
पताका


मुष्टिः


कर्तरीमुखा


मुद्राख्या


कतक


शुकतुण्ड


कपित्थक

Uniquely India

Digital Opportunity


अन्जली


अर्धचन्द्र


मुखुर


भ्रमर


सूचीमुख


पल्लव


त्रिपताका


मृगशीर्षा


सर्पशिरस


वर्धमानका


अराला


सिखर


हंसस्यम


कटकमुख


CLICK!

Foreword

by Vani Kola
Managing Director
Kalaari Capital

'HindustanHamara' *is the telling of what Indians value and how they consume, and of embracing the diverse and uniquely Indian opportunity that is its billion people.*

In the Indian dance form of Bharatnatyam, the dancer is a storyteller, telling the tale using hand gestures called "Mudras". The Mudra, though very precise, is adaptable to storytelling by virtue of breaking barriers of language across viewers. India is diverse, but ideas morph and standardise to offer unifying interpretation and experiences. Take 'Desi-Chinese', the 'real' Chinese food most Indians swear by, which is cooked to include Indian flavours and eaten with a spoon.

So far, our experience of the internet was limited by the dominant use of English. But with mass adoption, Indians are embracing vernacular social apps, using voice for everything from searching to shopping online, consuming 100 billion+ hours of video, and undertaking 90 billion+ shopping sessions a year. Undoubtedly, we have the knack of 'Indianising' anything to suit our unique needs.

Alexa spoke Hinglish from the get-go in India. Products are increasingly customised to capture the needs of the Indian consumer. As nearly 850M users become a part of the Indian digital economy by 2025, these needs will only become more nuanced and pronounced. Companies have to not only Indianise, but also specialise for the unique emerging India - constant innovation is a key factor to success in this market.

We at Kalaari *strongly believe that startups, driven by their out-of-the-box thinking, deep market understanding, and tenacity will create the uniquely India solutions that will capture this growing consumption.*

A strong and vibrant startup ecosystem has the potential to create outsized impact for both the society and the economy and is therefore as critical for the government, as it is for venture capitalists. The involvement of corporations, enablers, and industry leaders is equally relevant to make this community strong.

Over the last decade, we have invested time and effort to nurture the ecosystem through investments, outreach, publications, events, and partnerships. Having closely worked with founders, investors, business leaders, and other stakeholders, we realize that solving for India is truly a special opportunity. One that needs pacing, patience, and long-term commitment.

This report is an effort to share our ideas on a few key sectors and emerging opportunities for innovation. It is our contribution to make startup journeys have wider participation and to the building of strong companies led by a new generation of entrepreneurs.

Through this report, I invite you to take a look at the Indian venture opportunity with us. I hope this report inspires you to join us in this incredible journey that will be #HindustanHamara.

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THE INDIA OPPORTUNITY

The Indian economy has witnessed substantial growth over the last two decades. The previous three years saw the government introduce several landmark reforms to achieve fiscal stability and control inflation while continuing to maintain the economy's strong growth rate. These reforms make India an attractive long-term bet for financial investors over the next decade. Further, India in the next decade is likely to see a confluence of several structural mega trends, which will leapfrog digital innovation and digital consumption in the country.

Mega trends to Leapfrog Digital Innovation

→ *The digital revolution led by Jio and IndiaStack*
→ *Millennials changing the face of consumption*
→ *Inflection in consumption expenditure*

Digital Revolution led by Jio & IndiaStack

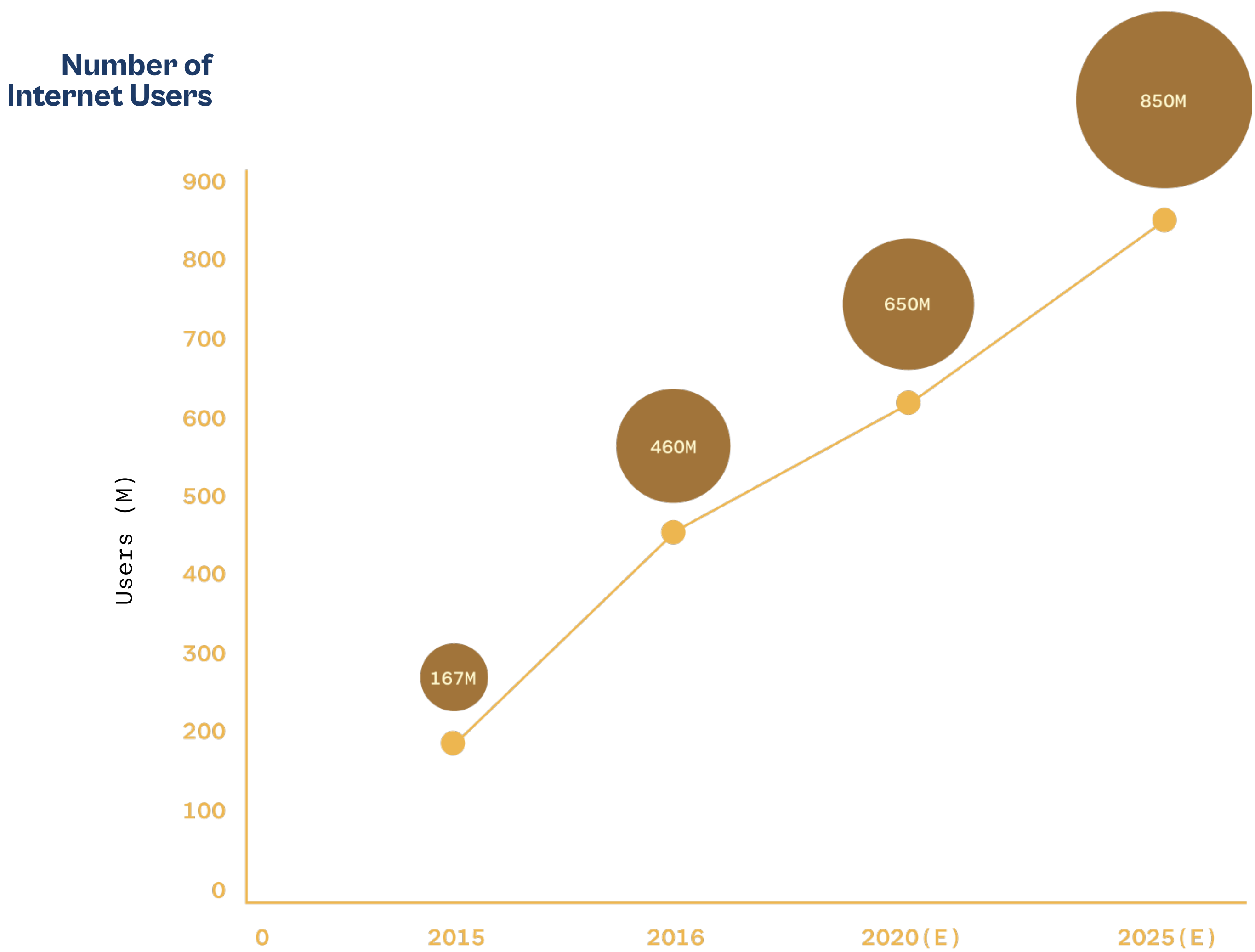
The economic reforms of 1991 proved pivotal in pushing India's economic growth into the next century. Similarly, the digital initiatives of 2016 (Jio and IndiaStack) will prove pivotal in hyper-accelerating India's digital economy over the next decade.

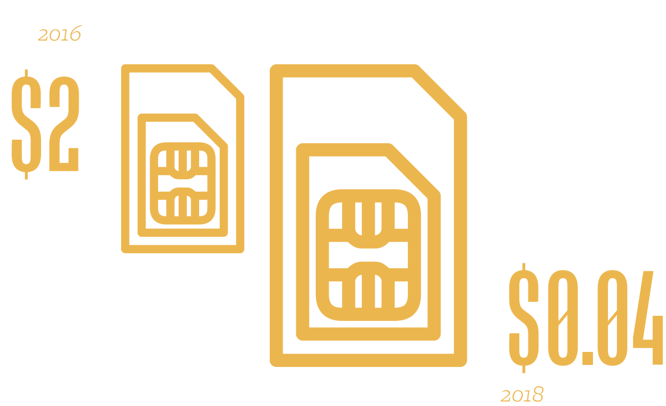
India's rapid digitization over the last three years has been primarily driven by the significant push from Jio and IndiaStack. Reliance has invested over $32B to drive cheaper and high-quality data access to the masses in India. Before Jio's launch in September 2016, India had 167M data users. Less than two years later, India had 460M data users, of which 96% access data on their mobile phone and 49% access data using Jio. More than 80% of data users in India now have access to broadband speeds of 512KBps+.

Change in Internet Users, Cost and Data Usage

The number of internet users in India is expected to increase to 650M by 2020, touching 850M by 2025. This considerable increase in data penetration has come on the back of a significant reduction in data prices. The cost of data has come down by almost 98% from $2/GB to $0.04/GB after Jio's launch.

Consequently, data consumption has seen unprecedented growth in the last two years, with total consumption increasing 12x from 200M GB/month to 2,400M GB/month.





2016

200M GB — *Total Data Usage/Month*

1 GB — *Usage/User/Month*

2018

2400M GB — *Total Data Usage/Month*

11 GB — *Usage/User/Month*

Source: Industry Reports, Kalaari Research

Video in India & the Rise of YouTube

2016

7 minutes

Video Consumption/Day

41M *YouTube Monthly Active Users*

16 *Youtube Channels with 1M+ Subscribers*

2018

52 minutes

Video Consumption/Day

225M *YouTube Monthly Active Users*

300 *Youtube Channels with 1M+ Subscribers*

Growth of Video Consumption in India

The increased access and falling data prices have had a profound impact on the type of content that Indians are consuming online. With more data and speed at their fingertips than ever before, Indians are now able to search, surf, and view with ease. The result is an exponential increase in the consumption of video-based content.

The average Internet user now consumes 52 minutes of video per day compared to just 7 minutes in early 2016. This rise in video consumption is also manifested in YouTube's phenomenal growth in India. YouTube Monthly Active Users (MAUs) increased to 225M in 2018 from 41M in early 2016, and there are now more than 300 Indian YouTube channels with more than 1M subscribers compared to just 16 in 2016.

While Jio has driven data access and consumption on one hand, the Indian government has driven digital infrastructure with its Digital India initiatives. ***IndiaStack*** is the Indian government's ambitious project of creating a unified software platform to usher the country's population into the digital age. With a focus on innovation, IndiaStack identifies five technology layers aimed at making government services seamless, transparent, paperless, cashless, and accountable. So far, the set of APIs under the digital infrastructure of IndiaStack include ***Aadhar***, the identity project that leverages biometric data, ***eKYC*** (electronic Know Your Customer) for paperless customer identification, a ***Unified Payments Interface*** (UPI) for money transfers and payments, ***Digilocker*** for storage of digital documents, and ***e-Sign*** for signing documents electronically.

Source: Zenith Media, Industry Reports, Kalaari Research

Key Aadhar Statistics

It was in 2009 that the Unique Identification Authority of India (UIDAI) came into being with the objective of issuing Unique Identification Numbers to every Indian. Known as 'Aadhaar,' this is the world's largest completed biometric project. As of date, 1.1B Aadhaar cards have been issued, 3B Aadhaar authentications have been made, and 340M bank accounts have been linked to Aadhaar.

Aadhar - World's Largest Biometric System

1.1B
Aadhar cards issued

3B
Authentications made

340M
Bank Accounts Linked

$8B
Total Dollar savings since 2010

$1
Cost to issue an Aadhar Card

SEP 2010
Issue of the first Aadhar Card

Growth of UPI & e-KYC

6.6B
e-KYC Transactions

7M
Daily e-KYC Transactions

400M
Monthly UPI Transactions

$8.5B
Sep '18 Gross UPI Value

2.3B
Total UPI Transactions since Inception

Growth of IndiaStack

The next stages in IndiaStack were the introduction of ***eKYC,*** which enabled businesses to perform a paperless and rapid verification of identity, ***e-Sign,*** where Aaadhar-verified users could attach a legally valid electronic signature to a document, and ***UPI*** for enabling cashless payments. In 2016, we saw the addition of ***Digilocker,*** a platform for issuance, storage, and digital verification of documents and certificates.

And Indians have adapted well to digital technology and payments. A total of 6.6B eKYC transactions have already taken place and eKYC transactions were trending at as much as 7M transactions per day. However, the Supreme Court barred the use of Aadhar based eKYC by private companies in September 2018. To fill the void, alternatives in the form of video, QR-code, and biometric authentications are emerging.

UPI transactions, on the other hand, are also seeing significant growth, crossing total monthly transactions of 400M by volume and $8.5B by value in September 2018.

Driven by this push for enhanced data access and the creation of a digital identity, India, till 2025, will not only witness a significant increase in the base of online users, but also see rapid maturing of their Internet age which will be crucial for the monetization of these users.

Source: UIDAI, India Stack | NPCI, India Stack

Progression of Digital Users in India

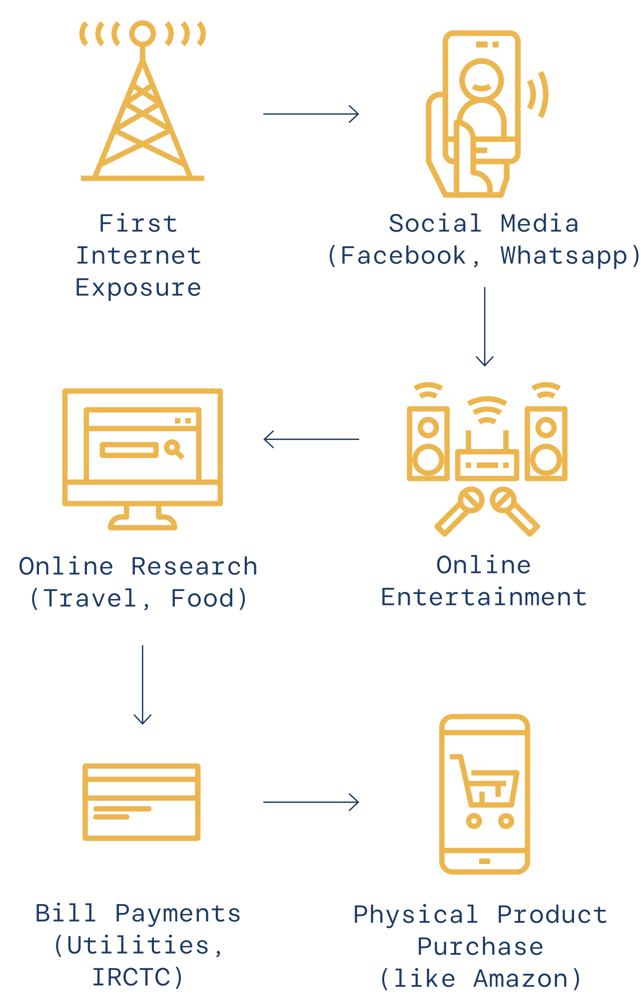
A typical Internet user 'comes of age' in 4-5 years. In these 4-5 years, this typical digital user follows the following consumption trend: Social media (Facebook, WhatsApp) --> Online entertainment (news, videos) --> Online research (shopping, travel, food) --> Bill payment (utilities, ticketing) --> Product purchase (Flipkart, Amazon or other e-commerce players).

Of the estimated 460M digital users in India, 70M are older than 4 years, 100M are 2-4 years old, and 290M are less than 2 year old. By 2025, we will have 650M Internet users who will be older than 4 years in their digital age and will become prime online consumers.

This will also drastically change the makeup of online consumers in the next 7 years. So far, three kinds of online consumers have dominated the Indian online market, popularly known as the 3Ms. These are Metro Dwellers, Males, and Millennials. Over the next 7 years, as data penetration takes effect, we expect this online consumer base to expand and include Women, Elders, Tier 2 and Tier 3 Town Dwellers, Aspirers[1], and the Next Billion[2].

In conclusion, the ongoing digital revolution in India is expected to completely change the way people consume products and services, ushering the country into a truly digital era. This will have a profound impact on digital products and services, driving unprecedented growth in online consumption.

Digital User Lifecycle (4—5 years)



Age in Internet Years

2018

460M
Total Users

290M
Less than 2 years

100M
2—4 years

70M
Greater than 4 years

2025

850M
Total Users

50M
Less than 2 years

150M
2—4 years

650M
Greater than 4 years

1. 'Aspirers' refers to population with an annual household income between \$7.7K-15.4K | 2. 'Next Billion' refers to population with an annual household income between \$2.2K-7.7K | Source: Industry Reports, Kalaari Research

Growth in Digital Servies ($)

2017

20B
e-Tailing Market

186B
Digital Spending

1.5B
Digital Ad Spend

75B
Digital Lending

2025

100B
e-Tailing Market

1.1T
Digital Spending

8B
Digital Ad Spend

650B
Digital Lending

Growth in Digital Users

2018

460M
Digital Footprint

190M
Digitally Influenced

120M
Digitally Purchase

2025

850M
Digital Footprint

550M
Digitally Influenced

380M
Digitally Purchase

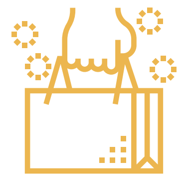
Growth in Digital Users & Digital Services

Consequently, by 2025, we expect the e-commerce market to increase to $100B, digital ad spend to grow to $8B, digital payments to rise to $1.1T, and digital lending to increase to $650B.

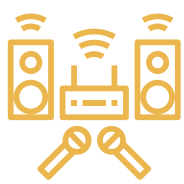
Source: Industry Reports, Kalaari Research

Key Attributes

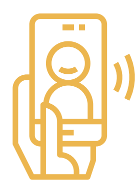
Instant Gratification



Quality over Price



Experiences over Assets



Digitally Savvy

Individualism over Conformity

Aspirational & Affluent

Millennials changing the face of consumption

India is poised to become the youngest country in the world by 2020 with an average age of 29 years and accounting for around 28% of the global work-force. In comparison, in 2020, US and China will have an average age of 37 years and Western Europe will have an average age of 45 years. This demographic sweet spot will not only drive up productivity and output but also change what people consume and how they do so.

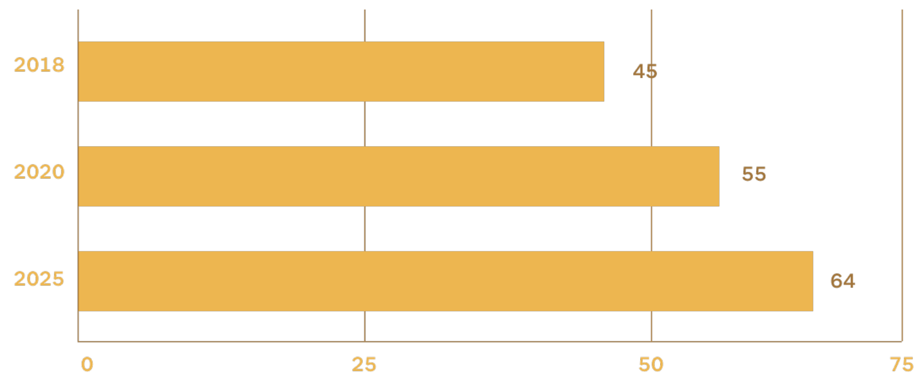
India will have 410M millennial consumers (ages 22-37) by 2020, contributing more than $330B to the total consumption expenditure. In 2018, millennials comprised 45% of the current workforce. By 2025, they will encompass 64% of the workforce. This will drive an increase in their spending power and will make them prime customers for new age businesses.

Key Attributes of Indian Millennials

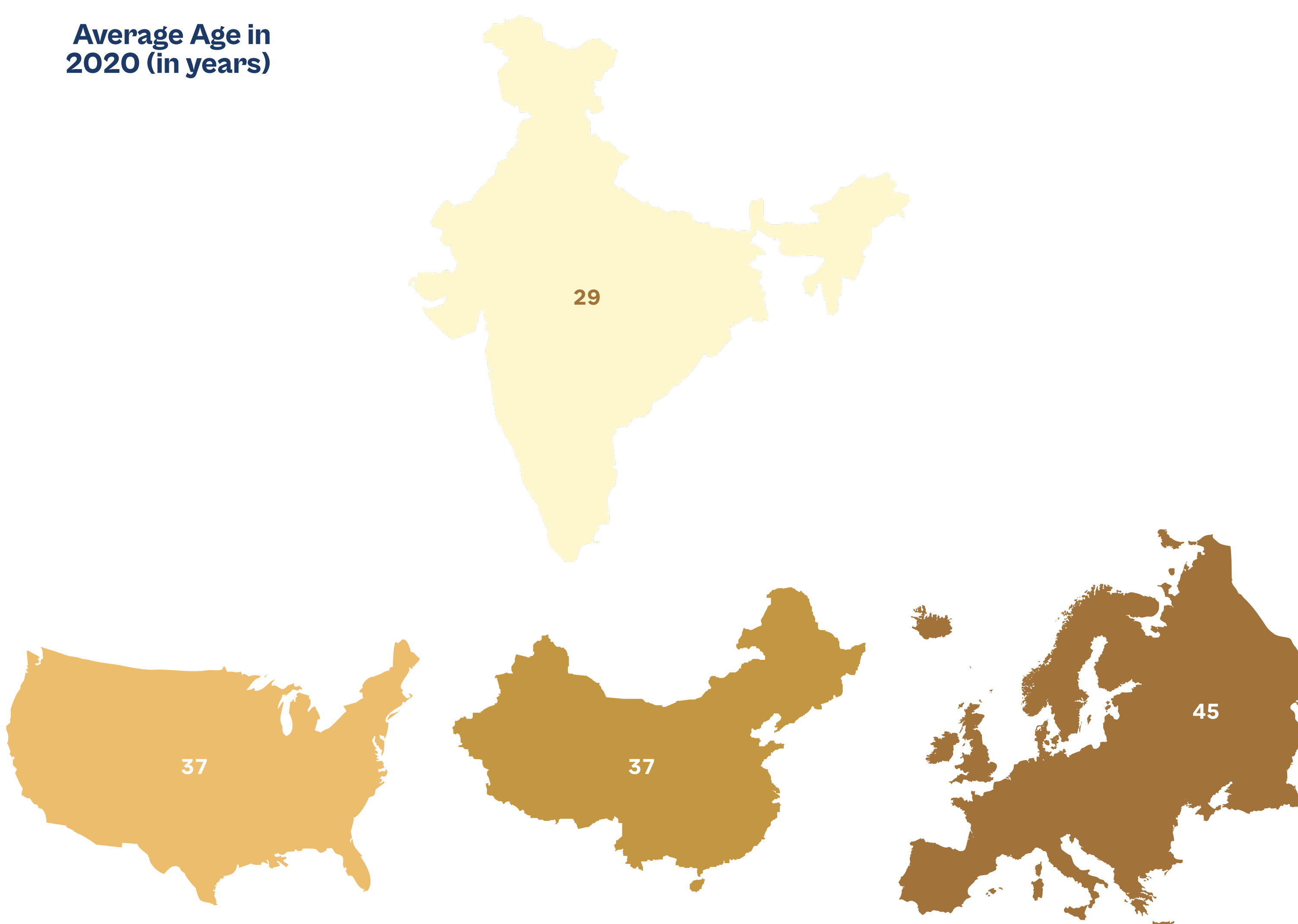
This change in the makeup of Indian consumers will give rise to several new consumption themes over the coming years. Millennials typically bring strong brand affinity, seek instant gratification, and thrive on change. In addition, they value experiences over assets, individualism over conformity, and quality over price.

The average millennial is also digitally savvy and spends around 17 hours per week online. The aspirations of millennials, combined with their lifestyle and digital affinity will change consumption trends in favor of several new themes such as the shared economy, rentals, challenger brands, social commerce (alternate retail), subscription models, and entertainment.

Millennials of the Workforce (%)



Average Age in 2020 (in years)



Source: Industry Reports, Kalaari Research

Inflection in Consumption Expenditure

Growth in consumption expenditure is likely to benefit from several structural shifts that India is expected to undergo over the next decade.

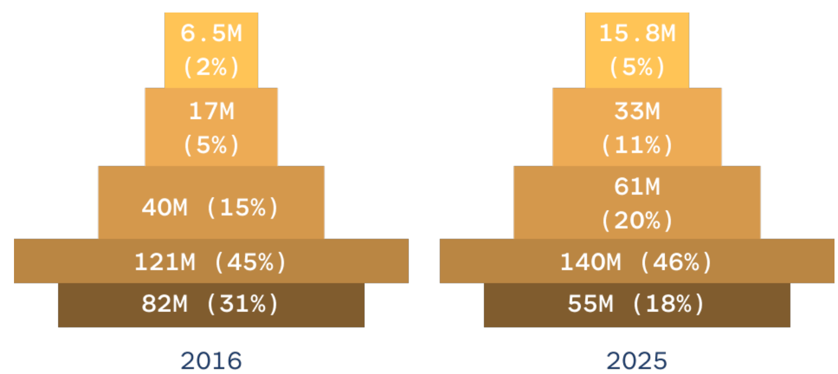
The first among these is the shift in socio-economic classes because of rising affluence and emerging cities. In 2016, there were around 24M households (8% of total households) with an annual income of over $15K, typically classified as the affluent and the elite class. These affluent households contributed around 27% to the overall household consumption expenditure. By 2025, this number is expected to increase significantly. It is estimated that by 2025, India will have 49M affluent and elite households, which will contribute around 40% of the overall consumption expenditure in the country.

Also, India had 82M (or 31%) households in 2016 that earned less than $2.5K annually and struggled to make their ends meet. By 2025, this number is expected to reduce to 55M or 18% of the total households, giving rise to a significant layer of Aspirers and the Next Billions in the middle.

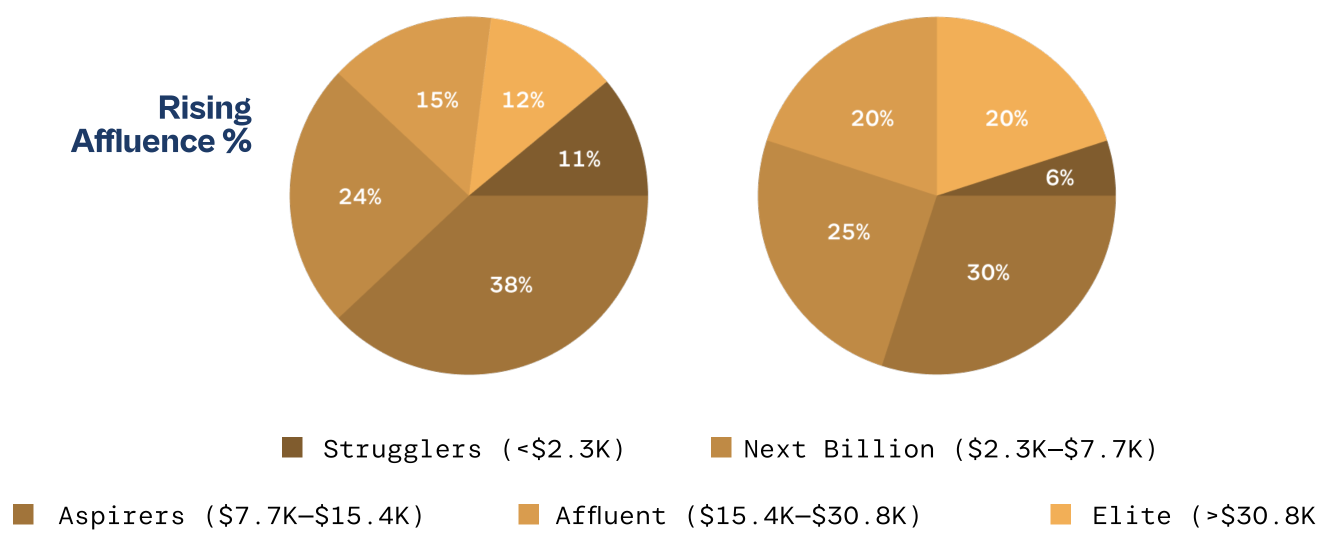
Changes in Household Income, Affluence, and Emerging Cities

The second big driver for the rise in consumption expenditure is India's upward movement on the S-shaped growth curve in per capita spending. Empirical evidence suggests that an increase in consumption expenditure for any country follows an S-shaped growth curve, meaning that once the per capita GDP (and hence per capita income) crosses a certain threshold, discretionary spending increases disproportionately (as marginal household income flows directly to the bottom line).

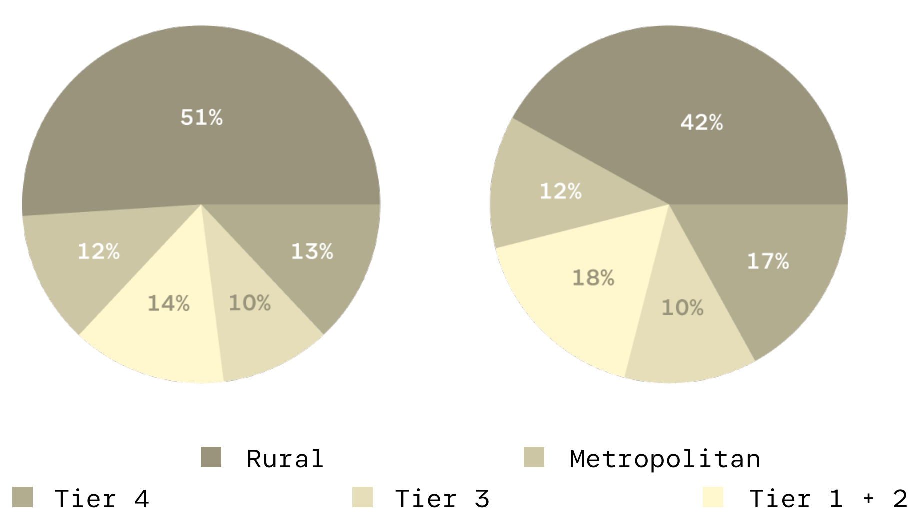
Indian Households by Income



Rising Affluence %



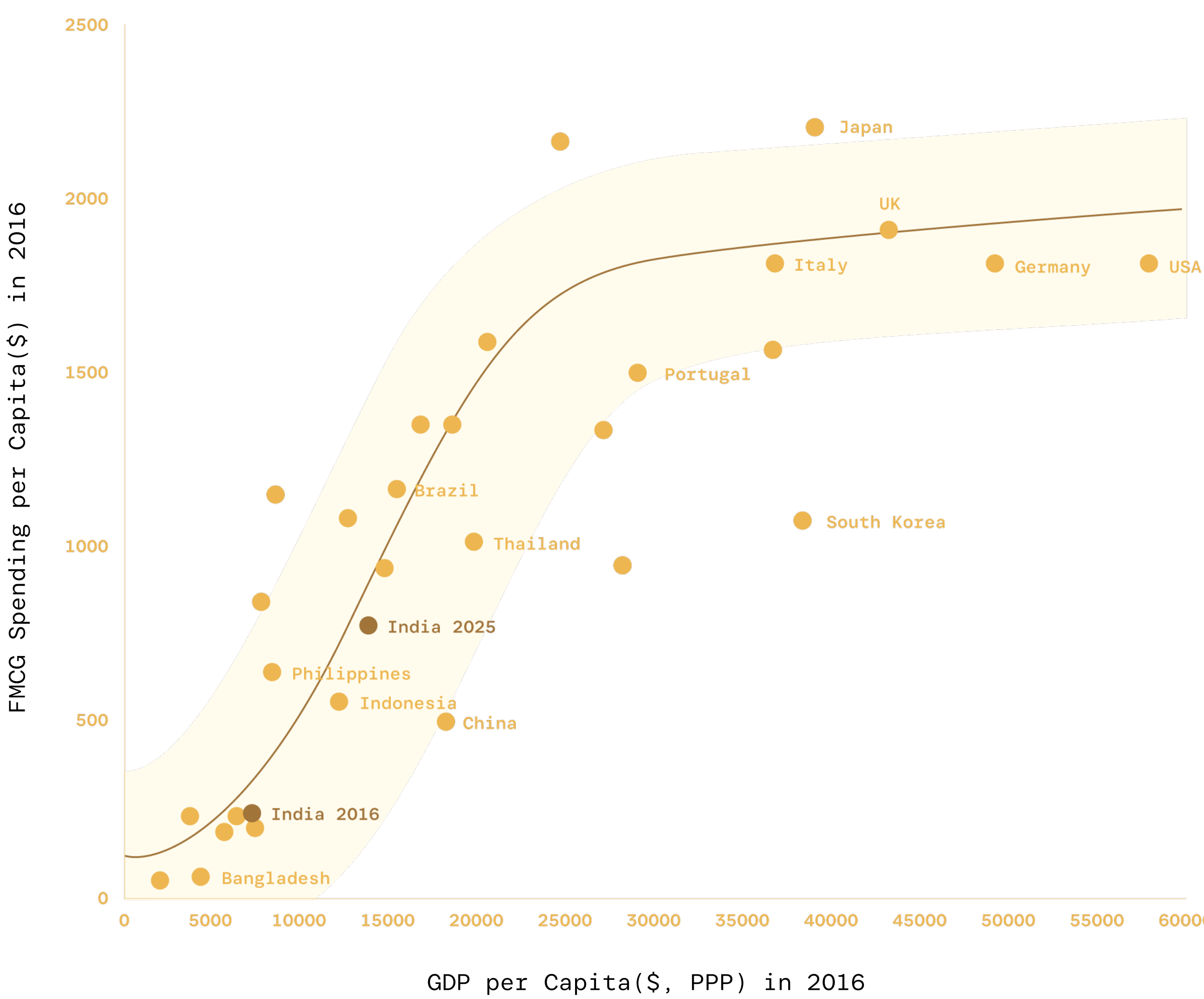
Growth of Emerging Cities



Source: BCG Research

S-shaped Growth Curve—FMCG Spending/Capita vs GDP/Capita (PPP Basis)

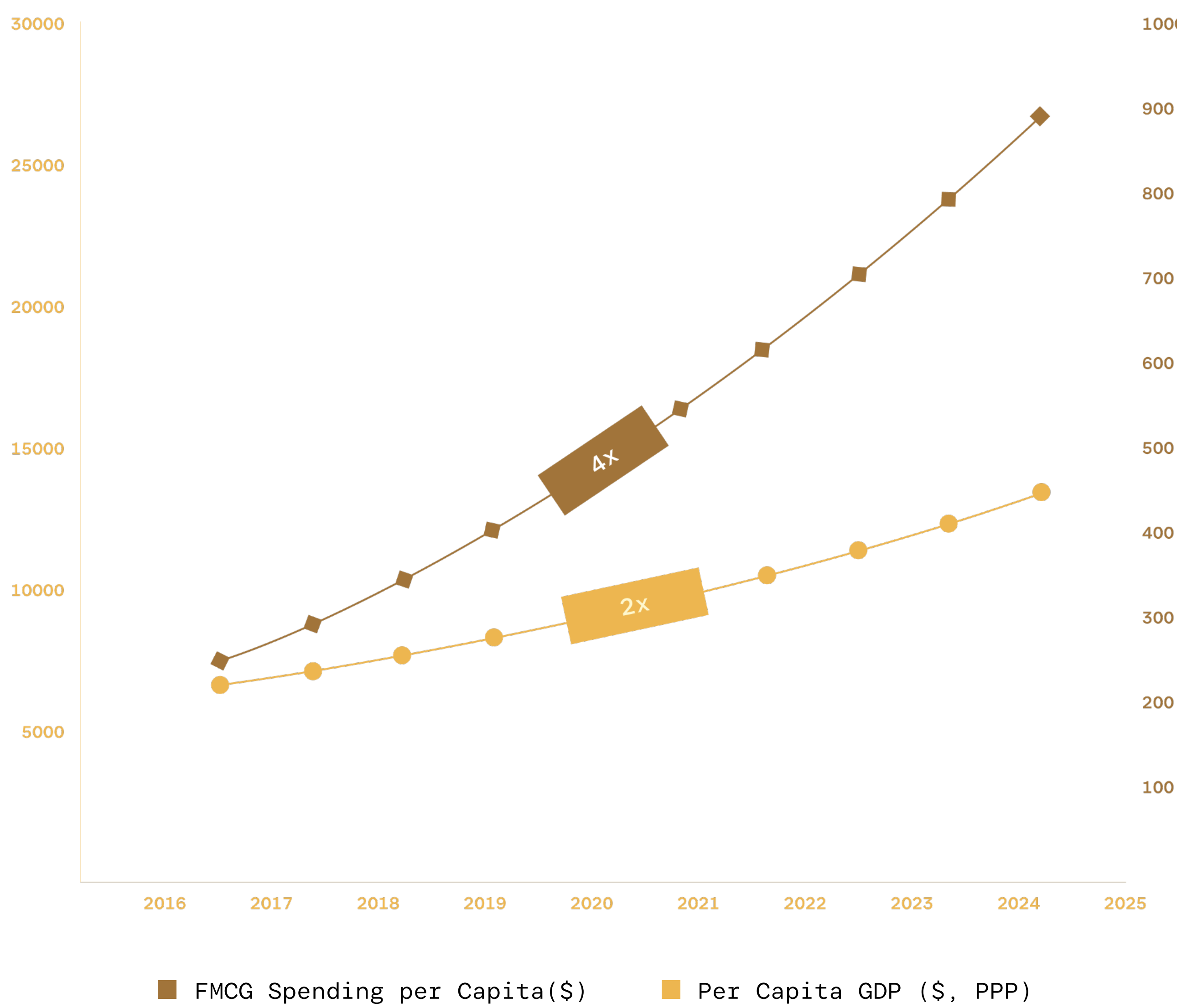
For India, when we compare per capita FMCG spending vs per capita GDP on a PPP basis with other countries, we note that India is currently at the inflection point of the S-shaped consumption curve. In 2016, FMCG spending per capita in India stood at approximately $250 vs per capita GDP of $6,700 (PPP basis).



Source: BCG Research

4x Growth in FMCG Spending/Capita vs 2x Growth in GDP/Capita (PPP Basis)

By 2025, we expect per capita GDP to increase over 2x, but during the same period, we expect per capita FMCG spending to grow by almost 4x.



Source: IMF, Kalaari Research

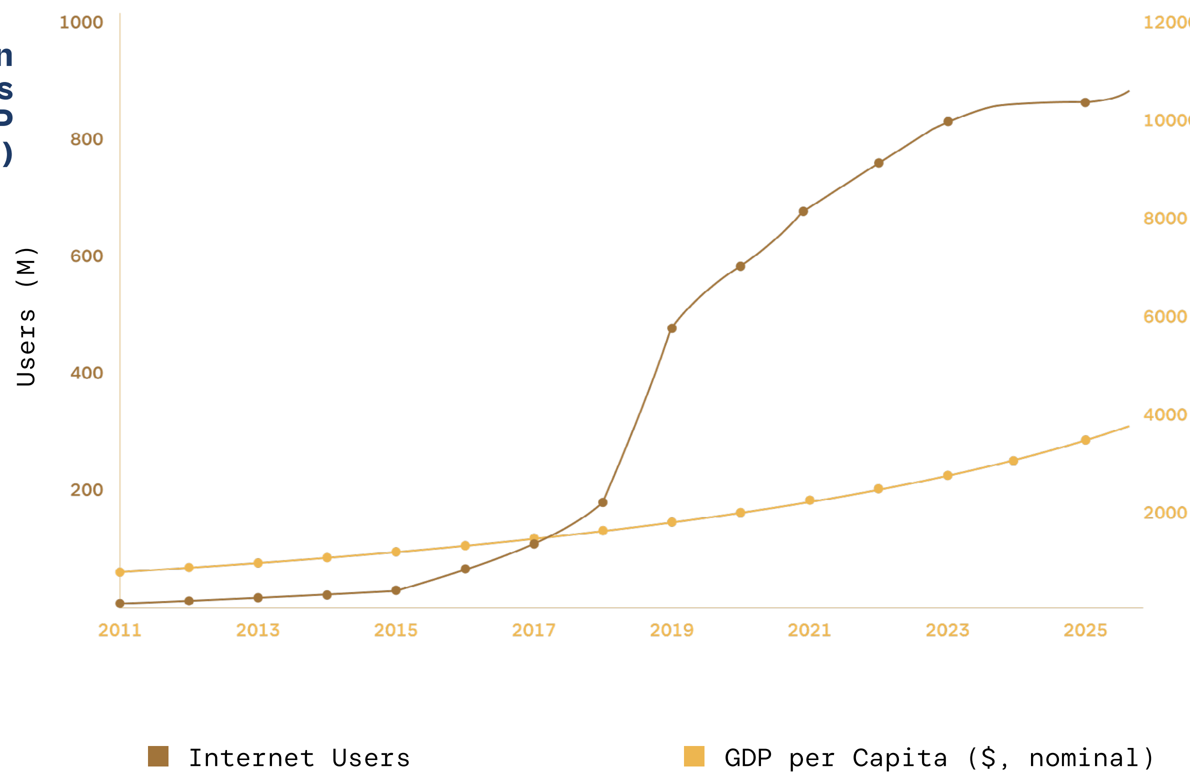
Distinct Path to a Digital Superpower

While India will witness a digital revolution in the coming decade, its path is very different from Asia's other emerging economic superpower – China.

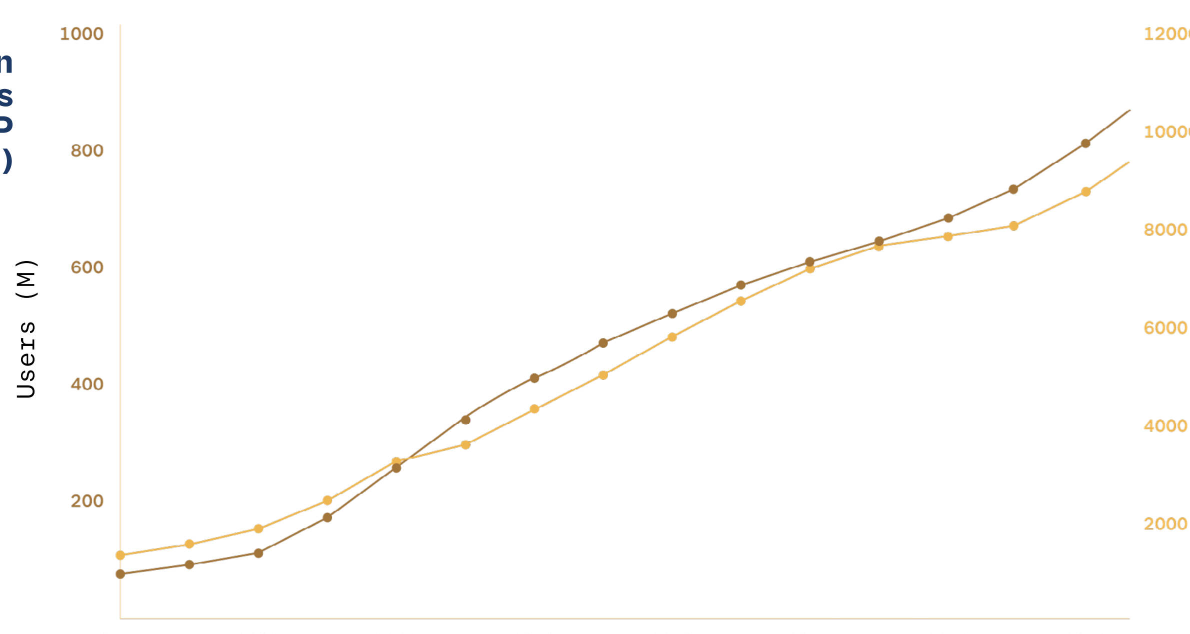
What is unique about India is that the impending rise in consumption expenditure is preceded by unparalleled growth in data penetration

In China, where consumption and digital inflection took place almost simultaneously, the country saw more broad-based digital adoption across different products and services. However, India will witness a different path of digital adoption across categories.

India - Growth in Internet Users vs per Capita GDP (Nominal)



China - Growth in Internet Users vs per Capita GDP (Nominal)



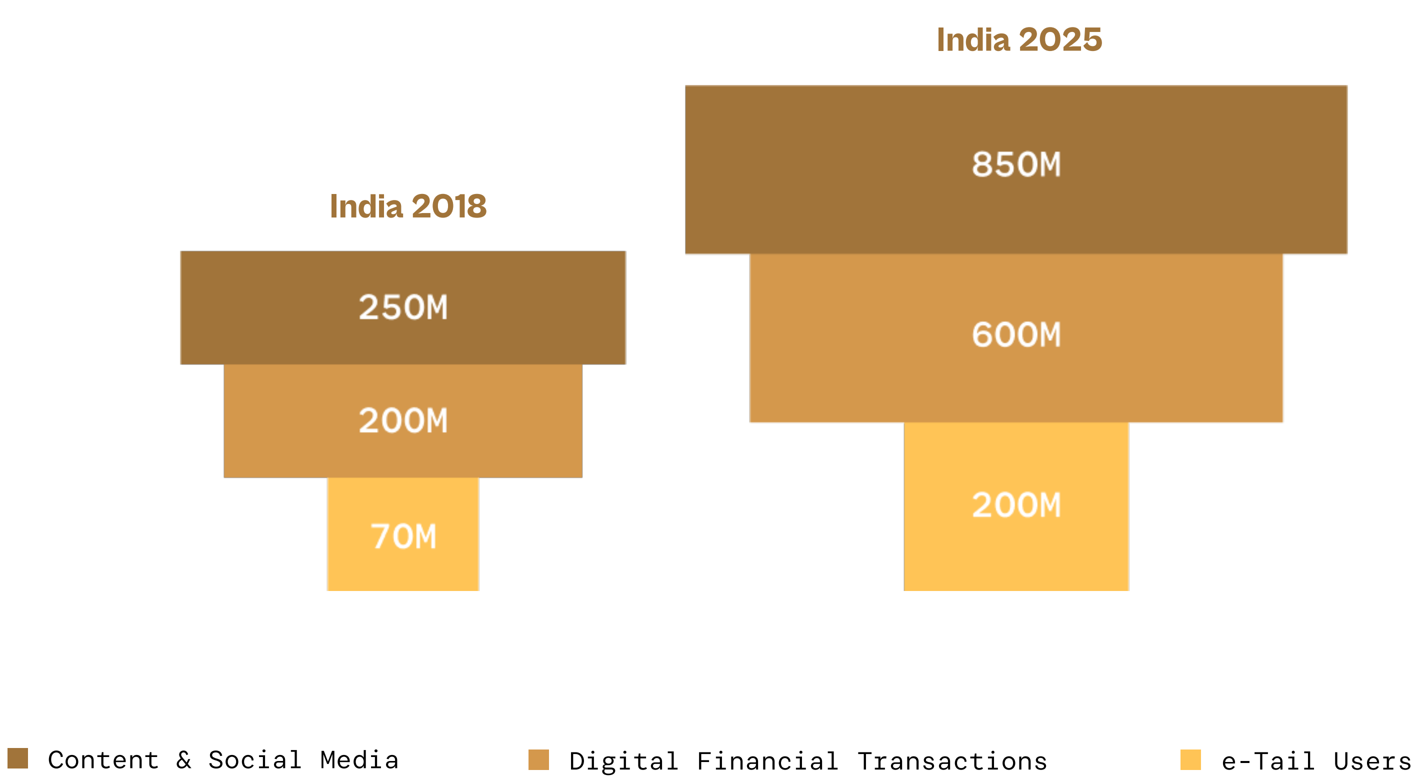
Source: TRAI, IMF, Kalaari Research

Digital User Growth by Key Segments

Non-purchase categories such as content consumption have witnessed the highest growth in user base and will continue on the same path. These categories will monetize through high-volume, low-ARPU business models: A large number of users will pay small amounts through micro-payment infrastructure in the form of mobile wallets and UPI.

In addition, financial inclusion categories like micro-credit and digital payments will also witness high adoption as digital mediums will solve the access problem.

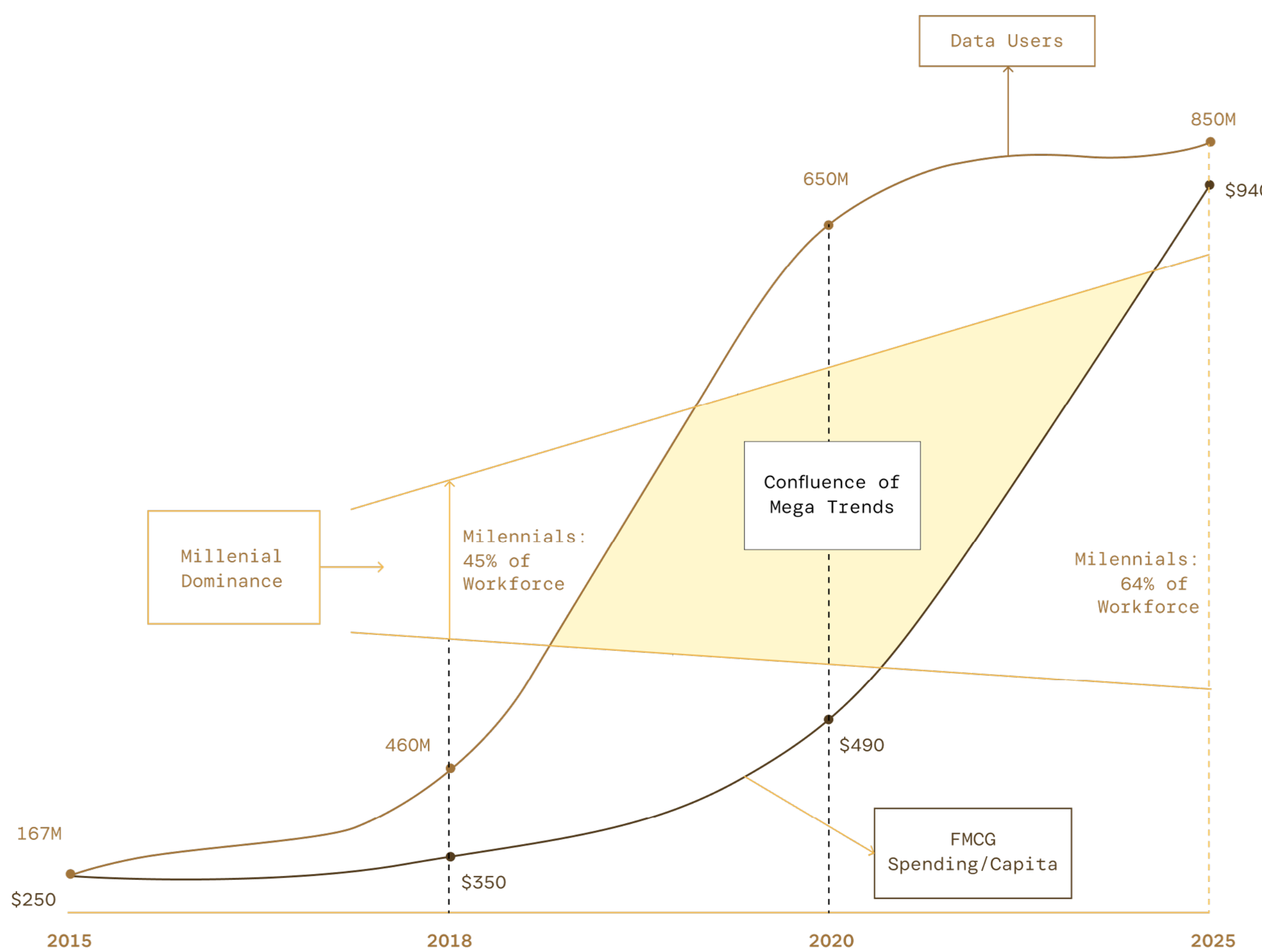
India is already at the inflection of the consumption S-curve. As consumer spending accelerates in the next decade, a large portion of these consumers will already be online, and digital companies will likely capture a significant share of the uptick.



Source: Industry Reports, Kalaari Research

Confluence of Mega Trends

India is likely to witness a unique golden era in the next decade, wherein the confluence of three mega trends - data penetration, millennial dominance, and a spurt in consumption expenditure - will exponentially drive digital consumption and will benefit companies that are either driving or leveraging digital innovation.



Source: Kalaari Research

Growth in number of Start-ups and the Changing face of Indian Entrepreneurs

As per the latest NASSCOM report, there are around 5,100 start-ups in India as of today. These start-ups have raised over $35B in funding so far and have created over $90B in value.

There are around 14 unicorns in India currently and 65+ start-ups that are valued between $100M - $1B. However, the journey of the Indian start-up ecosystem has only just begun.

Most of the Indian entrepreneurs in the last decade were first-time entrepreneurs with limited experience and exposure to building fast-paced, large-scale companies. Also, they grappled with several teething issues typical of any emerging sector, such as lack of talent, infrastructure, and execution.

The situation is significantly different today. In the last 10 years, start-ups have created more than 90K jobs. They have spent significant capital in training talent across several core functions such as tech, product management, operations, and marketing. In addition, these start-ups have created several thousand leaders who now have the first-hand experience of building for scale and solving for speed.

Start-up Landscape: 2018 vs 2025

2006—2018

5.1K
Number of Startups

14
Number of Unicorns

$90B+
Total Value created

$35B
Total Funding raised

90K
Jobs created

2025

32K+
Number of Startups

50–60
Number of Unicorns

$350B+
Total Value created

$130B+
Total Funding raised

850K
Jobs created

Source: Kalaari Research

Start-up Landscape — 2018 vs 2025

Driven by all the mega trends and the evolution of Indian entrepreneurs, we expect growth in start-ups to accelerate further during the next decade. By 2025, we expect the number of start-ups to cross 32K, creating more than 850K jobs in the process. We expect total funding to increase to $130B+ and total value creation to exceed $350B. Innovation will be more broad-based during the next decade and several new sectors will emerge.

The early signs are already in place. Today, we have more than 650 start-ups in Fintech, 500 start-ups in Content, 350 start-ups in Health-Tech, 250 start-ups in Gaming, 200 start-ups in AgTech, 180 start-ups in Blockchain, and 80 start-ups in IoT.

A lot of the employees in these start-ups are also now turning into entrepreneurs. Employees coming out of the top 25 start-ups in India have launched more than 1,350 start-ups in the last 2 years.

These seasoned leaders bring strong industry insights to the table, have an innate understanding of the problem they are trying to solve, and carry significant execution experience. All of these significantly increase the chances of success for this next generation of start-ups. This also provides the right kind of foundation for this new generation of entrepreneurs to start solving for 'Indian masses' rather than copy global trends.

The India opportunity is to create uniquely Indian solutions for a country that is rapidly growing and transforming. Powered by a vibrant ecosystem and driven by strong macro tailwinds, entrepreneurs stand at the cusp of a bright decade to come. The next few sections cover a few noteworthy sectors and trends to watch in the coming years.

Number of Start-ups created by Employees of Large Tech Companies

#204
zomato #104
Mu Sigma #125
#94
InMobi #97
#97
make my trip #68
OYO #75

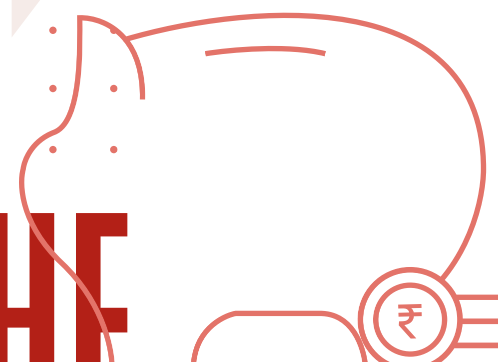
Jd #57
bb #8
OLA #75
paytm #59
practo #37
BYJU'S The Learning App #49

Quikr #47
RIVIGO #10
bookmyshow #29
hi #27
DELHIVERY #29

#23
policybazaar.com Compare. Buy. Save. #28
SHOPCLUES #29
SWIGGY #24
druva #14

Source: Kalaari Research

FINANCIAL SERVICES FOR THE MASSES



Summary

Mature economies have a highly penetrated financial services industry that acts as a backbone for its growth, by bringing in most of the population under the financial umbrella. India's promise of its growth story is dependent significantly on creating a similar platform for its masses.

Initiatives like Jan Dhan Yojna and Demonetisation have pushed India towards financial inclusion in a big way - 80% of adult population has a bank account in 2017 compared to 35% in 2011. Despite rapid growth in banked population, penetration of financial products remain low in India—

→ **13% credit to GDP ratio** - *China 49%, US 78%*
→ **3.5% insurance penetration** - *China 4.6%, US 7.1%*
→ **1.5% population invests in equity** - *China 10%, US 18%*

Most of the financial products and services today are targeted towards top of the income pyramid. Driving penetration beyond that will require reimagination of products and services through technology as well as alternate modes of reach and influence. The key factors that are proving foundational to India's Fintech revolution are - digital infrastructure creation (Aadhar, UPI, National Automated Clearing House etc.) and policy impetus by the government.

Coupled with these drivers, digital adoption of financial services will be aided on the demand side by rapidly growing digitally active user base. India will have 850M digitally active consumers by 2025, 70% of them will be millennials and gen Z who prefer digital as a medium to consume products and services. Fintech will be a large market opportunity that will create many winners.

Fintech Revolution– Finance for All

Historically, financial services sector has been the backbone for any country's growth. Top 6 out of 15 largest companies by market cap in India are financial services companies, highest of any sector. This is despite having one of the lowest penetration of financial products in the world. With India's growth will come the large financial services opportunity, and technology led disruption will be at the core of this opportunity.

Rapid Rise in Banked Population

Though India's banking penetration has historically been marred by slow progress, the last few years has seen a visible uptick, spurred by a combination of digital, regulatory, and infrastructural development.

35%

Adults with Bank Account (2011)

80%

Adults with Bank Account (2017)

Between 2011 and 2017, banking penetration among individuals above the age of fifteen grew from a mere 35% to 80%, bringing it on par with China.

Financial inclusion has been growing heavily through the Jan-Dhan initiative. The initiative has created 310M new deposit accounts throughout India. Demonetization has been another strong driver, contributing to 15% penetration of bank accounts from 2016 and 2017.

Having large banked population is a the first step in the direction towards financial inclusion, but India has a long way to go as far as penetration of financial products is concerned.

Poor Financial Products Penetration

Despite rapidly growing banked population, financial product penetration has lagged.

13%
Credit to GDP ratio **(*China 49%, US 78%*)**

3.5%
Insurance penetration **(*China 4.6%, US 7.1%*)**

1.5%
Population invests in securities **(*China 10%, US 18%*)**

In the 10 years between 2007 to 2017, India's household credit to GDP ratio flatlined from 10% to 13% whereas China's grew from 19% to 49%. The corresponding figure for the United states in 2017 stands at 78%. Moreover, only 8% of the top Indian households account for 70% of this credit. Most of India still relies on informal, unsecured sources of credit, often triggered by life events or contingencies.

Insurance penetration also remains low, with both life (2.7%) and non-life (0.8%) insurance to GDP falling well short of global averages (3.5%, 2.8%).

Less than 1.5% (<18M) of the population invest in securities, compared with almost 10% in China and 18% in the U.S. Other savings products like pension and debt also show similar levels of under-penetration.

Given the precedent of increasing financial inclusion, financial product penetration can be expected to follow suit, supported by changing customer behaviour, digital infrastructure and policy impetus. Financial institutions are today reimagining their products to suit the various customer clusters that has entered the ecosystem, with varying degree of digital maturity and financial stability.

Tailwind for Massive Fintech Opportunity

As far as the consumer behavior in context of financial services is concerned, India today presents many customer clusters with varying preferences. The same household may present a 70 year old who still prefers to visit the bank branch to check his account balance and does not trust ATMs or smartphones, a young student who likes to avail INR 40,000 loan to purchase a new smartphone from the comfort of his home, and a servant maid who is paid her salary through a digital wallet.

By 2025, 80% of India's working population age will be millennials or gen Z with strong preference towards digital channels for consumer products and services. Thus it is expected that there will be a huge demand for digitally enabled financial products and services.

This is possible if the supply side constraints to digitally onboard and serve the customers for these financial products and services are solved effectively. Currently, there are strong tailwinds in that direction in the form of–

- → Unprecedented pace of digital infrastructure creation
- → Policy impetus by government to enable Fintech

These drivers are expected to catalyze massive Fintech opportunity for India.

2017

Digital Payment
$186B
Digital Transaction Value

Digital Lending
$75B
Loans Disbursed

Wealth Management
$10B
Capital Invested Digitally

InsuranceTech
$2.4B
Premium Paid Digitally

2025

Digital Payment
$1.1T
Digital Transaction Value

Digital Lending
$650B
Loans Disbursed

Wealth Management
$75B
Capital Invested Digitally

InsuranceTech
$16B
Premium Paid Digitally

Digital Infrastructure

With increased adoption of smartphone and internet, consumers are becoming increasingly comfortable with digital mediums to access and explore products & services. While increasing number of consumers are using digital medium to access the bank account, sufficient digital infrastructure did not exist till recently to digitize the complex financial use cases like – onboarding customer with KYC, underwriting the credit, or making merchant payments. Earlier, even a simple activity such as verifying identity of a consumer required manual intervention. This changed with the creation of 1B+ digital identities of Indians through AADHAR, and today digital onboarding the consumers can happen within minutes. This in turn brought down the cost of customer acquisition by 80%. However, following Supreme Court's verdict in September 2018, eKYC for private institutions has been put on hold. Further, with the advent of UPI most of the money transfer transactions is digitally enabled and triggered on the smartphone.

1.2B
Aadhar numbers

400M
Monthly UPI transactions

UPI is the first ever government created initiative in the world that has democratized the payment infrastructure without needing any intermediator networks (Visa, Mastercard). It allows direct account to account transfer for both C2C (consumer to consumer) and C2M (consumer to merchant) cases. Instead of paying Merchant Discount Rate (MDR) of 0.9-2%, merchants are now only levied flat fees of INR 3 per transaction, without having to invest into POS machines.

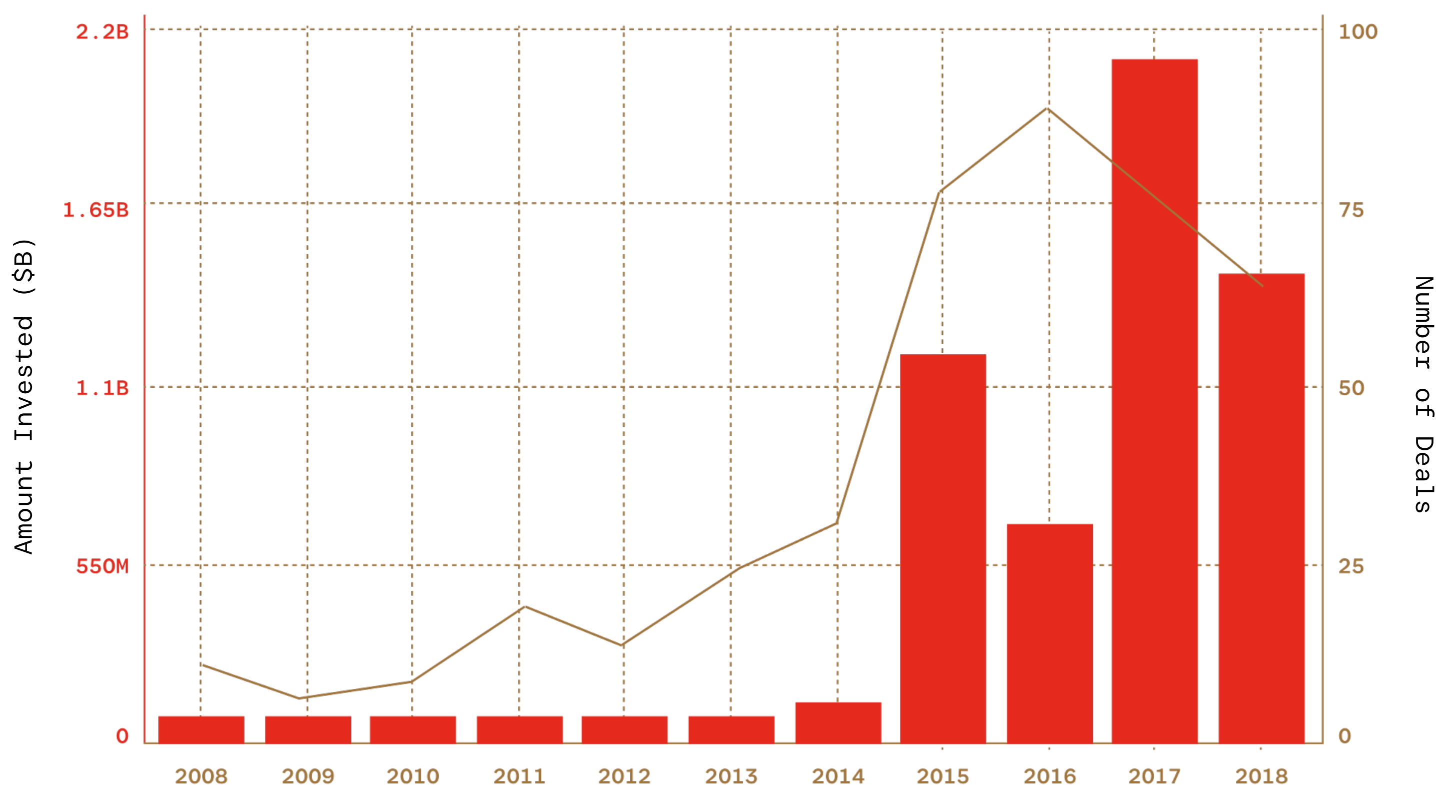
Digital payments grew from 2.5% in 2015 to 7% of GDP in 2017, and is expected to reach at least 26% by 2022. Though this number still lags behind China (35% of GDP), the momentum is palpable. BHIM UPI alone, recorded transactions worth 300M in volume in the month of August 2018. UPI 2.0, released in August 2018, incorporates several forward looking features like invoices in inbox, signed QR codes, and pay later mandates.

Policy Impetus

Apart from creating massive digital infrastructure, government has played a significant role in providing well needed policy impetus. Some of the examples include–

→ Demonetization - push to move away from cash economy
→ Tax rebates for merchants accepting more than 50% of their transactions digitally
→ $0.05 flat transaction charge for UPI as compared to 0.9-2% MDR for merchants
→ Regulating new age models - P2P lending, awarding 11 payment bank licenses. Working on the blockchain and crypto regulation.

Venture Investments in FinTech



Fintech Venture Opportunity

Fintech has attracted significant funding in recent years. $5B+ has been invested since 2015 in the sector, 50% of which has been invested into Paytm. Even outside Paytm $2.5B has gone into the sector since 2015, 2nd highest after E-commerce.

We believe India is still in its early days of Fintech opportunity, next decade will see this investment trend only accelerating.

Source: Tracxn

Venture Areas Going Forward

	Current State	Key Venture Opportunities
Wealth Management	Relatively new area - few transaction led platforms have emerged	Segment/Need-specific wealth management and savings products – deep solutions with advisory led approach
Lending	First generation of digital lenders have emerged – more general purpose and horizontal approach New players will emerge to target specific segments and needs building deep solutions	Segment/Need-specific lending – deep solutions
Payments	Multiple winners have emerged in both online and offline space UPI driving rapid change in the market dynamics - opening up new opportunities	UPI ecosystem players driving adoption
Insurance	Aggregator models have played out Opportunities around product innovation targeting specific segments and needs will emerge	Product innovation targeted at specific segments and needs

Focus Area– Wealth Management

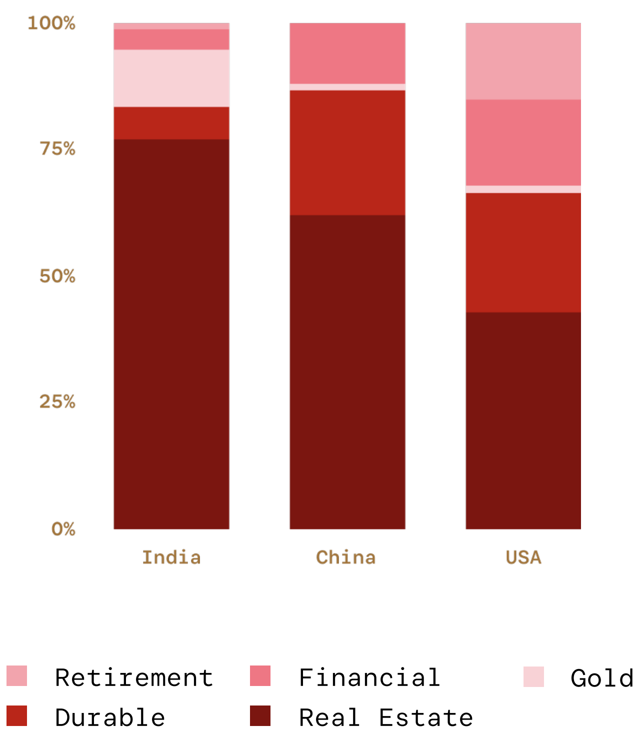
Savings is a big part of Indian consumers life, no matter whichever income class they belong to. India has 30% savings rate (US is 6.5%, China is 37%). In a country with such high savings rate, financial asset penetration is still low. Traditionally Indians have been saving in physical assets like gold and real estate. Since investing into financial assets requires literacy and understanding of the asset class, lack of high quality advisory services for masses has been one of the key factors that has impeded mass acceptance and penetration of financial assets.

Reallocation from Physical to Financial Assets

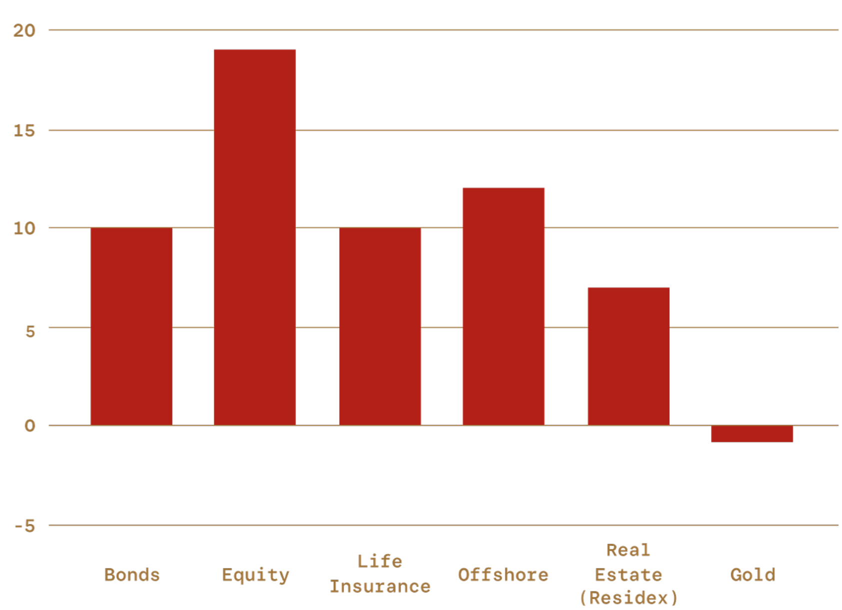
The demand for wealth management products and services is expected to grow at an immense pace in the coming decade. This growth is largely driven by both economic reasons as well as changing consumer behavior across demographics and income classes.

Culturally, India has seen an overwhelming proportion of household savings in the form of real estate and gold, which have been considered as safe assets. Real estate accounts for 77% of personal savings in India, and gold accounts for 11%. In comparison, China's allocation of real estate towards savings is 60% and gold accounts for less than 1%. However, over the last 5 years, India has seen a drop in returns of both these physical assets while financial assets are trending upward. With the younger population consuming financial assets at an exponential rate, we expect to see financial penetration increase in place of these physical assets.

House Asset Allocation (2017)



Asset Returns 2012—2017 CAGR



Today, the interest rates on savings and deposits, the traditional financial products, are declining. Gold & real estate, which have historically been India's most attractive household assets are seeing a drop in returns in the last 5 years. At the same time, investments into financial assets are looking more attractive as they're consistently 7-8% higher than the inflation rate. Thus, there is an increase in acceptance of equities & investment funds, which have now become the fastest growing asset class in India. now become the fastest growing asset class in India.

The demographics of India in the coming decade will also act as a strong tailwind for India as 69% of the population will be of ages between 15-64 with a median age of 29. The 25-44 age group also coincides with being the largest adopters of financial services and products. In the coming decade, their wealth will rise and so will their investments in financial services. This category of Indians have better digital literacy and have a higher risk appetite. Further, their openness to adopt newer products is higher.

Corporates and industry bodies today have significant focus to use digital means to enhance India's penetration of financial services. In 2018, advertising expenditure by mutual funds is expected to be over $48M as the mutual fund bodies seek to educate a sizable proportion of the population on the financial benefits of their product. The 'Mutual Funds Sahi Hai' campaign that released in 2017 saw an increase of 1.7M new customers and a 40% increase in structured investment programs (SIP) consumption.

However, there are still barriers for most of India to access professional financial advisory services due to steep fees through traditional providers. The lack of access to professional advisors for most of the population means that wealth management is an industry that is still heavily skewed towards the upper class of the income group. Therefore, a big opportunity lies with companies that are able to provide advisory services at low prices by leveraging technology.

Source: RBI | BCG Global Wealth 2018 Market Sizing Database, CEIC, BankBazaar

From Transaction to Advisory Led Management

The rising demand for financial products will be channeled through a combination of investment platforms (like brokers, banks, and trading apps) and advisory services. As participation increases and moves into tier 2+ cities, both will benefit a great deal from a move to digital, low touch service models.

Advisory	*What to invest in? High IP*
Investment Platform	*Access and delivery Price Sensitive*

Wealth Management 1.0— Transaction Led Platforms

Investment platforms form the delivery layer for investments, essentially providing buy and sell access to products such as equity, mutual funds, gold and so on. We are witnessing a wave of digital disruption in this space.

In equity platforms, for example, electronic discount-brokerage platforms are fast outpacing incumbents like ICICI Securities. Zerodha, which, 3 years ago, had less than 1% market, has raced to claim 9.5% of the 850M active clients, claiming the number 1 spot and surpassing ICICI bank, a traditional broker which is slowly but steadily losing market share. Similarly, Upstox saw a 200% growth in y-o-y revenue in 17-18 and is actively targeting the masses via local language integration. People from small towns and cities are increasingly getting hooked on these online platforms due to the low fees and because the hi-tech trading platform are supported even on low bandwidth connections.

Mutual Fund platforms have also witnessed a wave of digitization from players such as PayTM and Coin. In less than 2 months from its launch, Paytm claims its platform has more than 850,000 users with 65 percent of them coming from beyond the top 15 cities of India. Zerodha also launched its direct mutual fund platform, Coin, last year and claims to have close to Rs 1,100 crore ($150M) in AUM. As of March 2018, the top 20 distributors in the country accounted for just 24% of total AUM, indicating intense competition in the MF distribution space.

Being highly price sensitive with low differentiators, it has become increasingly difficult for new entrants to stand out. This has lead to commoditization across assets class platforms.

Wealth Management 2.0— Advisory Led Platforms

Advisory services on the other hand, are still dominated by expensive PMS serviceers with traditional distribution, making them unaffordable and unable to reach the next wave of savers.

Indian wealth managers are addressing a market with $1.5T of investable wealth, expected to double in the next five years. Kotak Wealth clearly leads the pack, doubling its assets to $30B over the past year. Overall, domestic players dominate the scene, accounting for a 72 per cent share of AUM last year. Although there are over 20 mainstream players, market growth has been robust, specially as real estate and gold fall down the pecking order for richer Indians.

Unlike the digital disruption underway in investment platforms, advisory services are still dominated by traditional players. Penetration remains low, given traditional players' ticket sizes are above INR 2.5M, as per law. Infact, Securities and Exchange Board of India (SEBI), is mulling to increase that limit 2-4 times, furthering the gap between traditional PMS services and the masses.

Moreover, the distribution model remains lacking in technology, and high touch. As more and more investors from lower income and tier 2+ cities start financial investments, there is a clear lack of affordable and available supply.

Venture Opportunity

India is at a very nascent stage as far as wealth management startups are concerned. So far only 12 companies have raised venture funding, and around $63M has gone into funding those companies since 2015.

With many external drivers in the ecosystem today, both on the supply and demand side, we expect to see a rapid increase of adoption on wealth management platforms and see an inflection point over the coming decade. Considering the rapidly increasing investments into financial assets by consumers we expect higher pace in scaling of startups in this space and funding to pick up in coming years.

We expect $75B to be invested digitally into financial assets, which open up a huge market opportunity for start-ups in this space.

2017

$10B

Capital invested digitally

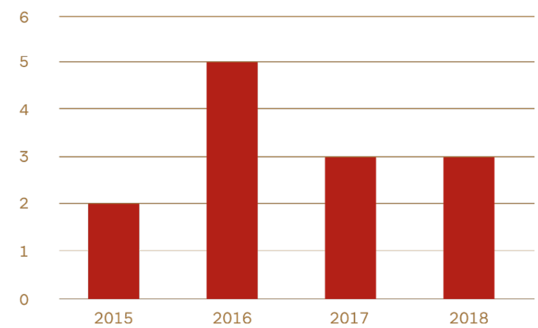
2025

$75B

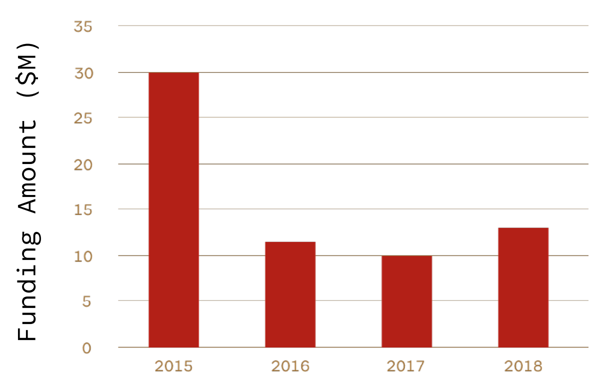
Capital invested digitally

We believe start-ups will play an important role in disrupting this space, because succeeding will require companies that can create tailored options for income segments, demographics and investor profiles as opposed to a "one solution fits all" model. The requirements of the retail investor varies significantly depending on his/her financial literacy, income, goals etc. We therefore believe there is a significant value creation opportunity for start-ups, and at least 3-5 large players will emerge to cater to this large emerging market opportunity.

No. of Companies Funded past Seed Round in Wealth Management



Total Funding per year



Source: Tracxn

Affluent/Elite

(High net worth, Large disposable incomes)

Long term asset management
Wealth creation,
Tax optimization,
Diversification of assets

Aspiring Class

(Irregular income, High volatility of cashflow)

Micro-savings
Daily savings for short term and long term goals like school fees, medical emergency, wedding

Young working middle class

(Predictable income, Savings for future big ticket expenditures)

Goal based long term savings
Kids education, Housing,
Retirement planning

Housewives

(Dependency on family breadwinner)

Savings for short term goals
Personal spending–
Festivals, Shopping,
Jewelry

Recent Investment

toffee

Sub-sector—
Insurance

What?
Started by Rohan and Nishant in 2017, ***Toffee*** *designs innovative, bit-sized, micro-insurance products for millennials called "Toffees". Toffees are highly contextualized to millennials needs like traveling, rental home, commute, gadget, fitness, backpack insurance and so on.*

Why?
The last few years have seen great money flow into the insurance distribution space. However, the next phase of disruption will be on the product end with companies reinventing the insurance product bottom up, making it more relevant to specific sub-segments of the Indian population. Infact, product innovation will truly power insurance penetration in the country.

How are they doing?
→ *Close to 50,000 customers*
→ *Average premium - INR 100*

FinTech for the Next 400M - Event Highlights

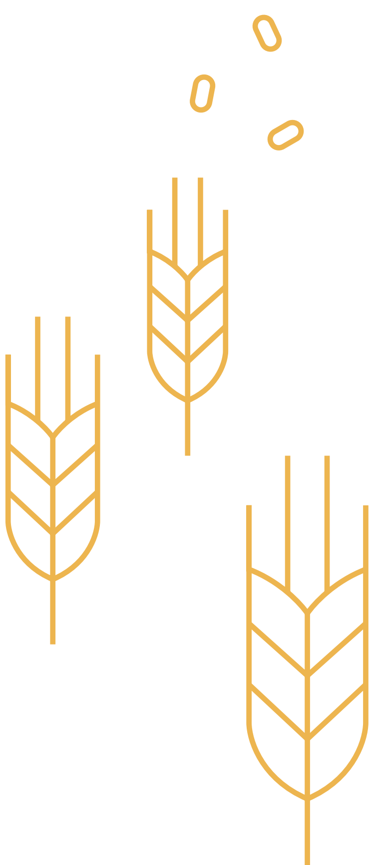
"Rural households do a variety of jobs and businesses to diversify risk – it's a very expensive way of doing so because the implication of not having the right financial products is huge. We don't have ways for these customers to manage concentrated risk that can eventually trigger bankruptcy." - Sucharita Mukherjee – CEO, Kaleidofin and CEO, IFMR Holdings (at the time)

When you are in an Industry where you know sea-change is going to come, but you don't know when, (...) those who go focus on at least one set of the market and have the quality to survive stand out - Vani Kola, MD, Kalaari Capital, discusses the keys to scaling fintech startups with Govind Rajan, then CEO of Freecharge (now COO at CueMath) and Yashish Dahiya, CEO, PolicyBazaar

"Financial services in India is going from low volume, high value, high cost to high volume, low value, low cost" - Nandan Nilekani

Pramod Verma, Chief Architect, Aadhar, talks about the potential of India Stack

FOOD FOR A BILLION AND BEYOND



Summary

Indian agriculture contributes 18% of the GDP while employing 50% of the Indian population. Indian yield per acre is lower than US, Europe and China and improvement in productivity has been needed for a very long time. With increasing internet usage and rising smartphone penetration, AgTech startups can now acquire customers more easily and also offer real-time information to improve farm productivity

The Indian government has placed a strong impetus on agriculture aiming to double farmers' income to $3,000/annum by 2022-23 from $1,350/annum in 2015-16.

India is now among the top 6 countries globally with the most venture investments in Agriculture Technology (AgTech). Since 2013, India has seen over 350 new AgTech companies with more than 50% starting up between 2015 and 2017. Total funding in core AgTech from 2016 to 2018 was $205M, while the funding from 2013 to 2015 was $62 million

There are multiple drivers for AgTech in India including—

→ **Rural mobile and vernacular penetration:** *In the past five years, 126 million new rural internet users have come online primarily because of the availability of affordable smartphones, data, and vernacular content*

→ **Rise in horticulture production and market value** *has led to an increase in "value per acre" grown by large groups of farmers across India. This has enhanced their purchasing power making B2F (business to farmer) and B2B2F (business to business to farmer) models plausible and scalable*

→ **Technology adoption** *due to lowered cost of core tech like sensors and robots*

1. NASSCOM report (June 2018)- Maximising India farm output

VC Investments in AgTech

The last ten years have seen remarkable growth in the number of AgTech investments worldwide. As AgTech financings have grown, so have the number of innovative new companies announcing their presence in this ecosystem. The infographic below gives a bird's eye view of the global interest in the AgTech ecosystem.

Investments in India

India is among top 6 countries globally with the most deals in AgTech. Other top countries are USA, Canada, UK, Israel and France[2]. Since 2013, India has seen over 350 new AgTech companies with more than 50% starting up between 2015-17. The total funding by end of 2018 is expected to stand at $86.5M[3].

Funding seen in 2017 and 2018 were primarily focused on IoT, precision farming and market linkage platforms.

While there are many AgTech business models, the following hold promise going forward—

Digital Marketplaces

Proven business model with the opportunity to invest in new players who can capture a large market with regional or crop specific specialty and value-added services like advisory and lending.

Platform Tech with Embedded IoT

Large applicable markets like dairy, floriculture, horticulture where corporates are willing to pay for valuable data that allows them to predict output and estimate/reduce disease risk at large scale.

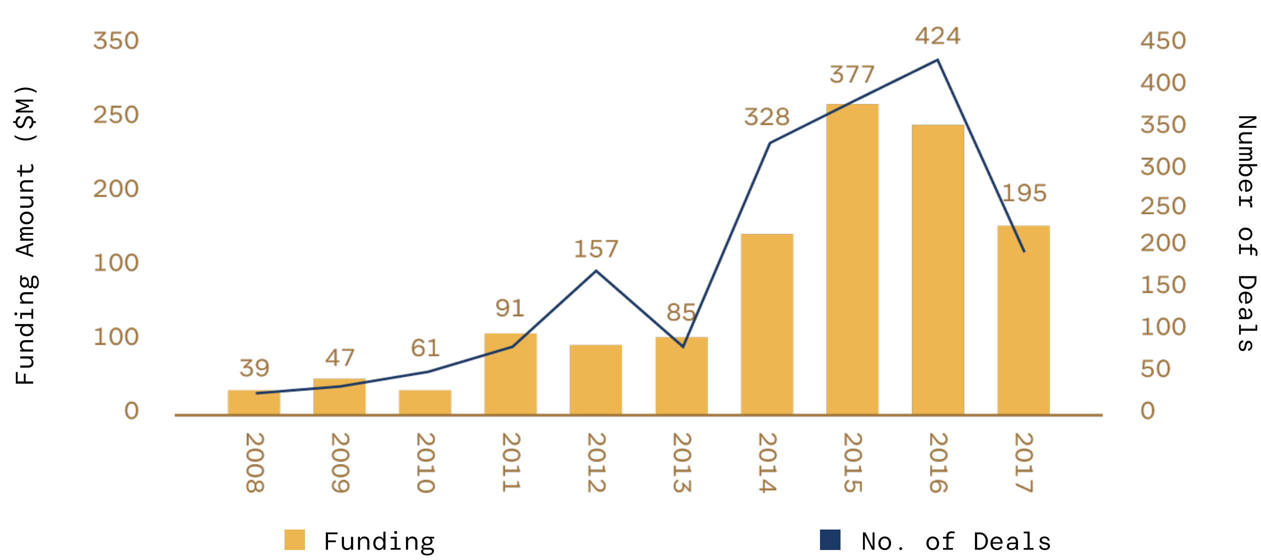
Precision Agriculture

Huge impact on farm productivity and hence "high value" horticulture growers are inclined to adopt smart machines/devices to enhance farm yield.

Ag-FinTech

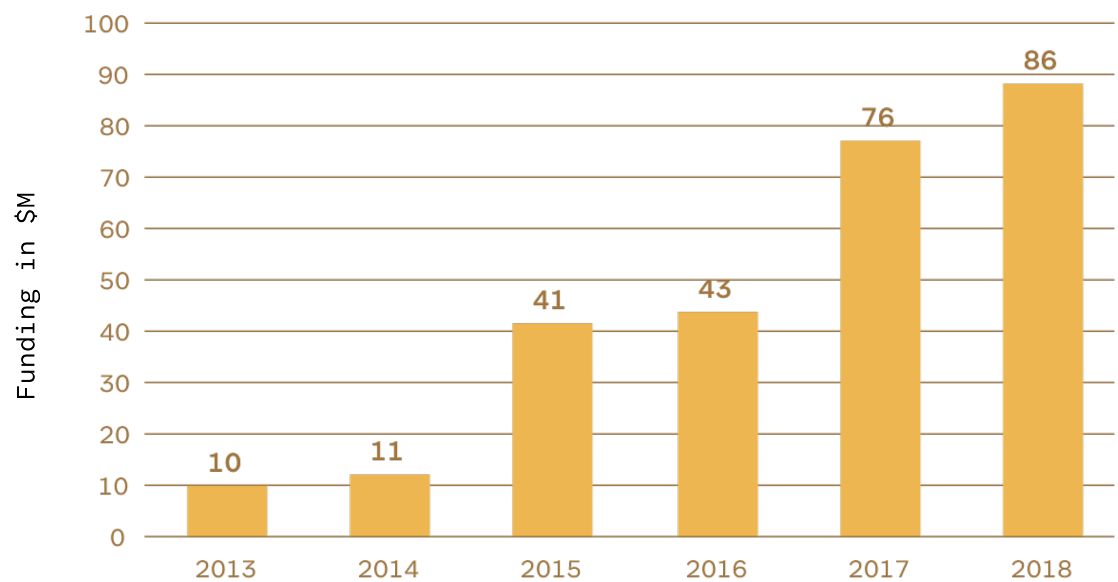
Significant addressable gap for new startups to leverage tech and provide rural agri supply chain focused lending and payment services.

No. of Deals and Funding in AgTech Companies Globally

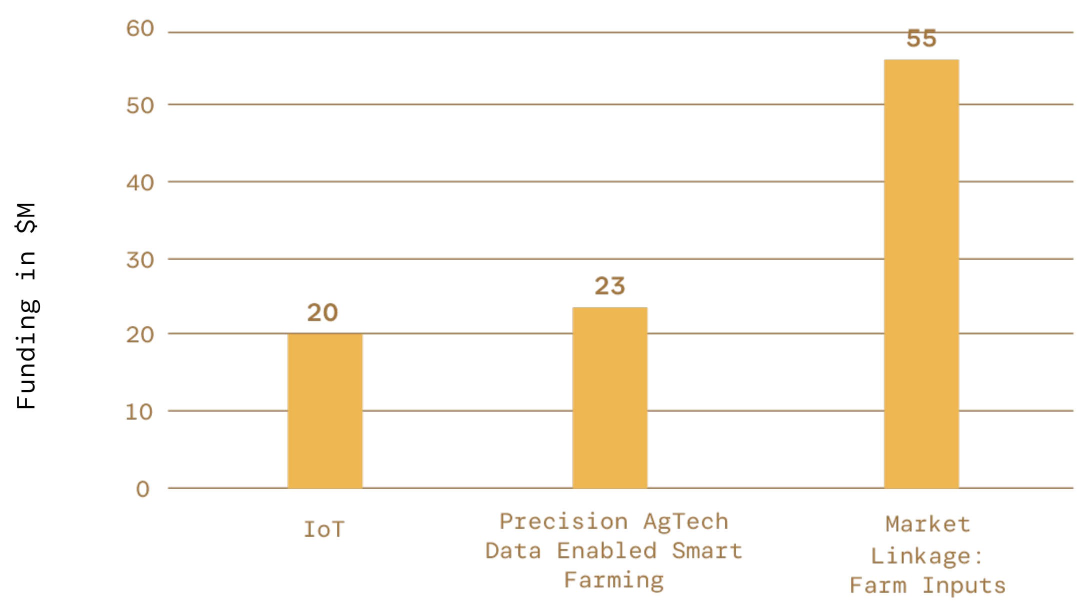


2. NASSCOM report- Agritech In India – Maxing India Farm Output | 3. Kalaari estimates

Indian AgTech Funding Growth from 2013

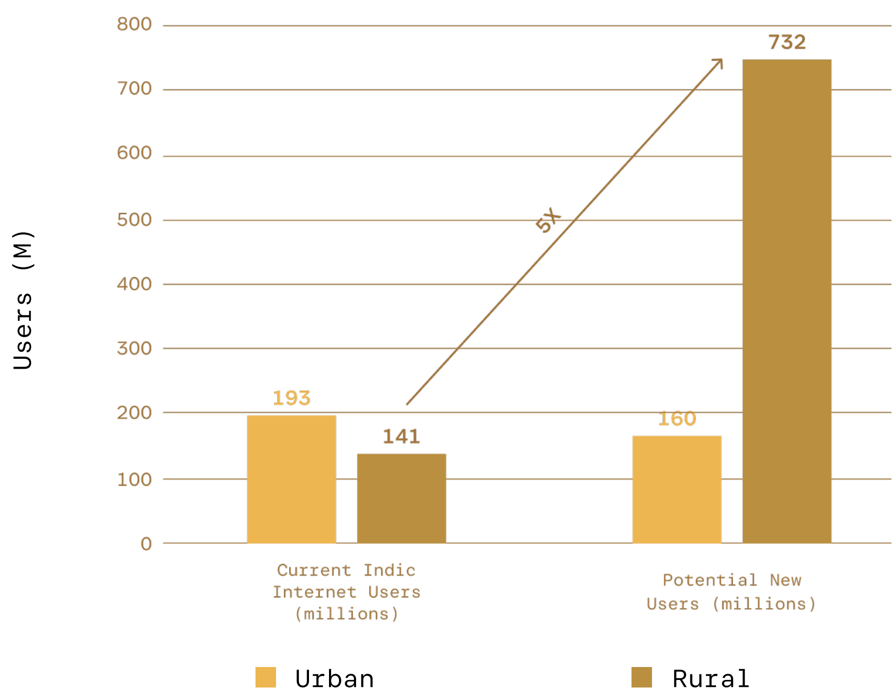


Funding across Key Sectors in Last 3 years



Source: AgFunder, Kalaari Estimates

Indic Internet User Growth Potential



Rural adoption of Internet and Smartphones

Easy availability of budget smartphones and access to inexpensive mobile internet connections has made it easier for rural India to get access to information and communicate on a real-time basis.

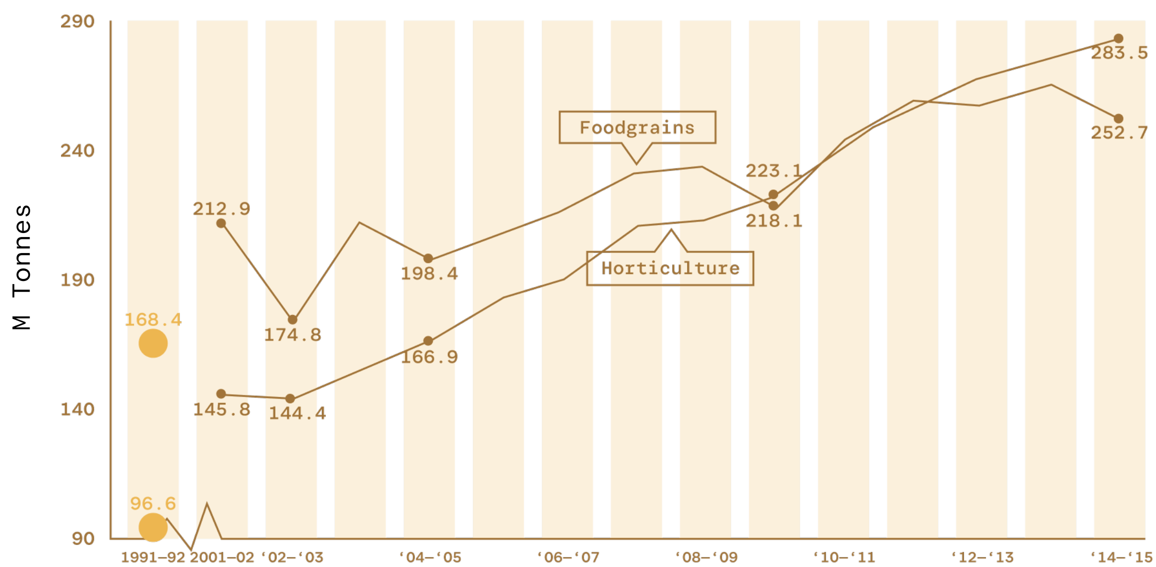
India had 59.6 million rural internet users in 2013. In the past five years, the number has grown to 186 million rural internet with 141 million of those internet users coming online primarily because of the availability of vernacular content.

Estimates are that it will be possible to activate 732 million potential new vernacular or Indic internet users in rural India in the near future.

With increasing internet usage and rising smartphone penetration, AgTech startups can now acquire customers more easily and also offer real-time information to improve farm productivity.

4. India's crop yields lower than US, Europe and China- Economic Times report | 5. Internet user growth in India- IAMAI 2014 report | Source: Internet in Indic 2017, Report by IAMAI, Kantar IMRB

Horticulture Production overtakes Agriculture in India



Horticulture Growth

Consumer diet in India leans more towards fruits, vegetables and protein. Since the launch of National Horticulture Mission (NHM) in 2005-06, significant progress has been made in area expansion under horticulture crops resulting in higher production. Therefore, over the last decade, the area under horticulture grew at an average rate of 2.7% per annum and annual production increased at an average rate of 7.0% per annum. These small percentages are making a significant impact on creating pockets of income for AgTech startups.

Horticulture growth is boosting "value per acre" for farmers and enhancing their purchasing power to make B2F (business to farmer) and B2B2F (business to business to farmer) business models scalable. The graph below shows that horticulture has now overtaken foodgrain production in India and this means income of farmers now growing fruits and vegetables has gone up manifold.

$9.8K

A Pomegranate Farmer's Earning per acre/year[7]

$420

A Rice Farmer's Earning per acre/year

Government Initiatives

The Indian government has placed a strong impetus on agriculture aiming to double farmers' income to $3000/annum by 2022–23 from $1350/annum in 2015–16. About 9 policies have been launched by the government to execute this plan. The plan has a 4 point strategy to support agriculture in India.

- → Processing Farm Wastes
- → Ensuring Profitable Prices for Crops
- → Reducing Cultivation Costs
- → Create non-farm source of income

Between 2005-2010, India invested $30B in irrigation and flood control. For 2018-2020, the government has earmarked $715M as an initial corpus towards a micro-irrigation fund for public and private investments in sprinkler and drip irrigation.

Some other key initiatives by the Indian government include setting up a dedicated Ag-tech infrastructure fund and the launch of e-National Agriculture Market (NAM) portal described below–

e-National Agriculture Market (e-NAM) is a pan India electronic trading portal which connects the existing 'mandis' to create a unified national market for agricultural produce. It will help ensure better prices for farm produce through a bidding system.

- → ***585 markets across 13 states were integrated in the first phase with e-NAM by Sep'18.***
- → ***5.1M farmers used e-NAM to sell their produce between April 17 - September 17.***
- → ***Total traded value was $3.9B.***

6. Impact Of National Horticulture Mission, 2016 report by Ministry of Agriculture & Farmers Welfare | 7. Based on Kalaari estimates | 8. 10th 5-year Plan of India (2002—2007) | Source: BCG Research

Access to Affordable Technology

A confluence of new technologies are enabling AgTech. Sensors are getting cheaper, robots are becoming more reliable and new technologies allow us to ingest massive datasets.

Falling cost of sensors

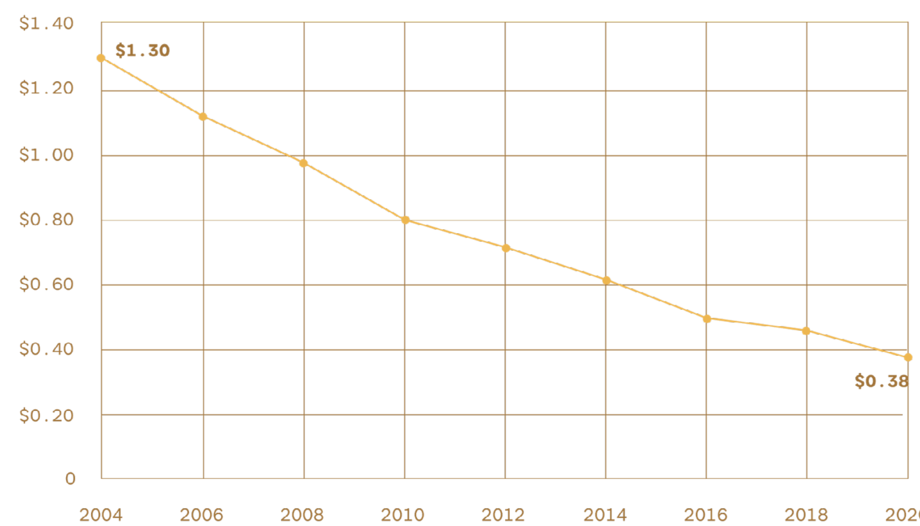
Between 2004 and 2014, the average cost of IoT sensors dropped by more than half, from $1.30 to $0.60. Prices are expected to shrink another 37 percent to $0.38 by 2020.

Satellites, manned aircraft, drones, and ground sensors have emerged as alternatives to deliver new data types aimed at improving farming practices – data to drive precision agriculture. Ground sensors are active 24/7 and can extract more accurate and precise measurements than human scouts on variables such as soil moisture content or pH.

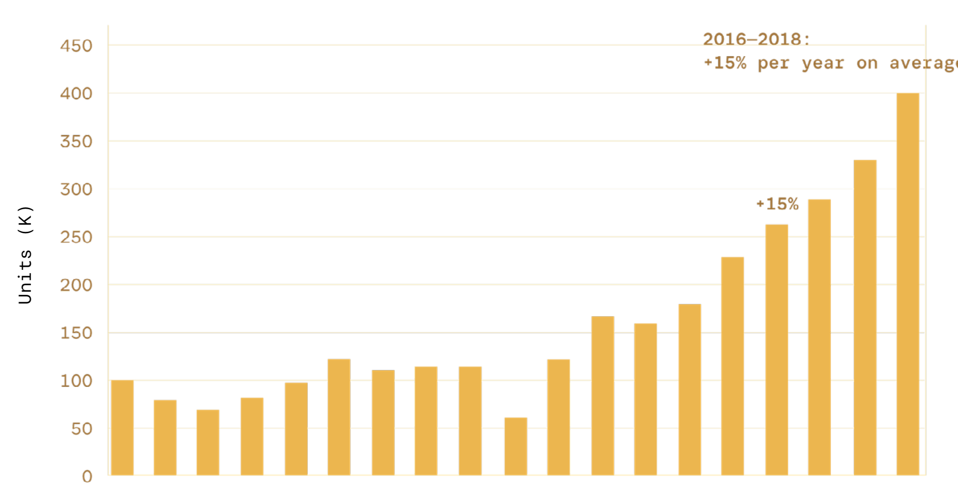
Industrial Robots Supply is Growing

Industrial robots, including drones, autonomous tractors, and robotic arms, are increasing production yields for farmers. Robots can automate slow, repetitive and dull tasks for farmers, allowing them to focus on other tasks such as improving overall production yields.

Average Cost of IoT Sensors is Falling



Worldwide Annual Supply of Industrial Robots 2000—2018



Source: Atlas, Goldman Sachs and Business Insider Estimates

Fintech Platforms

Offering applications and platforms that connect farmers digitally and provides them financial, agricultural and government-related services based on their crops and crop cycle

Farming-as-a-Service

Offering farming services and machinery on rent for reducing capex and increasing affordability

e-Commerce and Market Linkages

Providing platforms to farmers and merchants where they can buy agriculture inputs and sell products without involvement of middlemen

Smart Machines

Providing remotely operated machines, operating with greater precision, and performing specific operations using harvesting robots, seeding machines, electrostatic sprayers, etc

IoT and Big Data

Facilitating data collection and decision making using drones, sensors, IoT technology, and data analytics

Precision Farming

Facilitating application of precise amount of inputs such as water, fertilizers and pesticides, at the right time for increasing productivity

While various sub-sectors within AgTech have received funding in the last few years, we believe that the following areas should be focused on while deploying capital as they offer opportunities to use technology to build scaled-up businesses.

Source: Kalaari, NASSCOM, YourStory - IndiaTrends2018

Digital Marketplaces

The market sizes above are for offline retail. Many startups are now focusing on capturing a small percentage of these markets online. Marketplace models in India have raised ~$55M in 2017–18. These startups have scaled to a point to prove that digital marketplaces are here to stay in Indian agriculture.

$180B
AG Input Market Size

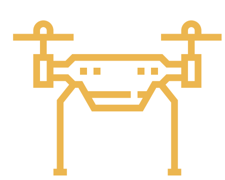
$250B
AG Output Market Size

Last mile delivery is essential for these businesses to acquire and retain customers. In order to increase ARPU, marketplaces now are building an advisory based input selling platform for specialty high-value crops. Each crop specific region will take time to penetrate. Therefore, these full-stack businesses will be regional for the next couple of years and there is an excellent opportunity to invest in new startups that bring more innovation into the space and focus on new markets within India. For example, a startup that combines lending with input selling will have a strong value proposition for farmers, as a majority of them borrow informally from input dealers every season. We should also see many more output selling platforms arrive in other metro markets apart from Bangalore.

Platform Technology with Embedded IoT

There are many large agri conglomerates like the Indian Tobacco Company (ITC), Tata Tea and Amul Milk who depend on contract farming supply of farm produce for their raw materials. It is critical for these companies to predict output and flag disease risk in order to ensure timely and predictable supply. For example, small percentage changes in supply can deeply imbalance their cost and pricing forecasts. Many startups have now successfully proven that this space can be monetized. Companies like AgNext (Kalaari is a investor) are running successful pilots in a variety of crops like tea, floriculture, spices and tobacco.

Spatial Analysis



Mobile Phones,
Drones, Satellites

Startups using spatial (satellites or drones), temporal (sensors) or spectral (image recognition) to predict output, nutrition and disease risk are some specific areas of interest. The appropriate business model for these companies will be B2B2F (business to business to farmer), where corporates will pay for SaaS services and share action items with their growers. Each of these sub-sectors has potential for immense impact.

Temporal Analysis

IoT Sensors -
Pests, Soil, Weather

Spectral Analysis

Leveraging Image Recognition
to Assess Crop Quality

Smart Machines/ Precision Agriculture

India is mechanizing quickly due to a severe shortage of labour at the farm level as most migrant workers are moving to cities or securing jobs via MNREGA (Mahatma Gandhi National Rural Employment Guarantee Act). India is already the world's largest tractor market in terms of volume of units sold. The gap for startups to address is non-tractor mechanization like sprayers, harvesters, planters, etc. However, the first generation of startups in the space have been focused on simple machinery where distribution is highly fragmented and difficult to scale.

Ag-FinTech

The age of fintech has arrived in India. Most startups today are focused on urban users as they do not understand rural digital behaviour. Many NBFCs have begun disrupting traditional bank lending in agri but they also come from traditional feet-on-the-street mindsets and hire ex-bank employees who use archaic risk analysis and distribution strategies. We believe there is significant potential for startups who will either directly lend or provide risk/payment/collection services to India's rural agri supply chain

Recent Investment

AGNEXT

Sub-sector—
Agriculture Analytics and Big Data

What?
Started by Taran and Mrigank in 2016, ***Agnext*** *is a data driven agriculture company providing accurate assessment in Agriculture and Food Supply Chain. Agnext's technology aims to make India the hub of agri-supply chain and data analytics. It provides full stack solutions with integrated hardware and software platform for disease analysis, crop and pest monitoring, crop models and damage analysis.*

Why?
AgNext's cost-effective and unique technology can offer tremendous savings to agribusinesses and affiliated growers both at pre and post-harvest stages by improving quality and traceability across the agri value chain.

How are they doing?
Strong traction with customers including ITC, Punjab Agricultural University, Mjunction (partnership between TATA Steel and SAIL).

The Promise of AgTech - Event Highlights

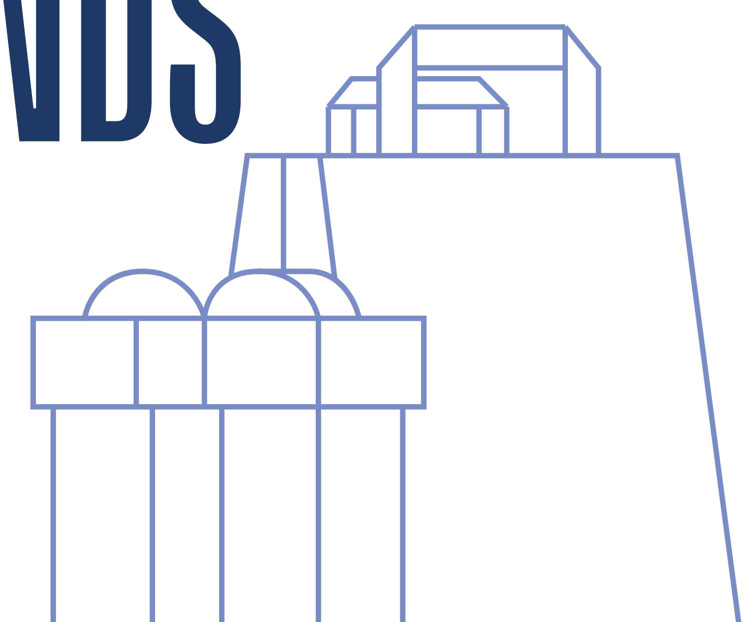
"India needs 3,500 startups and 6,500 Agtech companies to serve 130M farmers. Introduction of technology in agriculture can increase GDP growth by upto 1%"- Prof. M Moni

"Farms will become factories with precision farming, climate resilient farming. Agri will go back to basics with the ecosystem going full circle, from mono-farming to integrated farms"- S Sivakumar

"Unfortunately the stereotype of the Indian farmer is that of a poor farmer. Yes, there's a large chunk of poor farmers, but significant pockets of early adopters of tech exists in Nasik, Coastal Andhra, Punjab, etc. The same is true for even Silicon valley: your first customers are experimental adopters who eventually create momentum for a broader need in the market." - Mark Kahn

"To be able to be successfully sell to farmers, we created a digital experience as close to a retail shop as possible". Shardul Sheth from Agrostar tells a phenomenal tale of grit, ingenuity, patience & building a brand that is loved by farmers.

REIMAGINING NEW-AGE BRANDS



Summary

India is at a massive inflection point where rise in awareness, per capita income, urbanization and rise of millennials is spurring demand across multiple consumer product categories. Structural shifts in the Indian market such as digital influence & access, localised content availability and emergence of new distribution models that touch the last-mile are altering the consumer landscape and creating categories that did not exist earlier. The retail market is expected to grow from $550B in 2015 to $2.1T in 2025.

As India's retail market evolves, new distribution models are emerging, leveraging data & modern trade. By 2025, Modern trade is expected to account for 15% of the overall distribution, from the current 8%, Similarly, online retail is expected to account for 6% of the overall market, from the current 3%. In addition, digitally enabled last mile models for customer acquisition and fulfillment like assisted commerce is gaining acceptance across India.

We believe the consumer sector is now ripe for VC investments, driven by: (1) Challenger brands gaining market share as they capture aspirations of new-age consumers (2) D2C distribution channels have become deeper, driving brand reach in a cost effective manner (3) Digital mediums have reduced the cost of building a brand (4) Specialized contract manufacturing has lowered manufacturing related barriers.

Based on these trends and growing demands of the Indian consumer we expect five large categories to entail a majority of the consumer market. (1)Fashion & Apparel (F&A), (2) Food & Beverage (F&B), (3) Beauty & Personal Care (BPC), (4) Consumer Technology and (5) Home & Kitchen. However, F&A, F&B and BPC remain the three largest segments within the consumer sector and are likely to see significant growth & brand creation in the next decade.

Indian Consumption at an Inflection

India's macro economic environment continues to remain robust, drawing support from steady expansion of private consumption and investments, supportive government regulations and a rapidly emerging consumer class.

Rising Middle Income Segment

Between 2016 and 2025, the share of elite and affluent households is expected to increase from 8% to 16% while the share of strugglers is expected to drop from 31% to 18%. This implies a significant rise in population with higher spending power in the next decade. The elite and affluent segments are expected to contribute 40% to the total consumption in 2025, compared to the current 27%.

This is expected to increase per capita income from $1,700 to $3,650 during the same period.

Source: Boston Consulting Group

Growth in Emerging Cities

Driven largely by the increasing affluence, emerging cities (population of <1M) are likely to witness strong growth. Consumption expenditures in these cities are growing at 14% y-o-y, compared to 12% in India's biggest cities. Unlike Thailand or Indonesia, the migration to urban centers is not concentrated to a few cities in India. This will lead to 120 new cities emerging with the average household income in line with those of today's major metropolitan cities. The consumer behaviour of the migrant population is expected to be one of the key factors for growth of the consumer landscape in India.

Rise of the 'Millennials'

India will have 410M millennial consumers (age 22-37) by 2020 with total consumption expenditure of $330B. Millennials bring strong brand affinity, seek instant gratification, are not averse to change and are risk takers while purchasing. They want new experiences, a sense of individualism and nonconformity. They spend an average of 17 hours per week online across various mediums. Majority of millenials are first time employees and are more financially independent than their predecessor generation. With significant shift towards millennials, the consumer brand landscape is expected to change in favour of new-age challenger brands.

New Customer clusters being Created

There are multiple new consumer clusters being created across the country. These clusters have common behavioral patterns, propensity to spend, risk appetite and preferences.

→ ***Women:*** The segment is growing due to the significant increase in the share of earning women in the country. Financial independence for women gives rise to opportunities in product categories such as fashion, health & fitness, beauty & personal and products for home & children.

→ ***Senior Citizens:*** A significant number of digitally active people will become a part of this cluster in the next five years (age group 55 to 65). Financially independent, their behavioral patterns, product needs, customer experience and service expectations differ from the rest of the population and are a large untapped market in India today.

→ ***Teens & Youth:*** India's GenZ (10-20 year olds) are heavily influenced by digital channels and have unique preferences across product categories

→ ***Indian Language Digital Users:*** Indian language speaking digital users are a new category where consumer brands are focusing today. Their needs vary in terms of the activation, outreach, and messaging about the products

→ Other clusters include Digital Mothers, Government employees, Migrant population, Fitness seekers, Current Ecommerce customers, Bank employees, Teachers, Customers of a specific geography etc. Each of these have specific behavioral patterns, ways of getting influenced and risk appetite to transact online

Source: Boston Consulting Group | Morgan Stanley Research

Structural Shifts in Consumption Pattern

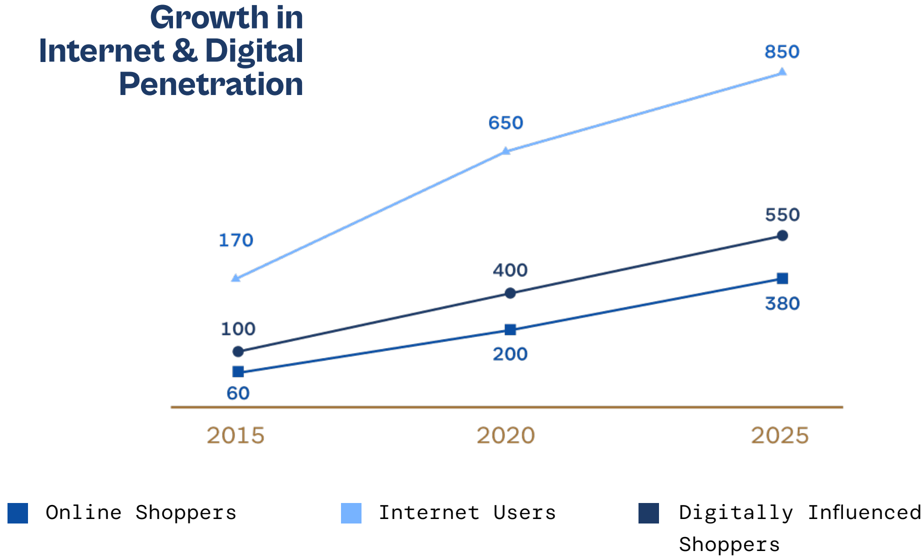
The penetration and cheaper availability of internet and smartphones has significantly changed the digital landscape of India. These changes, as discussed in detail in the India Opportunity section, are structurally changing the consumption patterns.

Rising Digital Penetration

850M people in India are expected to have access to data by 2025, making India the second most digitally populated country. A typical internet user follows a cycle of discovery to influence to purchase online. By 2025, we expect almost 550M consumers in India to be digitally influenced and almost 380M users in India to become digital shoppers, more than a three fold rise from today. As more & more of India's consumers come online in some form or the other, the barriers for new age brands to drive discovery, purchase, & loyalty is expected to reduce significantly. India's retail market is expected to more than double over the next 5-7 years. A large part of this growth will be driven by purchases online and/or purchases which are digitally influenced.

This implies that digital mediums will not only have a significant direct impact on retail market but also have a much larger indirect effect purchasing habits of people.

Growth in Internet & Digital Penetration



Source: Forrester Research; BCG CCI Digital Influence Study

Shifting Family Structures

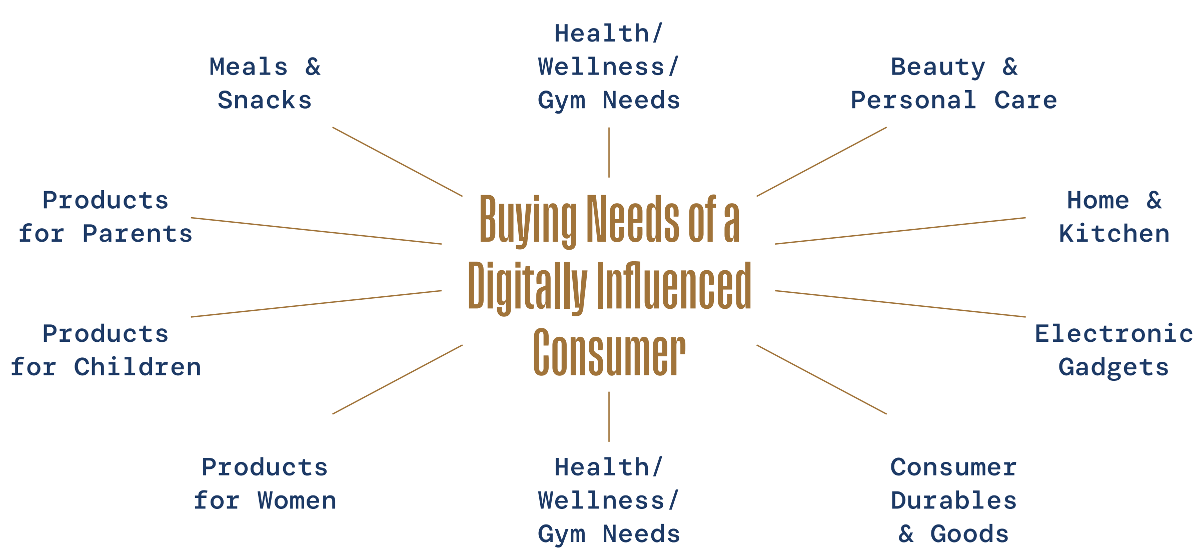
India was characterized by traditional joint family households where children stayed with their parents. Today with increasing migration across cities, this structure is giving way to nuclear families. This trend is important to drive consumption as nuclear families usually spend 20-30% more per capita in comparison to joint family households.

These trends alongside digital adoption are creating multiple spending avenues for digital active consumer.

Based on the needs and growing demands of the Indian consumer we expect four-five large categories to entail a majority of the consumer market.

1. Beauty & Personal Care (Face, Skin, Hygiene, Health, Fragrance) 2. Packaged Food & Beverages (Sweet & Savoury snacks, baby food, ready to cook, Health Juices) 3.Fashion & Apparel (Footwear, Apparel, Accessories, Jewellery).4 Consumer Technology (Durables, white-goods, gadgets, electronic hardware) 5. Home & Kitchen (Household consumables Home furnishing, appliances)

Various Buying Needs of Today's Consumers

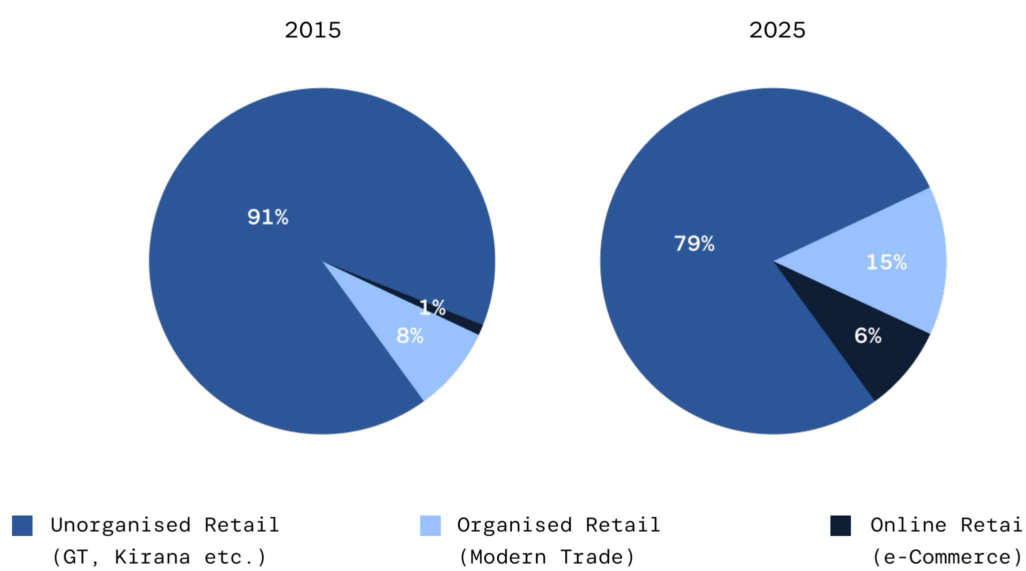


Source: Boston Consulting Group

Emerging Distribution Channels

Channels such as e-commerce, modern trade, assisted commerce, direct-to-consumer are providing more power to the consumer who is now able to access goods & services from remote locations. With a reach of more than 19,000 pincodes in India most large consumer brands have adopted online distribution.

Shift in Distribution Channels



Source: CLSA Research

Poised for Non-Linear Growth

Some trends that could contribute to the non-linear growth of brands include—

Advent of Challenger Brands—
In the last 5 years, 85% of top 50 consumer companies have seen a decline in either revenues or profits. Between 2012 and 2017, 8 of India's top 12 brands have ceded nearly 0.4-2% of either market share to new entrants in Personal Care, Packaged Food and Beverage and Fashion categories. Each of these are large multi-billion dollar opportunities and are expected to double in the next 5-7 years providing space for challenger brands to capture niche segments and build sustainable brands

Large CPG and FMCG companies are looking to acquire innovative brands in order to stay ahead of the curve and build efficiencies. As a result, there is not only opportunity in backing innovative brands in unique sub-segments, but also in collaborating with large FMCG companies through strategic partnerships or acquisitions

Deeper Distribution Channels for Better Brand Reach—
Direct to Consumer (E-commerce, Social Media, Alternate commerce) and Modern Trade are enabling faster time-to-market and an effective audience outreach at a reduced cost. Amazon, Flipkart, Big-basket, Nykaa, Myntra are online distribution channels that have seen deep penetration over the last 3 years. New-age brands are effectively leveraging these online channels to build sizeable and scalable internet-first brands that can grow exponentially. The emergence of these distribution channels gives VC's the ability to realize sizeable returns on consumer brands which wasn't previously the case

Cost Efficient and Quick Brand Building Mediums—
Social media and online communities are strongly influencing purchasing decisions of consumers. It is estimated that 70% of the users who have internet access, go online to make a purchase decision. This makes it imperative that brands build a strong voice, engage their community and target niche audiences, thereby building market depth for their product.

The ability to reach out to a large customer set at relatively low costs, has enabled the newer brands to pilot products more efficiently, use feedback and launch with the right product-market fit.

Specialized Contract Manufacturing Has Lowered Manufacturing Related Barriers—
Manufacturing was a barrier-to-entry that incumbent FMCG companies and traditional retailers had established. With the emergence of contract manufacturing, scale-related barriers have also diminished, allowing smaller brands to manufacture smaller quantities. The savings through reduction of upfront capex is now allowing for VC money to be used towards growth and expansion, making it more capital efficient and scalable.

E-Commerce to Drive Key Categories

The Indian e-commerce market penetration is expected to deepen. The total gross merchandise value at the end of 2018, across all platforms is at $20B and is expected to grow 5x to reach $100B by 2025. Going forward, the ability to allow discovery, window shopping, access to a larger range will drive social commerce and consumption in tier-3 and tier-4 towns. The following categories that are expected to drive growth include–

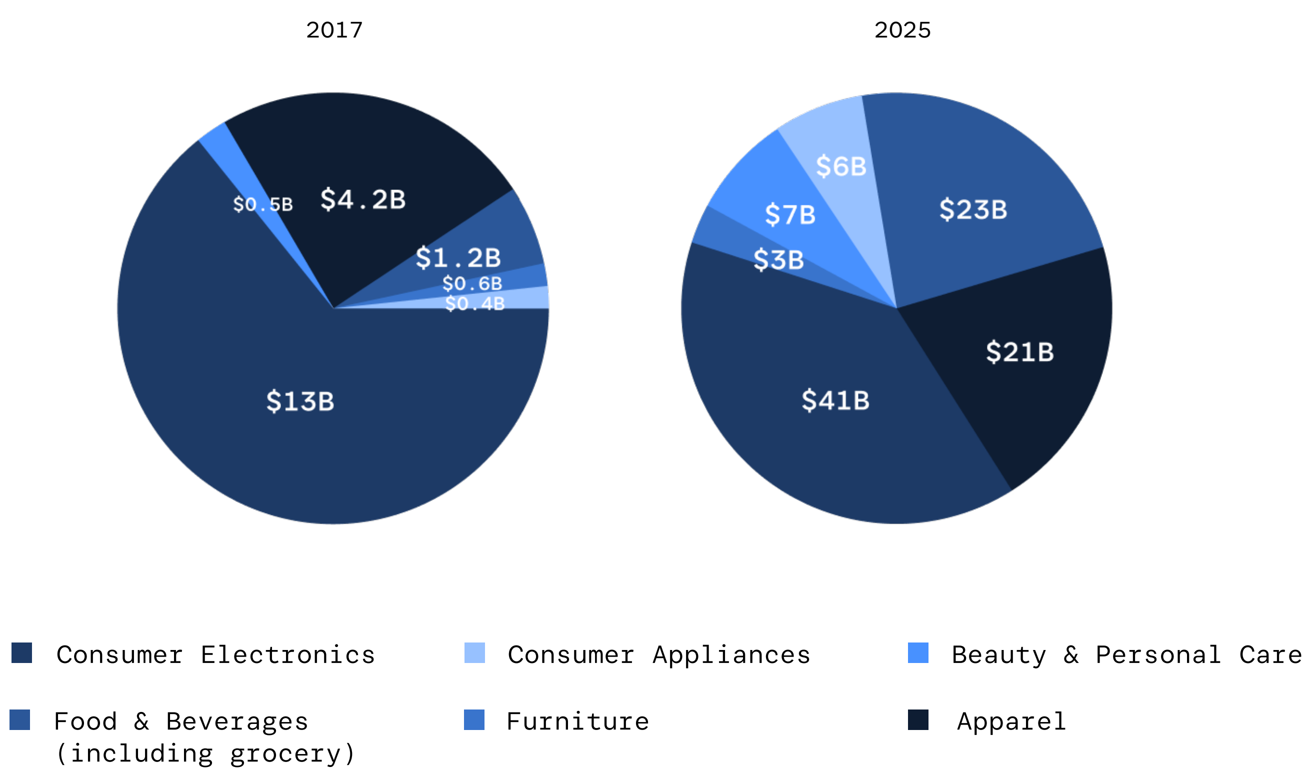
Fashion and Apparel—
In e-commerce, apparel is the third largest online consumer spend category at $4.2B, 25% of the total market. As new age e-commerce companies further solve for discovery, range & curation, and as social commerce brings Tier 3 & 4 consumers online, we expect the growth in online shopping for fashion to accelerate. Fashion & Apparel will continue to grow to reach $21B in online retail sales by 2025.

Beauty & Personal Care—
A $0.5B online market today, BPC is currently at a nascent stage. The industry is expected to witness significant growth driven by improved purchasing power, rising aspirations and a younger population going the extra mile to look good. With over 62% of young consumers in top tier cities, this segment is expected to strongly contribute to the online channels of purchase . The online BPC market is expected to become a $7B market by 2025.

Food & Beverages—
F&B today constitutes only $1.2B of total GMV of e-commerce players. However, given the segment's high frequency and repeat ratios, brands are keen to capitalize on the category. Additionally, growing modern trade and specialised e-tail channels such as Big Basket that manage the supply chain and logistics to ensure product efficacy, the category is expected to grow significantly. Online F&B sales alone are expected to reach $23B by 2025.

Source: CLSA Research

e-Commerce Market Size Across Categories



Overall, these three categories have high growth rates, strong sales channels through online e-tailers and the potential to create large, venture-scale outcomes.

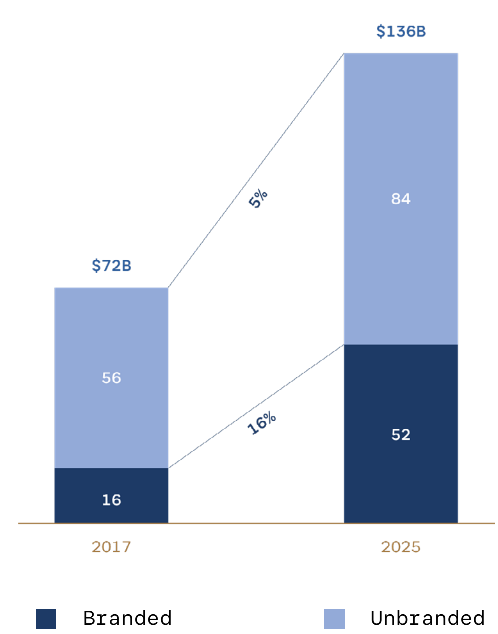
Source: CLSA Research

Food & Beverages

India's packaged food & beverages market is currently at $72B and is expected to grow at 8.3% y-o-y to become a $136B market by 2025. Within this, the branded segment is expected to show faster growth and contribute from the current 22% to 38% of the overall market.

The Indian food & beverage industry is witnessing change in preferences, consumers are now moving towards preservative-free, natural and healthy alternatives.

Packaged Food & Beverage Market



Source: Industry Reports & Kalaari Research

Key Trends shaping the Industry

Growing awareness about health, food safety & nutrition through digital media is increasing focus on 'self' and 'wellness', leading to an increase in the healthy food sub-segment. Urban consumers are willing to pay a premium for products that offer nutrition, convenience or taste. Ayurvedic recipes, high protein and fiber rich food & beverages are some alternatives consumers are seeking. Indians are paying "healthy option" premiums of around 24% in biscuits, 71% in tea & 82% in noodles. In addition, growing concerns around excessive use of pesticides, growth hormones & antibiotics have led to the growth of organic food. The healthy, organic F&B market alone is expected to be $6B by 2025.

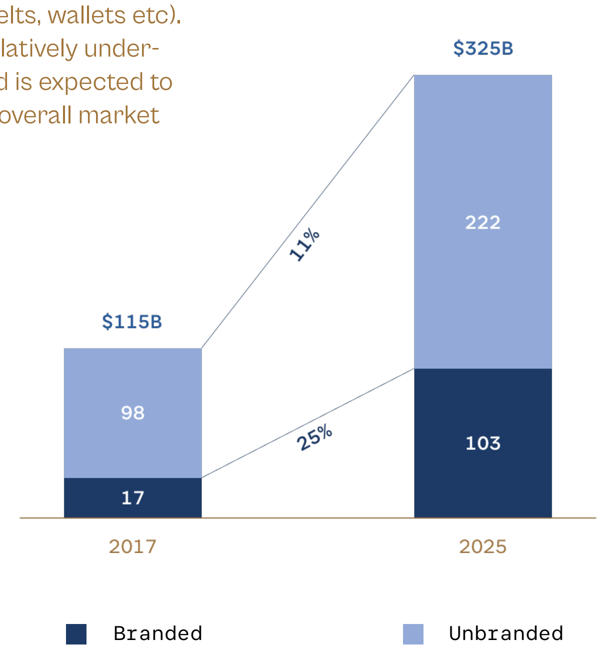
Homegrown Brands gaining Popularity— There has been a 5% reduction in market share of established packaged food brands in the last 5 years owing to homegrown brands gaining popularity. Some early trends that are emerging from these sub-segments are based on traceability, plant-based food & beverages, dairy alternatives, and functional products providing new-age niche brands a competitive advantage

Fashion & Apparel

At $115B, the fashion & apparel market in India is expected to grow at a 14% CAGR to reach $325B by 2025. Growth in this segment is expected to come mainly from fashion wear in women and kids. Changing brand preferences are also expected to cause the branded segment to grow at a 25% CAGR, contributing 32% of the overall market by 2025 from the current 15%.

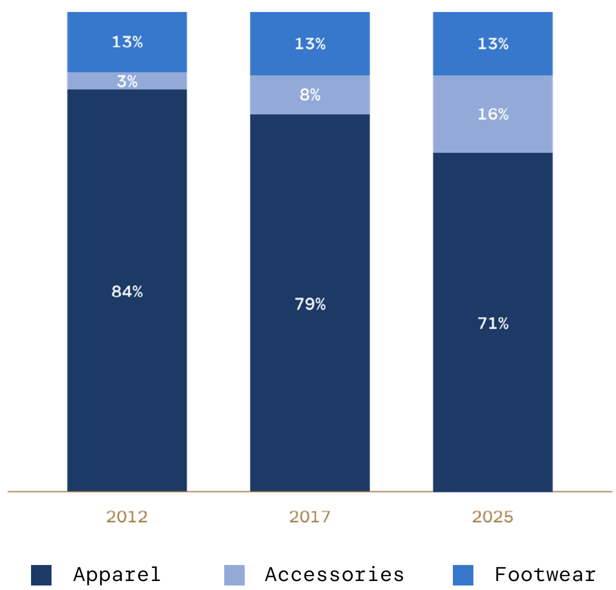
As millennials & gen-Z enter the mainstream, one expects to see significant growth in the purchase of fashion accessories (jewellery, bags, belts, wallets etc). The category remains relatively underpenetrated currently and is expected to contribute to 16% of the overall market from the current 8%.

Fashion & Apparel Market

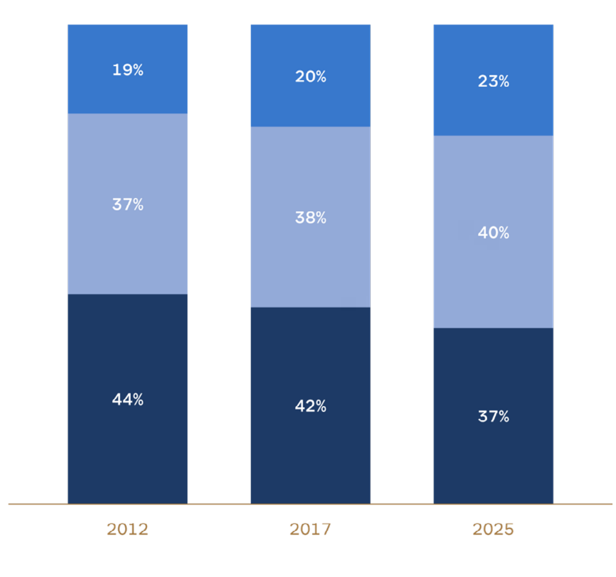


Source: Industry Reports & Kalaari Research

F&A Market Segmentation across Categories



F&A Market Segmentation across kind of Consumers



Key Trends shaping the Industry

Change in consumption class— India's growing aspirer and next billion classes are expected to contribute ~55% of India's fashion & apparel market by 2025. These consumers are more open to purchasing on the internet and are brand aware yet, value conscious. They seek quality and design at affordable prices. We expect to see a significant growth in the number of private label brands targeting niche segments within the market.

Strengthening women consumers— The number of urban working women in India is growing at 7% and is expected to reach ~60M by 2025. With Indian women gaining financial freedom, the segment is expected to contribute 2% more to the total F&A market in 2025.

Rise in Fast Fashion— Frequency of apparel purchase per year by Indian consumers has nearly doubled over the last few years with an average consumer making 10-12 purchases per year. A growing influence of social media on purchasing decisions has led to fashion trends reaching consumers much faster. This has increased the need for companies to provide "fast fashion" and ensure rapid change in styles and designs to keep up with evolving trends.

Technology driving disruption— Technology can truly disrupt the way fashion is accessed and consumed. An entire product life-cycle, right from predicting demand and trends, designing, managing production, replenishment, and determining the most optimal pricings, can be done using technology & data science. This helps reduce manufacturing time and brings down inefficiencies in the system across the value chain. Many new-age consumer brands are leveraging technology to forecast demand and optimize their supply-chain accordingly.

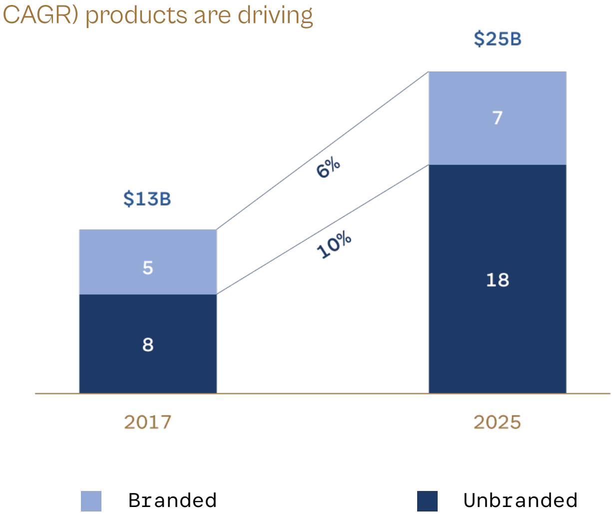
Source: Technopark Advisory Research | India Retailing Market

Beauty & Personal Care

India's Beauty & Personal care (BPC) market is currently at $13B and is expected to reach $25B by 2025. This is largely driven by increased awareness, accessibility and growing contribution of upcoming segments such as natural and ayurveda. The branded segment today contributes significantly to the personal care market (61%) and is expected grow at a 10% CAGR to reach $18B, contributing 72% of the overall market. However, there will be a huge shift in the kind of brands that will win, given consumers are looking for certain attributes such as authenticity, clean labels, ethical sourcing and production etc.

Face-care is expected to capture 4% and 2% respectively of the total BPC market by 2025. With growing consciousness & increased awareness, rural lifestyle has started mirroring urban aspirations & lifestyles. Consumers are trading up from homemade solutions to branded products. In face care, men's grooming (9% CAGR), women's cleansing (15% CAGR) & foundation (20% CAGR) products are driving growth.

Beauty & Personal Care Market



Source: Industry Reports & Kalaari Research

Key Trends shaping the Industry

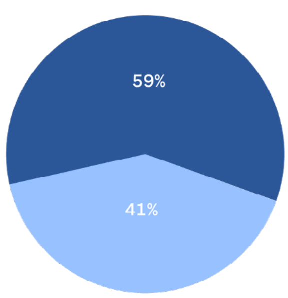
Preference for Natural Products— Natural products today contribute to about 41% of all personal care products and is growing at 7%. In the last few years, there has a been significant growth for brands with natural positioning over their non-natural peers. Interestingly, Indian origin companies have been leading this trend, commanding a 79% market share in the natural products segment. We expect a proliferation of more homegrown companies that will capitalise on their innate 'Indian-ness' with local recipes and ingredients.

Increased vertical consumption of product subcategories— There is a conscious shift from generalist to specialist products with core functionality and value added benefits. Consumers have now moved from using a single product in any segment to multiple products within the same segment such as hair care, skin care etc. For Eg: In face care, we have moved from just a face wash and moisturizer to scrubs & exfoliators, cleansers, serums, masks and peels.

Social & Digital to have pronounced influence on driving purchases— Tech-savvy millennials have driven beauty & personal care from a low-involvement to a high-involvement product category. Purchase decisions are now driven by peer-recommendation, product reviews and influencer advocacy in this segment. New-age brands that leverage digital channels and platforms have chance to build significant online brand-pull.

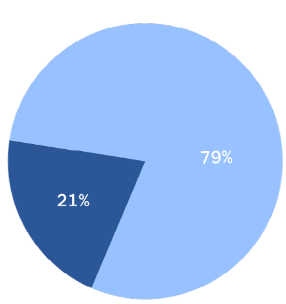
BPC Segmentation

Natural vs Non-Natural Products (2017)



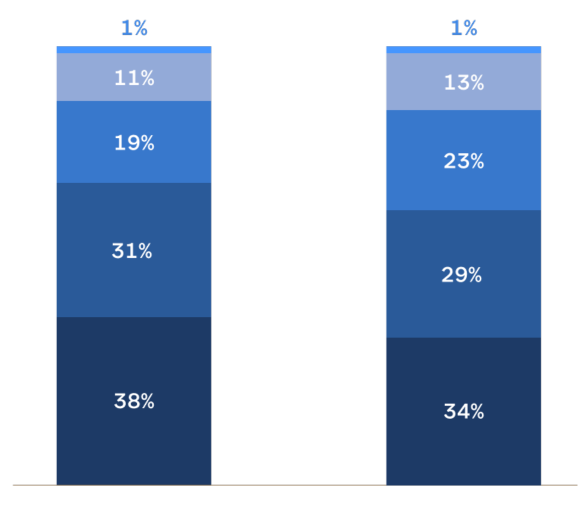
Natural (Growing at 6.6% y-o-y)
Non Natural (Growing at 2.9% y-o-y)

Indian vs Foreign Origin Companies (2017)



Indian Origin Companies
Multi-National Corporations

BPC Market Segmentation across Categories



Bodycare Haircare Facecare
Colour Cosmetics Hand Cosmetics

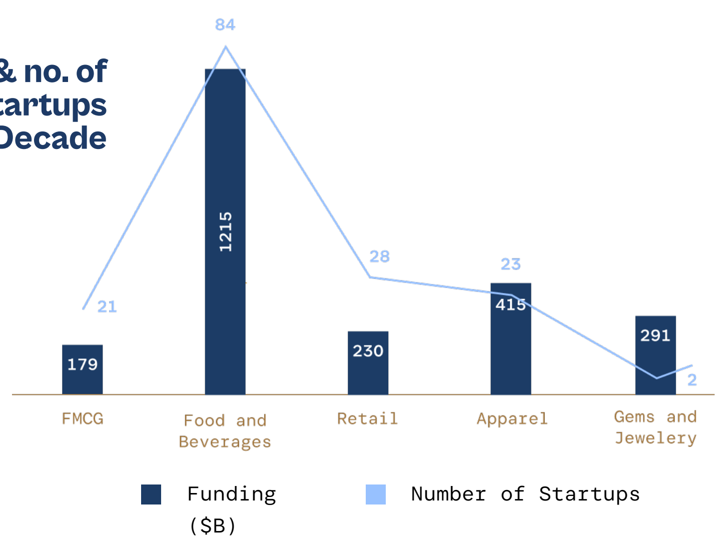
Source: AT Kearney | Nielsen

Investment Ecosystem for Consumer Brands Improving

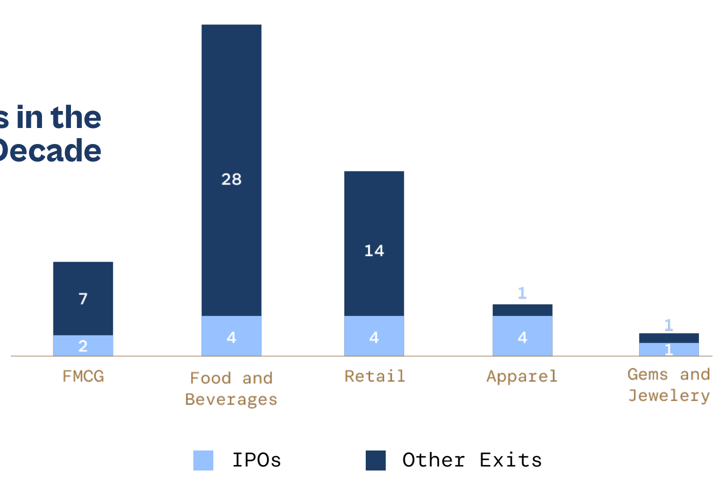
Entry of Strategic Growth Investors

In recent years, the proliferation of challenger brands has caused large MNCs and FMCG players to lose market share in key categories. In order to retain their market position and stay ahead of the curve, these companies are investing in startups. Several family offices (Premji Invest,Marico, Emami, RPSG) and FMCG giants (Hindustan Unilever, ITC) have started their own venture divisions to invest in companies that can help them achieve long-term strategic goals.

Funding & no. of Consumer Startups in the Last Decade



IPOs & Exits in the Last Decade



Value Creation by Consumer Brand Startups leading to a Virtuous Cycle of Investment and Returns

Funding in the last decade—
The consumer segment has seen a flurry of investment activity. Over the last decade, there has been close to $2.3B invested in consumer brand companies in India across 158 startups. Close to $1.2B has gone into food & beverages (across 84 startups) followed by retail (28) and apparel (23).

Consumer brands creating value—
Over the last decade, the consumer brands space has witnessed a total of 51 exits out of 158 startups that have been funded. 15 of the 51 exits were through IPOs. Our view is that the markets are conducive for IPOs in the consumer brands space because the industry generally operates at 40% gross margins and maintains good profitability levels.

Going forward, with strategic investors looking closely at the innovation created by new-age brands and value being created through meaningful exits for investors and entrepreneurs, we will see the emergence of many companies in the consumer brands sector with several risk and growth investors looking to deeply invest, leading to a virtuous cycle of value creation.

Source: Tracxn | Venture Intelligence

Reimagining New-age Brands

Given the above changes in the Indian landscape and emerging trends, we believe the key themes emerging for the next phase of growth include–

- → Affordable premium
- → Health & wellness
- → Natural and organic
- → Categories where there is a fresh digitally enabled retail experience
- → Categories with high margins & low frequency of purchase

These categories shall see immense growth as consumers seek out differentiated offerings. In the recent years, new age brands such as Kama Ayurveda (USD $10M in revenues), Bombay Shaving Company, etc. have emerged and are displacing several large incumbents as they offer uniquely natural products with strong branding. Similarly healthy food alternatives such as RAW Pressery, Epigamia, The Yoga Bar etc. are replacing traditional foods and creating food segments that did not largely exist. Brand conscious consumers who simultaneously seek value is also a segment that offers immense opportunity and is being tapped into by companies like Roadster $100M revenues), Bira (A new-age craft beer company with USD $65M revenues) that are fitting price-point gaps with relevant product and excellent branding.

At Kalaari, we shall seek out opportunities within these white spaces that offer one or more of the following–

Differentiated & Effective Product—
The new age consumer is all about Eat well, Look well, Dress well and be ahead of the curve. They are willing to pay premium for products which are aspirational. Hence, in our opinion, successful new age product portfolio for a new age brand will be one that focuses on active lifestyles, has a range of products with specific functions, and is positioned well within the affordable premium segment

Digital First Brand—
By 2025, there will be 550M people who will make shopping decisions under digital influence. The penetration of data and social media has given unprecedented opportunity to new age consumer product companies to build a brand recall & brand loyalty digitally. We believe that successful brands will be able to identify their Target group (TG) really well, build a strong digital community of brand evangelists early on, and will utilize digital channels to continue to refine the product market fit

Brands leveraging D2C—
Unlike 10 years ago, new age brands today have the opportunity to build a large scale business outside of General Trade (GT) distribution network, making their growth faster, cheaper, & more capital efficient. For example, today a personal care brand can reach a revenue of up to $25M per annum by just selling online (on top e-commerce platforms). A fashion brand on the other hand can reach up to $100M per annum in revenue through online channels. Similarly a F&B brand can ignore GT till they are about $20-25M in revenue. The ability to scale early on using these D2C channels is proving critical for the success of new-age brands, as this effectively kickstarts the virtuous cycle of brand visibility & demand across channels

Eventually as the brands scale, they will have to invariably penetrate all channels, but the cost of penetration at later stages, when the brand recall is already established, will be far lower. We believe that across all the three categories we have discussed in the report, brands with revenues ranging from $100M to $500M can be created in the next 7-10 years, which at 5-6x Sales multiple can provide solid exit to investors.

As brand penetration increases across all 3 core categories, we estimate that the revenue opportunity for new age brands by 2025 is at around $35B. The largest revenue for new age brands is in fashion & apparel (c$21B), followed by Food & Beverage (c$10B) and Personal Care (c$4B). In our opinion, consumer segment will produce a few unicorns & several $500M+ brands in the next decade.

Recent Investment

Sub-sector—
Apparel & Accessories

What?
RoadGods *is a design centric consumer products business for outdoor and travel segment. It sells premium outdoor gears and accessories which include travel bags, laptop bags, helmets etc. Their best-selling 'Ghost' backpack is a viral hit with a strong loyalty and following among its users.*

Why?
Their products are a design and disruption oriented take on an otherwise large, unbranded and commoditized market. The product design is highly differentiated and patent protected. The team has also built a strong brand and displayed high organic revenue growth.

How are they doing?
FY19 revenues expected to exceed INR 10cr. The company continues to show high sustainable organic growth and healthy margins.

T20 Consumerism - Event Highlights

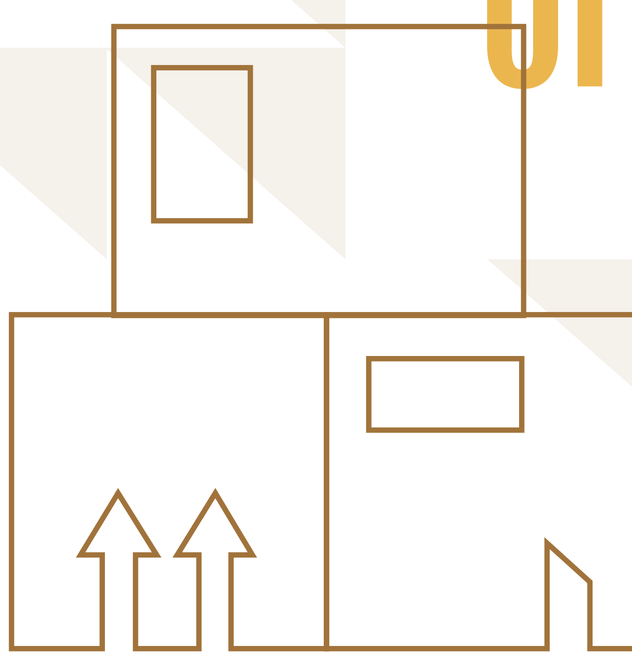
"Our lives at home have become multifunctional in using space, influenced by technology. Customer journey now has multiple decision points demanding convenience, service & speed" - IKEA India CEO, Peter Betzel

"Innovation is imperative to way the consumer thinks today and they change their minds quickly. If you don't listen to your customer quickly enough, you will be left behind" - Aman Gupta, CEO of Boat Headphones in a panel discussion with Sreedhar Prasad - Venture Partner, Kalaari Capital, Rajiv Srivastava - Co-Founder, Urban Ladder, Vijay Prabhakar - CEO, Chumbak and Shailesh Chaturvedi -CEO, Tommy Hilfiger & Calvin Klein India

"Incumbents can get caught in the "core competency" trap. Consumer focussed companies need to watch out for 1. mobile revolution, 2. understand the context of the empowered customer using ML & AI 3. move from insight to foresight, else they will be disrupted" - Vikas Agnihotri, Country Director - Google India

"Large FMCG companies are cognizant of the potential of new-age challenger brands, we are open to collaborating and exploring partnerships with them" - Vineet Agarwal, CEO of Wipro-Care in a panel discussion with Harsha Razdan, Head - Consumer Markets & Internet Business at KPMG in India, Theresa Ronnie, Sr VP & Head of Office, FCB Ulka, Sameer Shekhawat, Ex-CMO, United Breweries group and Govind Shrikhande, Ex-MD, Shoppers Stop

ENABLING A NEW ERA OF LOGISTICS



Summary

A robust and efficient logistics sector is critical for the growth of a developing economy like India, as it matures and Tier 2+ regions see the benefits of sustained high GDP growth.

The logistics industry in India remains highly inefficient at a macro level, due to overwhelming share of the unorganised sector (~80%) and heavy use of roads due to lack of development of other modes of transportation.

Rising consumption from both Tier 1 and Tier 2+, the growth of aspirational product driven channels such as E-commerce fulfillment and cold chain as well as high growth in domestic manufacturing form massive underlying drivers that shall boost the sector. On the supply side, renewed government infrastructure spending ($90B in FY19) and profound structural changes in the form of GST and infrastructure status to the sector provide transformative triggers, paving the way for non-linear growth going forward.

We believe tech-based solutions are needed to navigate the nature of the Indian landscape—

- → *Highly unorganized market, with poor economics and disaggregated/underutilized assets*
- → *Structural shifts in the form of GST, especially in warehousing*
- → *High seasonality of demand*

Innovative tech-driven companies like Rivigo and ElasticRun have unleashed incredible value by tailoring solutions for specific needs. With three unicorns created, the space is quickly gaining momentum. Private investors have poured $620M into logistics tech in just the first eight months of 2018, surpassing the high of full-year 2015. We believe this is a high opportunity market and organized players have just started going beyond the surface. The sector is expected to see many more winners, as companies ride secular growth and continue to capture market share from the informal sector, both across the spectrum and in specific sub-segments using digital enablement.

We see key opportunities in the below sub-sectors of logistics:

- → **Trucking 2.0:** efficient Part Truckload (PTL) based business models
- → **Cold Chain Fulfillment:** end-to-end high SLA solutions
- → **Cross-Border Commerce:** process digitization and end-to-end trade management
- → Other opportunities such as **Blockchain** and **Supply Chain Finance**

A New Era Of Logistics

A healthy and robust logistics is vital for a growing economy. For India in particular, which is seeing significant growth in both the domestic demand and supply of goods, its economy will need a new wave of specialized logistics companies to keep pace.

In the 5 years leading to 2017, the sector witnessed growth at a CAGR of 7.8%, touching $340B in 2017. It is poised to further grow to $650B by 2025, at a CAGR of 8%, on the back of robust demand and supply side drivers such as increasing consumption, Tier 2+ integration, and a boost in manufacturing.

With increasing per capita income, India is witnessing the rise of household consumption. With rising aspirational consumption from Tier 2 cities, the need for organized players to provide efficiency and scale, as well as new channels is now imminent. This demand shall be met in large portion by domestic manufacturing, giving impetus to demand from the production side as well. With large government spending and favorable policy shifts, the business environment and on-ground infrastructure are also rapidly falling into place in the logistics jigsaw. With the various state governments in India providing support to set up domestic manufacturing plants, the logistics industry gets multiple new source locations for the delivery supply chain.

$340B
Total Logistics Sector (2017)

$650B
Total Logistics Sector (2025)

The sector accounts for a significantly high share of the country's GDP, contributing as much as 13% in 2017. This is much higher than the global average of around 6-8%, and indicates large inefficiencies in current structures. Some of this can be attributed to the high share of unorganized participants, being upwards of 80%. Another factor is that almost 65% of the logistics happen via roads, which is less efficient than rail or sea. This is significantly higher than China (30%), the US (37%), and Europe (~10%). However, lack of speed, multi-modal connectivity, and last-mile reach make other modes significantly less preferable in the near term. According to a report by McKinsey, wastage caused by inefficiencies contribute to 4.3% of GDP, and, if not corrected, can increase to 5% of GDP or $100B by 2020.

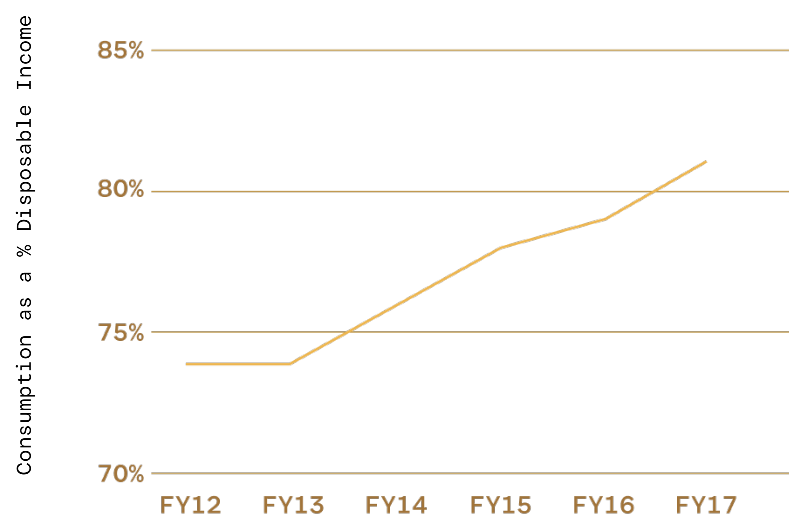
As supply side bottlenecks are removed, investors are increasingly lending support to the sector. The $620M funding in first 8 months of 2018 surpasses the previous high of 2015.

Over the past few years, we have seen key sectors of the industry evolve and move towards formalization and tech adoption. Sectors such as trucking, e-com fulfilment, last mile, tracking, and software are starting to see saturation.

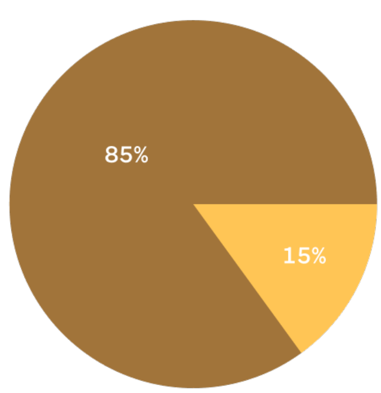
We believe the next leg of growth will come from tech-first tailored solutions by companies such as ElasticRun on the back of upcountry penetration and market leaders in verticals such as cross-border, PTL trucking, cold chain, as well as emerging opportunities like Blockchain and Supply Chain Finance.

Source: KPMG, Kalaari Research

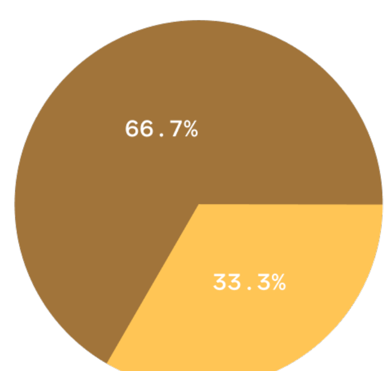
Consumption has been rising steadily over the last 5 years



Ecom Shipments per day (2017) - 2M



Ecom Shipments per day (2022) - 15M



Tier 1 Upcountry

Source: BCG, RBI | Kalaari Research

Growth Drivers
Demand Side Drivers

Increasing Consumption
India's per capita income crossed $1,700 in FY18 and is trending close to the Wealth S-curve 'tipping point' of $2,300. At the tipping point, consumption habits of a country's citizens change drastically and the aggregate amount of what they consume increases exponentially.

FMCG S-curve also suggests that as India's GDP/capita goes from $6,800 (PPP basis) in FY18 to $11,800 in FY23E, the FMCG spending per capita is expected to increase from $250 in 2016 to just under $800 in 2023, registering a growth of over 3X. Given this impending structural shift, the next decade should offer disproportionate consumption and opportunity. Consumers are increasingly asking for faster service times, driven partly by the high customer experience bar set by E-commerce companies.

Catering to the Rising Tier 2 and Below Tide
It is estimated that 45-50% of the consumer spends by 2025 would be contributed by tier 2+ towns.

In e-commerce, for example, out of the 2M (peak) shipments a day today, metros and Tier 1 cities account for 85%. The total number is expected to rise to 15M shipments a day, out of which 5M (~33%) are expected to come from Tier 2+ by 2022.

Similarly, FMCG companies, are bullish on demand from Tier 2+, riding on a wave of awareness stemming from TV and smartphone penetration. According to CRISIL, almost 30-40% of current FMCG sales come from rural centers, and rural demand growth is outpacing urban.

Boost from Manufacturing
A large percentage of growth in consumption will be contributed by domestic manufacturing. Manufacturing is expected to grow at 14% CAGR to $1T by 2025.

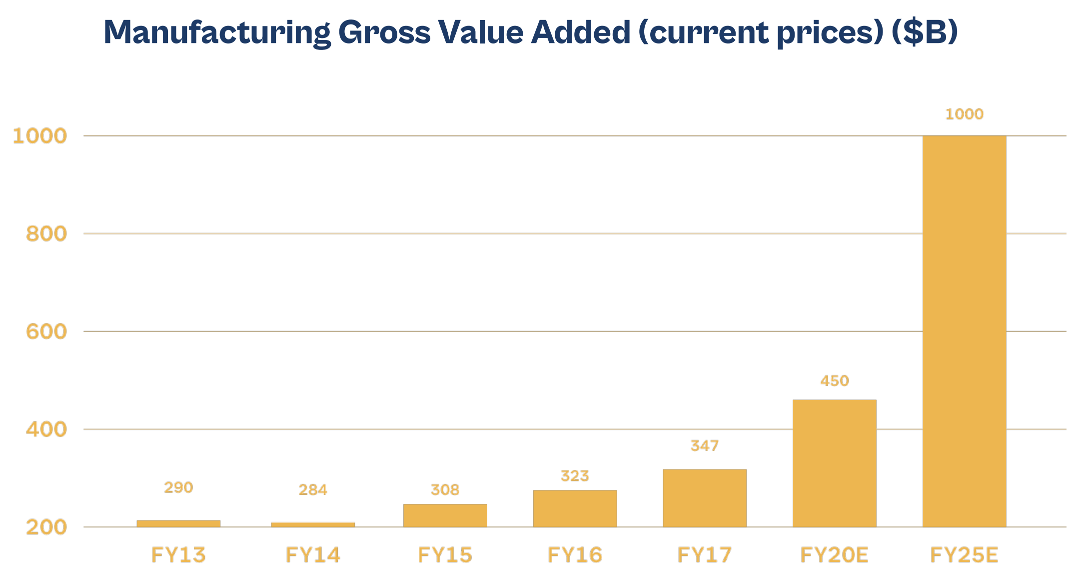
This growth has been encouraged by the #MakeInIndia initiative, with the Government recently launching Make In India 2.0, with renewed focus. Persistent efforts to improve the business climate in the country has resulted in India moving up 30 positions to be among the top 100 nations in Ease of Doing Business for the first time in 2017.

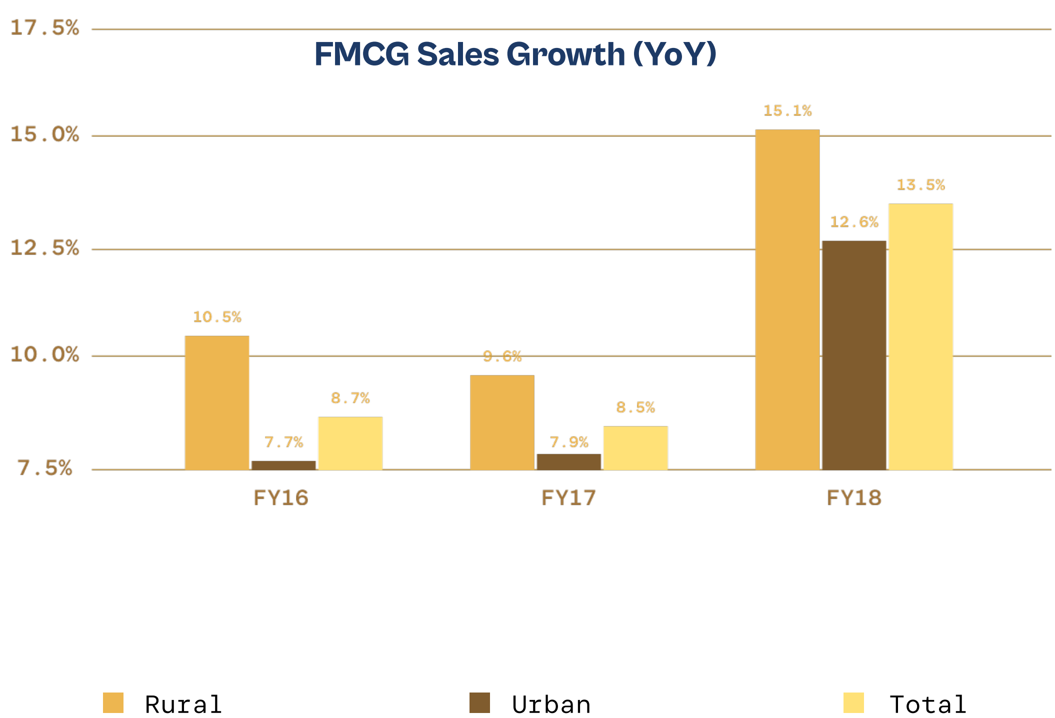
Expected increases in SME activity will also add to the logistics needs in the coming years with government supporting the creation of SMEs actively through MUDRA and other financial incentives.

Moreover, the share of the manufacturing sector in employment, output, and the number of enterprises has declined in urban areas, whereas the share of manufacturing has increased in rural areas. Large scale manufacturing is moving towards rural areas in search of cheap labor. In 2011-12, 51% of the total net value added in the manufacturing sector came from rural India. It is likely that this number is higher now.

As manufacturing and consumption move towards Tier 2+ cities from concentrated mega cities, their need for logistics connectivity shall increase significantly.

Changing from a Cost function to a Revenue Enhancing Function
High service levels and tier 2+ penetration are increasingly being seen in the industry as revenue drivers. E-commerce, with its promise of on time delivery, FMCG companies looking for entry into Tier 2+, pharma and food manufacturers that need specialized channels, are all helping change the way clients look at logistics companies. This shall allow players to appeal to clients in a different and more value generative way.





Source: Nielsen | KPMG, IBEF

Supply Side Drivers

Government Spending
Increased government spending on infrastructure development like building ports, roads, multi-modal logistics parks, dedicated freight corridor, and Sagarmala will help increase the efficiency of the logistics sector in a large way. The Indian government planned to spend close to $90B in just FY19 on various infrastructure projects.

The government has made efforts towards improving the road network. As of April 2018, there were 1,529 Public Private Partnership (PPP) projects in India, of which 740 were related to roads. The Government has decided to invest $108B for construction of new roads and highways over the next five years. In an effort to increase modes of transport, government initiatives like the Sagarmala program, Inland Waterways program and coastal shipping can provide the much needed shift.

Policy Support
Grant of infrastructure status to the sector in late 2017, including cold chain and warehousing, has given a boost to the sector. This enables the sector to avail infrastructure lending at easier terms with enhanced limits, reduce costs by as much as 100bps (according to CARE, ICRA), access larger amounts of funds from External Commercial Borrowings (ECB), and elongate tenors via access to insurance, pension funds and India Infrastructure Financing Company Limited (IIFCL).

Further, policy interventions like GST and the E-way bill have given impetus to structural shifts in the sector. The implementation of GST will lead to logistics companies moving from tax-optimized warehousing locations to cost-optimized warehousing.

Digitization of Participants
With smartphone and internet penetration reaching the interiors of the country, the on-ground logistics participants like drivers and workers are increasingly technology savvy and digitally connected. This increased connectivity and education is unlocking new business models in the country where large amount of real time data is being generated and analysed for enhancing efficiencies as well as identifying new revenue opportunities.

$90B
Government Spending in FY '19

34800km
Roads proposed under Bharatmala-I

Needs and Challenges

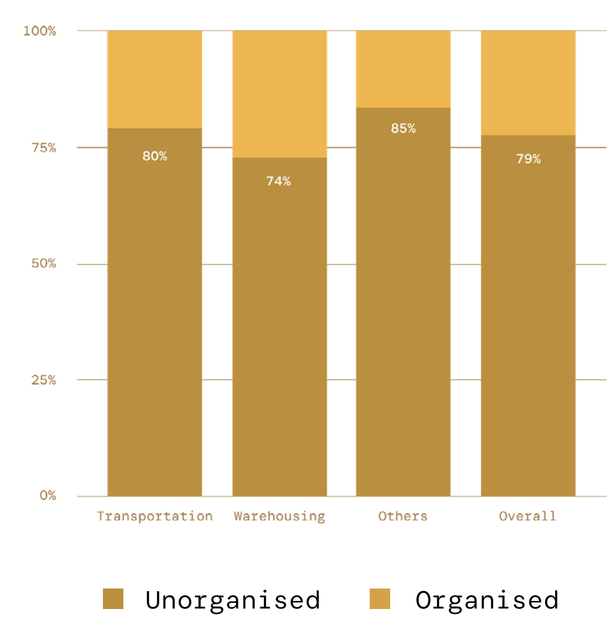
Disruption in the sector will stem from the needs of the logistics ecosystem to respond creatively to existing structures as well as new avenues of demand, policy changes, and technology.

Unorganised Market

80% of the trucking market and 74% of the warehousing market is unorganized in the country. Further, more than 85% of the 12-15m trucks are owned by fleet owners who own less than 5 vehicles, mostly consisting of drivers themselves or micro-entrepreneurs. This leads to large inefficiencies in terms of capacity utilization, pricing visibility, and delays.

The lack of price transparency causes prices to be increased by 10%-20%. Due to this, logistics costs are around 2.5-3.5% of the sales costs in India, compared with 0.8-1.5% globally. Three-fourth of this is spent on movement and storage of goods. Suboptimal procedures like manual search can cause time delays, which cascade into larger downstream costs.

Indian Logistics is Highly Unorganised



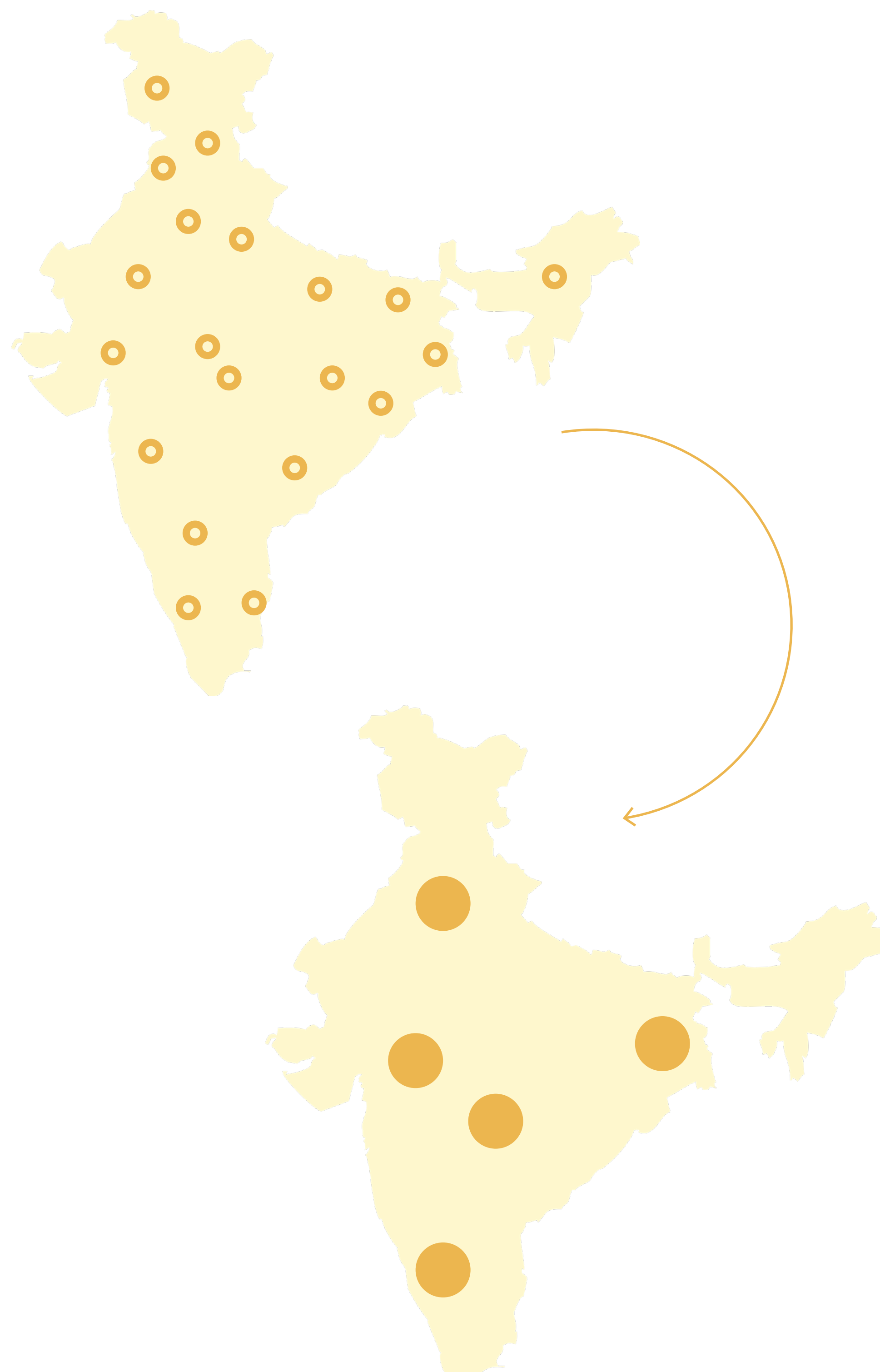
Source: Nielsen | KPMG, IBEF

Unified Taxation

With the advent of a unified taxation system via GST, companies need to transition from tax optimized warehousing to cost optimized warehousing. This means that companies will look to consolidate warehouses in optimal locations, a shift to a hub and spoke model. Real estate services firm JLL India estimated that warehousing space in India will increase by 112% by the end of 2021 from 2017, driven by government support and structural shifts like GST.

While the existing 5-8 cities are expected to retain their leading positions as major hubs, India will see the emergence of at least 12 new feeder/ warehousing spoke locations. Larger warehouses can afford smarter solutions like warehousing automation, robotics and analytics. Further, collection of warehouses in a few locations opens up the possibility of high truck utilization via a Part Truckload (PTL) model instead of the prevalent Full Truckload (FTL).

This structural shift creates large opportunities for warehousing, logistics, and automation players.



Seasonal Demand

Consumption in the country often follows a sawtooth graph, especially in verticals such as electronics, home décor, fashion, jewelry etc. Solving for such fluctuating demand arising from festival/discount driven purchases, in both online and offline channels, leads to unused capacity in lean times or loss of revenue in times of high volume.

In E-commerce for example, during festival sales, orders can jump to 4.5M a day, as opposed to the average 1.2M -1.5M.

Seasonal nature of certain fruits & vegetables and certain consumer durables (air conditioner, geyser etc.) also results in similar challenges.

Underutilization

Average utilization of trucks in the country is at 40% while in developed countries this number is more than 65%. This is a fallout of an informal workforce, no load return journeys, low load factors, and high friction on roads in the form of poorer infrastructure, bureaucracy, and working conditions. For example, demand-supply mismatch leads to 30%-50% of trucks being underutilized in the return journey.

Trends Shaping the Sector

Funding

In 2018 itself, the space has seen 3 unicorns emerge. The below charts show a significant trend of investors building confidence over the past 3 years post 2015, when we saw a secular drop in VC investments.

Sub-sector wise, a large chunk of the dollars have flow into Fulfilment (~65%), which comprises both Hyperlocal/Last Mile and E-com Fulfilment. This was followed by Trucking, which comprises technology first trucking companies and trucking marketplaces (~20%). The last large sub-segment is Robotics (~9.5%).

Increasing Later Stage Support

Out of the $620M invested in the first 8 months of 2018, $516M was invested in later stage (C+) deals in just 7 companies.

Another important factor is the growth of venture debt support to this industry. We believe the availability of venture debt, as well as traditional debt lines (due to infrastructure status) will lend a significant boost to well managed companies. These are positive signs for the early stage ecosystem.

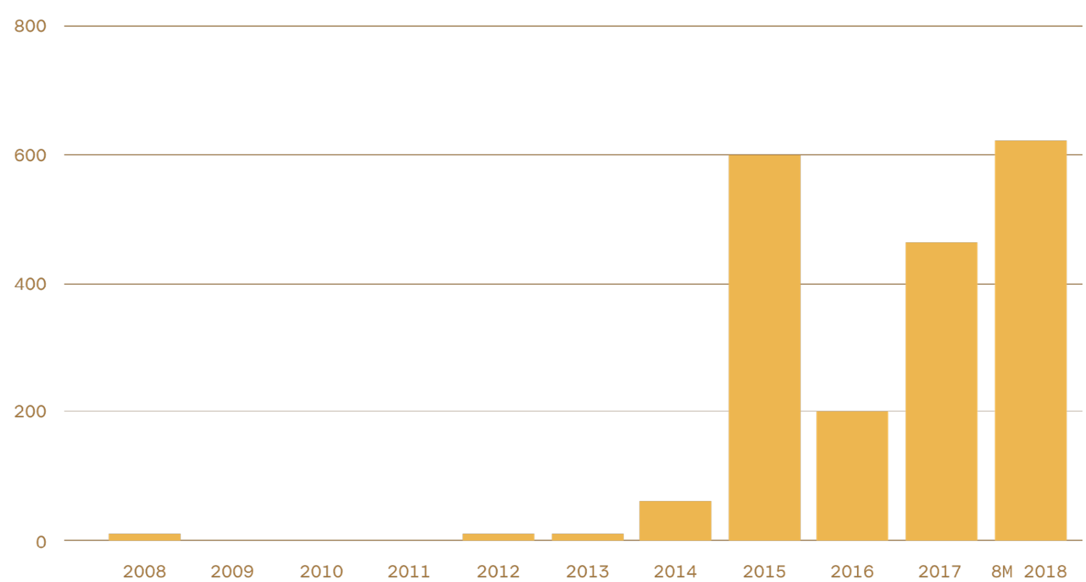
Exits

Currently 16 logistics companies, command a combined market cap of ~$7.5B at an average P/E multiple of ~40x. Given the contribution to GDP (~13%) of this sector, we believe more companies will come forward to tap public markets.

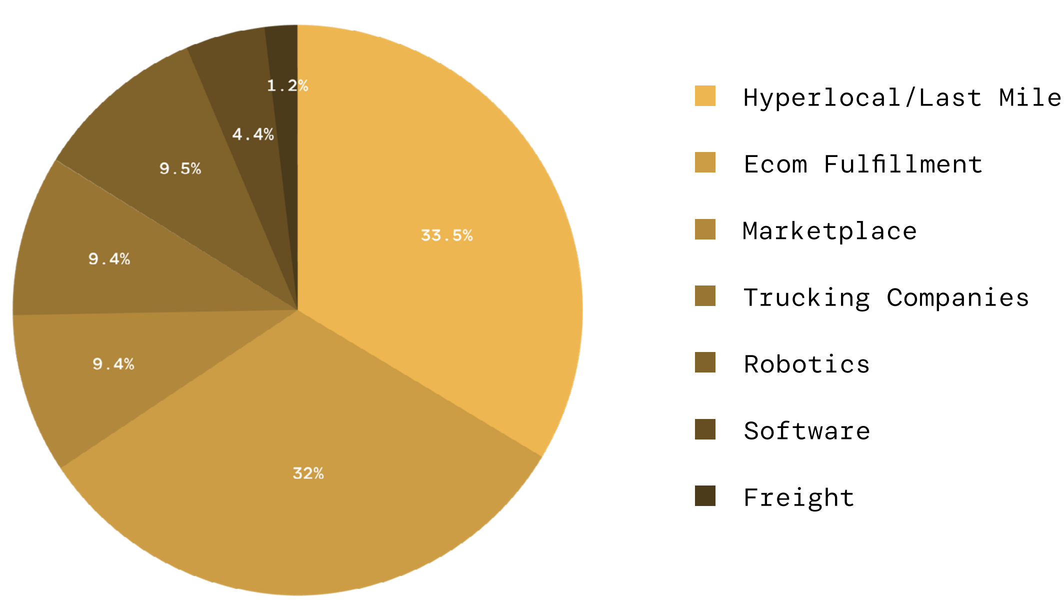
From an M&A perspective, the space is one of the most consistent, seeing over 200 deals in the last decade. In just H12018, 2 of the top 3 startup M&A deals were in the sector.

Overall, we believe increasing interest across the broad will support the ecosystem and provide returns to venture investors in the form of exits, making this a great investment area, especially at early stage.

Investment till Q3 2018 has already surpassed the 2015 high ($M)



Venture Funding till Q3 2018 by Sector



Source: Tracxn

Evolution of Key Sub-Sectors

Fulfillment

Prior to E-commerce, the domestic express service market was largely unorganized and fragmented. In the last 3–4 years, 3rd party 3PL players have emerged to take advantage of scale and efficiency through a technology first approach. However, existing traditional 3PL players have limited capabilities to cater to time sensitive delivery and service levels demanded by e-commerce players, which has resulted in captive logistics arms being built by large E-com players. 3PL has now come down from 25% of deliveries for E-com companies 3 years ago to less than 15%. Almost $600M in VC money has flowed into the E-commerce fulfillment sector since 2010.

Similarly, the hyperlocal and last mile space saw large interest till 2015, when the sector overheated. Companies that surpassed competition in efficiency and innovation, survived and have garnered this space.

E-com Fulfilment and Hyperlocal models have largely played out. The coming years will see growth in the form of expansion into Tier 2+ territory, which will be led by existing asset light players such as ElasticRun. The next leg will come from specific verticals, and cold chain is a likely sub-segment that can see breakout companies.

Trucking

Road logistics in the country suffers from the dual problems of underutilization and disaggregation.

Given these issues, the lowest hanging fruit was online aggregation systems. Over the years, nearly $175M in funding has gone into these marketplace models. Shortcomings of this model are the lack of end-to-end service and little optimization on the ground.

Another approach has been to go asset heavy and compete with the unorganized sector using technology and best practices.

IoT

End-to-end solutions optimized by IoT internally have been able to undercut the expensive logistics costs by competing on efficiency. Breakout companies have harnessed the power of such systems to optimize their operations. Rivigo's platform utilizes GPS, fuel, temperature, gyro and other vital reading to power their vehicle planning, driver allocation, and optimizer functions.

However, given fragmented asset ownership in India, 3rd party solutions have not picked up in the same way. The space has seen relatively less traction as the go-to-market remains difficult.

Potential Venture Opportunities

Companies that provide significant advantages to clients by virtue of not just cost optimization, but revenue expansion through better end consumer experiences, unlocking of new markets, and enhancing quality will be standouts in the next few years.

Area	Driving Market	Venture Opportunities
Trucking	*$388B (2025), 15% CAGR*	*Tech lead shift from FTL to PTL*
Cold Chain	*$7B (2022), 14% CAGR*	*End-to-end cold chain*
Cross-border	*Cross-border E-com: $25B (2025)*	*Import-export, customs, trade finance, end-to-end freight lifecycle*

Trucking 2.0—FTL to PTL

As warehousing shifts to a hub and spoke model with 15-20 national hubs across the country, the next big opportunity in logistics lies in allowing truckers to cater to a host of warehouses in the same locality. We believe the structural change in the industry will be the trigger for truckers to move from a Full Truckload to a Part Truckload model (PTL), and this shall act as the holy grail for this sector going forward. However, PTL is a difficult technical problem and will require technology at the core of such solutions. This includes everything from mapping the shipment and matching loads to routing, scheduling and tracking. Companies that can provide effective solutions to bring about this paradigm shift will be at the forefront of the sector in the next few years.

Cold Chain Fulfillment

After E-commerce fulfillment and hyper-local, the next leg of the fulfillment story will come from specific verticals, with cold chain having large potential.

As purchasing power increases, more and more consumers will demand fresher produce, higher protein in the form of dairy and meat, medicines, quick service restaurants, deserts, and packaged products. Such demand needs dedicated channels such as frozen, chill, and semi-chill. This segment provides significant growth opportunities for organised players and is expected to grow at 13-15% in the next 5 years. Frozen food industry, for example, is worth about $300M and is estimated to be growing at 20% CAGR.

$3.5B

(*10% organized*)
Cold chain market (2017)

$6.5B

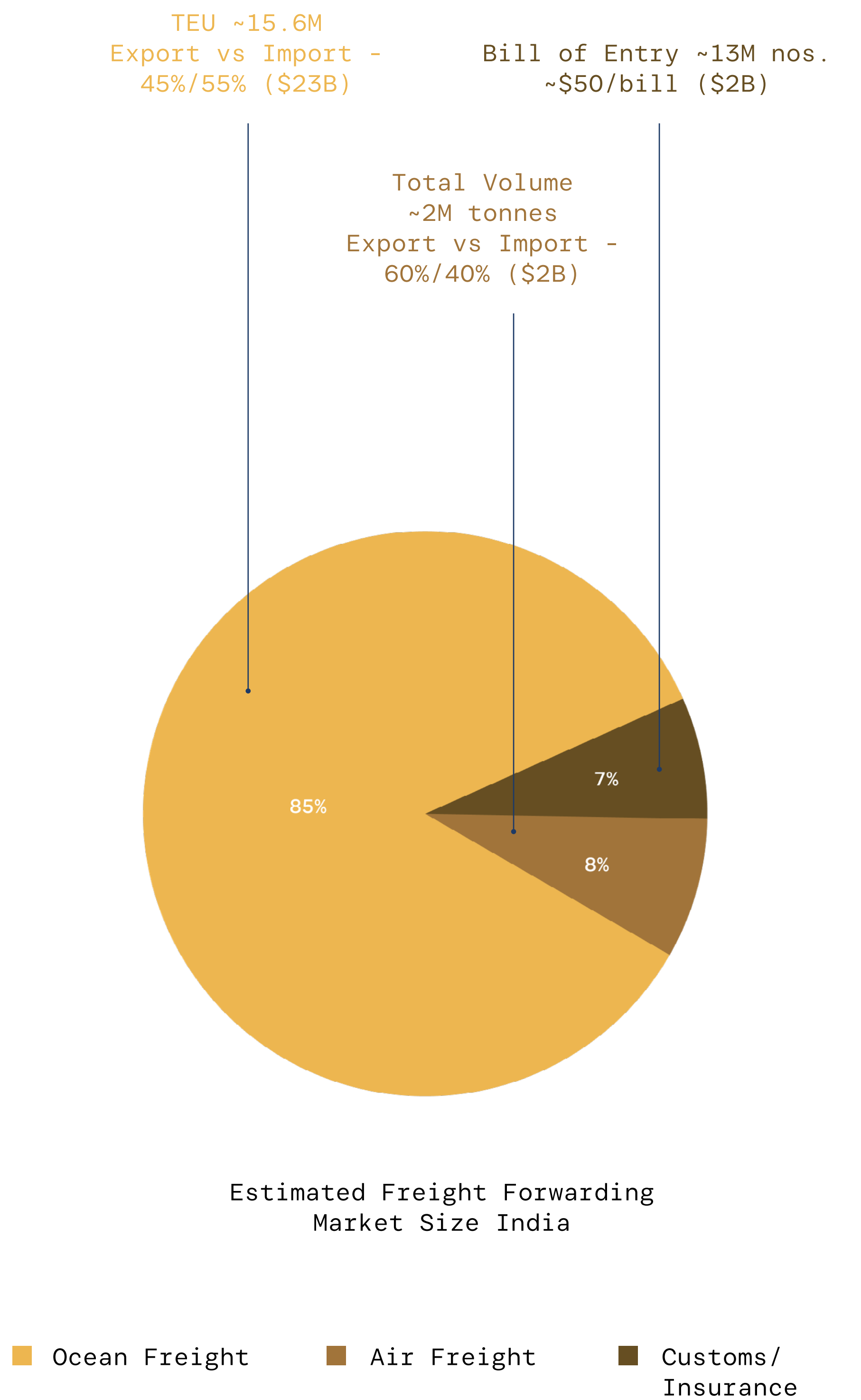
(*30% organized*)
Cold chain market (2022)

Current cold chain capacity fulfils only 11% of demand, with the rest falling to thermocol boxes or non-refrigerated channels. According to an ASSOCHAM report in May 2017, investment to the tune of $12B is required to fill the investment gap, due to low packing house and reefer vehicle capacity.

Established players in the sector have been unable to aggregate value across intercity, storage, and last mile, despite the need for close control on temperatures and standardisation. We believe there is space to work across the value chain and offer end-to-end solutions to customers.

From a regulatory perspective, moves towards stricter food safety norms such as setting of global standards by FSSAI and government support for the industry in the form of subsidies to cold storages are forming strong tailwinds for the cold chain sector.

Source: KPMG, CRISIL, Industry Reports, Kalaari Research



Estimated Freight Forwarding
Market Size India

Source: Kalaari Research

Tech Enabled Cross Border Opportunities

98% percent of cargo in India is handled by freight forwarders go through customs, who ship over 99% through various modes of transport on both export/import cycles. Despite the presence of many multinational freight forwarding companies, this is an interesting space for startups to explore given large size of the market and lack of technology adoption.

This will be driven by increased online demand for cross-border goods by Indian consumers (from US and China) and B2B players (from US, UK and China) and demand for apparel, jewelry and consumer durable products from India on international marketplaces. Cross-border e-commerce (imports) and cross-border B2C e-commerce (exports) are expected to reach $15-20B and $4B by 2025 respectively.

Globally, Flexport has emerged as a leading digital freight forwarding startup with presence across 8 cities in 3 continents. Flexport provides multiple services through a single platform including customs clearance, insurance, air freight, sea Freight, warehousing and trucking. Flexport has till date raised about $304M.

Freight value chain involves a large number of parties (manufacturers, truckers, warehouses, freight forwarders, shipping carriers, custom brokers, importers, exporters, bankers, financiers and retailers) and hence there are opportunities for technology to disrupt the space. Potential opportunities to explore with new age technology in freight space are–

→ ***Customs clearance***
→ ***Trade Financing***
→ ***End-to-End freight lifecycle management***

Other Opportunities

Blockchain in Logistics

Blockchain's ability to provide trust and visibility is especially suited to a highly networked industry with high transaction volume. There is no question then as to why it is fast being adopted in logistics, all over the world. In September 2018, Walmart announced that it requires all suppliers of leafy green vegetable for Sam's and Walmart to upload their data to the blockchain by September 2019. Maersk's blockchain effort, called TradeLens, has now grown to 92 participants and has resulted in 154 million shipping events.

In India, the government body Niti Aayog has been spearheading the use of blockchain in various government initiatives, and as a part of the central India stack. In August, it said it was working with one of India's biggest hospital groups, Apollo Hospitals and Oracle to tackle spurious drugs in the supply chain. Given the government's support of blockchain on both center and state levels, blockchain products can be expected to be integrated quickly.

Given the high number of participants in each transaction and low digitization in the domestic supply chain, there is an opportunity to create the right infrastructure using blockchain, first time around. We believe that adoption will arise from sensitive and high value sectors such as food, automobile, and pharma, with companies that can bring together large ecosystems.

Supply Chain Finance

As more and more Small and Medium Enterprises drive manufacturing in the country, in-transit working capital requirements are going to increase significantly.

The current market is worth early $10B and is highly fragmented between public sector banks (SBI, PNB etc.), private banks (HDFC, Axis, etc.), multinational companies such as (StanC, HSBC) and Non-Banking Financial Institutions (Tata Capital, Aditya Birla Finance, Hero Fincorp). Baring NBFCs, these players are low on tech adoption, while PSU banks also suffer from high NPAs and are reluctant to increase exposure. Similar to how Blackbuck started in the financing layer and moved down to other functions for large enterprises, there is growing white space for players to cater to smaller enterprises with innovative and technology led business models.

The logistics sector in India is poised to see rapid growth as well as formalization. Due to the unstructured nature of the space in the country as well as ongoing structural shifts, companies will need tailored tech driven solutions to truly unlock value.

Recent Investment

Sub-sector—
E-commerce Logistics

What?
Elastic Run *is building a tech enabled, asset-light, variable capacity logistics network. It uses a hub and spoke model of a small warehouse and partner physical retail stores (Kirana) for last mile delivery and first mile pick up.*

Why?
Traditional E-commerce and FMCG logistics networks suffer from problems such as variable demand, high capex, low quality control & visibility, and high costs. Around 65% of the logistics cost is borne in the first and last mile. ElasticRun is able to leverage a shared-economy model through a robust tech stack and reduce overall cost by upto 30%, while at the same time being able to absorb demand variability, scale to newer pincodes fast, and provide granular visibility, at a fraction of the capex.

How are they doing?
→ *Serving more than 2,200 pin codes across 175+ cities*
→ *Highly capital and resource efficient*

CARE & CURE FOR A BILLION

Summary

The key needs of the Indian healthcare ecosystem are accessibility, affordability and efficiency. There is a significant need to improve on these aspects to enhance the quality of healthcare

Technology intervention will address and improve the key needs of the healthcare ecosystem in the following way—

- **Accessibility:** *From 0.7 doctors/1000 people (2018) → Significant percentage of the population with access to digital consultation and diagnosis (2025)*
- **Affordability:** *From 73% of Indians lacking health insurance (2018) → Universal health insurance (2025)*
- **Efficiency:** *From lacking patient data and having primitive digital solutions → Digital solutions which result in better patient health outcomes.*

Although the government and private sector are doing their parts, technology adoption is vital to re-invent and improve healthcare delivery and services

Indian healthcare market is estimated to increase from $100B (2018) to $280B (2025). Health-tech which is currently at a nascent stage is expected to grow into ~$10B market by 2025

The key drivers for this growth will be—

- *Government policies such as Digital Information Security in Healthcare Act (DISHA)*
- *Improving digital infrastructure (EMR, HIS etc.) and smartphone penetration*
- *New consumer segments such as digital mothers, health enthusiasts and vernacular content users leading to the creation of new products and services*
- *Rising income levels leading to a willingness to pay for better quality healthcare*
- *Increase in chronic and lifestyle diseases*

Since 2015, investor interest in health-tech has been increasing with categories such as doctor appointments, e-pharmacies, telemedicine and home health getting a majority of the focus.

This growth potential will lead to following early-stage investment opportunities in health-tech—

- *Solutions leveraging data (AI, Analytics etc.)*
- *Tech-enabled insurance*
- *Digital healthcare content*
- *End to end service platforms*

Evolving Healthcare in India

The Indian healthcare industry is poised to grow to $280B by 2025 from the current $100B. The rapid growth in the sector will be aided by rising income levels, increase in lifestyle diseases, growth in smartphone penetration, increase in health awareness, an aging population, push for mass insurance and favorable government policies.

While privatization has improved the quality of healthcare in India, timely access to doctors, medical facilities and medicines continue to be restricted to metro cities. Improving the healthcare infrastructure to meet patient needs and consumer expectations is not possible with the traditional linear approach. Technology adoption is essential to reinvent healthcare delivery and provide affordable and quality care at a large scale.

The Indian government has decided to play the role of a payer and expects the private sector to play the role of a provider. The private sector will lean heavily on technology for better capacity utilization and ROI on their investments as a provider. Healthcare specific legislations such as the Digital Information Security in Healthcare Act (DISHA) indicate the government's push towards the adoption of technology in healthcare.

Accessibility

Raising the required healthcare standards—
Currently, India has 1.5 million hospital beds which cover only 30% of the recommended capacity. India has 0.7 doctors for every 1000 patients, significantly lesser than 1:1000 patients recommended by WHO.

Addressing the disparity in the availability of skilled resources between rural and urban India—
Medical resource allocation is skewed with only 5% of the doctors practicing in rural areas where the bulk of the population resides.

Raising the penetration of quality health care services beyond metros and tier-I cities—
With ~80% of the dispensaries located in urban areas, rural India lacks timely access to care.

Affordability

Increasing Health Insurance penetration in India—
73% of the population is not covered under health insurance. The government has taken initial steps for achieving the goal of universal health coverage. The government's Ayushman Bharat health scheme ('Modicare') will provide a safety net to over 500M Indians (100M families) and will go a long way in redressing healthcare related economic hardship. This scheme intends to provide an insurance cover, up to INR 0.5M per family per year.

Reducing the hassle of arranging cash at times of emergencies—
Out-of-pocket expenditure accounts for 62% of the overall healthcare expense in India and this is often not covered under insurance. 70M people are estimated to fall into poverty annually due to high healthcare expenditure. The number of hospitals that are included under the umbrella of cashless insurance continues to increase.

According to the World Health Statistics report, 2018, ***India's health spending*** is at just 3.9 percent of GDP. India's per capita health expenditure at $63 is among the lowest for developing countries with China reporting a per capita spending of $426, Thailand $217, Malaysia $386

Efficiency

Adoption of Electronic Medical Records (***EMR***) will lead to an increase in doctor efficiency, reduction in prescription errors and better patient health outcomes.

Standardizing patient medical records for effective clinical decision making. Over 75% of in-patients and 60% of out-patients in India visit private clinics and hence do not possess standardized medical records. Large and mid-sized hospitals have a Hospital Information System (HIS) to some extent.

A sizeable number of startups have been trying to address the above needs of the Indian healthcare ecosystem. As explained, a good amount of funding has flown into companies which are primarily solving the pain point related to accessibility.

Key Needs of the Ecosystem

2018

Accessibility

0.7 Doctors/1000 people

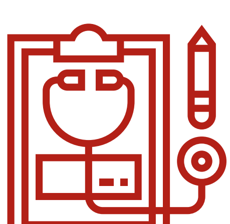
Affordability

73% of Indians lack
Health Insurance

Efficiency

Lack of Patient Data &
Primitive Health Solutions

2025



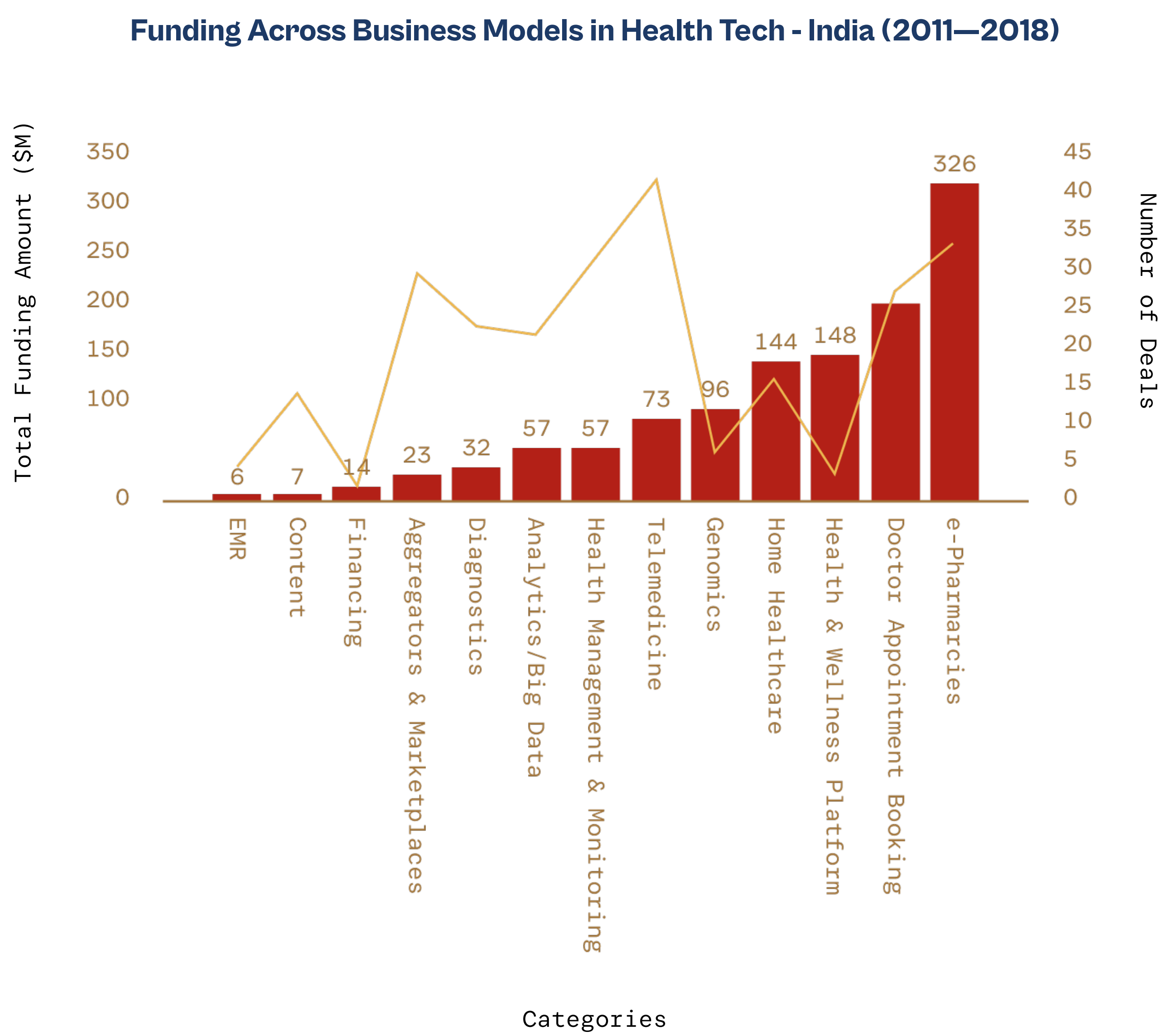
Significant % of Population
with Access to Digital
Consultation & Diagnosis

Universal Healthcare

Better Patient Health Outcomes

Funding across Categories

The health-tech sector has seen significant investment interest since 2015. The graph below demonstrates the funding across the different categories in health-tech.



From the above categories, doctor appointment and bookings, home health, E-pharmacies, genomics & telemedicine, have seen a majority of the investments in the sector.

Doctor appointments and bookings—
Doctor appointments and bookings have now become commoditized with no product differentiation. This category has matured with many startups offering doctor appointments & bookings as an add-on feature to their existing services. Consumers (patients) do not pay for such features and doctors too are reluctant to pay only for such a service.

E-Pharmacies—
With increasing clarity in regulations and the government introducing frameworks for operations of e-pharmacies, funding has picked up with many companies raising capital in 2018. Despite being <1% of the total pharmaceutical markets, e-pharmacies have no differentiation with offline players (apart from the convenience of doorstep delivery) or among themselves resulting in high customer acquisition costs because of deep discounting. As a result, this category has become a "capital game" with the likely winner to be the one who raises the most amount of money. E-Pharmacies catering to chronic subscriptions along the lines of PillPack (acquired by Amazon for $1B) have the potential to differentiate and scale in this segment.

Home Health—
Hospitals get 90% of their revenue in the first three days of a patient's stay and hence there is an incentive to have their patients receive their remaining health care services delivered at home. Both doctors and hospitals are strong proponents of the home health segment. The two metrics which hospitals look at are average length of stay for patients & average revenue per occupied bed. Currently, the prime use case is nursing at home which is a services play resulting in lower margins. Tech solutions such as IOT etc. can bring in efficiency, reduce manual interventions and help improve margins. Insurance companies bringing home health within their purview is a potential trigger. Portea and HealthCare at Home are good examples of startups which have established themselves in this category.

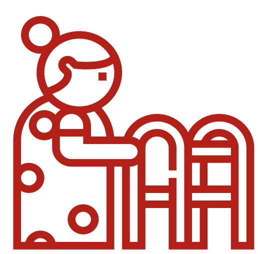
Telemedicine—
Telemedicine solves for the supply and demand mismatch between quality doctors and patients, particularly for patients in tier 2 & tier 3 cities. Despite the clear need, the financial viability of the category remains to be seen. The sector has taken off in the US where billing amount varies from $50 – $400 with a CAC of $6-$8. In India, the billing amount is $4-$6 with a CAC of $2-$3 which makes the model financially impractical in the current form. Newer forms of telemedicine delivery such as a hybrid of online and offline delivery have to emerge to make the category economically viable. To a large extent, patients still prefer in-person interactions with doctors and only select categories such as mental and sexual health have seen some patient adoption.

Genomics—
Genomics is an evolving category primarily driven by rising incidences of hereditary diseases, technological advancements and a push towards personalized treatment and medication. However, the category is at a rudimentary stage, particularly in India where consumer awareness is very low. Indian genomic data is under-represented in global economic databases (0.2% database share vs 18% population share). Although the price of genetic tests is falling every year due to technological advancements, it still is not cheap enough for mass adoption. Once awareness increases & test adoption reaches critical mass, the genomic databases can be monetized. Despite the promise, there is still a long way to go for genomics as a category to attain mainstream adoption in India.

Changing Consumer Segments

Consumers are demanding a patient-centric approach in healthcare, personalized to meet their unique requirements. They are more aware and conscious of their health and are continuously on the lookout for better information. They are open to sharing personal information for better care and to benefit from their healthy choices. There is an emergence of new consumer segments in healthcare.

Digital Mothers



Senior Citizens

Rural Internet Users

Vernacular Language Users

Health Enthusiasts

Digital Mothers—
Currently, there are 35M digital mothers equipped with new age technology ranging from mobile devices to wearables, accessing online medical resources and social media seeking information to provide the best healthcare to their growing child.

Senior Citizens—
Studies conducted over the years indicate that despite popular belief, senior citizens are receptive to and starting to get acquainted with digital healthcare mediums. Some of the features that commonly interest senior citizens include centralized health records and electronic prescription refills. There currently are ~120M senior citizens whose health outcomes can be improved through technology.

Rural Internet Users—
Estimates suggest that the number of rural internet users in India is expected to witness a 60 percent increase in the next 5-7 years, currently standing at 186M users. This could lead to an improvement in the dismal healthcare conditions in some rural areas, by facilitating the implementation of digital healthcare practices or hybrid healthcare practices (digital + physical), especially for diagnosis and consultation. These measures can reduce the number of illnesses and subsequent deaths caused due to lack of infrastructural facilities for diagnosis.

Vernacular Language Users—
About 325M users, currently seek quality digital content, consultation and health education in vernacular languages.

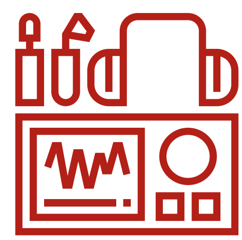
Health Enthusiasts—
The recent surge in the search for a healthier lifestyle has led to an increase in the usage of health and fitness tracking applications. With an increase in the number of health enthusiasts which currently stands at 30M, constantly keeping track of their calorie consumption and specific vitals using applications and wearables, this market shows promising growth. End-to-end health and wellness platforms such as Curefit (Kalaari investment) are new age businesses which are seeing a lot of traction, by capturing the growth in this customer segment.

The changing consumer segments are eventually expected to push the health-tech ecosystem to provide personalized and customized healthcare solutions for each individual.

Key Drivers Enabling the Rise of Healthtech

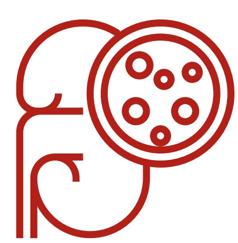
Although the healthcare industry as a whole is expected to grow approximately three-fold from the current $100B to $280B by 2025, the healthtech industry in India is still nascent and is expected to be a $10B industry by 2025. Some of the key drivers for this growth are—

Government Policies like Disha & Ayushman Bharat



Improving Digital Infrastructure

Rising Income Levels



Increase in Chronic and Lifestyle Diseases

Government Policy in Healthcare—
The introduction of DISHA which is aimed towards securing healthcare data of patients in India as well as the creation of Ayushman Bharat Yogana, which is the world's largest public health insurance initiative, showcase the intent of the government to bring a significant shift in the functioning of healthcare ecosystem in India.

Emerging Digital Infrastructure—
Increasing smartphone penetration and the growing adoption of Electronic Medical Records(EMRs) and Hospital Medical records has helped formalize the healthcare delivery chain in India.

With the integration of EMRs such as the ones provided by Healthplix (Kalaari investment) or Practo, doctors are able to treat patients with better care, precision, and get access to accurate data. The collection of clinical data at the point of care enhances efficiency and improves data quality. From the industrial point of view, pharmaceutical companies and regulatory authorities use the collected data to improve the post-marketing surveillance (PMS) of drugs. Insurance companies get accurate data of patients through EMRs so that the patients can be provided with customized policies and receive timely reimbursements.

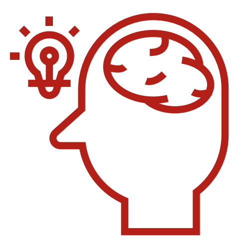
Rising Income levels—
India's per capita GDP (PPP) is expected to increase to $11,800 by 2023 from $6,700 in 2018. The rising income levels will translate to increased spending on general and preventive healthcare with higher willingness to pay for better services and treatment.

Increase in Chronic and Lifestyle Diseases—
Poor nutrition, high-stress levels and rising environmental pollution have contributed to a marked increase in chronic and lifestyle diseases among Indians. The World Health Organization estimates that by 2030, approximately half of all death and disability in India will be due to chronic diseases. This has led to a massive increase in awareness among the young and millennial population who view health as an investment rather than a cost.

The above drivers will enable healthtech to be a $10B industry in India by 2025.

Potential early-stage Investment Opportunities

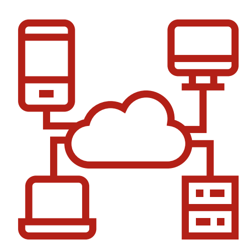
The emerging transformation in consumer lifestyles, along with powerful digital intervention and systematic healthcare infrastructure, is creating a wide variety of opportunities including—



Solutions leveraging Data
(AI, Analytics, etc)

Tech Enabled
Health Insurance

Digital
Healthcare Content



End-to-end
Service Platform

AI-based Clinical Decision Support—
Today, doctors and technicians manually analyze past patient records, test reports, test data, medical images etc. which increases the time required for diagnosis. Furthermore, the diagnosis is subjective to the individual healthcare provider's knowledge and experience. Use of artificial intelligence on digitized patient records, tests, and medical history is enabling early diagnosis of serious health conditions by studying past cases. It also improves efficiency of doctors in diagnosing patients. This market is expected to be at $1B by 2025.

Healthcare Data Analytics—
Use of data analytics to personalize medicine can help in the identification of trends and outliers, thereby leading to optimal treatment and better patient health outcomes. In addition, the growing need for efficiency and innovation in product and processes across pharma and insurance will contribute towards the growth of this market. Healthcare analytics is expected to be a $2B opportunity by 2025.

Tech-enabled Insurance—
Technology is making health insurance affordable by providing personalized plans and accessible by easing the online purchase journey of customers. Technology will also enable the creation of microinsurance as a sustainable business model. Health insurance is estimated to stand at ~ $3B in 2025.

Digital Healthcare Content—
The current rise in awareness towards preventive care and wellness has driven the need for easy and fast access to comprehensive healthcare content. In a diverse country like India, the need for availability of quality healthcare content in multiple languages further drives the growth of this market. This market is expected to touch nearly $0.5B by 2025.

End-to-end Service Platforms—
There is a growing focus on convenient healthcare, including a holistic set of health care services, especially amongst health enthusiasts. Healthcare consumerism is on the rise and these customers are taking an active interest in all aspects of their lifestyle impacting their health. Platforms that provide end-to-end solutions (preventive as well as curative) are seeing success and customer advocacy. Integrated healthcare systems providing standardized workflows enable hospitals and healthcare providers to improve efficiency and customer experience. This market is expected to show considerable growth and is expected to be ~ $3B by 2025.

Deep dive into Data Monetization Opportunities

Data utilization is enabling new ways of solving healthcare problems, creating unique experiences for patients and accelerating healthcare provider's and payer's growth and efficiency.

Data utilization will be monetized by ecosystem elements in the following ways—

Pharma companies—
Indian Pharma is a $33B industry growing at a CAGR of 23%. About 20% of a pharmaceutical company's expenses go to sales & marketing, data analytics, insights and R&D and despite these investments, pharma companies still see high doctor churn. Data on drug sales is enabling demand estimation, product pricing and targeted sales & marketing thereby reducing expenses.

Drug discovery cost is being brought down by data models on aggregated patient and lab records. The expected productivity gain in clinical trials using data analytics is 30%, accelerating clinical trials and new product development.

Health Insurance Providers—
Health insurance is a $6B industry in India and is growing at a CAGR of 20%. The low insurance penetration is mainly a result of high distribution costs and low awareness levels. The inability to profile customer health owing to lack of patient records necessitates the need for a high insurance premium for every customer resulting in a minimum premium of $200 to break even. With the availability of digital records and personal activity data in the form of quantified self, schemes are being tailor-made for individuals increasing insurance penetration.

Insurance companies also have to deal with 15% of their claims being fraudulent. The healthcare industry in India is estimated to be losing $90-120M annually to fraudulent claims. Minimization of fraudulent claims is essential to make health insurance a viable sector. Distributed, immutable and accessible patient trail reduces frauds and makes claims processing faster.

Hospitals—
In India, the average time a doctor spends with an out-patient is less than 2 minutes which is significantly lower than 21 minutes in the US. The high capital required to set up hospitals makes investment viable only with models supporting faster ROI. Hospitals are seeking more efficient care delivery mechanisms to maximize the utilization of their resources. Standardized workflows and technology-based solutions are being employed to reduce administrative costs which account for 20% of hospital expenses, increase efficiency and quality of care.

AI & ML—
With large volumes of data generated, artificial intelligence and machine learning algorithms would lead to clinical decision support for doctors and enable early disease diagnosis for patients.

Data-driven healthcare and opportunities in related sectors are at a very nascent stage in India today, but with its clear strategic and competitive advantages, it is only a matter of a few years before it becomes a norm/standard in the healthcare industry.

Recent Investment

Sub-sector—
Primary Health

What?
Started by Ex-Myntra co-founder Mukesh Bansal and senior Flipkart executive Ankit Nagori, ***Curefit*** *is a new-age digital first integrated end-to-end health and wellness platform. It has four flagship products: (1) Cult.fit - a chain of premium fitness centres (2) Eat.fit - an online subscription-based health food delivery service (3) Mind.fit - an end-end mental health and wellness offering including meditation (4) Care.fit - provides online-offline services in primary healthcare.*

Why?
Indians increasingly face wellbeing issues, thanks to increased consumption, inactivity and stress. Over the last few years, there has been a conscious shift to move towards healthier lifestyles amongst the urban affluent, yet there is a lack of a holistic wellness offering with a digital-first approach. Cure.fit with its innovative approach to workouts, wellness and primary care is well-positioned to capture a large (Over $100B) and fast growing preventive-health-care market.

How are they doing?
Curefit has 500K unique customers across various offerings with strong cross usage between services in Bangalore, Delhi-NCR, Hyderabad & Mumbai. They recently hit the milestone of over 100 cult.fit centers and are targeting ~200-centers by the end of the year

Billion Fit - Event Highlights

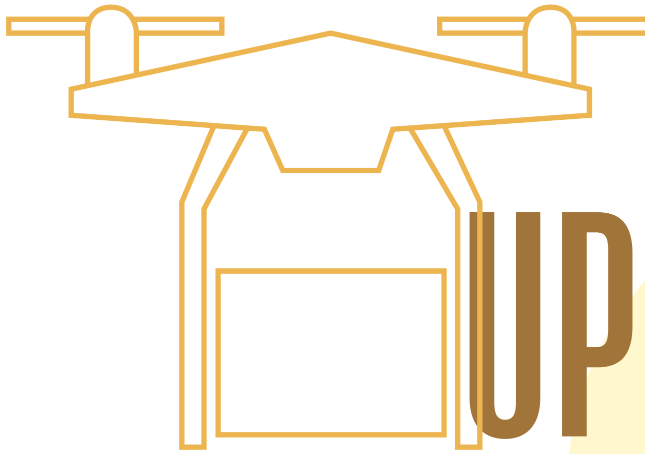
"As a doctor, I know my vertical only... no doctor knows the whole body... so the idea of diagnosis will change and because of technology, collaboration between doctors will be significantly enhanced" - Dr. Ajay Bakshi

"We are trying to cover the whole spectrum of resources you need for a healthy lifestyle - fitness, health food, meditation, sleep and health check-ups" - Mukesh Bansal, Founder, Cure.Fit

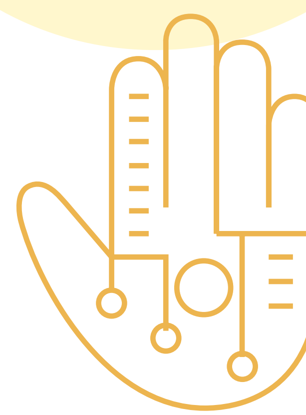
“I see a lot of people getting into sports for the sake of fitness. This ultimately decides the sporting ethos of a nation - whether a nation is sports-friendly, such as the US or Australia - or not.”- Prakash Padukone, Co-founder, Olympic Gold Quest and Indian badminton legend

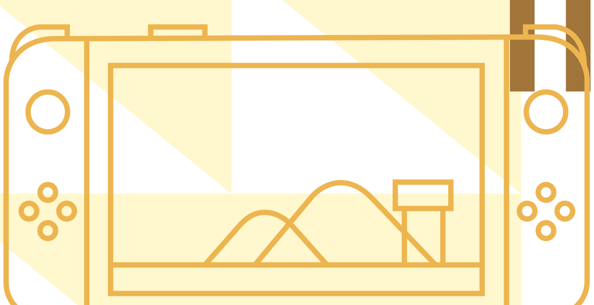
“As healthcare ecosystem is strengthened, all its key drivers have subsequent roles to play. From improved decision-making for patients, better product packaging and innovation for healthcare professionals to analysing the industry and finding your competence as an entrepreneur - all this backed with better data management will help create a highly profitable and flourishing healthcare space.”- Nitin Gaur, Director -IBM Blockchain Labs

→ *Alternate Commerce*
→ *Digital Content*
→ *Shared Economy*
→ *Electric Vehicles*



UPCOMING THEMES SHAPING THE FUTURE





Alternate Commerce

Only about 4% of the retail sector today is catered to by traditional e-commerce players. Post the Jio revolution, rising internet penetration is bringing new consumers & businesses online and is expected to drive the next wave of growth in the e-commerce segments in India. This growth will be driven largely by customers from Tier 2+ towns who are getting used to transacting online. To widen their reach and expand faster, e-commerce companies began leveraging local stores to provide assisted purchasing services to the uninitiated. However, with smartphones becoming ubiquitous and digital footprints increasing, new commerce models are emerging to serve the next 400M internet users better.

Social Commerce?

An alternate commerce model that uses social networks such as Facebook, Whatsapp, Instagram to market products and services is "Social Commerce". These models are differentiated from big E-commerce companies such as Flipkart and Amazon. They offer a different catalogue and an experience that is more friendly and personalised. Most e-commerce start-ups are crippled by high customer acquisition costs that don't decrease with scale. But social commerce startups can leverage personal networks and social graphs to lower customer acquisition costs.

The reseller model, a subset of social commerce, empowers independent agents to act as "resellers" by providing them backend supply, logistics & payment services. These resellers share the product on their networks, hence bringing visibility, bridging the trust deficit, and reducing the cost of customer acquisition - thereby solving 3 big problems that traditional e-commerce companies face today. A host of female homemakers, college students, and young entrepreneurs are looking to sell on social media and start their own businesses without any investment. This leads to a low-cost distribution model as the supply chain is largely digital with goods physically shipped directly to the buyer avoiding transportation & stocking at multiple levels. Given the flexibility of the supply chain, small-to-mid-sized new-age brands and long-tail products can now be distributed through these platform. India currently has over 40M homemakers and 10M students residing in the top 50 cities and with 20% adoption in the next few years, we expect the reseller model to scale and ***create a parallel distribution network.***

D2C

Even though going Direct To Consumers (D2C) is a big trend in Western countries, India is still a very nascent market. As the channel is geared more towards premium to mass premium products, currently it addresses the needs of the first 40M internet users. Given the relatively small market size for premium products and the distribution and logistics costs for low volume, mass premium and premium brands, startups still need to rely on online retailers such as Amazon to drive sales. However, distribution through online retailers doesn't give brands the close customer connect, active feedback and actionable customer data that has proven to be critical to the growth of such brands in the West. Hence, most brands currently operate both, D2C and aggregated, online retail channels. In the future, as the ecosystem matures and consumers become more comfortable with D2C models, this channel can become a potential disruptor to e-commerce players.

Subscription

Closely linked to D2C models, is subscription based services. Subscription models have existed in the content consumption and news & entertainment categories, but we now see early evidences of it being extended to products and brands. Most suitable for brands with strong presence, subscription services ensure customer loyalty and increase the lifetime value of a customer significantly. As Indians move away from the affinity for Cash-On-Delivery, companies have now started relying on subscription models across product categories. Increasingly, customers have also started adopting such models, especially for categories with high purchase frequencies. This is driven by a desire for convenience and putting the mundane parts of their lives on 'auto-pilot'. This is an exciting prospect for companies in habit forming product categories such as Food & Beverages, Grocery and Beauty & Personal Care. Companies such as Milkbasket (Kalaari is an investor) are differentiating themselves on this time-saving, convenience factor while capturing customer wallet share. Fashion and apparel, too, has opportunities for such models,though the drivers are different. Here, the consumer is driven by a desire for fast fashion, latest designs and an element of curating a unique look. This has led to models such as highly customized mystery boxes, thrice a year jewellery upgrades and subscription services for basics such as innerwear, socks and glasses. These models rely on relatively lower frequency (three-four times a year) but higher order values and giving a very authentic, personal experience.

Recent Investment

Sub-sector—
Social Commerce

What?
Shop101 *is India's leading social commerce platform which enables entrepreneurs & merchants to sell online as well as on WhatsApp, Facebook & Instagram with zero investment by providing an online store in less than 2 minutes. It is a mobile-first platform which helps sellers build their own website on their phone. Alongside this, they provide merchants with facilities like inventory management, logistics, payments, order processing. Budding entrepreneurs can put up their own products or resell from an extensive range of products available on the Shop101 platform.*

Why?
Started in 2015, Shop101 was early to the social commerce opportunity. A large, growing market and a strong founding team with significant initial organic traction makes Shop101 an attractive investment. Alongside Shop101 has developed strong monetization channels through payments, logistics, supply commissions.

How are they doing?
The number of orders has grown over 3x in the last 2 quarters. There reseller network is growing significantly - Over 5x during the second half of 2018 with major adoption in Tier 2+ cities validating the need for a social aspect to selling products online.

Digital Content

The reduction in smartphone prices and cost of data has dramatically increased digital content consumption and creation. From the first wave of adoption of video content (225M YouTube users), social media (300M Facebook users) and news, the digital content sector has grown rapidly to include multiple models encouraging the creation and consumption of user-generated content (UGC) and newer social media platforms.

As the 400M new Internet users come online, digital content consumption is expected to be their first adoption point, thus making it a critical medium to understand the behavior pattern of this new user base. This is a diverse consumer class coming into the digital ecosystem. It is represented by teenagers who will attain financial independence in the next 3-4 years and new adopters of the Internet from the lower tiers of society and rural India. Each of these categories has a varying degree of digital exposure and financial maturity.

Further, about 90% of this user base is expected to converse in vernacular languages, even on digital mediums. This is an entirely new breed of digital Indians with unique customer behaviour. Over the last five years, news and entertainment have emerged as top categories amongst non-english language internet users. Furthermore, chat applications and social media platforms have seen increased adoption by non-english language users on account of local language enablement through voice, video, GIFs, keyboards and smartphones. With the simultaneous adoption of digital payment models and maturing micro-payments infrastructure, this sector is expected to create mass impact with consumers who are willing to pay small amounts for subscription, be it Internet gaming or video consumption.

The rise of UGC is another significant trend defining the future of digital content in India. The first wave of this content came through short-form, engaging content on vernacular social media platforms. This has seen a consistent shift away from traditional text-based messages to more graphical, visual content. This includes the now infamous Indian affinity with 'Shayaaris' and 'Good Morning' messages. Bite-sized video content creation has also seen massive adoption, especially amongst the younger users. This has created a community of micro-influencers that have a highly differentiated audience and are becoming important mediums for brands to interact with these users. The second act has come from vertical and more contextual platforms that cater to more sophisticated customer needs in a more palatable format. This includes content on healthcare, hyperlocal news and customer reviews.

High engagement across the content spectrum is expected to enable increased adoption of content-based commerce, with many users donning the role of influencers. Mimicking the user journey, the social platform will also evolve, enabling commerce or transforming itself into a marketplace. Further, the use cases for rural India could be invariably larger: banking, healthcare, agriculture, information and research and widening the reach to the Indian diaspora. This will also give companies critical insight into how these users interact with products and services and what interfaces are most suitable to their needs. Ensuring a browsing-led discovery experience, icon-based app interfaces and voice-enabled searches are such key insights that companies have now started to build in their products to engage effectively.

We expect significant innovation in this space from newer content players and consumption models coming up in the immediate future.

Recent Investment

Sub-sector—
Vernacular UGC Knowledge-Sharing App

What?
*Started in 2017 by serial entrepreneurs Aprameya and Mayank, **Vokal** is an Indian Language Q&A and Knowledge Sharing App based primarily on a multimedia interface including voice. The content covers areas of entertainment, news, information, and knowledge.*

Why?
More than >95% of knowledge and information content on the internet is currently in English. There are 300M+ vernacular search queries on google every month, 30% of which are voice searches. This shows the increasing demand for vernacular knowledge and information, with voice being a significant preference. Vokal's product solves for this gap. It has 100% platform originated, unique Indian content.

How are they doing?
In the past six months, the platform has scaled to 1.2M MAUs with 500 experts who have 0.5M questions across 6 languages. Vokal has developed a content and community driven moat.

Shared Economy

In the early 2000s, the Great Recession brought some radical changes globally. Concerns around the rapid pace of population growth and depleting natural resources began to emerge. The strain on resources resulted in a spike in their costs. All this while, social technologies started blooming. Technologies such as social media, low-cost smartphones, and open data made it easy for people to network and transact directly. On the other hand, urbanization inherently resulted in people living and working in close proximities. All these trends created the foundation for shared economy businesses. Shared economy is a form of collaborative consumption, a P2P economic model where individuals can share access to goods or services usually through an online platform.

The underlying principle is unlocking economic efficiency by leveraging under-utilized assets such as cars, apartments and intangible assets such as people's time, energy, skills or money. The rise of technology has allowed us to capture the potential value of these assets and make it accessible to all through networks and marketplaces. Shared economy allows for unitizing supply and aggregating demand. ***Thus, the purchase of bikes is replaced by rides, houses by room-nights, goods by leases and employees by assignments.*** *Trust is the fundamental currency of this model since users are asked to share their possessions with strangers, and the platforms moderating these transactions become vital.*

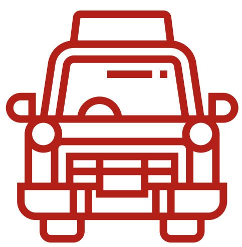
Consumers prefer the model due to superior economic value, trust derived from the platform coupled with ratings & reviews, and the variety & quality of products and services. Shared economy benefits from inherent network effects - the business becomes more valuable for the users as more and more users join it implying a strong organic growth.

Globally we have seen the shared economy work successfully. These business models have extended beyond ride-sharing and accommodations. Many early stage companies have emerged in areas such as workspaces, storage, delivery, logistics, vehicle-sharing and fashion (Startups in the space have collectively raised over $5B) The investments are now diversifying to enter interesting use-cases such as pet sitting and parking spaces. Industry experts believe that over the next 7 years, the increase in revenue from traditional rental industry will be modest in comparison to the explosion of revenues in the shared economy.

Closer to home in India, we are seeing early stages of a significant demographic and behavioral shift. The younger millennials and the rising Gen-Z class, who make up ~30% of the population are behaviourally very different from the previous generations. They are more open to the concept of using shared goods due to convenience and easy accessibility. There is also a marked shift in attitude towards asset ownership and its relation to personal identity. For previous generations, the ownership of brands, cars and land was a symbol of identity and status. However, today one's social identity and digital footprints are becoming more important and consumers prefer using shared products/services of higher quality that provide instant gratification rather than wait to own a product of their choice. As access to information grows, Indian consumers are using it in their decision-making and becoming more empowered than ever. The youth is thus marked by a desire to move out of comfort zones, to not be committed to one job or location, to enjoy a variety of experiences, and thus, to avoid locking in their disposable incomes in capital-intensive assets such as houses and cars. Availability of 'shared economy' platforms gives them financial liquidity that grants them freedom - to move, relocate, spend more and collaborate.

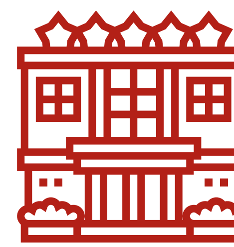
These macro-factors alongside the confluence of several societal and cultural shifts is making the environment more conducive for new-age technology companies to build platforms where assets can be conveniently shared and made accessible for the consumer. The first-wave of such companies started with furniture, and fashion. We are now seeing newer categories emerge such as accommodation, mobility, and agriculture. Going forward, as trust deficit reduces and friction towards renting assets decreases, we expect more categories to adapt to shared business models.

Shared Economy Markets in India

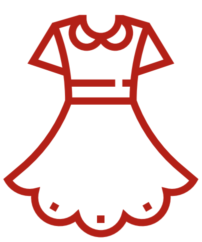


Shared Mobility

Consumer Durables



Accommodation



Apparels

Financial Services

Professional &
Personal Services

Agriculture

Recent Investment

Sub-sector—
Mobility

What?
Vogo *is an online self-drive scooter rental company that provides customers the ability to pickup and drop scooters at any point in a city. With an aim to solve the commute problem in the transportation sector, Vogo's bikes are dockless and leverage a combination of IOT devices and an in-app experience to provide a hassle-free and convenient solution for everyday commute.*

Why?
As India's economy begins to mature, there are categories that are moving away from ownership to access and convenience. Mobility is one such category, where consumers have begun to appreciate the benefits that shared transportation offers. Today an average Ola/Uber user spends ~INR 12-14/Km. Vogo's bike rental offering reduces the price to INR 5/km which brings significant savings. This also has potential to solve key bottlenecks in India's commuting infrastructure.

How it's going?
Vogo has grown 15x in the past 5 months across 2 cities.

Electric Vehicles

2001 was a landmark year for Indian EV when India's first EV — Reva — was unveiled. Since then, there have been numerous EV product launches across the country. Reva, India's first homegrown EV, attracted global attention, and the company exported the car to more than 26 countries including the UK. Since then, a number of companies have jumped into the segment and there is increased activity in this space with electric buses, cars, e-bikes, and e-bicycles rolling out on Indian roads. However, unlike China, which sells over 870K EVs per year, India is producing a mere 22K EVs annually.

The market is now seeing a renewed interest and engagement on the back of government's plan to achieve significant electrification by 2030. Presently, it is early adoption is visible in e-rickshaws and two-wheelers. However, the market has the potential to grow significantly in the coming years.

The market is expected to grow, as all stakeholders including governments, OEMs and startups, come together to solve some current challenges associated with EVs—

- → *High capital cost of batteries*
- → *Charging time on the stations compared to refuelling diesel/ petrol*
- → *Range anxiety*

Charging infrastructure is the most crucial enabler in the EV value chain. The limited availability of charging infrastructure, including a lack of adequate business and financing models, is considered to be one of the biggest obstacles to the widespread adoption of EVs by customers, who still suffer from "range anxiety." The share of public charging will increase, however, home charging would still continue to be the dominant source with a share of nearly 70% in 2030. Overall, the charging models are expected to vary by vehicle category.

There is also an increased focus on finding and adopting optimal battery solutions that provide the highest energy density for maximum range. Lithium-ion batteries are currently used in most of today's electric cars, and it is likely that they will remain dominant in the coming future. However, EV adoption will be highly dependent on the pace of fall in battery costs as EVs are significantly more expensive than traditionally propelled vehicles due to the high cost of Li-ion batteries. Innovations such as Lithium-air batteries that offer 10 times greater energy density are going to present with significant advantage. Expect many such innovations in the next few years.

Two-Wheeler
Two-wheeler is the largest segment in the Indian automotive industry representing ~80% of Indian automotive sales in FY18 (26m units). Given the prevalence of the segment, two-wheeler vehicles have a huge potential to promote emission-free mobility in the country. The following aspects would help drive e-mobility in this segment–

→ Over 2M petrol-run 2Ws with a long daily run engaged in courier services
→ Intra-city travels (maximum of around 100–150 km a day)
→ Ease of charging: Can be easily charged on a standard residential/workplace plug point. Startups are now partnering with cafes, restaurants, malls and apartment complexes to build infrastructure at regular distances in various cities to address the issue of range anxiety

We see significant opportunity within the ***commercial and fleet operator*** segment, such as delivery bikes, shared mobility, bike taxis etc. which have high daily frequencies and can have easy access to centralised charging infrastructure. The segment remains highly cost sensitive which demands new business models such as battery leasing and battery swapping infrastructure that aim to solve the problems of high initial capex.

Three-Wheeler
India has emerged as one of the biggest 3W markets, with total sales of 0.6M units in FY17. 3Ws are widely used in India as an affordable means of public and goods transportation over short to medium distances. The segment is also witnessing an influx of e-rickshaws, with an estimated 1M units sold. E-rickshaws could play an important role toward integrated urban mobility by offering low cost, last-mile connectivity.

Passenger Vehicles
This market offers significant growth potential given car density in the country stands at 34 cars per 1,000 individuals. Electric car sales have been very low on account of multiple challenges such as high cost, range anxiety and lack of variety. Car sharing and a shift from vehicle ownership to access are likely to significantly push EV penetration. The adoption curve for this will depend on the use case. Corporate fleets, which have a defined route and operations in a limited geography, will be the first ones to adopt. Cab aggregators/fleets are also likely to be more willing to adopt EVs as the low running cost of vehicles is one of the major influencers in purchase decisions. Private consumers are likely to be last in line, given the concerns around range, high acquisition cost and lack of awareness.

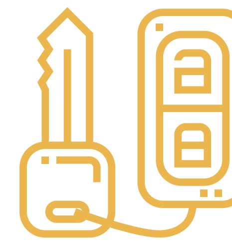
Commercial Vehicles
The intra-city bus segment is more market-ready than others because of shorter trip length, route predictability and ease of charging at bus depots. India is already witnessing a few e-bus pilots by state-run transport units – Navi Mumbai, Himachal Pradesh and Bengaluru – with a few more in the pipeline – Chandigarh, Telangana and Gurgaon. The segment is also witnessing growing interest of domestic as well as foreign OEMs. One of the biggest hurdles for this segment is the high cost of e-buses (due to larger batteries). The government is working with automakers to reduce the battery size of intra-city buses from 300 KWh to 50 KWh

In the goods carrier segment, small and light commercial vehicle segments could see early adoption. These vehicles have low average daily run and some route predictability, which can be served by current/upcoming product offerings.

Product Centric

Ride Hailing

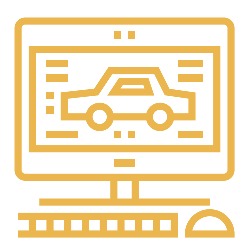
Ride Sharing



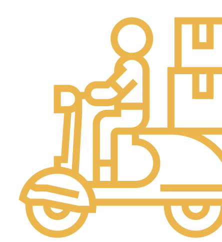
Car Sharing

Value Added/Infra

Multi-Modal
Solutions + Mapping



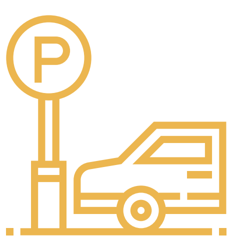
Connected Car



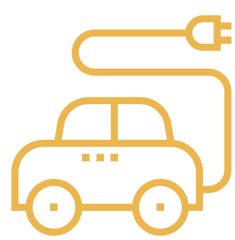
On-Demand Delivery

Bike Sharing

Fleet Management



Smart Parking



Clean Tech/
Electrification

Autonomous Vehicles

At present, the industry is in generation 1.0 and has already started implementing ride sharing and ride-hailing models. The adoption of new innovative models and technology advancement will drive the industry into the next generation mobility solutions, where vehicles will be considered as a platform. Smart mobility will also increasingly lead to boundaries blurring in multiple industries such as automotive, insurance, car rentals, logistics, telecom, energy and media creating a whole new industry ecosystem.

OUR PORTFOLIO

Kalaari

99Games
India's Leading
Mobile Games Studio

ACTIVE.Ai
Enterprise AI platform
for Financial Institutions

affordplan
Savings Plan for
Medical Treatment

AGNEXT
Full-stack B2B AgTech Data Analytics
platform using IoT and AI

airpay
An Omni Channel Enterprise
Payments Facilitator

BLUESTONE
India's Largest Online
Jewellery Brand

CASHKARO.COM
India's No.1
Deal Discovery Platform

CREDITVIDYA
Alternate Data Based Credit
Assessment Platform

cure.fit
India's No.1 Digital Health
& wellness platform

DREAM11
India's Leading Daily Fantasy
Sports Platform

EdGE NETWORKS™ INFINITE POSSIBILITIES
HR Talent Acquisition and Workforce
Management Automation through AI

ElasticRun
Asset Light Variable Capacity
Logistics Platform

Global Delight Business
Proprietary Mobile
Applications Developer

HealthPlix
Insights and analytics platform
for pharma companies

hiver.
Email Based Collaboration
Software for Enterprises

industrybuying
Ecommerce Platform
for Industrial Supplies

instamojo
Full-Stack Digital Platform
for Small Businesses

Jumbotail
Marketplace Connecting Brands/
Wholesalers with Kirana Stores
(Small Retailers)

MAGZTER
Global Digital
Magazine Newstand

milkbasket
Hyperlocal Delivery Platform
for daily needs

Moneyonclick
Digital Lending for
Underserved Middle Class

nanoheal
Automated Tech Support Solution

ovenfresh
New Age Bakery QSR

oxfordcaps
Student Co-living Brand

Perpule
Mobile Platform Converging Online and Offline Retail

Digital Media Platform for Indian Women

India's Leading B2B Raw Material Buying Platform for MSMEs

Robosoft
Mobile Application Development Services

rubique
Mining possibilities
Consumer and Small Business Loan Fulfillment Marketplace

India's Leading New Age Media Platform

India's Leading Social Commerce Platform

Shopalyst
catalyst for ubiquitous commerce
Making Digital Media Shoppable

SIGNZY
Digital Trust Platform for Institutions

simplilearn
Global Professional Certification Training Provider

toffee
Pioneering Micro-Insurance Products

TripHobo
Global Travel Itinerary Building Platform

TRUEBIL
Gaadi ho toh aisi
Online Platform for Buying and Selling Used Cars

Truweight
Weight Management through Proprietary Food Products, Services and Tech

unilog
B2B E-commerce Solution Provider

upstox
Mobile Based Equity Trading Platform

Urban Ladder
India`s Leading Internet-First Furniture Brand

VAKIL SEARCH
SaaS Platform for Lawyers

VOGO
India's Leading Automated Scooter Rental Company

Voice & Video based Q&A Platform for Vernacular Language Users

VYOME
Innovation Driven Clinical Stage Bio-Pharmaceutical Company

YOURSTORY
Digital Media Platform for Businesses

Kstart

Deftouch

Real-Time Synchronous Multiplayer Cricket Game

GIFSKEY

Vernacular Micro Content Platform for the Next Billion Indian Internet Users

GUARENTED.

Lease and Sale of Refurbished Home Appliances & Furniture in India

indee.

Actionable Analytics Platform for Short & Long Form Videos

Mall91

Integrated Commerce & Distribution for the Next Billion Indians

RoadGods

Design First Innovative Outdoor Wear & Gear Brand

SQUARE OFF

Unique connected gaming products using AI & Telerobotics

STANPLUS

Medical Transportation for Emergency & Non Emergency Situations

VERNACULAR.AI

AI Platform Enabling Enterprises to Automate Voice Conversations with their Customers

WINZO

Real Money Casual Gaming Platform for Masses

CONTRIBUTORS

Investment Team *Managing Director*

Vani Kola

Vani is the Founder and Managing Director at Kalaari Capital. Over the last decade, Vani has built immense goodwill in India's entrepreneurial community and is recognized as one of the most influential voices in the country's vibrant startup ecosystem. Through these years, she has demonstrated significant returns to her investors and enabled new paradigms for Indian consumers.

Outside of work, Vani practices heartfulness meditation and yoga devotedly in addition to spending time with her husband and two daughters. She is actively involved in various organizations focused on fostering entrepreneurship and women leadership.

Focus at Kalaari
AgTech, Consumer Internet, Deep-Tech, Digital Media, E-commerce, Health-Tech, and Gaming

Investment Team *Venture Partners*

Sreedhar Prasad

Sreedhar brings with him over two decades of consulting experience. At Kalaari, Sreedhar works directly with founders and assists them with strategy, alliances and fundraising. Sreedhar has a firm conviction about the venture opportunities in India in the coming decade and looks forward to leverage his knowledge and network to help build the next generation of new Indian companies. In his previous role, he was a Partner and Head of Consumer & Internet Businesses at KPMG in India. He was instrumental in setting up the e-commerce and start-up practice at KPMG and has advised multiple start-ups on their growth agenda. He is passionate about mentoring young entrepreneurs and ideating with others.

Outside of work, Sreedhar's interest lies in music.

Focus at Kalaari
Consumer Brands, Consumer Internet, Fintech, Digital Media, and Mobility

Dev Bajaj

Dev has a unique career of 15 years across entrepreneurship, private equity, and investment banking. Before joining Kalaari, he built M.I.T.R.A, one of the largest AgTech startups in India, which was partly acquired by the Mahindra & Mahindra Group in 2018. Currently, Dev serves as the Chairman of the Board in a non-operating capacity. Prior to this, Dev was with Paine Schwartz, a US-based private equity firm, investing in the Food, Technology, and Financial Services. Dev holds an MBA degree from INSEAD and completed his Bachelors in Business Economics from the University of Southern California. Outside of work, Dev loves spending time with his wife and young son and beats stress by enjoying a variety of sports and meditation.

Focus at Kalaari
AgTech, Consumer Internet, and FinTech

Saurav Banerjee

Saurav has over 20 years of deep operational experience in media, entertainment and financial consultancy. He has been in the leadership team of NDTV since 2006, first as CFO and then as Co-CEO of the NDTV Group. He has vast experience in setting up new ventures, realigning operations, fund raising, equity and debt financing, financial restructuring, financial analysis and mitigating risks. Saurav is a Chartered Accountant and completed the Advanced Management Program at Harvard Business School. Outside of work, Saurav is an avid reader and spends time listening to rock-and-roll.

Focus at Kalaari
Consumer Internet, Digital Content, and E-commerce

Investment Team *Principals*

Rahul Garg

Rahul is a Principal at Kalaari and brings over 13 years of global experience as an investment banker (Lehman, HSBC), an entrepreneur (Artisangilt.com) & a business leader (IGP.com, Wadi.com). As an entrepreneur for 5 years, he has run two e-commerce companies in India. In his last role, as CEO of IGP.com, he managed a team of over 150 people and was directly responsible for Product, Marketing & Strategy. Rahul has a Bachelor's Degree in Technology from IIT Bombay and is a CFA charterholder.

Focus at Kalaari
Consumer Brands, Consumer Internet, E-commerce, Fintech, Gaming, and Mobility

Mandar Dandekar

Mandar has 14 years of rich and diverse experience in venture capital, private equity and technology consulting. At Kalaari, Mandar is involved in the entire lifecycle of the investment process. He actively sources new investment opportunities and evaluates them through a variety of lenses. Before joining Kalaari, he was a founding member of a $60M early stage fund managed by Tata Capital. In his free time, Mandar enjoys traveling, backpacking, sports and catching up on the latest movies.

Focus at Kalaari
Consumer Internet, Gaming, Supply Chain, Healthtech and Logistics

Darshit Vora

Darshit has spent close to 13 years across tech, consulting and investing roles. Over the last 4 years at Kalaari, he has worked on multiple emerging trends and focus areas – fintech, vernacular digital media, and logistics. He spends time understanding these trends, developing our investment thesis, tracking interesting companies and developing deep networks for these focus areas. Prior to joining Kalaari Darshit spent 3 years in management consulting roles working with some of the biggest names in the consumer and enterprise technology world. In his free time, Darshit likes reading biographies of inspiring leaders.

Focus at Kalaari
Consumer Internet, Digital Content, Fintech, and Shared Economy

Investment Team *Investment Analyst*

Siddhanth Jayaram

Siddhanth is an Investment Analyst at Kalaari and has over 3 years of experience across marketing, operations, product and sector research. Siddhanth is a graduate of the Kstart Fellowship, a program started by Kalaari to develop future leaders in the venture capital and entrepreneurial ecosystem. Prior to Kstart, Siddhanth was part of the founding team at Hummingbill, a B2B fintech startup, where he helped the company acquire and build the first few customers across verticals and saw its exit to KredX. Siddhanth holds a BS in Industrial Engineering and a minor in Economics from Purdue University. Outside of work, Siddhanth loves watching and playing sports. In his free time, he travels around the world seeking new experiences.

Focus at Kalaari
Consumer Internet, Consumer Brands, E-Commerce, and Mobility

Kstart Investment Team

Partner

Revant Bhate

Revant brings with him over a decade of experience of investing, building, and fund raising in the Indian start-up ecosystem. At Kstart, Revant leads investments, portfolio management, and oversees the expansion of the seed stage initiatives. Over the next decade, his core goal is to make Kstart India's best performing seed fund and an institution of excellence. In his free time, Revant likes mentoring young founders and marketers, building new age consumer brands and decoding the Indian consumer. Revant has a Masters in Business Administration from IIM Kozhikode.

Focus at Kstart
Consumer Brands, Consumer Internet, Fintech, and Logistics

Associate Vice President

Vinod Shankar

Vinod is an AVP at Kstart, and brings over 12+ years of experience as a engineer, builder and investor in the Indian startup ecosystem. At Kstart, Vinod is involved in sourcing, investments and portfolio management. Prior to this, he worked as Head of marketing with JustBooks, one of the early startups to introduce omni-channel retailing in India. In his leisure time, he loves reading books, travelling, and spending time with family.

Focus at Kstart
Consumer Brands, Deep Tech, Fintech, and Logistics

Kstart Fellows

Avinash C Ramanathan

At Kstart, Avinash focuses on Healthtech, Deeptech and Sports-Tech sectors. Prior to joining Kstart,he worked with Mu Sigma helping Fortune 500 clients across banking and pharmaceutical industries to understand their business problems and enable data-driven decisions.

Nandhita Nandakumar

At Kstart, Nandhita focuses on Healthtech and Ed-tech sectors. Prior to joining Kstart, she worked for the CEO's office of a co-working space in Bangalore and later, moved on to work in the Business Analysis domain.

Harshith Mallya

At Kstart, Harshith focuses on Gaming and Media-Tech sectors. Prior to joining Kstart, Harshith spent four years closely tracking the Indian startup ecosystem from 'ground zero' as a journalist and was one of the early employees at YourStory Media.

Tushar Behl

At Kstart, Tushar focuses on Consumer Brands and Consumer Internet sectors. Prior to joining Kstart, Tushar was working with Private Equity division at Bain & Co. for a year. He takes pride in being a solutions oriented generalist with his multifarious interests and is always tinkering with ideas, design, and first principles thinking to solve and support people solving massive real world problems.

Subhro Sengupta

At Kstart, Subhro focuses on Fintech and Legaltech sectors. Prior to joining Kstart, Subhro had been working with IndusLaw, a Bangalore based law firm, where he was a part of their venture capital practice and worked with startups and funds on investments and M&A transactions.

Milind Bansia

At Kstart, Milind focuses on Deep-Tech, Fintech, and Logistics sectors. Prior to joining Kstart, Milind followed his passion for economics and finance at J.P. Morgan Investment Banking. An engineer by training, Milind combines his love for technology and finance by analysing and helping startups scale at Kstart.

Chirag Gandhi

At Kstart, Chirag focuses on fintech and digital entertainment and media sectors. Prior to joining Kstart, he had been working with Credit Suisse as Private Equity Risk Analyst, revamping the legacy model to impact risk capital by $400m.

Jessiedna Araujo de Sa

At Kstart, Jessie focuses on Consumer Internet and Fintech sectors. Prior to joining Kstart, she travelled to remote places, dealt with explosives, radiation, and extreme weather, while donning a hard hat and a brave heart during her four-year long career in Schlumberger.

Ashwin Toshniwal

At Kstart, Ashwin focuses on Consumer brands, Gaming, and Sports-Tech sectors. Prior to joining Kstart, he worked with KPMG transaction services for 2.5 years across Retail, FMCG, Pharma and Manufacturing.

Rohit Ganapathi

At Kstart, Rohit focuses on Deep-Tech and Fintech sectors. Prior to joining Kstart, Rohit spent a year at Mu Sigma as a data analyst and spent his summers as an intern at AG Acquisitions, where he worked on investment research and macroeconomic trends.

ABOUT KALAARI

ABOUT KSTART

Kstart *is a unique seed fund by Kalaari that empowers the next generation startups and accelerate disruptive ideas to become market leading companies. Our singular focus with Kstart is to enable visionary founders to build game-changing businesses by combining all key factors necessary for startup success.*

Our singular focus is to enable these visionary founders to build game-changing businesses.

You can find us here—
kstart.in

The Essence of the Mudras

Mudras *are hand gestures or symbols that are used to convey material and abstract concepts in Buddhism, yoga, and traditional Indian dance forms (like Bharatnatyam, Kathakali, and Odissi). In a sense, Mudras are to Indian dance in the same way that icons are to current day user interfaces.*

In Bharatnatyam, the dancer is a storyteller— she narrates folk and mythological tales by using a combination of body movements, gestures and facial expressions to evoke dramatic events. These single and double-handed Mudras serve as precise vocabulary that is replete with symbolism, and often derives details and context from the story that is being told.

We see the same with contemporary innovations. Western concepts that transit to India find completely new use cases, and even those that are born in the country serve the population in unanticipated ways. Mudras represent how ideas in India morph and mold to offer unifying experiences and interpretation.

Acknowledging Sneha Sankar (@snehasanks) for contributing to the design of the book.

Printed in India

#HindustanHamara

If you are a founder with ideas that are uniquely Indian,
we would love to collaborate.

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