2016 iSPIRT Annual Letter

Silicon Valley innovated for the 1st billion. India will innovate for the next 6 billion. And iSPIRT is here to help enable that.

Seven years ago a band of volunteers came together to move the Indian software product ecosystem into the next orbit. Three years ago this movement became a think tank, iSPIRT. We pioneered the idea of building public goods without public money in India[1]. Today, India has many software product Unicorns and many more are in the making. We are doing one M&A a month. India Stack is reshaping many sectors especially the financial sector. And, the Government of India recognizes the power of startups and have started changing their systems to enable us. This has been a long and a fun journey for us all. This letter captures what we have been up to, our learnings and our dreams.

Firing on all cylinders

In our Playbooks pillar, we have created a pool of shared secrets that are transformational for product startups. This tacit knowledge comes from in-the-saddle entrepreneurs themselves. **We have five formats that draw this out - PNgrowth, IKEN, PlaybookRTs, SaaSx and INNOFEST. All of them are working like a charm. Our Net Promoter Score[2] is in the 80s.** We are certainly changing outcomes for our product entrepreneurs.

Our Market Catalysts pillar has seen M&A Connect do really well. **We have facilitated, on a fully pro-bono basis, 14 of the 22 acquisitions that have taken in the last 2 years.** Before M&A Connect came to the scene, there were almost no technology acquisitions happening. It took us some time to get the ecosystem to a run-rate of one acquisition a quarter. We are now doing one a month. And our current goal is to get to one a week!

Then, of course, there is India Stack. This is the most tangible of our public goods where UIDAI provides Aadhaar authentication and e-kYC, DEITY provides the E-Sign and Digital Locker standards, and NPCI provides Unified Payment Interface (UPI). India Stack prompted Bill Gates

1 This is part of the case study on iSPIRT at Stanford Global School of Business. It explains iSPIRT's view that public goods drive the creation of a vibrant ecosystem. After all, there would have been no Google without Stanford, no CISCO without DARPA and no Red Hat without Linux. India needs its own types of public goods to thrive. iSPIRT exists to build these public goods, and is doing so without using any public money.

2 See details at https://www.netpromoter.com/know/

to observe that "there are few countries which can boast of a digital infrastructure as sophisticated as they are producing in India". **This year you'll hear a lot about India Stack as its adoption is exploding and a developer community[3] is coming in place**. India Stack is the output of our Open API team. Last year, the basic ideas behind India Stack were enshrined in the Open API Policy and Guidelines issued by DEiTy. This marks a generational shift in thinking in building of all government systems.

Our Policy pillar creates its own public goods. We have helped create the Rs 10,000 cr India Aspiration Fund-of-Funds and the new listing platform for startups (at ITP). We are pushing for additional policy action on several fronts. **We are the thought leaders behind the Stay-in-India checklist[4] that underpins the Startup Action Plan**[5] and are hoping to see the National Policy on Software Products come out soon. We have also successfully led the battle for a clean IPR regime (without Software Patents) against opposition from some foreign interests. And, as you may know, we have been quiet partners to the wonderful #SaveTheInternet team and are confident that their selfless work will bring us Net Neutrality. We continue to champion Challenge Grants. And seek reform in Govt. and PSU purchase processes in favor of domestic products. All this is, often, frustrating work. But we are marathoners, and are not looking for just quick wins.

Software products will lift India out of its poverty

What drives us is this simple idea that software products industry will pave the way to lift India out of its poverty. Back in 2013, people looked askance at this assertion. Today, there is a realization, especially amongst forward-thinking policy makers, that this idea isn't as farfetched as it seems.

Look around and you'll see new-age startups making waves. Flipkart has redefined retail. Ola is changing how we travel by taxis. Paytm is at the threshold of disrupting banks. Forus Health is attacking blindness with gusto. Eko is bringing financial inclusion to millions. Team Indus is on its way to land a rover on the moon. Nowfloats is bringing lakhs of businesses online. Pick any sector, even agriculture, and you'll find a new-age startup gamely trying to bring about change.

These new-age startups are not like our traditional small businesses. They are peculiar in many respects. For one, they don't play safe. They take on incumbents that are many times their size.

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[3] See IndiaStack.org for more details

[4] See http://pn.ispirt.in/ispirts-stay-in-india-checklist-gains-further-traction-rbi-and-mca-follow-the-startup-india-action-plan/

[5] See more at https://en.wikipedia.org/wiki/Startup_India

They seek out David versus Goliath battles. **They have a 'panga'[6] mindset whereas our traditional small businessman was all about 'dhanda'[7]. This craziness in their DNA makes them wonderful change agents.**

We know now that game changing solutions in any field do not follow a prescribed path to discovery. Instead, they are born out of hundreds of experiments. Often these experiments don't happen in the labs of a few resource rich incumbents. They happen in the hands of new-age entrepreneurs and innovators.

We need breakthrough innovation from new-age startups for India to prosper and meet the aspirations of our young citizens. Incremental increases in expenditure on welfare schemes and subsidies will be insufficient to improve human development indicators rapidly. Given the structural gaps, this will not work. Similarly, steps to solving leakages in government distribution will help but it is not a panacea. The answer, instead, is in creating an enabling environment for new-age startups to deliver their promise of innovating new solutions.

We need two things to fall in place.

First, these new-age entrepreneurs need ready access to special technology building blocks so that they can build complex solutions with small teams. India Stack offers this. Using it, new-age startups can offer cashless, paperless and presenceless (on smartphone) service delivery to hundreds of million citizens using the Jan Dhan Yojna, Aadhaar and Mobile phones (JAM) trinity. For the first time, they can create game changing innovations that can tackle India-scale challenges[8].

Second, they need pro-challenger regulatory policies that reduce barriers to experimentation, create level playing fields and encourage innovating around national issues. Our fight for startup-friendly IPR and net neutrality is directed at securing this. The audacious Free Basics campaign has shown all of us that digital colonization is a real risk. We have seen first hand that an MNC's commercial interests is not the same as India's national interest. For instance, even today, after 960+ million Aadhaar users, some MNCs are opposing technical support for digital identity layer in India Stack. They want digital identity to be a private good, not a public service.

[6] Panga is a popular word that comes to Hindi from Punjabi. It means to take an issue, to pick a fight, and mostly when it could be avoided. It roughly maps to the disrupter mindset of Silicon Valley startups.

[7] Dhanda, which means business, is an oft repeated term in India. It conveys commercial savviness and the ability to work hard.

[8] The problems plaguing India are so large that they can be solved cost-effectively (with practical investment levels) only by rightly suited technology.

During this year, we will shine more light on this anti-competitive behavior. We want MNCs to participate in India's free and open market, but in a way that supports the progressive policies that make it so. We cannot condone the exploitation of our market while denying essential rights to other market participants.

The stakes are high but there is a reason to be optimistic. In the last couple of years, there is a slow but steady drift away from copy-paste entrepreneurship to innovation-led entrepreneurship. Since our open and free market, unlike China's, doesn't reward copy-cat ideas in the same way - a realization that is now dawning on tourist Private Equity funds from New York, Qatar, Russia, China and Japan - our best entrepreneurs are starting to address Indian problems that Silicon Valley firms are not addressing. Over time, as it gains momentum, **this dynamic will give us the 10X gains we need in health, education and financial inclusion.** Eventually, we feel, that there will be an innovation bridge that'll emerge between Silicon Valley and India. Silicon Valley will innovate for the first billion people while India will innovate for the next six billion. India will become the second Silicon Valley and together, we will innovate for the world.

New Innings for India

Indian software products matter for another reason too. This sector is the opening batsman for a new innings for India. If it runs up good score, as it is likely it would, it would set the stage for Aerospace, Defence and Electronics products to follow. Unless India remains bereft of SPADE (i.e. Software Products, Aerospace, Defence and Electronics) product companies, it won't be a sustainable economy in the future.

For some months now, electronics has edged out gold, machinery and pearls to become India's second-largest category of imports, after oil. Our aerospace and defence imports are also growing. We also love buying all kinds of big and small gizmos from the West. Because of this, aerospace, defence and electronics imports are a ticking time bomb that could upset our trade balances. Electronics alone will be twice our oil imports in 5 years.

This is happening because the value capture nowadays lies in products, not services. Keep in mind that Microsoft generates more profit than the profits of top 20 pure-play global IT Services firms. Boeing and Airbus alone generate almost as much profit as all global airlines put together. Cisco's profits are more than those of all European mobile operators. And Pfizer's profits, even before its recent acquisition of Allergen, are more than the profits of top 100 hospitals in US. We already know how to build the world's best hospital, airline or IT Services company. But no matter how well-run Indigo Airlines is it'll not become a Embraer or a Boeing. Similarly, a Narayana Hrudayalaya hospital will never bring a drug to market like a Pfizer does. Airtel or

Verizon will never build a router like Cisco or Juniper do. And TCS will never be a Microsoft. Building a world class product company needs a different kind of conviction. You have go all-in and bet-the-company on market or technology shift that is underway.

In fact, tentativeness translates into a loss. It leads to sub-critical investments. We are staring at a costly example of this in the nuclear reactor industry right now. India can build 700 MW reactors. But economies of scale now kick-in at 1600 MW. Since we didn't invest enough in the last 20 years (despite a wonderful start that Homi Bhabha gave us in 1950s), we are not a player in this large-reactor segment. So we will spend more on buying these bigger reactors from France, Russia and US in the next three years than what we have spent on our entire nuclear industry in the past 50 years! This is a really expensive failure.

If this was a one-off case it would still be okay. It is unfortunately not. In telecom, despite CDOT, CDAC and Sam Pitroda, we have only created one Tejas Networks, a nifty networking startup from Bangalore. But, guess what? Tejas gets a piddly 1% of the annual telecom capex buys in the country. Rest is imported. We have a big rail network but no rail equipment companies. We are a generic drugs superpower but are a minnow when it comes to new drug discoveries.

These past failures to create product winners don't faze us at iSPIRT. We are here to break the jinx and rewrite the script of the nation. We have to win. Products, especially software products, are a winner-take-all business. Either you win or you are a nobody. It's not a place for the faint hearted.

The Future is Bright, Forecasts Notwithstanding

India's software product industry is growing at a healthy clip. **iSPIRT's iSPIx (Indian Software Product Industry Index)[9] grew by 26.6% on an annualized basis in 2015. And 80% of this growth has come from companies focussed on global markets.** This is fueled by companies like Zoho, Druva, Freshdesk, Capillary and Rategain. Each one of them is a global leader or primary challenger in its category. And there is a long list of promising companies that are replicating the global success in newer categories. Julia, an open-source language out of Bangalore and MIT, is reshaping how IOT will happen. Savari is already a top 3 player in worldwide in middleware for self-driving cars. Grey Orange is making advanced robots for large distribution centers in Europe and Asia. All these are new names for most people.

In software products, we are holding our own.

[9] See http://pn.ispirt.in/india-b2b-software-products-sector-maturing-with-global-focus/

It seems that the valuation bubble around metro consumers[10] is coming to an end. So the forecast for 2016 has turned glum. Some predict a collapse of Unicorns, even, in India. Others see a correction. Almost everybody is vacillating between a soft or a hard landing.

We see six effects of this:

- Focus on startup outcomes rather than on startup density
- Sector rotation out of metro consumers serving the Bharat consumers (e.g. Bharat Matrimony, Redbus, Stayzilla, Newshunt) and Enterprise Tech (i.e. iSPIx style startups)
- Celebration of Bootstrapped and Capital efficient entrepreneurs
- Rejection of financialization, the startup version of Zaitech[11], where cheap capital is perceived to be more important than the effectiveness of the core business
- Disillusionment with copy-paste entrepreneurship, and boost to innovation-led solve-for-India entrepreneurship
- Fear of losing their core customer base to product-based startups increases, notably in FinTech sector

Unsurprisingly, all of these changes are positive for the rise of a Product Nation!

Our fortunes are not linked with the fate of the e-commerce companies. Sometimes, in the glare of Bollywoodish publicity of our e-commerce companies, we are missing the revolution taking place in our country.

Dodging a Bullet

Yes, like any nascent revolution, this is fragile. In fact, we just dodged a bullet recently. In the run-up of PM Modi's trip to US, the Indian Patent Office hurriedly issued guidelines on Computer Related Inventions. Undoubtedly they were done under pressure of some US MNCs not realizing that they were a death knell for the domestic software product industry. Happily, good sense prevailed and 115 days later, on Dec 14th, these guidelines were rescinded.

This near death experience has had a positive side benefit. It precipitated minds on having a proper policy on software products. As a result, a National Policy on Software Products is in the works and should be out in a few months. It represents a new paradigm of policy making. For starters, it has no sops! Instead, it takes an integrative view of changes that are needed to

[10] See http://economictimes.indiatimes.com/magazines/corporate-dossier/unwinding-of-e-commerce-bubble-is-the-biggest-ecosystem-question-says-ispirts-sharad-sharma/articleshow/47539620.cms

[11] Refers to application of financial engineering techniques to shore up company performance

creating an enabling environment. It eliminates FERA-era norms that prevent Indian product companies to go global. In other places, it introduces missing concepts in our policy lexicon. For instance, our tax code doesn't even have a definition for digital goods, and this, as you can imagine, creates misery for software product companies. It also tackles our archaic R&D credit system that harks back to pre-liberalization and favors only large profitable companies. It's is a bold policy effort that eschews tax breaks, big budget outlays and protectionism for creating a modern policy environment for our software product companies.

To provide a modern policy environment to our disruptive startups, the Indian state must itself evolve. It must learn faster, change faster, and implement faster. A 2013 paper[12] by Luke Jordan of the World Bank, and Sebastien Turban and Laurence Wilse-Samson of Columbia University, shows that the Indian state performs poorly on these dimensions compared to the Chinese state. They identify many factors for this. For instance, China has undertaken reform once every five years since 1978, while India has only attempted it twice in 65 years. Thus China has been continuously tuning up its capacity to learn and deliver. In India, substantial administrative reforms are overdue (with the last attempt, the Second Administrative Reforms Commission, still unimplemented.) The Indian state is conspicuously lacking in its capacity to generate new knowledge, transmit knowledge upwards and horizontally across the system, and act upon that information and knowledge ("implementation"). Implementation challenges are severe.

Take the Startup Action Plan as an example. The Central Govt. is rightly focussed on stopping the exodus of technology startups from India. The need for it is well understood. After all, six of the eight Unicorns have domiciled themselves outside India-in Singapore or US. **In 2014, 54% of all new-age startups raising money chose to domicile outside India. Last year this number grew. It is estimated to have crossed 75%! India is driving away her best and brightest again.**

One the back of the work done by iSPIRT's Stay-and-List-in-India Policy Expert Team, there is consensus that 34 items need to be addressed to stop this exodus. These 34 items, collectively called the Stay-in-India Checklist, touch Ministry of Finance, RBI, Ministry of Corporate Affairs and Ministry of Commerce. Work on resolving these has been underway since 23rd Oct. and it seems that 60% of the issues seem to be on their way to a resolution by Budget time. At one level, this seems like great progress. However, this 60% implementation is a actually recipe for

[12] See http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/ConferenceSubmission_LearningState_NewAgenda.pdf

failure. Just one friction point is enough to send the startup to Singapore, where, a welcome band awaits. Unless all the 34 items are resolved, exodus will not abate.

Harnessing Social Production

The way iSPIRT works, confuses many. **It's a place where people are organized but there is no organization; disputes are resolved and order prevails but nobody is in control; where demand breeds its own supply; work is leisure and vice-versa.**

A new form of organization, inspired by open-source principles, was necessary to meet the complex situation faced by the software product industry in India.

iSPIRT is a social commons project. In some sense, it's like university science. Scientists collaborate and produce something that's available to all. Remember there is no IP protection for basic science. Engineering was not a social commons project because you could own, through patents, what you produced. Linus Torvalds changed that for software infrastructure. Then Wikipedia happened. Now prosumers produce entertainment on YouTube. In Germany, prosumers are already producing electricity and form the largest utility company. Is this a passing fad? No. Social commons[13] are cooperatives and credit unions of the new age.

The volunteer engine behind iSPIRT has been humming for the past 7 years. From our vantage point, we have learned some surprising lessons that we'd like to share with you today.

The **first lesson** is: The best way to get something done is not to have a grand plan[14]. While this seems counter-intuitive, it isn't so. There is a power in self-forming teams. We encourage teams to come together organically. Then go on and solve problems that if we had tried to plan out would never have happened.

The **next lesson** is shocking for wannabe volunteers. It is truly effortful to become a new volunteer. This creates cognitive dissonance for somebody unfamiliar with the open-source model of peer production[15]. Since the process of being accepted as a new volunteer is both arduous and time consuming, it weeds out the house painters and keeps the Michelangelos and the da Vincis of their day.

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[13] Interesting reading on "The Commons as a Rising Alternative to State and Market", at http://www.huffingtonpost.com/entry/post_7339_b_5144053.html

[14] Antifragile thinking at http://www.amazon.in/Antifragile-Things-That-Disorder-Incerto/dp/0812979680

[15] See http://www.benkler.org/CoasesPenguin.html

The **third lesson** is that it's all about creating great poetry. Because our volunteers are building public goods out of love and belief, they create great things. They truly believe in what they're doing.

And because they believe in it so much, they embrace the **fourth lesson**, which is: give it all away. Give it away. Anybody can take and use our public goods completely for free. Our volunteers are even happy to stay in the background, as sherpas in other people's success. But, the only thing they can't stand are interlopers who step in to usurp credit. So, we stamp down these free-riders fairly gently at first, and if they don't pay heed, aggressively.

Now there's a whole generation of selfless and talented volunteers working away furiously. They love what they do, they may not always have a plan, but they are creating public goods that'll power India's next innings as a Product Nation. These individuals, some of them living outside India, are creating the coal and steel of the information age. And, the beauty of this approach is that instead of this coal and steel being owned by the Carnegies of our era, it'll be owned by everyone!

The dedication of our volunteers - who go by various labels like Fellows, Mavens, Saarthis, Evangelists, Curators, Policy Sherpas, M&A Ambassadors, InTech50 Gurus, SaaSx Mentors, PNgrowth Learning Coaches, etc. - is humbling. **They are paying forward to fellow product entrepreneurs and the larger product community in a way that hasn't happened in India before.** There is tangible impact that is now visible, and we look forward to working with you to make India a great Product Nation!

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Governing Council, iSPIRT Foundation, 4th Feb 2016

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