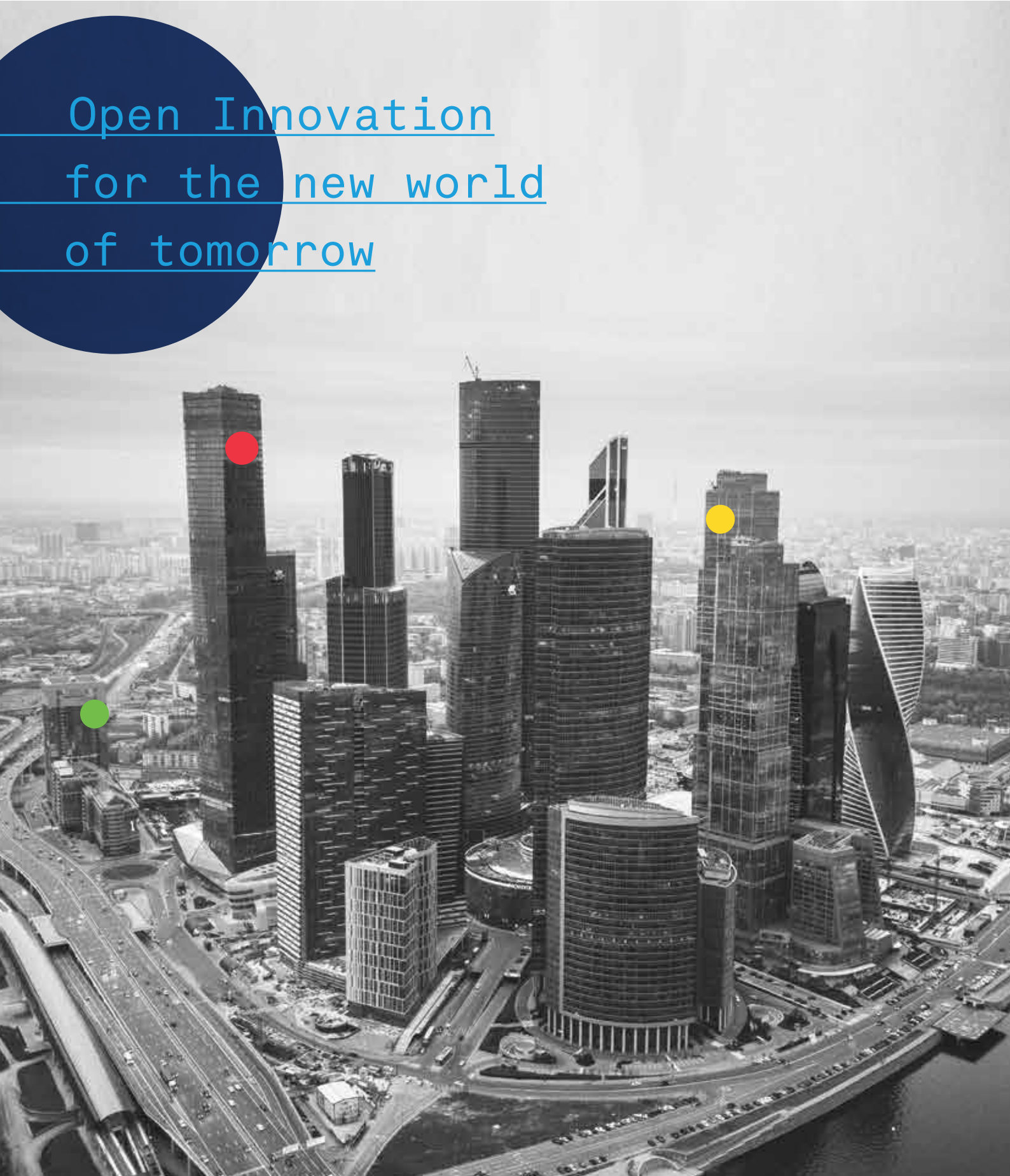# Open Innovation for the new world of tomorrow

Foreword

The potential for new technologies like Artificial Intelligence, Blockchain, IoT, Wearables, Microservices to disrupt industries and business models is real today. These technologies are helping deliver richer experiences for customers as well as employees. As organizations explore ways to meet increasing user demands, they face significant development cycles and large investments in talent re-skilling and expertise building.

Increasingly, collaboration is now a must-have business strategy. Even traditional firms are opening their doors to allow for a two-way flow of creativity and solutioning with the external world. It is being used to extend the depth and speed of internal R&D, enhance development capabilities, access Intellectual Property, build unique differentiators and craft new narratives in business design.

One study revealed that 91% of managers believe that Open Innovation is critical to meet long-term objectives of their organization. The study also forecasted that relative spending on collaboration networks would increase 50% by 2025[i]. From luxury brands to airlines, heavy engineering firms to global consumer electronics companies, businesses across industries are looking to leverage Open Innovation.

This paper is an attempt to identify how Open Innovation can deliver business impact at scale. It examines the most relevant developments related to external investments around collaboration, newer business models, crowdsourcing, and their expected outcomes and pitfalls. The resultant strategies can be used by modern businesses to shape their Open Innovation initiatives.

We have distilled Wipro's extensive experience of leveraging Open Innovation programs into this paper, and also tapped into insights from start-ups, global practitioners, accelerators and consultants who have been closely associated with setting up, implementing, practicing and leveraging Open Innovation programs across industries. This Point of View paper provides insights into the fundamental building blocks for a winning, sustainable and scalable Open Innovation strategy that industries need to develop quickly.

I hope you will find the paper useful.

Rishad Premji,
Chief Strategy Officer & Member of the Board,
Wipro Limited; Chairman, NASSCOM

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1 Introduction

The benefits of working with large business ecosystems have been around for the last six decades. However, the term 'Open Innovation' was formalized only in 2003 by Henry Chesbrough, Professor at the University of California, Berkeley, in his book *Open Innovation: The New Imperative for Creating and Profiting from Technology.*[ii] The most recent (and preferred) definition of Open Innovation was provided in 2006 by Chesbrough, Wim Vanhaverbeke and Joel West in their book *Open Innovation: Researching a New Paradigm,* which states that "Open innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. This paradigm assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology."

Open Innovation has been widely adopted in organizations across the world. It has proven its efficacy in the US and especially in Europe. Many instances of it being used effectively by organizations such as P&G, Lego, Samsung, GE, Tata Group, Marico, Philips and BlaBlaCar have been published and commented on extensively. But there are scores of organizations that are yet to embrace Open Innovation or are unable to extract value from it.

In this paper, we scrutinize the more recent factors that are shaping Open Innovation globally. This includes exploring questions around the various forms of Open Innovation, enabling structures, executive sponsorship, realization models, management challenges, the role of patents and program evaluation metrics – with special emphasis on startups and the associated ecosystem. The answers shine some light on the course of Open Innovation over the next few years.

To access the digital copy of this paper, visit **bit.ly/OI_POV2018**

2.1 Choices: Modes of Open Innovation and models

Open Innovation involves sharing knowledge and resources across organizational borders, with a variety of partners during one part or through the complete development process

Key players in an Open Innovation ecosystem
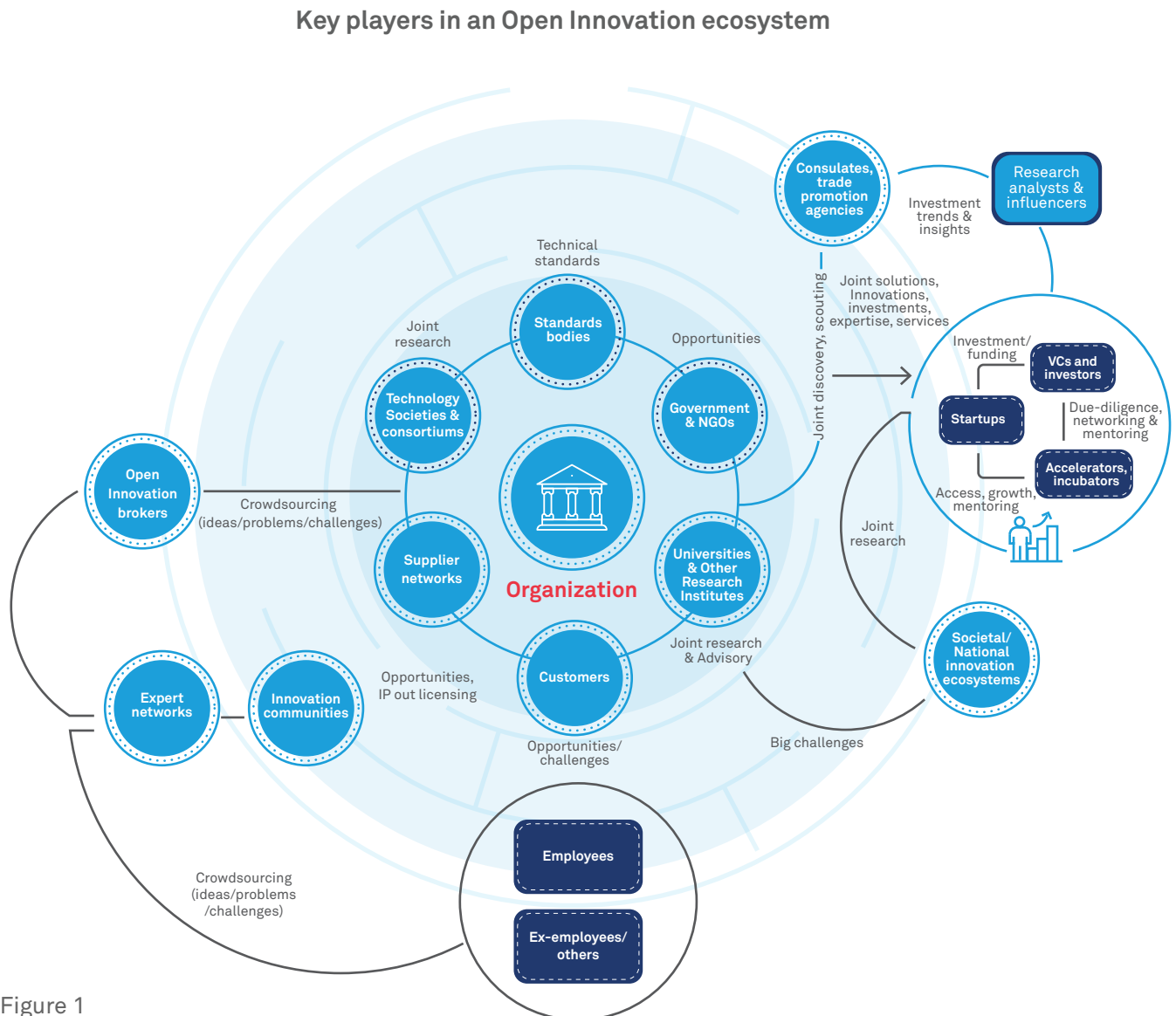
Figure 1

Open Innovation is an effective way to remain competitive in an environment where new technologies and processes are increasing business complexity. Its success is rooted in orchestrating multi-modal collaboration between various entities and systems (see Fig 2) to create a sum that is greater than the parts of the collaborators. When put into practice, this allows organizations to quickly access ideas, skills, technologies and assets. These skills and assets may not necessarily be available internally to improve products and services or shorten development time for new ones.

Joint Research **Corporate Venturing**

Crowdsourcing Joint GTM

Corporate Accelerators

Joint Solution and IP building

Open Source Grand Challenges

Co Creation **Intrapreneur programs/ Spinoffs**

IP Licensing and Out licensing

Figure 2

2.2 State of Open Innovation: Backing it up with numbers

A 2013 executive survey "Managing Open Innovation in Large Firms" found that 78% of firms reported practicing Open Innovation. The survey included American and European organizations with annual sales in excess of US$ 250 million. The study showed that large firms were spending US$ 2 million annually on Open Innovation and had 20 employees full time to run such programs[iii].

2.3 Strategy: Questions and concerns

While there are numerous success stories around Open Innovation, it is often pointed out that the strategy has also attracted criticism over its inability to create impact at scale. This is one reason why consistent executive sponsorship for Open Innovation projects has not been easy to find. Another set of questions about Open Innovation arises around the notion that innovation is best kept within the organization;

that the risk of exposing Intellectual Property (IP) is far too significant; that fresh IP created from partnerships will run into legal complications; and the organizations need to bet on high levels of investments/resources while the benefits are not commensurate with the efforts.

Studies have shown that the reasons for this are not that Open Innovation is a non-workable construct but that cultural (the 'Not Invented Here' mindset, lack of incentives for strong collaborations) and structural (too many involved entities, lack of enabling processes) issues have major roles to play. Organizations demand results at speed, but often they are unable to sort out ownership and credit attribution issues, incentives are misaligned, facilities fall short of requirements and the measures of success are not rationally applied (this paper will deal with several of these issues in Section 3). The collective effect of this is to lower the effectiveness and performance of Open Innovation initiatives.

Startups: A new class of service providers adding velocity

100 Open Startups is the world's largest structured corporate-startups engagement program. It was started by UC Berkeley and Intel, with sponsorships from more than 60 leading organizations from many industries, such as Johnson&Johnson, Microsoft, Dow, 3M, Accenture, Whirlpool, Roche, HP, Bosch, Panasonic, Novozymes and Furukawa. The program now engages with 600 businesses and signed 1000 contracts in 2016-17 of which 76% were related to 'startups supplier development'.

"That means that startups are being seen as a new class of service providers adding velocity, flexibility and innovation to the value chain. This is the emergence of a new trend for operational/process innovation. That's a huge contrast with 80% of the large companies saying that they are engaging with startups for strategic innovation focused on their core business. These corporations are the protagonists driving a new method of building sustainable innovation ecosystems worldwide instead of the investors led approach through our movement." – **Dr Bruno Rondani**, *CEO and Founder, 100 Open Startups*

2.4 The benefit models: What's not to love?

Open Innovation allows for different kinds of benefits to accrue to different parts of the organization (see Figure 3).

A large organization that has systemic connects with the Open Innovation ecosystem may achieve significant differentiation because of the ability to partner with the right startups and research institutes. These organizations could access niche talent and technologies or gain the agility to rapidly leverage trending but difficult-to-master and difficult-to-apply technologies. They could expand their knowledge base with external ideas. Their customers or organizations would get better products and services at lower overall costs and risk. Startups would gain from access to investments, markets (customers), experience, mentoring, and domain expertise. Research institutions would benefit from the fact that they get to work on real-life problems with actual on-the-ground data where possible.

Everyone gets to collaborate and create joint IP. What's not to like about Open Innovation!
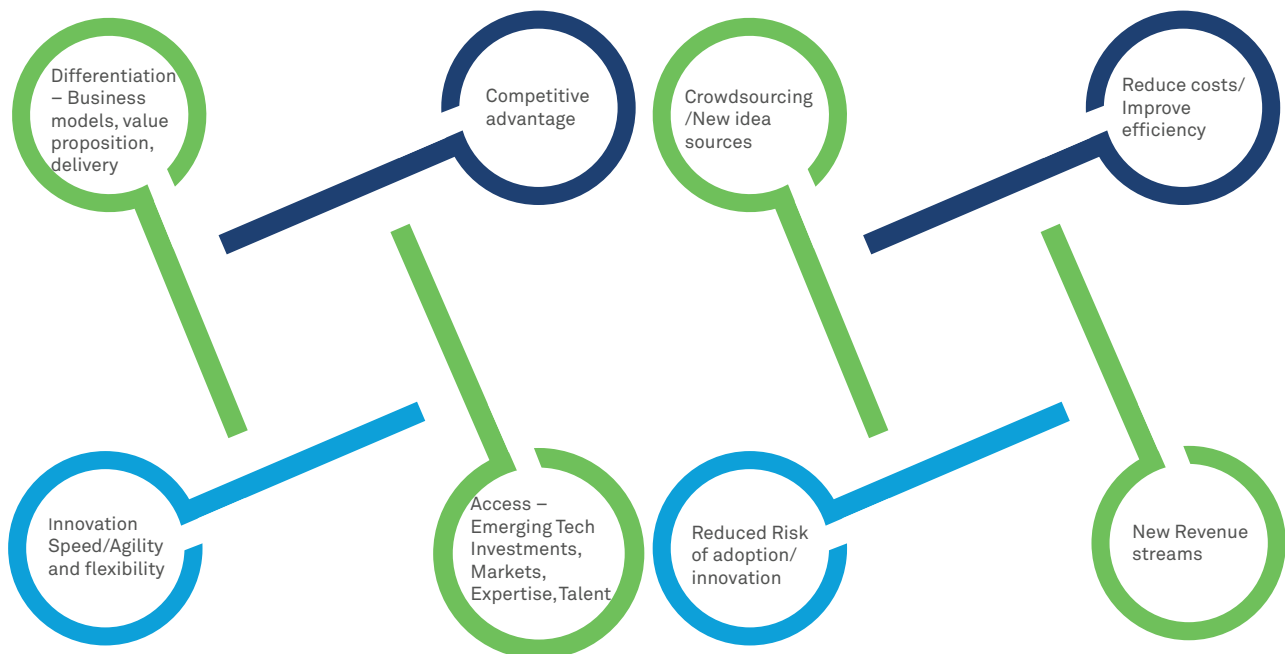
Open Innovation Benefits

Figure 3

Speaking from experience

A startup grows a project pipeline within Wipro. Evolven's solution, that deploys Machine Learning to detect, prioritize and address actual changes affecting stability and performance of IT environments, fits well with Wipro's infrastructure management solution sets. Wipro saw a pipeline of accounts for solution integration and is confident of realizing improved time-to-market and reduced project overruns with the Evolven partnership.

"Wipro's Open Innovation team plays a critical role in defining the vision for this relationship, developing a clear strategy for its implementation across Wipro and pushing its execution." - **Sasha Gilenson**, *Founder and CEO, Evolven Software Inc.*

The examples below demonstrate the breadth and depth of Open Innovation that Wipro leverages:

Solving random ATM transaction failures. Wipro integrated the anomaly detection and correlation solution from Vunet, an Indian startup, with its own expertise used to isolate the problem of random ATM transaction failures and provide remedial action for a leading Indian private sector bank. The entire solution was ready in just eight weeks.

"Wipro's Open Innovation team helped penetrate multiple groups within Wipro and the client. The team was a catalyst in identifying connects and providing us with exposure and mentoring. We have now signed-up multiple customers of Wipro, spanning several verticals and continents, and have been elevated to Gold Partner status."
- **Ashwin Ramachandran**, *Co-founder and CEO, Vunet*

Partnering Microsoft Accelerator to drive Open Innovation jointly. A partnership with Microsoft Accelerator provides Wipro's Open Innovation program with priority access to relevant Microsoft portfolio startups, solution integration and internal capability building.

"Wipro has mentored many startups in our cohort, helped raise funding, embedded them in their solutions, helped them go to market and win deals." - **Bala Girisaballa**, *Managing Director, Microsoft Accelerator India*

> With ever increasing computing power and exponential technologies like artificial intelligence, new technologies evolve every few months instead of years. Wipro is known for its ability to spot trends ahead of the curve and closely engaging with the ecosystem is an important element of Wipro's innovation playbook. Startups are indeed the beating heart of Wipro's strategy and we have built strong connects in the global startup ecosystem, over the last three years
> - **KR Sanjiv**, *Chief Technology Officer, Wipro Limited*

Read more about Wipro's Open Innovation initiatives:

- Wipro's Open Innovation program: www.wipro.com/innovation/open-innovation/
- Wipro's crowdsourcing platform: www.topcoder.com/
- Wipro Ventures: www.wipro.com/ventures/

2.5 Platforms: Making Open Innovation easy

Over the last decade, the Open Innovation practice has matured. A number of tools have appeared to support it (see Figure 4). These tools are designed to ease and enable the process of sourcing and evaluating ideas at the fuzzy front end of the innovation funnel. They then help in program implementation and management. There are crowdsourcing platforms – Wipro TopCoder being one of the leaders in this category – that enable organizations to get the best work from an innovation community. There are scouting platforms and Open Innovation brokers who connect companies with talent. Sandboxes and labs for experimentation provide employees and stakeholders with better ways to explore Open Innovation opportunities. And there are process templates and collaboration platforms with access to experts that steady the Open Innovation ship.

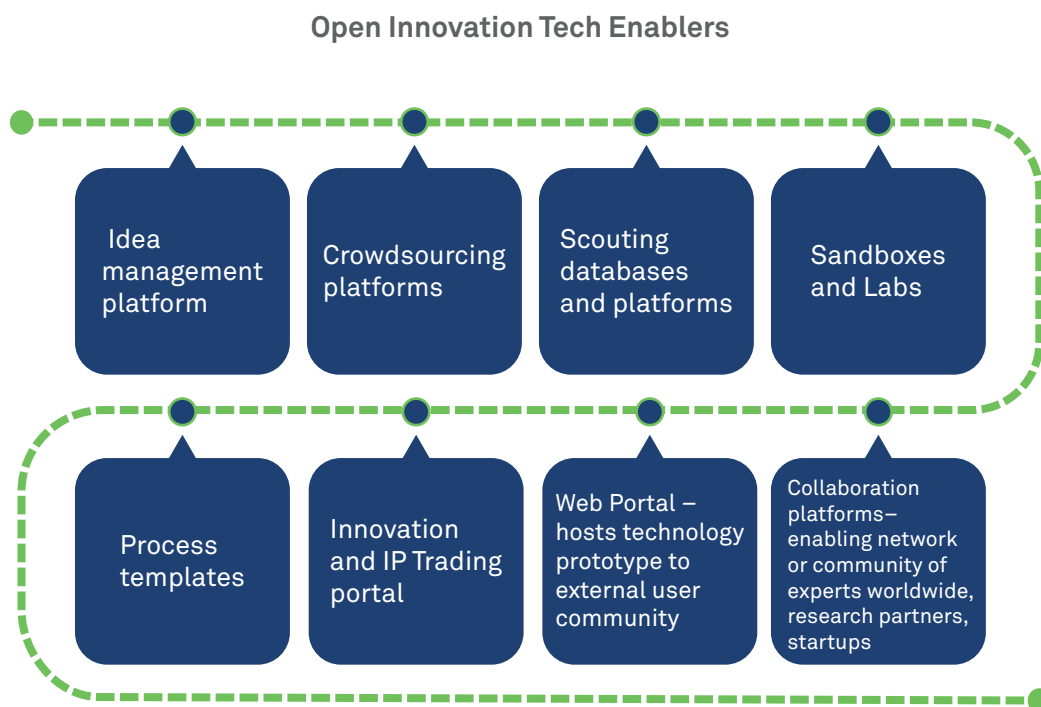## Open Innovation Tech Enablers

Figure 4

Successful Open Innovation programs have been known to depend on such tools. Induct, an Open Innovation service provider, has developed such a platform that creates sectorial hubs to capture ideas. The platform helps users to create, manage, track and measure innovation processes from start to implementation and covers impact reporting.

With the flavor of a social network, the Induct platform makes it easy for users to get started. For example, in the pharma industry, the platform is being used to capture and build ideas in diverse areas such as the fight against skin problems and to address rheumatism. The communities that contribute to the ideas are equally diverse, ranging from employees in Iberia to health professionals in the UK. According to Karl Kristian Mydske, *COO, Induct*, "In addition to providing a methodology for innovation, the platform networks communities. This means innovation, knowledge and experience can be shared across organizations and industries. Induct now connects over half the hospitals in Norway in an ecosystem which enables implemented innovations and best practices to be shared, dramatically increasing access to proven improvements, better quality and reduced cost."

Similar tech platforms are becoming popular, allowing organizations to design, shape and measure their programs with greater ease and demonstrate ROI to stakeholders.

3 Tipping the scales: Putting open innovation into practice today

Over the last decade, there have been tectonic shifts in the technology landscape. These are lowering barriers to competition and changing underlying business philosophies. Markets and consumers are also changing fast – much too fast for incumbents to keep pace and churn out new solutions. Organizations have legacy investments that weigh them down, they are unable to find the right talent or retain, their processes are designed to keep things inside, and organizational structures and cultures cannot be changed overnight. The sum total is the inability to make dramatic changes within the organization. These organizations are at risk. They are being forced to look for new solutions before they sink – and Open Innovation is one such lifeline.

"Open Innovation is becoming part of large organizations because it is a relatively painless way of introducing change to people, technologies and processes in an organization," explains **George Niece**, *Digital Transformation Stream Lead at Web Age Solutions* who has worked with Fortune 200 organizations over the last 10 years.

"The incremental model is not adequate," says **Bala Girisaballa**, *Managing Director, Microsoft Accelerator India*. "Open innovation lets organizations move from anticipation to participation." They want to participate in the change and it drives them to go out and buy companies and make investments in startups and accelerators, rope in academia and work with consortiums and industry bodies. "Open Innovation sits in between organic and inorganic growth. It is a new muscle that organizations need to develop," observes Girisaballa who has seen 100+ accelerators come up in India over the last few years, with over half of them backed by large businesses in an attempt to create a pipeline of innovation.

Organizations are waking up to the need to develop those new muscles and combat emerging risks. Fintech is a visibly larger adopter of Open Innovation and the industry is investing heavily in research and startups. The other industries that are prominently leading the way are healthcare, retail/consumer, education and manufacturing. Interestingly, the experience of these industries is throwing up

Developing IP is an important aspect of turning assets into revenue. But today, the customer doesn't want to own assets; their larger interest is in outcomes.

fresh pitfalls and questions around executing successful programs. Notably, they are also coming up with new upsides and answers.

NIPP: Igniting industry-wide Open Innovation

NASSCOM Industry Partnership Program (NIPP) is an initiative by NASSCOM 10,000 Startups, conceptualised in 2015 as a platform to foster sustained engagement between large corporates and innovative technology ventures.

Established as India's largest industry-backed corporate innovation program, it is designed to support capacity creation for tech disruption. The industry agnostic program facilitates scouting of enterprise-grade product tech startups based on specific use cases via pitch sessions, demo days, global delegations, enterprise connects, co-creating solutions as well as the collective development of the Open Innovation eco-system.

NIPP has over 30 large corporates as partners. It scouts for start-ups catering to more than 40 use-cases a month and connects more than 150 startups with enterprises on a monthly basis. These use cases help startups understand the opportunities around large companies, build a pipeline of solutions using emerging technologies and take them back to the companies.

NIPP also plays a crucial role in showcasing the thought leadership of partner organizations and sharing their domain expertise with startups. Roundtables on Open Innovation and collaboration add to the exchange of ideas among leaders and graduates, cross-pollinating opportunities across sectors.

NIPP is now gearing up to create domain-focused multi-player super-accelerators for key industry verticals such as Fintech, Retailtech, and Healthtech. The idea is to provide the neutral grounds of NASSCOM to bring large players together, pool-in resources and explore scalable solutions that can benefit an entire industry. Over a period of time, NIPP's vision is to strengthen itself as a co-creation platform for the industry.

3.1 The IP bogey: Dealing with ownership issues around co-creation

One of the major factors easing the adoption of Open Innovation is the evolving approach to business assets. Developing IP has been, and continues to remain, an important aspect of turning assets into revenue. But today, the customer doesn't want to necessarily own assets; their larger interest is in outcomes. Today, When practically anything can be delivered as a service, owning IP does not always represent a differentiator. For example, the IP for Salesforce is hidden inside the platform and is bundled in consumption[iv].

The shift from tools to outcomes has made a dramatic difference to organizations worried about the question, "Who owns the IP resulting from the complex partnerships of Open Innovation spanning startups, academia, businesses and consultants?" "Today's organizations want outcomes," says Girisaballa. "You can't let issues around IP hold everyone hostage and let your business suffer from loss of speed and agility." In his view, data is the new IP and software/products are a way to monetize the data. Large organizations have to put IP behind them and move on.

IP developed through Open Innovation demands a new mindset. Fortunately, the rapid pace of technological evolution is making it easier for business to come to terms with the new mindset. Blockchain makes a good example of how this is happening. No one wants a one-time license for anything related to Blockchain -- because no one is certain what they are buying into. But they still want to use Blockchain.

There are organizations that have a sharp view of IP in an Open Innovation relationship. "The IP belongs to the startup," says **Nitish Agrawal**, *Asia-Pacific-Japan Lead, Startup Focus, SAP Labs*. Agrawal, who has been mandated to oversee the SAP Open Innovation initiatives in the region, has seen his team produce a third of the 300+ enterprise solutions that have been produced globally by the SAP startup Focus Program with over 250 customers adopting startup solutions (for more on the SAP Open Innovation initiative, see 'The SAP story').

For organizations still losing sleep over patents, recent research suggests that premise that availability of patents fosters open collaboration, does not always hold up.

It's not easy to make the call which lets startups own the IP. This is because an organization will often have full-time employees working with the startups and will provide infrastructure, investments and exposure to global customers. There is too much at stake. However, organizations like SAP have an astute strategy to address this. They ask startups to build on their proprietary platforms. When the startup sells its solution, the organization benefits from direct or indirect revenue because its platform is consumed.

Academia: Working with academia also throws up issues of IP ownership, especially IP that is not linked to a specific product, but more generic in nature. Here, it is important to appreciate the fact that IP ownership is a good source of income for academics and institutions. In some cases, this is a reasonable stance, but in other cases, ownership and freedom-to-use-considerations throw up roadblocks.

Startups: Startups themselves are very protective of their ideas – and rightly so. Core ideas, talent and passion are all they have. It is argued that patents provide some degree of protection to both (or all) parties in Open Innovation collaboration. It is true that if startups (or corporates) have protected their core IP with patents, sharing is more open and the possibilities of creating useful synergy is possible, at least in theory.

The patent conundrum: Startups struggle as they often lack the resources to protect their ideas formally with patents. Therefore, trust and ease of interaction plays a major role in initiatives that involve large organizations and startups. In the quest to mitigate risk in these partnerships, the organization sometimes mandates or necessitates escrow holding of code and other IP of the startup. Sometimes this (and the costs of doing this) is a deal breaker.

"Startups want to tap into the resources of large organization and not into their red tape," says George Niece, Digital Transformation Stream Lead at Web Age Solutions. "They are concerned about IP but an open dialogue, without consulting-speak, can help build the right chemistry. If you don't build this trust, you may as well walk away."

Large organizations realize the futility of being overprotective about patents, given that technology is enabling execution of ideas in diverse ways. It can be argued that depending on patents to create clear lines of ownership may not be commensurate with the opportunity cost of managing them. It is entirely possible that some large organizations will try and appropriate some ideas from startups – but it is equally true that they won't be able to implement and scale those ideas at speed. Agility is a startup's chief advantage. If it plays its cards well, it is almost impossible for a large organization to replicate or build on the startup's ideas.

For organizations still losing sleep over patents, there is recent research to suggest that the premise that availability of patents fosters open collaboration, does not always hold up. The proliferation and bad quality of information in patents (especially ICT) may, in practice, limit effective sharing and use, and lead to downstream litigation risks. Experts reason that patent regimes need to adapt and evolve so as to support Open Innovation.[v]

Our experience with startups shows that being transparent about IP and patents is a good way to approach this issue. Sufficient emphasis on transparency and respect for IP, in the way the alliances are structured, is a best practice. In many cases, IPs can be put on record to help in fair resolution in case of disputes. In other cases, the startup can provide a good overlay on the IP which in effect protects it.

The SAP story

SAP has a variety of programs spanning investments in early stage (SAP.io) and mature startups (Sapphire Ventures), acquisitions, crowdsourcing, permitting employees to take entrepreneurship sabbaticals, funding employees who qualify in internal challenges with up to US$ 1 million to solve problems, a startup studio in Bangalore, events such as hackathons, a formal program that works with startups in 65+ countries (SAP Startup Focus), alliances with 3200 universities across 111 countries and entrepreneurship programs in partnership with B-Schools to incubate ideas. It is a way for SAP to embed itself in the Open Innovation system. Here, **Nitish Agrawal**, *Asia-Pacific-Japan Lead, Startup Focus, SAP Labs*, briefly dwells upon the SAP philosophy of Open Innovation:

"Our Open Innovation initiatives help us tap into market trends – Big Data, Cloud, IoT, Blockchain. Tapping into these trends helps make our products relevant to our customers. Our innovation initiatives are measured on a single KPI: Customer adoption. While some of the startup partnerships in the ecosystem end up as marketing programs, SAP is trying to keep its focus on revenue and customer success. Startup partners come to SAP attracted by the combined value proposition of technology and GTM partnership. We want them to build solutions on our platforms that can be taken to our customers. Their solutions become an extension for SAP, and are positioned as a joint solution with the IP belonging to our startup partners. Our role is to make sure their solutions become visible to our customers. The key here is not to restrict startups with agreements of exclusivity. They are free to join multiple programs. The essence is to let them maintain their freedom."

3.2 The greed for speed: Dealing with the pace of development (or lack of it)

All innovation, especially Open Innovation, is about speed and agility. The fundamental premise of Open Innovation is that it can accelerate innovation and ensure large organizations keep pace with changes in markets, customers, technologies and regulatory environments. And yet, it takes time to have the right investments, partnerships, structures and incentives aligned to fast track innovation. Management patience, always at a premium, can be eroded quickly, sending Open Innovation strategies into cold storage. There are solutions, but they may not always be effective. For example, says **Eleonora Ferrero**, *Director of European Operations at Mind the Bridge foundation*, who is an innovation consultant, "It is easy to provide seed funding to a startup, but in terms of business outcomes it is a long-term bet. It may be better to partner with a startup with at least Series A funding – at which stage the product is usually somewhat mature and has won a user base. It is a faster way to collaborate and integrate solutions into the organization. But it can be difficult to find relevant Series A companies. They are not in your backyard or come to bootcamps and co-working spaces. You have to scout for them. By the time you find them, their priorities and internal requirements may be different from your own."

There is an alternate way to solve the problem of speed. Products and solutions don't need to be refined and be completely market ready. It is better to create the product in three or four months and take it to a handful of customers to get the buzz going. The product can continue to evolve, based on customer feedback. This requires strong customer management skills on the sales side as these innovations are rolled out. Organizations that are testing the waters of Open Innovation may find this more cost-effective than investing 12 to 18 months building infrastructure, to fine tune a product before taking it to market. One way to keep development costs under control is to use an external sandbox – say an innovation lab maintained by a provider – where tools, domain expertise and best practices are easily available and are continuously evolving.

"More broadly," says **Varadarajan Krishna**, *Managing Director, Induct India*, "Enterprises are outsourcing innovation management to a network of suppliers and specialists that interact and co-create new products and services."

Speed is dependent, ultimately, on how different components of an innovation ecosystem collaborate (for a different take on the problem see 'Two hearts don't beat as one'). In the context of IT services/ technology industry, bringing attention to the following can improve the speed of an Open Innovation program:
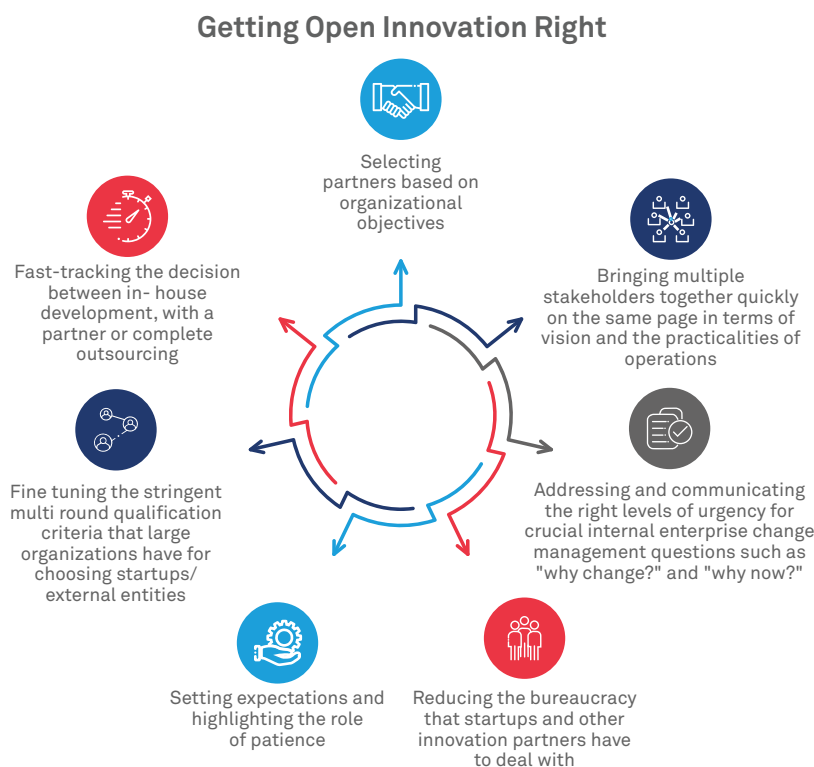
Getting Open Innovation Right

Selecting partners based on organizational objectives

Bringing multiple stakeholders together quickly on the same page in terms of vision and the practicalities of operations

Addressing and communicating the right levels of urgency for crucial internal enterprise change management questions such as "why change?" and "why now?"

Reducing the bureaucracy that startups and other innovation partners have to deal with

Setting expectations and highlighting the role of patience

Fine tuning the stringent multi round qualification criteria that large organizations have for choosing startups/ external entities

Fast-tracking the decision between in- house development, with a partner or complete outsourcing

Figure 5

Two hearts don't beat as one

Bala Girisaballa, *CEO-in-Residence, Microsoft Accelerator, India*, points out if goals, roles and incentives don't align, the speed of execution in an Open Innovation program may reduce the reasons why speed of execution in an Open Innovation program may steadily degrade. Role definitions, incentives and goal setting play a major role along with executive sponsorship. But he believes there is a large reason – the fundamental mismatch in the partnership that creates dissonance and impedes speed.
In his words:

"The startup side is simple. The startup team wakes up in the morning and thinks for the day or at best for the week ahead. In any case, they rarely have the funds to think beyond a month or two. The surface area they have to play with is small. They are super agile. When they begin working in a large and mature ecosystem of partners with complex processes, permissions and paperwork, they are lost. There is a massive mismatch of cadence that is worrying. This is especially true for Business-to-Business (B2B) startups that can't be successful operating alone, they need large partners. For large organizations, understanding and responding to the pace of startups is a developed capability."

3.3 Metrics that matter: Baking measurement and incentives into programs

The existing measurement systems are not designed to link Open Innovation outcomes to business impact. And it is impossible to goal Open Innovation unless they are designed for impact. This is a chicken and egg situation that needs attention and determined resolution.

The problem begins early with an organization setting the goals for Open Innovation. The goals are patchy, limited to small areas of impact within functions. And when goals are defined and set, the metrics for measurement run into trouble due to a lack of consensus. Finally, the lack of measurement snowballs disastrously into misaligned incentives.

One of the main hurdles to goal setting stems from the fact that Open Innovation is not enforced as a discipline within organizations. This leads to stop gap measures being used instead of well thought out KPIs that can show the true impact within an organization.

"Companies go through a journey," says Girisaballa of MS Accelerator. "Initially they are activity oriented so the measures are typically activities based like the number of startups or external organizations you have met and engaged with, number of ideas targeted for investments, those that have been pushed into the innovation pipeline, investments made, how influenced are startups and other partners by your ideas (of Open Innovation). These change to outcomes once the partnership begins to mature. Then it is time to measure what the organization is getting out of the program, the number of products and services created, customers exposed to the new solutions, new market opportunities, percentage of new revenue from innovation and brand impact."

Organizations understand that you manage what you measure. In a reflection of this philosophy, Dell has added startup engagement and 'entrepreneurial spirit' as KPIs for employees. Dell employees must prove entrepreneurial behavior, inside the organization and through outreach into the startup community for new ideas[vi].

Dollars versus mind share

How do you quantitatively and qualitatively measure the success of Open Innovation initiatives at the strategic and operational level? Since SAP is making significant investments in innovation, their ROI markers for innovation are important. Is ROI measured in dollar terms or mind share? We asked this question to Nitish Agrawal, Asia-Pacific-Japan Lead, Startup Focus, SAP Labs. His answer:

When started, over six years ago, revenue was not the main target for evaluation. Awareness statistics were tracked as we were predominantly evangelizing Open Innovation and internal innovation platforms. Examples of the metrics: how many developers trained, how many startups reached out, etc. At a strategic level, the board looks at overall long-term adoption of the program. At an operational level, there is a yearly evaluation cycle. Revenue impact is tracked. There are three kinds of revenues measured:

- Direct revenue: startup component vs SAP component.

- Indirect revenue: Revenue that comes in when startups do reselling. For instance a startup selling SAP solutions configured on cloud providers.

- Influenced revenue: SAP pitches startup to customers. SAP is trying to bring in quantifiable metrics here. We aren't there yet.

With regard to academic research into product development, revenue flows are minimal, while advisory participation is high. Participation with academia/universities are measured at two levels:

- Talent pool creation with universities

- Universities as customers for SAP

Overall, SAP says that Open Innovation is a strategic initiative, and startups will contribute a sizeable percentage to SAP Platform revenue by monetizing innovation through existing and new business models.

3.4 Why the boss isn't looking: The uphill task of winning executive sponsorship

In all the literature based on studies of Open Innovation programs – and indeed for almost any major corporate initiative – the need for a high level of executive sponsorship is stressed. Open Innovation programs have the highest chance of success when the vision of Open Innovation is sponsored and reviewed at the executive level, preferably by the founders, investors and/or the CEO. It isn't just setting KPIs that support risk-takers that need to be set, says Eleonora Ferrero of Mind the Bridge.

> "The leadership sponsor must show up for bootcamps, graduation of startups, etc. When you show your face, things happen."
> - **Eleonora Ferrero**

But the reality, says Ferrero, is that executive involvement is very low. In her experience, most COOs don't know what is going on in their organization around Open Innovation.

Without a doubt, getting executive sponsorship is tough. Open Innovation programs require patience, consensus building and an inordinate amount of handholding. In the end, not all Open Innovation efforts will succeed.

This is compounded by the fact that executive bandwidth is limited. Senior leadership is occupied with programs related to marketing and sales, brand salience, compliance and stakeholder management. Getting high quality executive attention and support is a major challenge.

There are exceptions. Some CEOs show keen interest in, and awareness of, the results Open Innovation can deliver. Seven years ago, the CEO of Enel[vii], an Italian energy major with a multinational footprint, noticed how new technology was helping cut costs. He made it clear that supporting startups and accelerator programs was important to the future of the company. He takes personal interest in scouting for startups and attending bootcamps. He is the chair of the company's Innovation Committee[viii]. Today, Enel is using startups to develop products and services that make energy use smarter, more efficient and reliable.

3.5 Climbing Everest, one step at a time: Producing results at scale

Open Innovation has many successes to merit attention, but it could be acquiring a bad name when it comes to scale. There are two interesting reasons for this: First, the lack of executive sponsorship and Second, Open Innovation is implemented in pockets, on a small scale by a team of staunch believers. The fact that it succeeds at a small scale does not imply it will on a large, enterprise-wide canvas. If anything, given the lack of resources allocated to Open Innovation and the absence of leadership attention, the challenge of creating impact at scale is inordinate. Under the circumstances, ensuring that the benefits of Open Innovation flow across the enterprise through new business revenue or efficiencies is difficult to address.

Many innovation programs tend to be unrepeatable, people dependent, and difficult to link to final measures and hence produce underwhelming results. Open Innovation programs are no exception. At least in the initial stages, Open Innovation-enabled portions of a large contract/project will typically be a small portion of revenue. At the other end, it is quite possible that the perceived impact is big while it is a standalone point solution addressing a very specific problem. In unfortunate instances, Open Innovation programs are contrasted and compared with organizational programs that have significantly larger resources and investments. This boils down to the problem of identifying the right metrics to measure an Open Innovation program (dealt with earlier when discussing measurement and incentives).

The problem of scale could be rooted in the fact that large organizations lack flexibility -- in structure and process -- to experiment or implement new business models quickly. Besides, within most large organizational cultures, no one is allowed to fail. This leads to fear among employees to attempt large innovation programs and leads to limited goal setting and a bias towards incremental programs. "Who would have imagined that Google would one day be a phone company with an OS like Android?" says George Niece, Digital Transformation Stream Lead at Web Age Solutions. "But it happened because Google lets its people experiment and is patient with the process."

Complicated business models have also been known to play the villain. Complexity creates friction and reduces overall impact. Open Innovation involves multiple organizations of all shapes and sizes working at varying cadences. It is difficult to put together a model that works for all. This is resolved when an organization has a single team with a complete understanding of market trends, assessment of internal and external capabilities, business models and techno-commercials, mutually agreeable across the partnerships. For programs that have little or no executive sponsorship, this becomes a big mountain to climb.

3.6 Shooting in the dark: Aiming to get the business model right

Innovation must lead to a business transaction, to a transfer of value between the parties engaged in business. Business models provide the structure for such transfers and can make or break new products and/or services. Business models also serve another useful purpose – the mitigation and equitable spread of the inherent risks in an innovation.

But let's admit it – it is a grey world of business models when it comes to Open Innovation.

Given the number of parties involved, structuring the terms of engagement and the right business models is challenging. Some commonly used structures are embedded offerings, platforming (joint and separate), and reselling. Each has its own combination of business objectives, benefit appropriation and risk management behind it. To be sure, these models are very similar to large complex contracts where multiple suppliers and partners are involved. In that sense, they are not new models. The only notable difference is the risk of failure is considerably magnified in innovation initiatives.

There is nothing called no-risk innovation. Risk is an inherent component of innovation and organizations/startups need to take a calculated risk. This really boils down to their risk appetite.

The issue of IP ownership, discussed earlier in this document, has deep implications for a business model. How is the risk of a customer implementation (going awry) shared? For an organization that lets the startup hold the IP, the risk may not be legal or financial, but of reputational damage. In most instances, the risk is shipped to the end of the value chain. This makes co-innovation a tricky affair.

Anil Jwalanna, *Founder and CEO, WittyParrot*, a cloud based SaaS Company focused on enabling communication and content collaboration among sales, marketing and customer support functions, lists some steps for de-risking. He says that early in the process, organizations

High energy participation fueled by executive interest

Wipro's quick take on scaling Open Innovation for noticeable enterprise-wide impact:

- Understand where to leverage Open Innovation. Open Innovation should not replace the need to have strong core competencies

- Define a framework that helps adopters evaluate and choose the right Open Innovation model, especially ecosystem partners. These partners come with different approaches to innovation and differing maturity levels. Bringing everyone onto the same page can reduce friction and enable scale

- Open Innovation is a strategic lever applied to specific projects/objectives with impact being measured in (only) that context

"To be successful at Open Innovation, one has to build and extend conventional innovation management practices. You also have to set a medium-term vision of an aspirational Open Innovation state to win resources and attention, and patiently build Open Innovation processes, skill sets and credibility. Our own efforts, for the first two years, were more internal oriented. In the last four years the focus has moved definitively to the external ecosystem. We have seen good scale-up in the last two years. We are now at the threshold of ushering in significant change across Wipro!" - **G S Nathan**, *GM & Head, Open Innovation, Wipro Ltd.*

should pick the right startups to demonstrate success (quality vs. quantity); they should look for value within a given dating period; there should be a commitment from both parties for measurable outcomes; and investments should be made in methods to address IP risk and joint go-to-market.

> "An effective way to reduce the risks of working with startups is to execute some form of due diligence focused on avoiding potential future liabilities and to test joint go-to-market" - **Sasha Gilenson**, *Co-Founder, Chief Executive Officer and Director, Evolven Software Inc.*

However, Sasha Gilenson from Evolven agrees that there is no protection from a possible startup's failure. Evolven is a startup that deploys Machine Learning to detect, prioritize and address actual changes affecting stability and performance of IT environments.

This is because there is nothing called no-risk innovation. Risk is an inherent component of innovation and shrewd organizations/startups will take a calculated risk. This really boils down to the fact that every organization must take a call based on its risk appetite.

Business models spread out the risk explicitly. This is done by trading off exclusivity, identity, realized benefits and ownership. Mitigating mechanisms such as obligations and rights secured by contract, bank guarantees, code escrow holdings, etc., are also incorporated. There is no cookie cutter approach for establishing a business model across the different participants. It takes learning and experience to get it right. Often, the engagement model and commercial models are kept fluid in the initial stages of the Open Innovation journey, leading to reactive decision-making on a deal-by-deal basis.

Staying sensitive to the limitations of a startup

What are good models to keep the corporate-startup marriage successful? We asked a startup:

"The most important benefit for a startup from a corporate is market access exceeding the organic capabilities of the startup. At the same time, a corporate benefits from the innovation introduced by a startup as a differentiator and the ability to affect the startup's roadmap, keeping it focused on the areas critical for the corporate. An efficient business model, considering interests of both sides, can be built though joint go-to-market focused on reselling, OEM or exposure of startup solutions through low touch channels. Bear in mind the limited resources/investments a startup may have to support joint go-to-market. This is one of the primary roadblocks preventing successful corporate-startup relationships. This roadblock can be overcome with an upfront investment made by the corporate such as purchase of a bulk license." - **Sasha Gilenson**, *Co-Founder, Chief Executive Officer and Director, Evolven Software Inc*.

4 Best practices: Ingredients for success

Technological disruption is un-levelling the playing field, forcing change in social, political and economic models. New tech is creating a digitally enabled economy. Along with automation, the impact is on every area of work. The increasing maturity of the products and services built using new technologies will generate buyer demand, and companies and users must keep pace. These technologies will have a deep impact on the art and science of Open Innovation. They will dictate the skills, expertise and vision we look for in partnerships to drive Open Innovation initiatives.

Underlying this change is a single fact: connectivity, the steroid that multiplies the power of technology by creating networks. This is true of Open Innovation as well. The larger the network an organization builds the better will be the chances of success for its innovation goals. Practitioners of Open Innovation need to bear this in mind and stay prepared for deeper levels of complexity as their networks grow.

As the Open Innovation ecosystem matures, collaborations are going to move from bi-dimensional to multi-dimensional. The current business models, risks and IPs will be rethought to make collaboration more effective. Multiple entities will collaborate to achieve broader governmental and social objectives. The Government of Andhra Pradesh in India is an example. It is using Open Innovation in its East Godavari Smart Village project, working with the University of California, Berkeley, and with multiple corporates and startups[xi].

We expect to see more collaboration between similar entities (corporates-corporates, startups-startups, etc.) leading to consolidation of innovation approaches.

Organizations need to carefully think through the design and implementation of their Open Innovation programs[xii]. In this section we bring together the recipes and best practices to address many of the issues discussed so far.

4.1 Open Innovation is a critical piece in a well-designed and holistic innovation program

Open Innovation complements existing organic innovation and innovation acquisition strategies. It should be viewed by leadership as part of the overall dynamic. A program integrated into the overall innovation strategy of an organization will win and sustain executive sponsorship. At Wipro, there are examples of startups (Open Innovation) complementing and accelerating internally generated innovation projects (Closed Innovation).

Open Innovation can help R&D teams invert innovation processes to speed up R&D cycles by starting from the customer/market perspective. IBM has used this method to speed up and focus their R&D in Quantum Computing.[xiii]

Open Innovation adds deliberate innovation capacity in addition to accelerating the pace of innovation. This is very useful in an age of

The need to protect IP can cause friction. To address that, create ecosystems around IP that are more valuable than the IP itself.

constrained resources and is a useful way to change the collaboration mindsets within an organization. As teams see their innovations getting to market faster, they become more receptive to external inputs.

All innovation needs to be managed/governed centrally but executed in a decentralized manner. Fortunately, in large organizations this is often a default mode as verticals are on an innovation dynamic governed by their specific agendas. Metrics and incentives have to accommodate this. Budgeting money, rewards and recognition for incorporating Open Innovation, as part of driving digital transformation, is helpful.

4.2 Collaboration that is led by trust and transparency creates success

Picking partners in an open network requires care, patience, skill and effort. Competencies and capabilities of the partner, and how they fuel collaboration must be considered. If investments are in the mix, an additional pair of VC eyes should be available to evaluate the partner. Build a set of templates and checklists to bring consistency to your evaluations.

As the number of entities involved in an Open Innovation engagement increases, it becomes more challenging to align objectives and cadences. Here, trust can bind the collaboration network in difficult times. As an example, at Wipro, we have learnt that clarifying the nature of the due diligence and the costs of such vetting, sets expectations and prepares startups to work on a joint market effort.

Allow employees and partners to make mistakes in a controlled fashion during testing and prototyping. A trust deficit makes this difficult for most organizations. Adobe's approach of rolling out Adobe Kickbox,[xiv] a platform that allows employees to test and validate their concepts, is an attempt at trusting and empowering employees with ideas and experimentation.

How open are we? That is an important question to ask, answer and measure. Open Innovation is as much about outward flow of expertise, ideas and innovation as it is about the inward flow. Complementary flows increase the size of the innovation pie. One way to achieve this is to encourage joint research programs with a market focus (applied research) and clear timelines for results. Another recommendation is to allow inventions to flow out of the company with minimal constraints so that more of these are easily available for the ecosystem to tap into.[xv]

The need to protect IP causes friction as mentioned in Section 3. Releasing IP can accelerate innovation. The open source movement provides us with a good example to emulate. Some practices that address this thorny issue include:

- Respecting patents and fair IP sharing agreements in letter and spirit

- Laying out principles of IP sharing clearly

- Creating ecosystems around IP that are more valuable than the IP itself. Tesla provides us one example with its decision to open source a significant chunk of its patents[xvi]. Another is Microsoft giving access to its patents (current and future) through its Azure IP Advantage program[xvii]. We have also seen cases where IP applied on real life data sets turns out to be more valuable to solve problems especially given the rise of new Machine Learning/Deep Learning methods[xviii].

4.3 No silver bullet for developing the right business models

Business models help maximize benefits to stakeholders while minimizing risks. In practice we see that risks are shipped downstream to the end of the value chain. This is more pronounced when the final outcome includes service implementation.

Business models may need to be tweaked often. Participants must be prepared and flexible for this. This flexibility will add value to a startup as it is tested against real-world requirements. The process of creating a viable business model with a real-life business case helps startups fine-tune

Open Innovation is not a natural organizational muscle. It is an acquired skill that needs an elaborate ecosystem of processes, incentives and governance to make it work.

their product or service. There is no model, framework or checklist available to work this out; it requires the organization to build specific skills to manage this.

The ideal business model involves the customer. This is easy in theory but difficult in practice. Pragmatic reasons prevent involving customers in full confidence. However, at the minimum, a good-faith effort must be made; where not possible, a higher degree of risk mitigation must be built in.

4.4 Recognizing and building Open Innovation skills is important

Open Innovation is not a natural organizational muscle; it is not inborn behavior. It is an acquired skill needing an elaborate ecosystem of processes, incentives and governance to make it work. Two common factors detrimental to building this habit are:

- It is a change, and most of us are resistant to change

- Lack of organizational and leadership support

Consequently, skills need to be identified and systematically built. These are not limited to the "soft" skills of collaboration, teamwork and so on, but also, importantly, include superior skills in developing business cases, structuring contracts, financial modeling, governance, negotiation and customer management.

It helps if platforms for collaboration are available company-wide and processes such as workforce mobility and support of experimentation are established. This reduces the "burden" of communication and collaboration.

5 Heading north: The only direction for Open Innovation

Several studies have shown that digital could have been responsible for the disappearance of over half the names in the Fortune 500 list in recent years.[xix]. To stem this race towards irrelevance, great organizations will have to generate great ideas. "But 95% of them are not listening," says Eleonora Ferrero of Mind the Bridge. "One day when the CEO asks, 'Why are we losing revenue?' The answer will be 'Because others are solving problems better, faster and cheaper.' It is time to listen up."

Open Innovation presents a real and viable solution. All it takes is the right balance of formal routines and practices with the informal dimensions of a firm's culture and its norms, values and the relationships of individuals.

To conclude, R&D alone cannot respond to rapid technological and social change. Other parts of the organization, across marketing, business development and HR management must get on board to rethink and implement a systemic shift in how innovation is harnessed and fueled.

Research has shown that a growing number of organizations have realized this and are embracing Open Innovation. But the practice needs champions, long-term sustenance, developing the right processes and skills and persistent recalibration to improve and remain relevant to the times.

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6 Acknowledgments

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