how their

Innovative New Value Chain®



health business is now addressing issues similar to those at McLaren. The traditional pharmaceutical business is looking to shift from the health and sickness business model based on tablets or devices and needs to consider data and services.

Bill Taranto of Merck Global Health Innovation spoke at the GCV Academy in New York about the ecosystem that Merck considers when it is working on particular themes. Taranto described the approach of not just doing ad hoc investments but considering ecosystems and areas that are outside the core and more traditional Merck business.

He illustrated a heart monitoring ecosystem where they brought together the monitor, data, care after surgery and the key coordination. The opportunity was then to create a new venture with multiple startups and a new entity using a private equity mechanism. Now Merck is the largest shareholder in the new business but not the majority shareholder. In this case, Taranto said the Merck Global Innovation fund achieved a significant financial return and created a strategically important business in which Merck has an interest.

So we can see that technology, data and relationships with customers are changing in many industries. It has been clear as we construct the innovative new value chains for corporates that they see the challenge. In one corporate, when we showed the six stages in the innovative new value chain, the strategy director said her organisation had capabilities in only two of the six, and the new materials, devices, connected data and social media would be radically different for the business.

The approaches taken by Merck, Castrol and other leading corporate venturers, and the innovative new value chain approach, are now seen by many of the veteran corporate venture units as an effective way of building corporate venturing to become more strategic.

I believe corporate venturing units can now create significant financial returns and build strategic businesses at a fraction of the cost as some corporates have done, for example Google, which acquired Nest for \$3.2bn, or Unilever, which purchased Dollar Shaving Company for \$1bn.

We now have the opportunity for corporate venturing to be truly strategic and financially significant.

Corporate innovation **PARTNERING** – the unknown **FRONTIER**



Toby Lewis,

contributing editor, Global Corporate Venturing,
and chief executive, Novum Insights

All corporate relationships with startups are driven by the possibility of a stronger commercial link between large businesses and smaller innovative companies. We live in a world where innovative young companies such as Airbnb, Uber, Facebook and many more have upended all number of traditional businesses by exploiting technological and business model innovation. Given such disruption, any large corporation not dedicating resources to monitoring trends in Silicon Valley and innovation globally is frankly being irresponsible.

The reason many large corporates are doing venturing is to strengthen commercial relationships. The strongly held belief of all those advocating for corporate venturing is that a corporate with a dedicated team investing in innovative

companies will create a better understanding of innovation generally. When done well, those businesses that have a sophisticated corporate venturing effort will undoubtedly have an edge over their rivals.

Yet anyone who has spent time with executives, both those doing corporate venturing and entrepreneurs with a corporate investor, will know that such a partnership is complex. The battle all will talk about at length is that once an investment is made, the real difficulty is ensuring the commercial and strategic relationship that makes sense for both parties.

Such a relationship is of real value. A close friend who ran corporate venturing at a large chip maker said internal studies showed that simply issuing a press release saying the corporation had partnered a startup added \$500,000 to the market capitalisation of that business overnight. Yet making such relationships work in practice for corporations and startups is notoriously difficult.

Everyone in corporate venturing and corporate innovation can talk at length about the difficulties they have had brokering relationships between great high-growth companies and business units in an effective way. The general recognition is that corporate innovation partnering offers a huge prize for large corporations and high-growth businesses alike, yet the promise often remains only that – a promise of huge success. In fact, many executives privately will talk about how such relationships with huge promise have become both a bane for a startup company and an embarrassment or a distraction for a large corporation.

Writing as one of the original team on Global Corporate Venturing, one of the nagging pains felt by its fascinating audience of corporate venturing executives and the staff of GCV was that a deeper understanding was needed of what corporate innovation partnerships were being formed, and the best practices to do so well. To date, the majority of data

provision concerning startups focuses on investment, but the commercial progress of startups is equally important.

For this reason, we set up Novum Insights to complement the great news and data GCV has been tracking on corporate investments into startups, by also tracking corporate relationships with startups, and the best practices for doing so. We will be doing this in partnership with Global Corporate Venturing, and to this end GCV founder James Mawson has joined our advisory board, having spent many years working with me personally as the founder of Novum Insights.

Corporate innovation partnering offers a huge prize for large corporations and high-growth businesses alike, yet the promise often remains only that – a promise

We are looking forward to developing data on the commercial relationships being secured by large corporations and startups. There are huge numbers of such partnerships being formed, and we believe actionable and meaningful data can be gathered about this.

We are initially drilling down into the exciting sectors of fintech, cybersecurity and the cloud, to be able to provide sector-specific insights through special reports, and it is our intention to use the data we gather for these reports to seed a data platform. We are sharing some of our early findings with Global Corporate Venturing's audience in

Sonoma at the Global Corporate Venturing & Innovation Summit in January.

We are confident that more information on how commercial partnerships are developed between corporates and startups will invigorate the startup world and those working in corporate innovation, and also enhance corporate venturing. We suspect strong strategic relationships between corporates and startups will only become easier to secure once there is more information available on current trends.

Corporate venturing units **LEADING MONEYBALL** investments



Thomas Thurston,
managing director, WR Hambrecht Ventures

Maths is the language of financial risk management. Top investors on Wall Street hire “quants” (quantitative analysts), who busily quantify and manage risk for investment portfolios. Insurance companies have armies of actuaries. Yet somehow traditional VCs have been sceptical or even hostile to the idea that maths has a place in venture capital. As a result, GCV groups, not independent VCs, have taken the lead in “Moneyball” venture capital investing.

Moneyball is a book by Michael Lewis – and a movie starring Brad Pitt – about how the Oakland Athletics baseball team began using statistics and econometrics to recruit players in 2002. By discovering counter-intuitive insights in data, Oakland built a highly competitive team despite its tiny budget. The word Moneyball has since become a catchphrase for the innovative use of statistics to improve performance in historically non-quantitative domains. In venture capital, Moneyball techniques include using statistics and analytics to find deals, screen them and to manage holistic portfolios.

Like baseball, venture capital has historically been more art than science. Investment decisions are informed by data, but are ultimately decided by gut feeling. While there is a role for art and intuition in venture capital, it is not a purely artistic realm like dance or painting. It is an asset allocation and risk management discipline. As such, it should be more of a surprise that statistics are not widely used in venture capital, rather than the opposite.

Despite the obvious complements between venture capital and statistical risk management, traditional VCs have been hesitant to bring the disciplines together. Anxieties range from fears that algorithms will not work – which could hurt VC performance – to fears that algorithms actually will work – which could threaten to disrupt VCs themselves. If you have raised a \$500m fund on the belief that your personal

intuition is worth it, you are in no hurry to be upstaged by an algorithm.

Meanwhile, CVC units have been quicker to embrace, and benefit from, Moneyball approaches to venture capital. CapitalG, Alphabet’s growth-stage investment fund formerly known as Google Capital, and GV, Alphabet’s early-stage corporate venturing arm previously called Google Ventures, are poster-children for this movement. Armed to the teeth with data, technology and data scientists, Google has been an outspoken advocate of Moneyball venture capital, with impressive results.

To quote Bill Maris, founder of GV: “We have access to the world’s largest data sets you can imagine. Our cloud computer infrastructure is the biggest ever. It would be foolish to just go out and make investments.”

Intel has also been a pioneer in Moneyball VC. A decade ago, Intel collaborated with Harvard University and Clayton Christensen to mine a trove of investment data for predictive variables and insights. The resulting quant models were adopted by Intel, and also laid the groundwork for one of the first private quant VC funds, WR Hambrecht Ventures. Led by Bill Hambrecht, one of the most successful VCs in the history of Silicon Valley, WR Hambrecht Ventures uses statistics and algorithms to screen early-stage deals and has become one of the top performing funds in the US.

While there is a role for art and intuition in venture capital, it is not a purely artistic realm like dance or painting

Other CVC divisions using quant to screen and manage their venture portfolios include a few dozen of the world's largest healthcare, material science and technology companies. While Moneyball-style tools have guided hundreds of millions in private VC dollars, CVC and corporate use has been far greater, guiding more than an estimated \$100bn since 2006.

There are competing theories as to why CVC groups have been faster to adopt Moneyball practices than traditional VCs. Some argue CVC executives can have greater flexibility to explore tools for performance improvement since corporate capital comes directly from a parent company. Moreover, corporate venturing executives often have more resources, being able to learn from and leverage assets of their vast parent companies.

In contrast, private VCs become wedded to whatever promises they make investors the year a fund is closed, and

therefore have less wiggle-room to change how they invest or to explore new tools during the life of that fund. Private VCs can also tend to have smaller, leaner organisations without much spare time or money to explore new ways of doing things.

Whatever the reasons, CVC subsidiaries are leading Moneyball investments. While a handful of private quant VC firms exist, and giant firms like Kleiner Perkins Caufield & Byers and Sequoia Capital are rumoured to be developing more analytics-based tools, corporate venture capital groups are outshining their private counterparts.

As success in venture capital increasingly relies on one's ability to quantify risk, manage it, and to see what others do not, CVC has taken a lead that it appears to have no intention of handing back.



DataTribe: a startup **CRUCIBLE**



Bob Ackerman,
founder and managing director, Allegis Capital

DataTribe is a startup crucible that brings teams and technology forged in government research labs into the commercial sector. Our focus is on identifying promising opportunities and working with founding teams to co-build companies that address critical unmet commercial business needs.

The challenges of this crucible model are somewhat different from those of more traditional venture firms and incubators. Instead of seeking out top-notch companies, DataTribe nurtures a ready supply of company components – technical talent, strong managers and market insight. DataTribe's unique strategy provides us with access to special sources of each.

Special technologies and teams

The main DataTribe office nestles in a burgeoning Maryland suburb halfway between Washington and Baltimore. We chose the location deliberately. DC is no longer the sleepy government enclave it once was. Last year, the US federal budget included \$146bn for research, a significant portion of it in technology, and the federal government is by far the largest employer of cybersecurity and big data experts in the country. Most of them are based within the DC metro area.

DataTribe is a short drive from a dozen federal government and intelligence community research installations, including the National Security Agency headquarters, the Naval Research Lab, the Defence Advanced Research Projects Agency, Intelligence Advanced Research Projects Activity and many others.

Their offices are brimming with world-class engineers and scientists, driven by a mission larger than themselves – the vision of a safer world. These scientists and engineers have been working quietly in secure labs, solving global problems of unfathomable complexity that are often unknown in the commercial world.

This pool of engineering, maths and security talent gives DataTribe first, and often exclusive, access to astounding technology. When commercial solutions for national security challenges do not exist, they must be built from scratch

by government engineers. This is where we like to start – with technologies already proven by full-scale operational deployments, following many millions of dollars of R&D.

DataTribe is custom-built specifically to accelerate the commercialisation of these innovations, and to advance the brilliant people behind them. Our method is to bring extensive commercial startup experience directly to our founding technical teams. We are using the term “crucible” to describe DataTribe because we forge together unique access, decades of startup experience and singular talent.

Support and business savvy

Of course, great technology frequently yields an opportunity to create a great business. To seize that opportunity, we have filled out the DataTribe team with experienced former entrepreneurs and startup operators. Every member of the team has experience as a founder or an early employee in multiple enterprise-focused startup companies. We understand the intense focus and dedication that company building requires.

We spend a great deal of time working with prospective founders before investing, vetting their working style and understanding whether they have the flexibility and tenacity to fight through the challenges of the commercial market. Deals can move a bit slower here than in other places, and we take advantage of the local tempo. In our diligence process we undertake research much as other firms do, and we engage with our corporate partners and industry contacts to test value propositions and use cases well in advance of investing. We hold weekend brainstorming sessions to think creatively about how to serve enterprise needs, and to identify latent unarticulated issues. We view this as a critical activity, and we spend lots of time getting it right.



DataTribe was founded by, from left, Mike Janke, Bob Ackerman and Steven Witt. Mike is a founder of Silent Circle and a former Navy Seal. Bob was the founder of Allegis Capital and a former startup founder himself. Steven founded Onyara, sold to Hortonworks, and has worked deeply in the US intelligence community.

After we have made an investment the real work begins. DataTribe's mandate is to invest in only three to four companies each year. By limiting ourselves to a small number of opportunities we can dedicate most of our time to helping our portfolio companies, which spend about a year in our offices rent free.

Aside from managing dealflow, this is our primary activity and we take it very seriously. We coach founders on customer development and may attend early customer interviews with the founders. We provide hands-on assistance with product development and lean design techniques. We help them with everything from recruiting to accounting and basic legal questions. Our work is geared toward helping them

build companies with great products, responsive to customer needs, ready for a clean well-oiled A round.

A portion of the thesis underlying DataTribe's strategy is that product management is one of the missing skills in the DC startup scene. It is worth highlighting the care that we put into getting this nailed. There are excellent product managers here, certainly, but they are few and very hard to shake loose. To really stack the deck in our favour, we have added Ambika Gadre, the legendary product management leader to the team. Ambika works extensively with our portfolio, and with their product managers to ensure that the primacy of this function is instilled in the companies from the very beginning.

Corporate partners continue to be involved as the companies grow, getting an early look at their offerings and even becoming early customers where there is a natural fit between

the product and partners' needs. Our corporate partners have already been an invaluable source of market intelligence, product insight and fresh perspectives.

A bright future

Despite being a new entrant to the venture market and the DC area, we are already overwhelmed by the response. Engineers and researchers with impressive skills and technologies now regularly approach us, and among them we are finding more promising opportunities than we can handle. We are looking forward to a bright future, growing a startup community with a mission.



