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2010-2020: THE RISE OF NEWSPACE ECONOMY

Leena Pivovarova
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AT the beginning of the last decade, the space industry began to witness divergence from its traditional business models, with the adoption and utilization of the CubeSat standard that had been developed over a decade before, albeit still mostly for academic purposes. This provided a unique opportunity for non-traditional space actors to get involved in space activities at a level that had never been seen before. At the same time, SpaceX's radical drive to commercialize the launch industry had been experiencing rough patches that tested its dedication and resolve to its vision of democratizing space access. It took SpaceX some time to get it right, and even before 2010, Falcon 1 had seen a number of failures but also some successes on its road towards increasing access to space.

A full decade later, Falcon 9 is launching multiple times per month with reused components, and small satellites are not only responsible for a significant chunk of satellite market revenue (that continues to be on the rise), but their processes and methods are being adopted and incorporated by larger, more traditional players all over the industry. Agile aerospace techniques and iterative technology development via small satellites were largely made possible by commercialization efforts, miniaturization/simplification of satellite technology, use of low-cost commercial-off-the-shelf components, and increased access to space. This in turn allowed for an introduction of a whole new world of markets, diverse in geographic locations and applications – a true Commercial Space Renaissance, as it has been widely called.

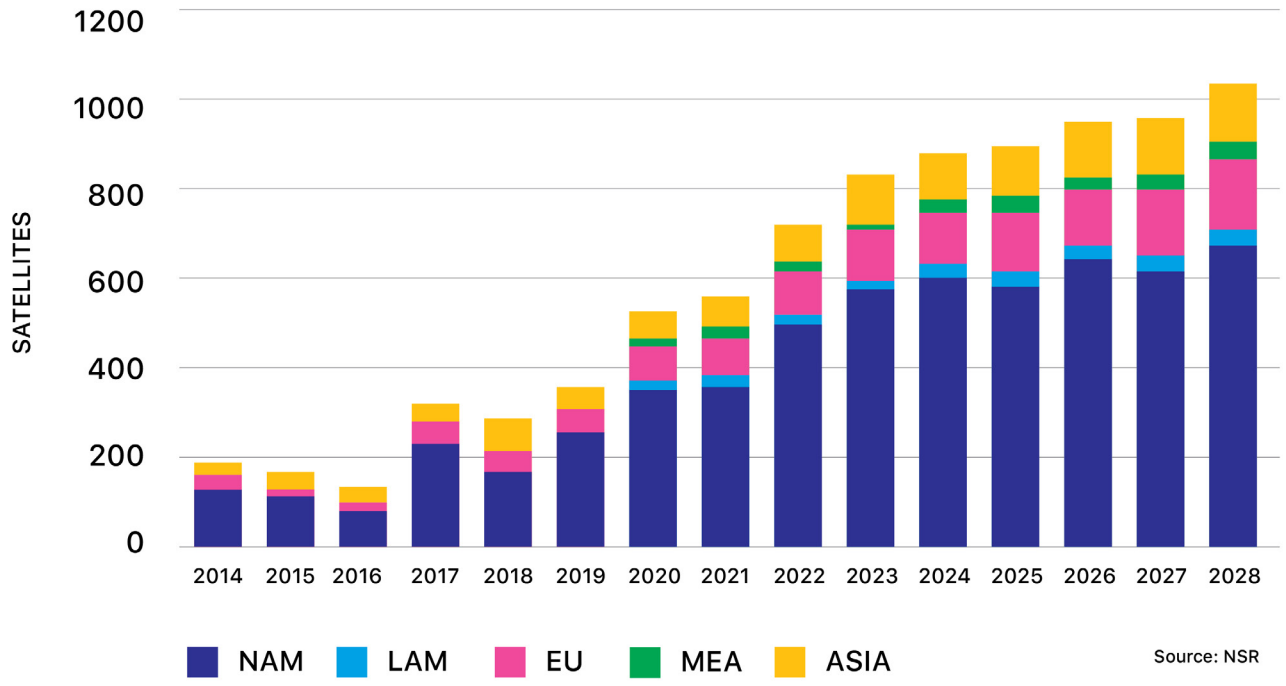
These early efforts planted the seeds that would become emerging space markets that we know today.

Planet Labs was not the first of the wave of Newspace players by any means, but it was well-positioned to seize on the opportunity of the aligning favorable factors, build up momentum of successes and industry support to thrive as an emerging actor in the Earth Observation vertical. It developed a stunningly simple concept as its cornerstone – a small optical camera with an internet link for sending imagery down to Earth from a 3U CubeSat. As time went on, Planet's reputation soared globally after every launch, and its humanitarian-centric mission statement to image every place on Earth every day resonated with people beyond the traditional space industry. The Silicon Valley tech community bought into the concept of space technology becoming mainstream as the rise of Planet into an unicorn provided a unique opportunity for participating and supporting groundbreaking space mission in any number of ways – myself included.

Opportunity potential from renewed interest in the space industry was seized by the investment community as well, which responded enthusiastically with pouring in over $24 billion in funding over the decade and catalyzing competition between more than 500 rising startups all over theworld.

This machine of an ecosystem is still humming today, trending closer to volume production and less to pathfinder missions of the early 2010s.

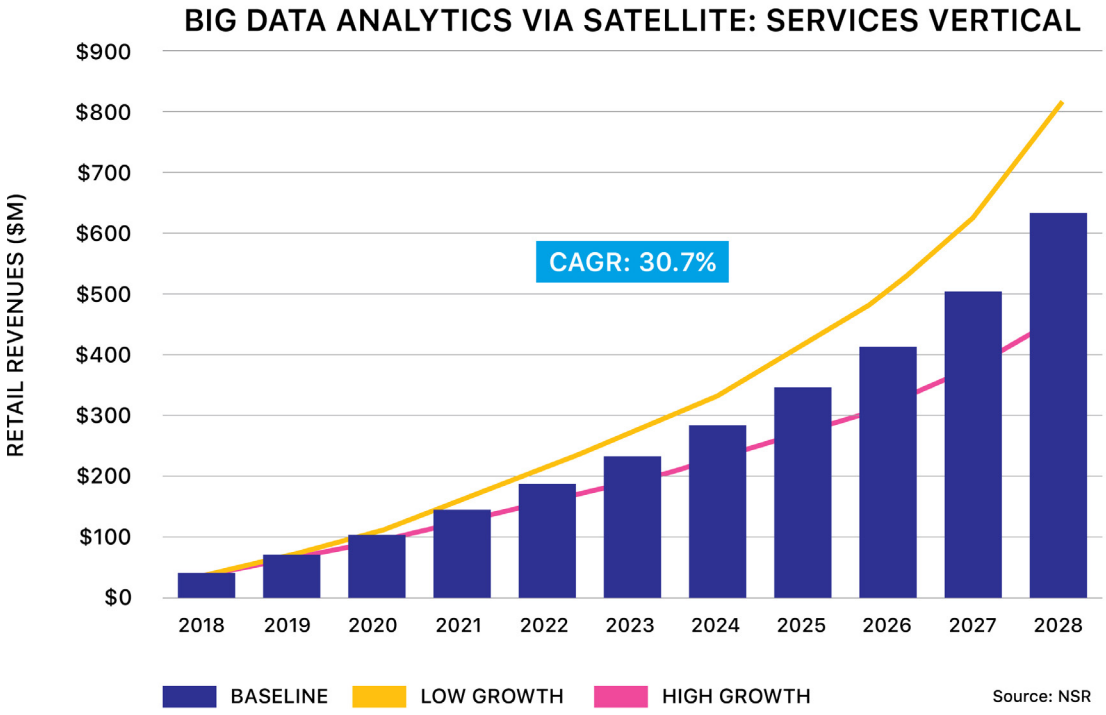
GLOBAL SMALL SATELLITES TO LAUNCH BY REGION



Nations that hadn't been able to be involved in space activities before due to astronomic costs, risk, and technological maturity required were now eagerly jumping into the mix, either as customers of companies such as Planet, or actualizing their own space activities with smallsat missions at orders of magnitude lower cost.

While Planet went on to refine and advance its business with several acquisitions, which in turn allowed the company to build on its momentum with a "tip and cue" approach to its imagery collection, the focus started shifting during the second half of the decade from launching more satellites (upstream space segment)

And while smallsat business models are still largely trying to prove and close their business cases and generate significant returns, the emphasis on analytics platforms that can simplify the insights extraction process from time-series satellite imagery has increased exponentially, with this nascent downstream sector even seeing a flurry of acquisitions such as that of Tellus Labs by IndigoAg or the Radiant Group by DigitalGlobe (now Maxar Technologies). The increasing buzz of investment



to really drilling down into the data sets and offering the best value in its products to its customers (downstream data segment).

This tipping point from doing cool stuff in space to creating value with intensive data analytics echoed all throughout the industry, as many other Newspace companies were also wrestling with capitalizing on and deriving value from the large volumes of data they've acquired, making it an opportunity for new data analytics actors to come in and stake their claim.

activity that is pushing satellite data analytics forward, significantly in the

EO-based Big Data sector, is interestingly not limited to the United States alone and NSR expects growth at a 23.5% CAGR through the coming decade, with Services vertical being the fastest growing one due to early adoption by the financial services globally, such as insurance, commodity trading, asset management, and banking.

Falling technology costs, overall declining prices, government funded open-source data programs like Copernicus, and market competition at an international scale is aiding the growth of the global Newspace ecosystem as it matures over time. Today we are witnessing the rise of small satellite mega-constellations, with thousands of satellites planned to be launched in the next few years for a wide swath of verticals. We are seeing less utilization of CubeSats in favor of microsatellites as their capabilities grow more sophisticated. For applications such as Earth Observation and Communications, small satellite constellations are the future standard. And with lowering barriers of entry to the market, the market itself has become more demanding at the same time. The cycle of innovation continues to churn with development of new capabilities in space, and in turn generates new opportunities for non-traditional space actors to shift the market chasm from data-driven to value-driven business models across multiple industries.

BUT THE ELEPHANT IN THE ROOM IS - WHAT LIES IN THE FUTURE FROM HERE?

Ms. Pivovarova has been at the forefront of small satellite, satellite launch, and newspace industries since 2013. After obtaining a Master of Science in Space Studies from the International Space University, Ms. Pivovarova focused on building and managing international partnerships for the NASA Ames Research Center. Ms. Pivovarova joined Planet Labs in 2015, where she gained extensive experience across several lines of startup business; such as driving strategy across partnerships, satellite manufacturing and insurance, launch campaigns, and regulatory affairs. As part of Planet's Launch and Regulatory teams, Ms. Pivovarova played a key role in Dove, SkySat, and RapidEye satellite mission success. Leveraging her experience ranging from early stage companies through corporate mergers and acquisitions, Ms. Pivovarova has spent the last two years assisting startups in the newspace sector set their go-to-market strategies and execute their manufacturing and launch objectives to achieve company goals.

She joined NSR in 2019 as an Analyst, covering smallsats, launch, and emerging space technologies as her main areas of focus in market research and consulting engagements.

Productizing Geospatial Analytics for Developing Markets

Rashmit Singh Sukhmani
Co-Founder and Global Product Head at SatSure

Prateep Basu
Co-founder & CEO at SatSure

The Slow Growth of Geospatial Industry

At the beginning of the last decade, Marc Andreseen from the famed Silicon Valley venture fund Andreseen Horowitz famously said that software was eating the world. Even a visionary like him wouldn't have imagined that by the end of the decade, the same software industry would be biting its nail as it risks of being eaten by the juggernaut called AI.

While software continues to provide business value offering enterprises the ability to scale quickly, the rise of big data, cloud computing and the Internet of Things (IoT) has created a hyper-acceleration in the capabilities that AI can offer, such as assisted decision making, diagnostics and predictive analytics.

Geospatial technology has been around for over two decades now, with governments and public agencies being the primary target users. The issues around data access and movement of large chunky geospatial datasets inhibited leveraging geospatial data products, leading to the underutilization of its potential and the opportunity to integrate it with mainstream software products. Also, the geospatial industry has been traditionally obsessed with mapping and images. Thankfully, the AI hyperwave has started infiltrating this industry, which offers a unique opportunity for expanding the realm of what can geospatial data do for your business.

Stepping Stones to Growth

The advent of open data programs such as the Landsat and Copernicus projects from NASA and ESA respectively happened around the same time when the commercial Earth observation industry got disrupted by the cubeSat standard that made it possible to have satellite imagery align with the 3Vs aspect of Big Data – volume, velocity, and variety. These developments by the mid of last decade led to a sudden increase in the cadence of data capture from space, which in turn aligned with the capability and affordability of cloud computing for data store and distribution. So what does this industry's convergence mean for the software, AI, and all other industries? At a very high level, it has now become possible to create products which describe our changing world in close to real-time as we can acquire data of any part of the world, from any part of the world, move it around, push it into any data pipeline and visualize it all on the cloud at scale.

Let us look at a few new-age applications of geospatial data:

- Precision directing your salesforce to target locations for customer acquisition and making their operations more cost-efficient.
- Ability to identify credit risk of small-holder farmers by creating a history of their land and region, enabling financial inclusion programs
- Your home insurance company paying you even before you filed a claim post flooding due to heavy rainfall in your city, because they had indemnified the risk basis the history of flooding in your area.

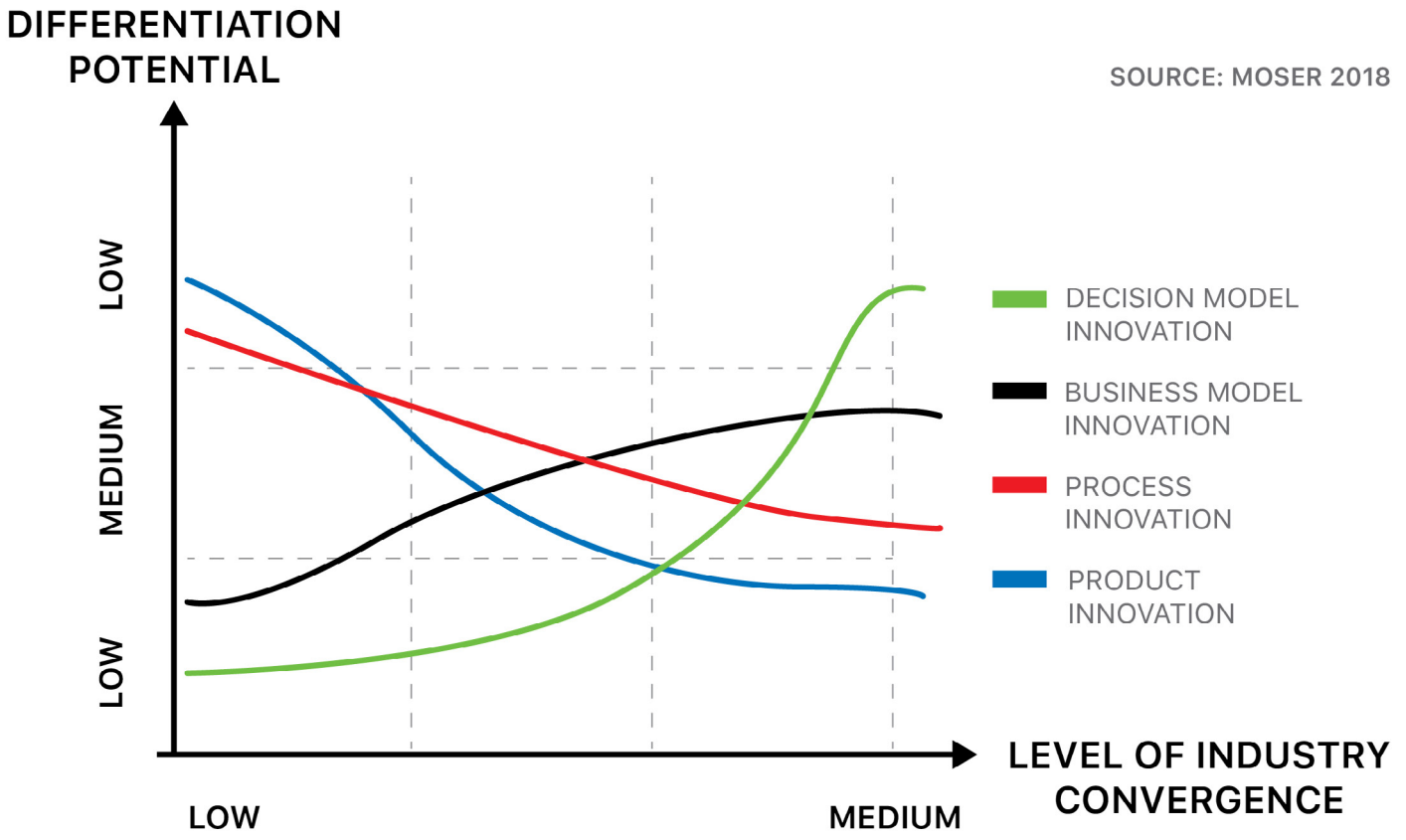
These use cases are not needed in the form of a map or an image, which represent only a tiny fraction of the geospatial data applications. However, these examples were meant to illustrate the opportunity that geospatial data offers to deliver tremendous business value. But this geospatial revolution will most likely take place gradually and unlike the adoption of AI perhaps even unnoticeably. It would form an important part of the decisioning intelligence that is required by enterprises who are set with the war-chest of AI tools for their digital transformation. At the end of the day, businesses need actual numbers to support their decision-making processes and not just a map. But the million-dollar question is

how does one create products from datasets that have potentially unlimited applications depending on the ability to extract information from it?

The Quest of Geospatial Products

Unfortunately, there is no straight answer for it today as the geospatial analytics industry is moving in different directions and at different paces, depending on which part of the world we are looking at. While targeting hedge funds to provide deep insights on commodities movement might have worked for some U.S. based startups in this space initially, the real exploitation and scaling of geospatial analytics is yet to be tested in markets where the data infrastructure is missing for validating the AI models. While this happens, creating products which fits the market requirements becomes a unique task since AI is growing at an accelerated rate in other areas and geospatial cannot afford to be a slow mover anymore.

This is what shall drive the product innovation for the industry – finding business applications for geospatial analytics and making it an integral part of mainstream technology strategy such as AI and digital transformation programs or risk being pushed again into the 'outlier zone' by the technology players as the world witnesses convergence of AI, cloud computing, Big Data, and predictive analytics at a breakneck pace.

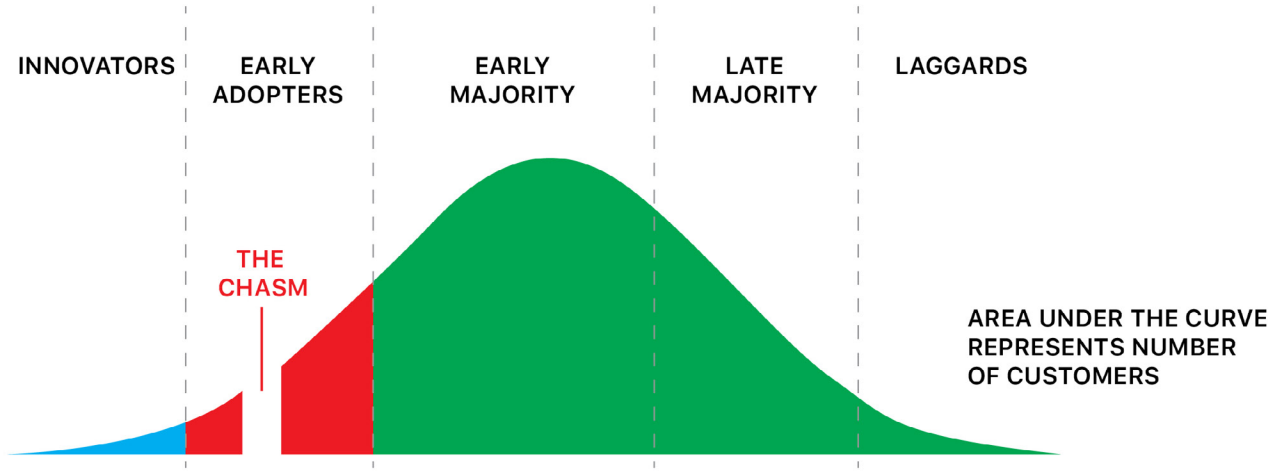


The innovations that have happened during the last decade on the technology now needs to be translated into product, process, and business model innovations for extracting the maximum value for organizations that are adopting geospatial technology.

At SatSure, we have adopted a customer development model to overcome the chasm of moving from services to product-oriented business models as the global industry comes to terms with the possibilities that geospatial analytics has to offer. To serve developing markets, enterprises need to collaborate not just on the product development but also on the resources, shared skill sets, data sharing and other expertise to jointly flourish. Such co-innovation helps in creating a closer relationship with the clients, consumers and users to foster and develop products that creates a sustainable competitive advantage for startups who are into building products that have some component of geospatial analytics.

helps them solve sometimes very diverse set of problems, leading to continuous development in frameworks such as AGILE.

The inherent challenge of building products with geospatial analytics as a core component is that it doesn't fit in any technology buckets because of its infinite potential, and yet it can fit anywhere and everywhere. Thereby, it is very improbable that this market will ever be an oligopoly. Depending on the target applications and geographies, geospatial analytics will continue to be in the 'early adopters' as per Professor Moore's theory of technology adoption. While investors globally are being shown big fat numbers on the total addressable market, but there still



TECHNOLOGY ADOPTION LIFECYCLE

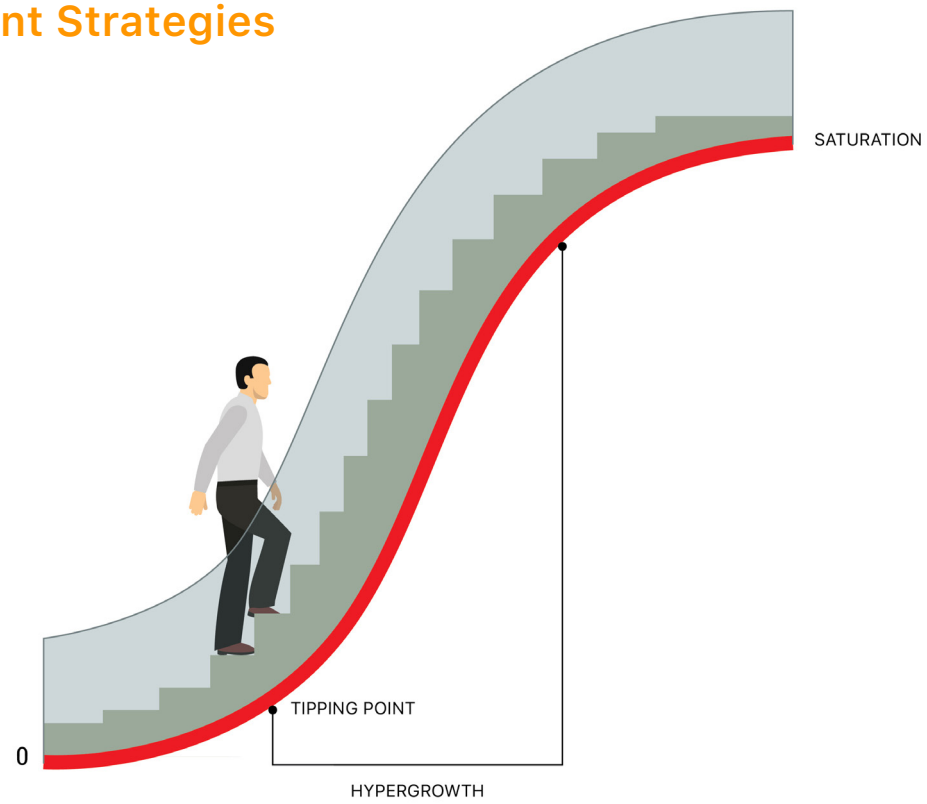
Source: https://medium.com/@shivayogiks/what-is-technology-adoption-life-cycle-and-chasm-e07084e7991f

And we at SatSure have benefitted from such customer and service orientation strategy for developing our products for the financial services sector, with the results being an increased user connect leading to reduction in the churn rate over the last one year. However, an important aspect of working in the developing markets with geospatial analytics at the centre of our offering has taught us that it is still too early to standardize the product specifications, since the value of geospatial analytics touches different business stakeholders and is no confidence on the serviceable obtainable market numbers for geospatial products because the industry is still in the 'early adopters' stage. **Hence, there is a need for both patient capital to fuel continuous customer engagement in order to make geospatial analytics truly an integral part of the AI hyperwave and productizing the services that meets the needs of the world beyond the U.S. and Europe, and be more open to co-innovation initiatives to reduce the costs, spreading the risks and getting to the market faster.**

Re-Inventing the Wheel:

A Decadal Haul of the Alternative Investment Strategies

Joslin Jose
Vice President
Vilcap Investments



Throwback to Innovations in the Indian Agricultural Sector

The year is 2020. I strained my neck to look back to the summer of 2010, where I had spent almost a whole year with a number of Agro-Industries and Agricultural Extension practitioners across India. Innovation in agriculture was mostly limited to drip irrigation, precision farming, and integrated pest management techniques. There were no Drones back then and even though breeder seeds and chemical fertilizers had ensured high Agricultural productivity, the Agri supply chain was highly fragmented and smallholder farmers were perennially at the bottom of the economic class. Farmers didn't know what diseases to expect, what markets to sell to, and how to better associate with Financial Institutions. Governments and Banks were bewildered with NPAs and insurance claims.

Bottom line: **The sector showed potential for value-creation but was highly vulnerable, with no progressive infrastructure to support its growth.**

The years onwards from 2014-15 saw the startup deluge in the country, where innovative solutions disrupted transportation, logistics, food delivery, and everything else possible. The problems were decoded and re-coded, lifestyles were upgraded, and convenience was redefined. These innovations were supported and subscribed by the people in shiny blazers – Venture Capitalists (VCs) who funded Consumer Tech, FinTech, SaaS, and so on, passionately.

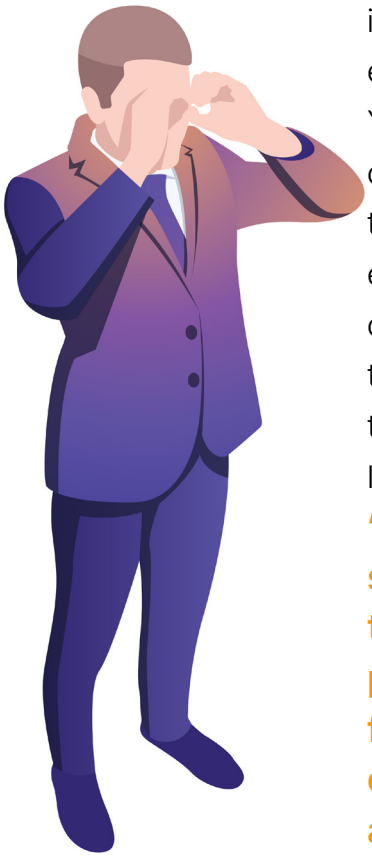
Ag Tech: Less Money, More Problems

It doesn't take much to draw parallels from around the world and make an assumption that the inflow of Venture Capital to Ag-Tech is constricted in comparison with other PE/ VC funded sectors. I am sure VCs would have had all the right reasons raising the bar to invest into the sector- Agriculture value chain runs on thin margins, farmers are poor so won't pay for anything, the sector is heavily subsidised by the government who may or may not pay for innovative solutions, and many other.

I would right away want to point out here that this is not how things are 'now' in the Agri-Tech investment world. The sector is seeing more innovation than ever before, across IoT, Blockchain, Satellite Data, and Automation. In addition to a few sectoral focused VCs, mainstream VCs have now started backing Agri entrepreneurs. The good news here is that there are positive signals in the market that the sector is hot!

Blind Spots

But the thing I want to talk about here is one other potential reason why the sector saw tepid VC interest. From the VC point of view the business models that are solving the problems of the Agriculture Sector were not ideal for investment structures like equity or equity-like instruments. VCs typically invest in tech businesses that have higher Y-o-Y growth in lieu of equity shares in the companies. Their eyes always gazed at outsized returns for their money. As Victoria Fram (MD, Vilcap Investments) puts it, **"Picture a steady, stable company that is growing predictably and focused on unit economics to achieve profitability, but is not reaching 5x, 10x, 20x annual growth rates. That company is going to get a lot of pressure from investors, if they're not poised to attract a buyer within five to seven years, or go public within 10."** VC investments are risky, and investors tend to stay away from business models that lack the high-risk return profiles. But despite its popularity, equity-only investment strategy has not helped the VCs much either if you look at the way VC funds on an average have failed to return money to LPs, after taking fees.[1]



[1] Read further: Kauffman Foundation study in 2012 titled "We Have Met The Enemy..And He Is Us".

Why it Matters?

The typical startup unicorns characterized by stellar founders with geographical and cultural advantage have already penetrated into the VC world as 'selection biases'. But we don't want this to be compounded by a limited range of financing. Viewing the world through the lens of limited capital structures not only limits the types of business models that can access funding but also limits the options investors can look at to explore returns. When an investor takes equity investment in a company, they have massive incentives to see the company take the hyper-growth curve. **This 'growth at all cost' mentality has pushed lots of startups to trade sustainable profitability and reliable unit economics for achieving the metrics for the next round of funding.** Making things worse, alternatives to equity have become scarcer for many young companies. The default option if you need to raise money for a steady-growth company has always been debt — getting a loan from Financial Institutions. But traditional debt has been harder to secure in recent years, particularly for early-stage ventures that still have a fair amount of risk. Venture Debt is a relatively friendly option, but there are a number of financial hurdles to jump through to avail Venture Debt.

Updating the Way we Back Businesses

In the venture capital world, innovation is often limited to transformative products and services. But undercapitalised sectors and overlooked business models need innovative investment models as well. At Vilcap Investments, we offer a number of different investment structures. **Nine of our portfolio companies have taken non-equity structures like revenue share or flexible debt. Revenue Share can be a great option for innovations that maybe are a bit too early traditional debt or VCs but have high growth and returns prospects if adequately capitalised.** Such alternate capital arrangements can help companies to get to a point where equity makes sense. It could be businesses where an exit doesn't exist or a business that can generate stable cash flows but limited exit.

How it Works

Over the past decade, we have invested in companies in a revenue share model where they share 5% of their revenues, as the company grows up to generate target return multiple of our initial investment. If the company grows fast, we win with them. If they have a rough quarter, we share the risk, without them having the stress to resort to giving up collateral or risk personal recourse.

In 2013, Vilcap invested in Spensa Technologies, a precision agriculture company in Indiana. The company was going through early customer validation and market development. Within two years, we got our money back, and we reinvested in their pre-series A because we had better visibility to their team, business challenges, growth potential, etc.

For Startups

There has to be a purpose alignment here- i.e., the best use of revenue share money is if the money is going to go into servicing existing work orders, vs. servicing long term growth.Read more about alternate capital structures here: [2]

[2] https://assets.ctfassets.net/464qoxm6a7qi/729JKXLUPQQAFCJ9SeJlmy/277319a6983ae544f83dfdf87daca919/Capital-Evolving-Village-Capital-2.pdf

For Investors

The revenue share model works well for VCs as an entry strategy into a company's business since investors can have greater visibility into the company's operations and adequately capitalise it when growth at scale kicks in. It also aligns investors as equity owners, with an optional conversion to participate in future rounds, giving them a more visible path to liquidity than an equity investment world. A quick model on how such structures sit with the fund structure and equity instruments is shown here

Assumptions

FUND INVESTMENT ASSUMPTIONS	
TOTAL FUND SIZE	**$50 MILLION**
LP AMF	2%
CARRIED INTEREST	20%
TOTAL CAPITAL TO INVEST NET OF FEES	**$40 MILLION**
NUMBER OF REVENUE-SHARE INVESTMENTS	**60**
INVESTMENT AMOUNT PER DEAL	$100,000
TOTAL INVESTED IN EARLY STAGE	$6 MILLION
FOLLOW ON INVESTMENTS (SERIES A)	**9**
SERIES A FOLLOW ON INVESTMENT PER DEAL	$2 MILLION
TOTAL INVESTMENTS IN SERIES B ROUND	$18 MILLION
FOLLOW ON INVESTMENTS (SERIES B)	**4**
SERIES B FOLLOW ON INVESTMENT PER DEAL	$4 MILLION
TOTAL INVESTMENTS IN SERIES B ROUND	$16 MILLION
EXIT ASSUMPTIONS	
MONTHS UNTIL EXIT (FROM INITIAL INVESTMENT)	60

SOURCE: https://assets.ctfassets.net/464qoxm6a7qi/729JKXLUPQQAFCJ9SeJlmy/277319a6983ae544f83dfdf87daca919/Capital-Evolving-Village-Capital-2.pdf

Course Correction

A decade is a long time to go without any corrective measures or a fresh take on the same problems. Now, as we look forward, the future, which of course is a more exciting prospect than the past, should encourage investors to explore alternative capital structures. There are apps out there that give farmers weather predictions, IoT sensors monitoring the crop growth conditions, AI models that can detect and remedy diseases, satellite data models that can support the Agri value chain, etc. **It's time investors reinvent the way they invest, support, and watch such businesses generating long-term effects on the economy and livelihoods of all.**

Opinions have been paraphrased from

- https://medium.com/village-capital/why-an-equity-only-investment-strategy-overlooks-many-promising-entrepreneursec5f69bd104c
- https://medium.com/village-capital/venture-capital-is-like-skinny-jeans-or-why-we-need-a-new-language-for-capital-6a935bf15ce7

भारत v/s 中国

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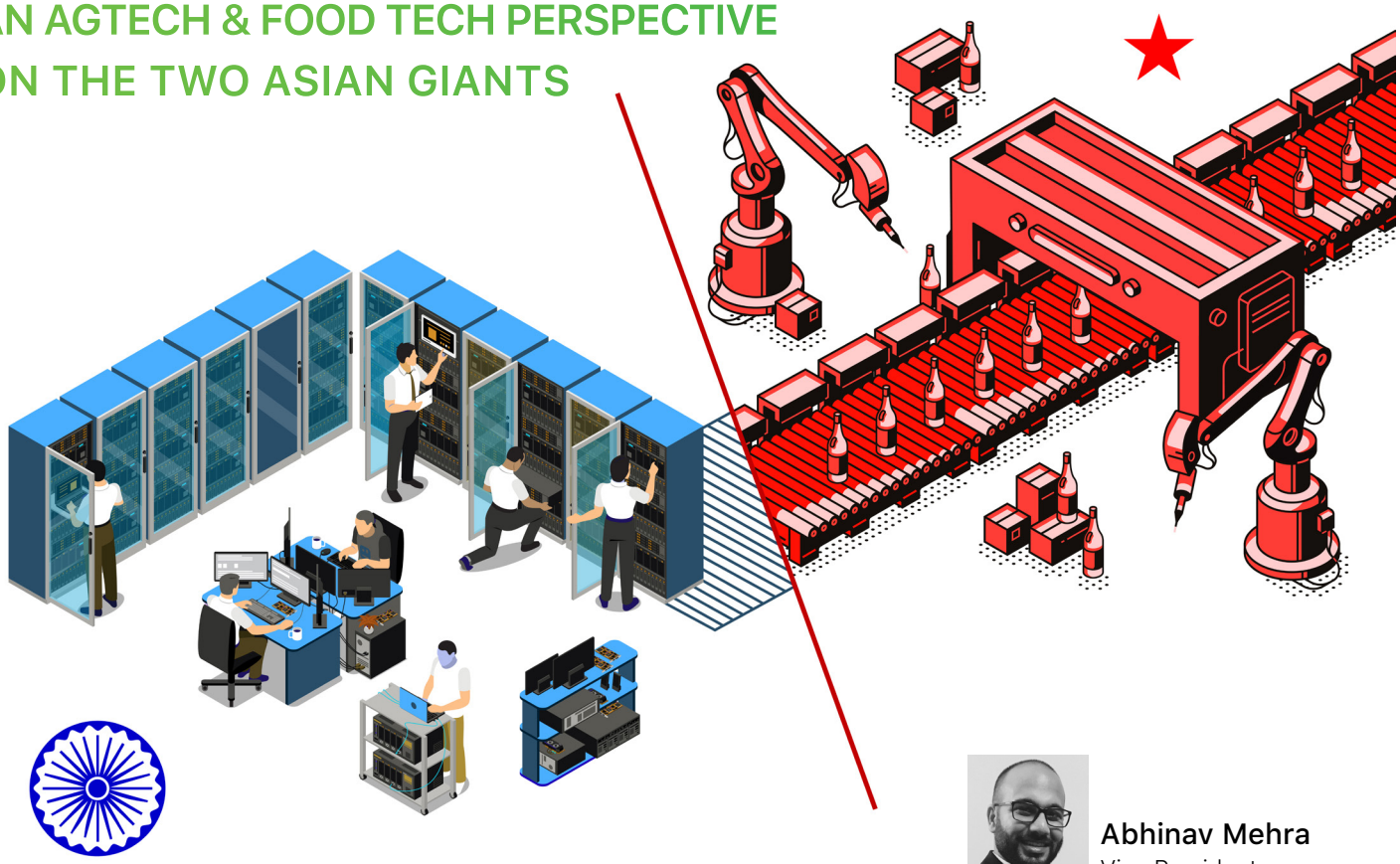


Abhinav Mehra
Vice President
ID Capital

AGTECH AND FOODTECH IN CHINA & INDIA – A TALE OF TWO COUNTRIES

This November 2011 TIME magazine cover, relays the sentiment building at the time **when China was the "factory floor of the world"** and the manufacturing capital, and the Made-in-China label had become affixed to everything from underpants to consumer goods. **India, on the other hand, was the infotech giant, and a giant back-office** for the world's leading businesses. Also, around this time, the world marked the ten year anniversary of the bursting of the dot com bubble and had begun to reinstate its trust in tech companies. On the date, the release of this edition of the TIME magazine, Amazon was valued at US$83B, today it is valued more than 10x that number. Amazon is just one such example of a company at the forefront is technology revolution we have witnessed in the last few years. The embracing and in some cases forced adoption of technology across sectors, has seen many industries being disrupted. Once unknown names have emerged as market leaders and some household name stalwarts are going bust.

Asia has its own face of leaders in tech disruption, and unsurprisingly the Big 3 are from China – Baidu, Alibaba and Tencent. These three tech conglomerates provide a distinct advantage to China, not only do they bring a wealth of data but also a sense of familiarity to investors looking to invest in the country. Their experience and data have also helped the agritech and foodtech sectors.

China is the world's largest pork consumer and Alibaba has its data and skills to develop a solution for pork traceability

Using modern machine learning and AI technologies from Alibaba, pigs can be identified by their face and vocalizations. This technology can also track all the pigs' activities, vital signs, and flag issues like pregnancy, sickness, or sedentariness.

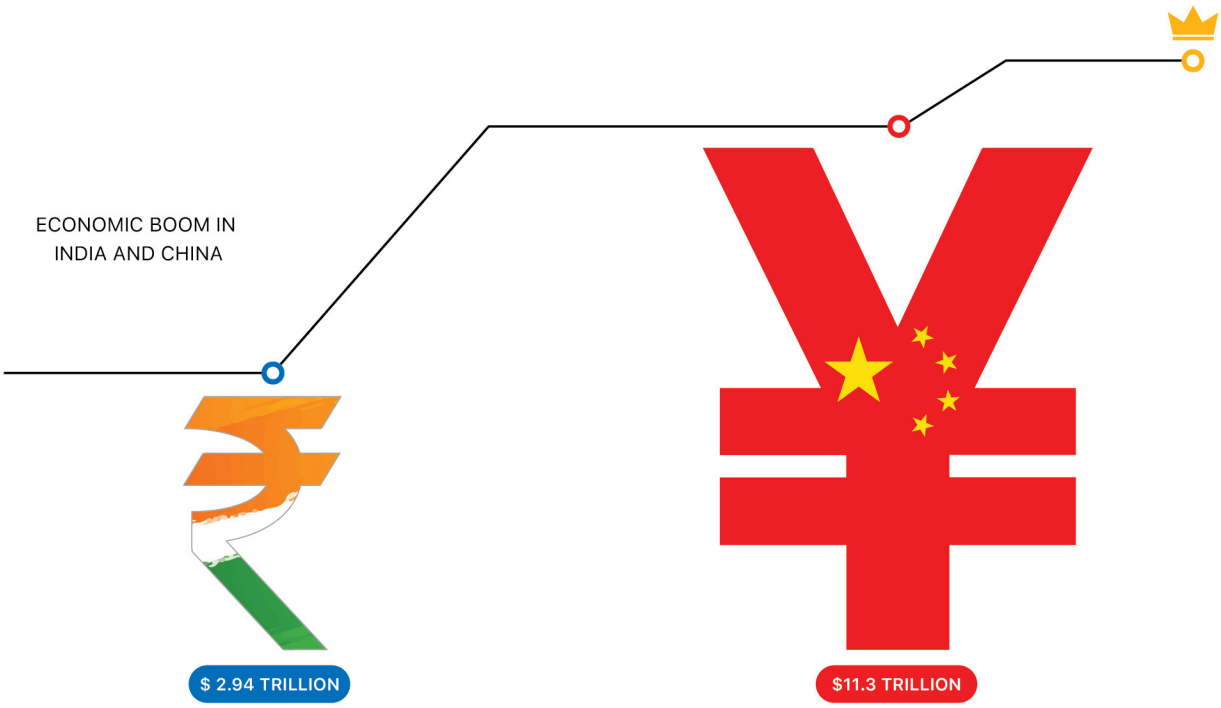
China has been luring top global AI researchers, many from Silicon Valley firms. It has built a $2 billion research park dedicated to AI in western Beijing and its spending more millions on AI research at universities and private firms. To find a tech leader from India, you would have to scroll a fair bit on over this list to see one.

There is a severe dearth of data in India, which hinders research and even those who do set up AIbased ventures struggle to find the right talent and skills.

Between 2014 and 2017, AI startups in India raised less than $400 million from venture capitalists. Somewhere over the years, China surpassed India, and holds a lead that most would say is too big to catch-up to. Today there can be little comparison between China and India.

While one is a booming $11.3 trillion economy, the other is just a $2.94 trillion upstart.

But how has this growth impacted the agriculture and food sectors of these two Asian giants and how does it translate to the state of affairs of the agritech and foodtech domains? In this post, we aim to provide our perspective on the how they stack up against each other, based on insights gathered all along the last years of visiting the populous metropolitans and remote rural villages in both countries.



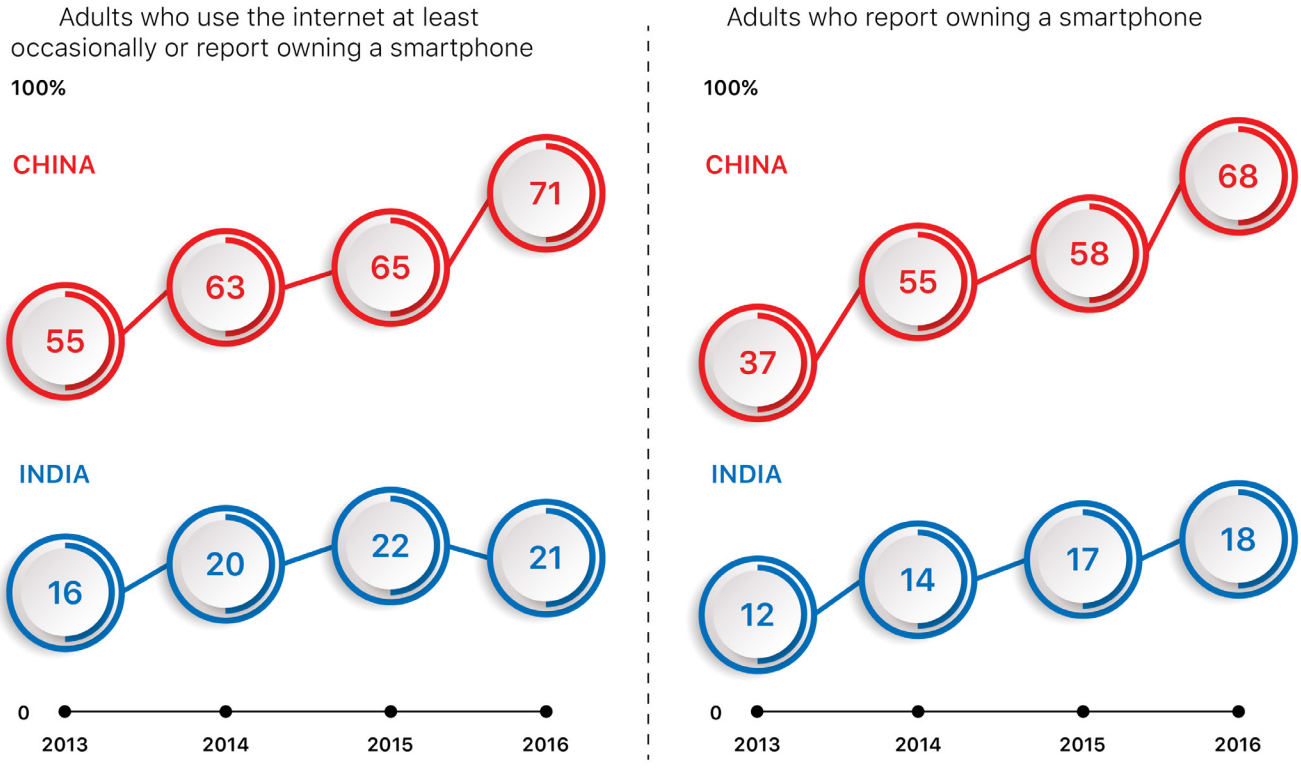
DIGITAL PENETRATION & R&D INVESTMENTS: THE BUILDING BLOCKS OF DISRUPTION

According to the World Factbook of the CIA in 2014, the global agricultural output was $ 4,771 billion. But a full 42 percent of this output comes from just six countries – China is the largest producer, followed by India. Needless to say that the sector is pivotal to both countries. However, moving beyond the volume produced when statisticians begin to calculate the value and the efficiency the story is a bit different.

Many residents of both countries will cite sheer size as the root cause of many of the inefficiencies plaguing the sector.

There has been immense pressure on agricultural land, as demand grows and China and India contributing significantly to the 9 billion mouths to feed by 2050. Technology is one answer to help improve the efficiency of the sector. But these indigenous problems often require indigenous solutions, **making investment in R&D to develop new technologies and investment in infrastructure to aid the implementation of digital solutions pivotal to the cause.**

STEADY CLIMB IN CHINESE INTERNET & SMARTPHONE USE AS INDIA LAGS



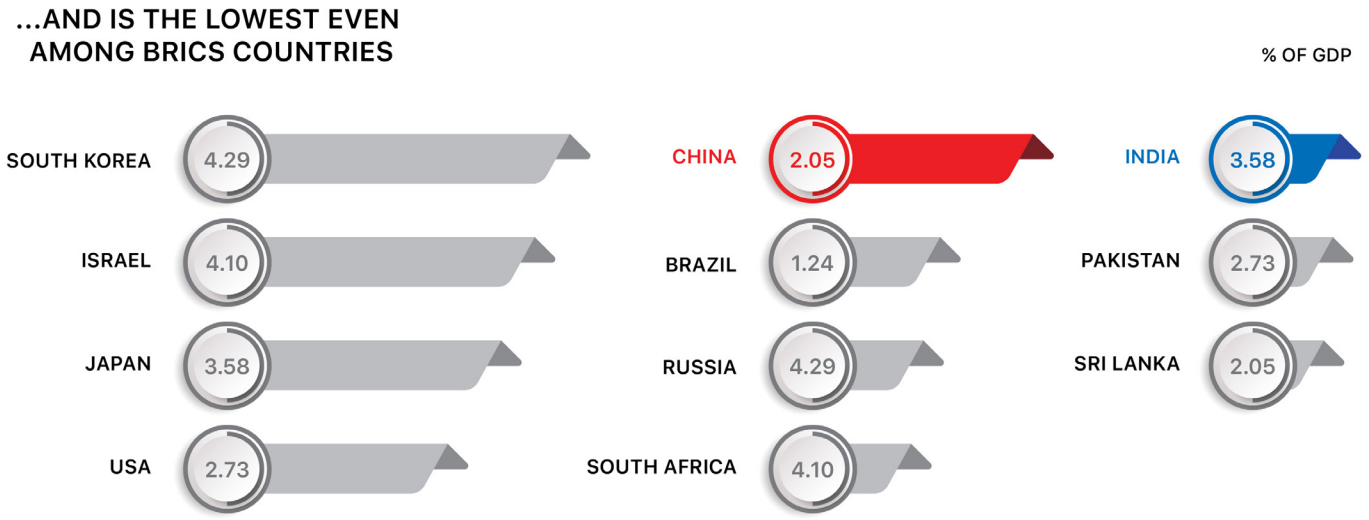
Note: Percentages based on total sample.
Source: Spring 2016 Global Attitudes Survey. Q79, Q80 & Q81

PEW RESEARCH CENTER

Between 2013 and 2016 the percentage of adults in China using the internet rose from 55% to 71% whereas in India the number only grew from 18% to 21%. The digital divide between the two countries mirrors differences in their broader economic trajectories.

This disparity in adoption rate is also the result of contrasting investment in the digital agriculture space in both countries. India has about 300-400 agripreneurs solving multiple problems in the Agri supply chain but their combined revenue is less than US$150 million while Agritech startups have received only about $248 million (2019) in approx. 60 early stage venture deals representing slightly less than 1% of total VC investments in the country. On the other hand in China, Maihuolang, a platform for agriculture products that is focused on rural communities raised US$ 150M alone in their Series A round back in May 2017.

While digitization has focused on trying to reduce the inefficiencies in the value chain, hefty R&D investments are being made to improve the quality and of the output. Here the disparity is even larger between the two countries. While Agri-specific figures are unavailable, China is now the 2nd largest spender in R&D after the US, accounting for 21% of the world total which is $2 trillion. It has been rising 18% a year, as compared to 4% in the US. Even more impressive is the fact that China has overtaken the US in terms of total number of science publications. Scientific papers have increased dramatically, even if their impact, as judged by citation indices, may not be that high and the US continues to lead in terms of the number of patents and the revenue they generate.



Beyond the border, India's gross research spending tripled in the last decade, yet total R&D expenditure remains below 1 per cent of its GDP

While China is spending about US$ 400 billion India is only spending close to US$ 50 billion. According to a 2017 Forbes analysis there are 26 Indian companies in the list of the top 2,500 global R&D spenders compared to 301 Chinese companies. 19 of these 26 firms are in just three sectors - pharmaceuticals, automobiles and software. India has no firms in five of the top ten R&D sectors as opposed to China that has a presence in each of them.

However even after millions of investments in R&D and digitization, investors remain cautious in both countries, since IP continues to remain a perpetual cause of concern for them.

While English as a dominant language and the backbone of the Common Law helps India's image among many foreign investors, the lack of enforceability of their laws continues to keep investors wary. While China faces similar problems of enforceability, entrepreneurs and investor alike recognize that the pace of implementation and scale up is the best barrier to entry, and in that respect China is seen as a country where the scale up potential is far higher and easier.

BANGALORE AND BEIJING ARE AT DIFFERENT STAGES OF THE AGRI FOOD VALUE-CHAIN

Over the past decade, China has witnessed phenomenal infrastructure growth. Between 2001 and 2004, investment in rural roads grew by a massive 51 percent annually. China's leadership has charted equally ambitious plans for the future. Its goal is to bring the entire nation's urban infrastructure up to the level of infrastructure in a middle-income country, while using increasingly efficient transport logistics and telecommunication to tie the country together. As we write China is a country where (almost) anything can be delivered within 24 hours. And specific to agriculture, **China has cleared the way for private investment in large-scale farming, announcing a change in land rights that heralds a new era for agriculture** in the world's most populous nation. Envisaging a future where consolidation of land plots takes place, will help address one of the biggest pain points of agripreneurs today – reaching small holder farmers. As an example of what China is coming to call 'corporate farming', Kingfarm Commune platform backed by international organizations such as IFC and tech giants Alibaba and JD.com will consolidate farms to bring to life a concept of a Village CBD that will consolidate multiple land plots to unlock great productivity potential.

In India, the story is different. **About 58 percent of the Indian population is dependent on agriculture and core technology is lagging in that industry.** While telecommunication network has penetrated fairly deep in rural India, more basic infrastructure such as water, electricity and roads remain insufficient. However, with the country beginning to get its act together, a renewed strategy of putting rural India as the front runner could usher in a new era for the nation. But as of now potential investors in agritech start-ups seelarge scale implementation as a challenge agripreneurs may not be able to address to reach break even point.

These contexts pave the path for two different set of innovations. **While Chinese entrepreneurs are focusing more towards improving the output and yield, many Indian entrepreneurs realize they need to first churn out more structural innovations & focus on market linkages & mechanization.**

To highlight this difference we can see Future Food Asia 2017 finalist Farm Friend which acts as a connection platform for farmers and drone operators. Meanwhile in India, while drones are yet to garner the trust & understanding of farmers, start-ups like 2018 applicant Distinct Horizon, are building innovative hardware to substitute hours of manual labor in rice farming for small holder Indian farmers.

This difference can also be seen in the numbers of the 2018 applicants for Future Food Asia Award. While both countries contributed similar number of total applicants

India saw 80% of applicants under Streamlining Supply Chain, Precision Agriculture and Sustainable Farming Practices categories

Some of these solutions encompassed quite nicely the Indian concept of jugaad which translates to finding a lowcost solution to any problem in an intelligent way. For example an applicant called NewLeaf Dynamics has developed an off-grid, compressor-free, renewable energy based refrigeration system called GreenCHILL which uses cow dung and Agri biomass to provide safe storage and cooling of perishable Agri produce. For China on the other hand single largest contribution was the category of Enhancing Nutritional Value, which focuses more around developing novel methods to process food and ingredients and improving their nutritional value and functionality, contributed 36% of Chinese applicants. This featured companies such as StartupSG grant winner, Shenzen Xiaozao which is carrying out mass cultivation of natural microalgae and extracting derivatives such as Omega 3.

While China now begins to rival the US in Agtech – and this phenomenon starts to be visible through funding trajectories that mirror (and at times surpass) those of the West - India still must first tame its domestic challenges. If a good understanding of the overarching pain points of the F&A industries can guide VC investors toward high potential startups, risk assessment is more of a country-specific part of the due diligence. Syndicated investments help bring around the table the right expertise on critical nodes of the supply chain, and we are glad to contribute to this with the Future Food Asia platform.

ID Capital returns with its 4th edition of Future Food Asia – APAC's premier agritech and foodtech platform. In the past 3 years FFA has assisted 38 startups from the agrifood-tech domain from Asia Pacific & provided prizes worth USD 1 million. The esteemed Future Food Asia jury panel of corporate partners, VC investors and scientists will select 10 finalists who will compete for the USD 100,000 grand prize and will be flown down and hosted in Singapore to showcase their innovations to a room of 350+ investors and thought leaders on June 2-3. Future Food Asia is built with the support of corporate partners such as SatSure as well as ASTAR Singapore, Corteva, Buhler Group, Givaudan, Dole, Asian Development Bank, & the Singapore Economic Development Board. Event passes and startup applications are now available on: **https://futurefoodasia.com/ffa2020/**

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