Innovation – What is “possible”?

"I wish my stove came with a Save As button like Word has. That way I could experiment with my cooking and not fear ruining my dinner."
— Jarod Kintz, Who Moved My Choose?

"If you want something new, you have to stop doing something old"
— Peter F. Drucker

"Innovation basically involves making obsolete that which you did before."
— Jay Abraham, The Sticking Point Solution: 9 Ways to Move Your Business from Stagnation to Stunning Growth InTough Economic Times

"I see no advantage in these new clocks. They run no faster than the ones made 100 years ago."
— Henry Ford

The Indian healthcare system is large in terms of size and scale, but still significantly unorganized and fragmented

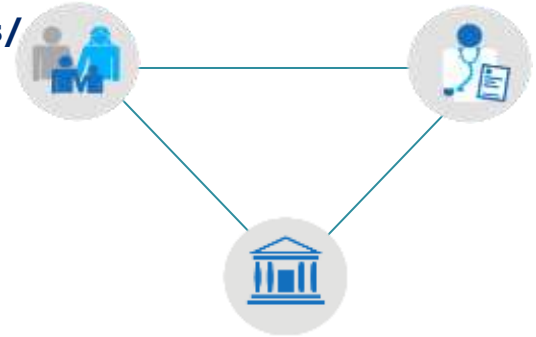
Overview of Indian Context

Economic & political	Infrastructure & Demographics	Social & technological
Low availability of financing (~25% population insured)	Skewed health infrastructure (~70% healthcare access to ~30% people)	Increased health awareness
Increased affordability: Growth of middle classes (~30% of population)	Healthcare manpower crunch (~0.6 doctors/ '000 population)	Growth in NCDs (cause for ~60% deaths in India)
Increased political focus on healthcare	High population growth (~1.5% p.a.)	Technological advancements in Treatment and equipment

Key challenges in the Healthcare ecosystem

Patients/ family

- High Out of pocket expenditure (~70% of total); limited insurance
- Lack of access of care to ~50% of Indian population (largely rural)
- Poor and late diagnosis; insufficient public infrastructure



Physicians/ provider

- Variation in patient demand, limited patient stickiness
- Lack of tracking/ patient adherence to treatment protocol
- No continuous education, CME's, skill up gradation programs

Government

- Limited funding
- Poor infrastructure- shortage of physicians, equipment and infrastructure

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Digital health platforms are expected to grow in India due to fertile factor conditions including 2nd highest number of internet users in world

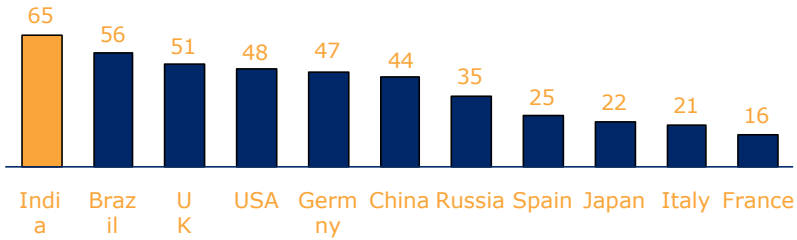
India has been known to leapfrog technology adoption

Cellular Technology	• Leapfrogged wired network to move to cellular- ~75% penetration of mobile in ~10 years • Expected to be one of the largest smart phone markets
Technology	• One of the largest Tech exporting countries with over USD 100 bn in exports
Social Media	• ~84% internet users are on social media • Second largest users on Facebook from India (112 Mn)

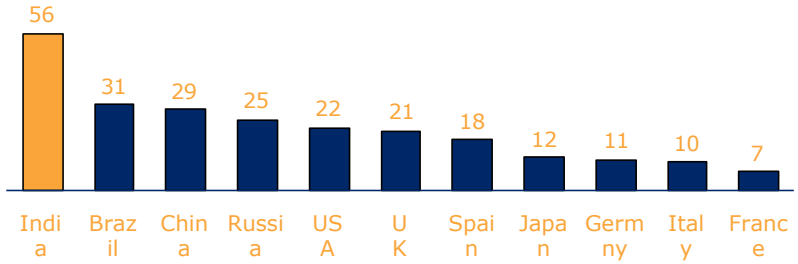
Source: Cegedim Strategic Data

Physicians in India lead their counterparts in developed countries in the use of online and social media

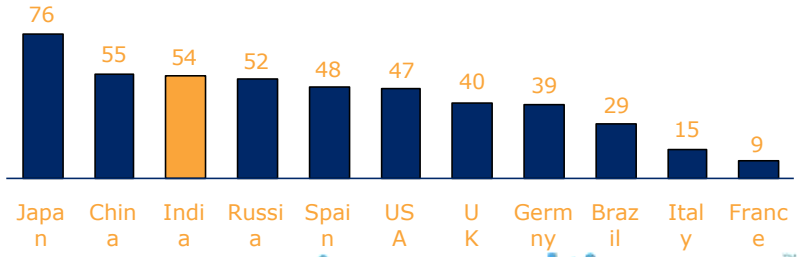
% Physicians who use internet for professional networking



% Physicians who use Mainstream social media



% Physicians who access online medical communities



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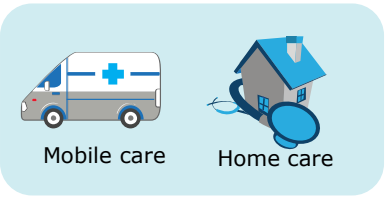
Given the digital evolution, models of healthcare delivery, technology and information are changing

Megatrend #1



Indian healthcare delivery is maturing and scaling up

- Infusion of **private capital (VC/ PE)** in healthcare assets to grow capital efficient models and digital health– India is witnessing significant entrepreneurial activity
- 5-6 new home care businesses launched in the last 2 years with a combined workforce of 4000+ nurses
- 1000+ **primary care clinics and specialty clinics** across chains (diabetes, pain, eye, derma)
- Eye, IVF, Dental, Oncology, Women & Child, Skin and Ortho – **newer asset light formats** of hospitals
- Organization of **pharmacy retail** and consolidation of distribution

Data will get more digitized and organized across the value chain – hence more available!

Healthcare providers will invest in technology to differentiate

Consolidation and private investment will drive need for scale and efficiency to differentiate and sustain

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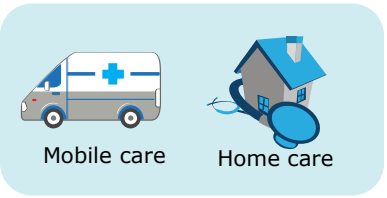
Given the digital evolution, models of healthcare delivery, technology and information are changing

Megatrend #2



India is going digital in healthcare

- **55% of doctors** are using social media, online communities and the internet
- **40 million appointments** have been booked via Practo, a doctor listing platform now becoming a healthcare marketplace
- **Several online pharmacies (Netmeds, Ziggy, 1mg, etc)** have been set up over the last 2 years across the country as marketplace models
- Large corporates like **Tata and Piramal** are getting into the digital health space and trying to figure out how to use data
- **300+ startups** in India in the digital health space

Digital channels will play a larger role in healthcare provision and life sciences

Analytics and data is already in the purview of these players as a revenue stream

Some of these players will emerge as potential disruptors

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Digital Health platforms

Digital Health is emerging in India, offering new platforms to connect patients, physicians and care providers

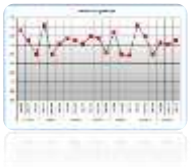
EMR/ EHR, In clinic practice software

1

EMR/ EHR platform + Aid in appointment booking, e-prescription, clinical decision

Data management, and patient data analysis

Global market size & growth: USD 18 Bn; 6.5% CAGR



Patient data analytics

4

Predictive and Prescriptive analytics, Longitudinal patient data studies

Global market size and growth: ~USD 10 Bn; 17% CAGR

2

M-Health for patient engagement

Remote patient monitoring/patient awareness and adherence platforms

Global market size: ~USD 20 Bn

3

Pharmacy supply chain integration/ E-pharmacy platforms

e-pharmacy enables home delivery of medicines to patients

Digital Health also includes:

- *Social media platforms*
- *Portals and networking*
- *Online forums, threads*

It is estimated that ~300 Indian startups are developing solutions in the digital

For Physicians **For Providers and patients** **For Patients**

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Innovation in health…

Cardiac Hospital - India

Frugal Innovation: 300 bed surgical setup @USD 25000 per bed

Mirco-insurance: 3 mn farmers and villagers covered with US 90p for all surgical procedures and outpatient care

Access through technology: One of the largest telemedicine networks in the world accessing 53,000 patients across 19 countries

Innovation in developing markets hinges on providing greater access and tighter operational efficiency, along with frugal engineering…

MyDentist

50 dental clinics, set up by an Engineer in 2009

10,000 patients/ month

Dental care 30% cheaper than comparators

Innovation Mantra:
Accessibility & Operational Efficiency

And just simple business models…

The problem: 20,000 people per sq km in Mumbai, with inadequate health infrastructure and an alarming proportion of deaths due to infectious diseases

Innovation Mantras:

Volume management: 70% of 60 patients per clinic per day come after 5:00 pm – the clinics remain open between 5:30-10:00 pm

Cost Management: Procurement of medicines at 40-50% cheaper reduces the overall cost of treatment

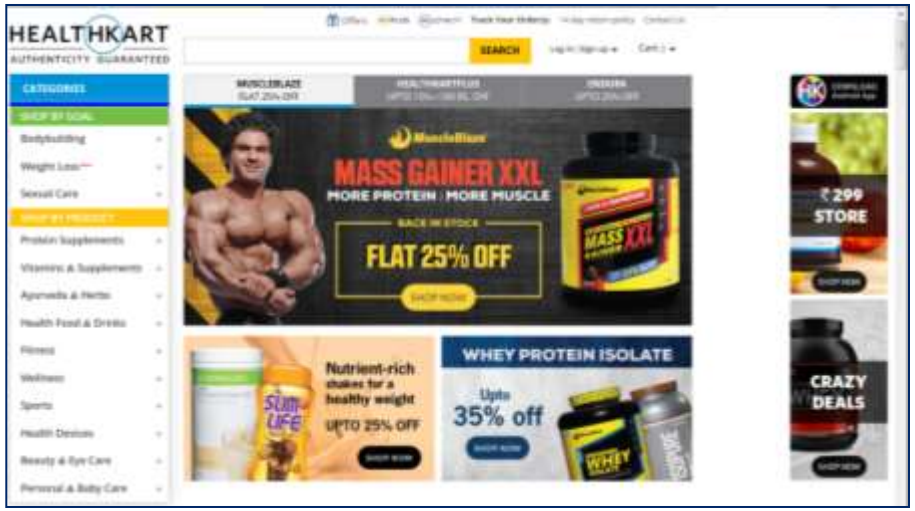
Pricing: 50 cents for a consultation and paracetamol, a dollar for a specialised consultation

Technology playing a role..?

Innovation Mantra: Technology disruption

Founded in 2011,
2 mn users per month, 2,000 orders/day –
33% from small towns and tier IV cities

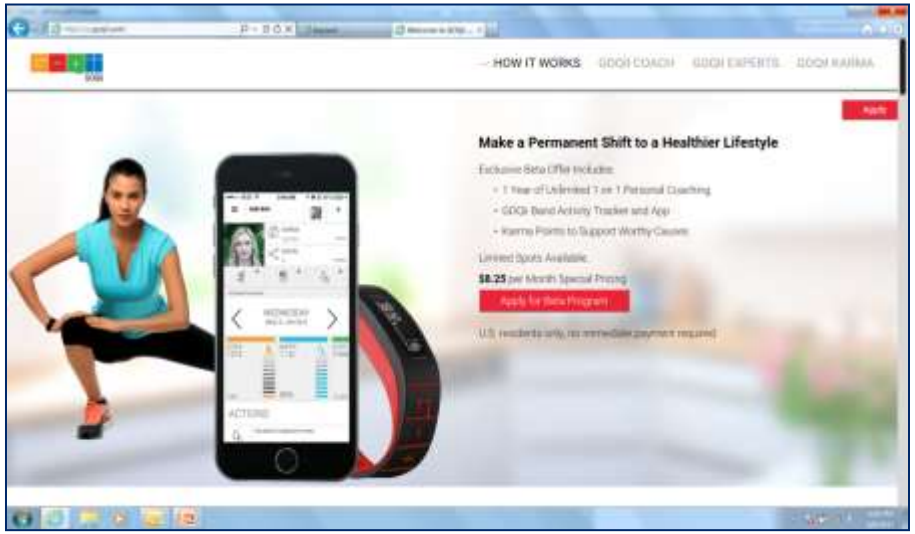
Has launched an app called Healthkart Plus –
750,000 users accessing drug and clinician information



Innovation Mantra: Health-wearable tech

Founded in 2014 by a group of entreprenuers – 10,000 paid users

Creating a network of coaches globally, along with an ecosystem for managing personal health and lifestyle



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Disruptive business models in digital healthcare..(1)

HealthUnlocked

47% of HealthUnlocked users say they access fewer clinical services because they have peer support on tap

Innovation Mantra : Use of digital social networking platform to build disease specific communities for mass interaction

Founded in 2010

Monthly worldwide online visitors : 2.5 million

Experiences shared : >3 million, many more are created daily

Offerings :

- Focus on diseases like cancer, fibromyalgia, heart diseases etc
- Condition-specific communities consists of patients, caregivers and health advocates around the world
- Facility to share personal stories, information and support to patients suffering from serious illnesses
- Offers the most relevant content based on intelligent reading of symptoms, treatment and conditions discussed
- Secure and anonymous communities

Supporting organization :

- Over 500 patient advocacy organizations (PAG) on board

Current revenue model :

- Surveys & Research Leads
- Interface for Hospitals & Health Institutions

Piloting revenue lines :

- Health Promotion & Advertising
- Premium Communities
- Content Syndication

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Disruptive business models in digital healthcare..(2)

TrialReach

"Democratizing clinical trial information, making it available and understandable, could break down the barriers required to fundamentally change the way patients and researchers work together"

-Forbes

Innovation Mantra : Use of digital platform to connect the right people with the right clinical researchers

Founded in 2009

The problem :

- Scattered, complex and unreliable information regarding clinical trials with lack of awareness amongst doctors and patients made it difficult to explore additional trial options for serious diseases
- It takes an average of 12 years for a drug to pass through trials and enter the market, thus patients miss out on the opportunity to access potentially innovative treatments

Organizations utilizing the TrialReach platform :

- WHO, Lilly, Pfizer, Novartis, GCP, Takeda, Columbia university , MAC, Caring.com, Vital foods, Nestle, Roche etc
- Closely working with Facebook on a project to increase patient awareness of cancer treatment trials

Achievement :

TrialReach has become the biggest source of clinical trials worldwide due to a partnership with the WHO, giving patients access to over 270,000 clinical trials across the globe

Funding received :

TrialReach has received $17.9 Million in 3 Rounds from 3 investors
(Amadeus Capital Partners, Octopus Investments, Smedvig Capital)

Disruptive business models in digital healthcare..(3)

CreateHealth.io

''...find out who is advising your board. Make sure you get to know those people. Feed them your ideas and make sure they present them to the board. All of a sudden you get through those hurdles...''

-Dr Wolfgang Renz, CVP Innovation, Boehringer Ingelheim

Innovation Mantra : Online 'crowd sourcing' to provide customer/ patient insights and market research to healthcare providers

Founded in 2012

Offerings :

- Engages thousands of people to discover fresh insight and test new ideas and innovations for healthcare companies
- To create a giant online (social media across multiple channels) focus group solely to key topics in healthcare

Organizations utilizing the CreateHealth.io platform:

Global pharmaceuticals like Abbvie, Boehringer Ingelhiem, AZ, Others like Google, PAAB, Interactive medica and hospitals

Pilot:

Pharmaceutical company AbbVie

- Hosted an open online discussion on Parkinson's disease defining "quality of life" of these patients using open social media for the first time

Recent achievement :

Customer summit, Create Health London

25 speakers and 250 healthcare executives focused on creating and validating new healthcare solutions

Way forward:

Developing London's first healthcare co-working space to support digital health innovation and collaboration

Disruptive business models in digital healthcare..(4)

Babylon

"A game changer… the world's simplest virtual health service, right in the palm of your hand." The Huffington Post

Innovation Mantra : Integrated digital healthcare service through mobile technology

Officially launched 2014 (Registered by CQC and approved by NHS)

Offerings of the app :

- Video and phone consultation with top doctors in minutes
- Access to clinical records stored securely
- Seamless clinical advice, prescriptions, symptom monitoring, referrals, and tests
- Facility to send text a question or an image to clinicians for a quick response for free

Availability : iOS and Android in UK

Rating : 9/10 users have given it a 5 star rating

Installs : 5000-10000

Pricing : Per Month or Per consultation

Disruptive business models in digital healthcare..(5)

uMotif

"We work with patients, clinicians, patient groups and academia across the world to design, develop and deliver software that's proven to work" - uMotif

Innovation Mantra : Software for self health-management and shared decision making through web & mobile apps

Founded in 2012

The problem : 15 million adults in the UK have at least one chronic health condition and this number continues to increase

Offerings of the app :

- Supports chronic conditions like Parkinson's disease, diabetes, heart failure, cancer, renal conditions, RA and adrenal insufficiency
- Health report, Data tracking, Medication reminders, Task lists, Daily diary

Availability : iOS, Android and web,via personal invitation from a doctor, moving towards including general public

Installs : 100-500

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Disruptive business models in digital healthcare..(6)

Big Health

Big Health won the WIRED Health Bupa Startup competition and secured $3.3 million Series A funding from Forward Partners and Index Ventures

Innovation Mantra : Focus on untapped arena of 'online' personalized behavioral psychotherapy treatment programs

Founded in 2010, initial product **'Sleepio'**

The problem :
WHO estimated 450 million people worldwide suffer from a mental health condition and aren't able to find the correct help they need

'Sleepio' offerings :
An online clinically proven sleep improvement program based on cognitive behaviour therapy(CBT)

- Sleep test, virtual expert guidance, teaching sleep improvement techniques
- Sleep diary, progress tracker, reminders, relaxation MP3, Thought checker, stats, community, planner etc

Pricing : Enrollment done on weekly, quarterly and annual basis

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Disruptive business models in digital healthcare..(7)

ZESTY

Innovation Mantra : Provides general people an online appointment booking portal to avail healthcare facility

Founded in 2012

Offerings :
- The platform allows patients to find local healthcare providers, compare doctors and services using crowd sourced reviews
- Book confirmed appointments

Achievement :
- Over 1,000 healthcare professionals have signed up

Funding :
- $2 Million in 3 Rounds from 5 Investors

Way forward :
- Launch of a suite of mobile apps for iOS and Android
- Expansion to other northern and central European countries

Case in Point:

Practo: Doctor search platform to In-clinic practice solution + HIS/ EMR

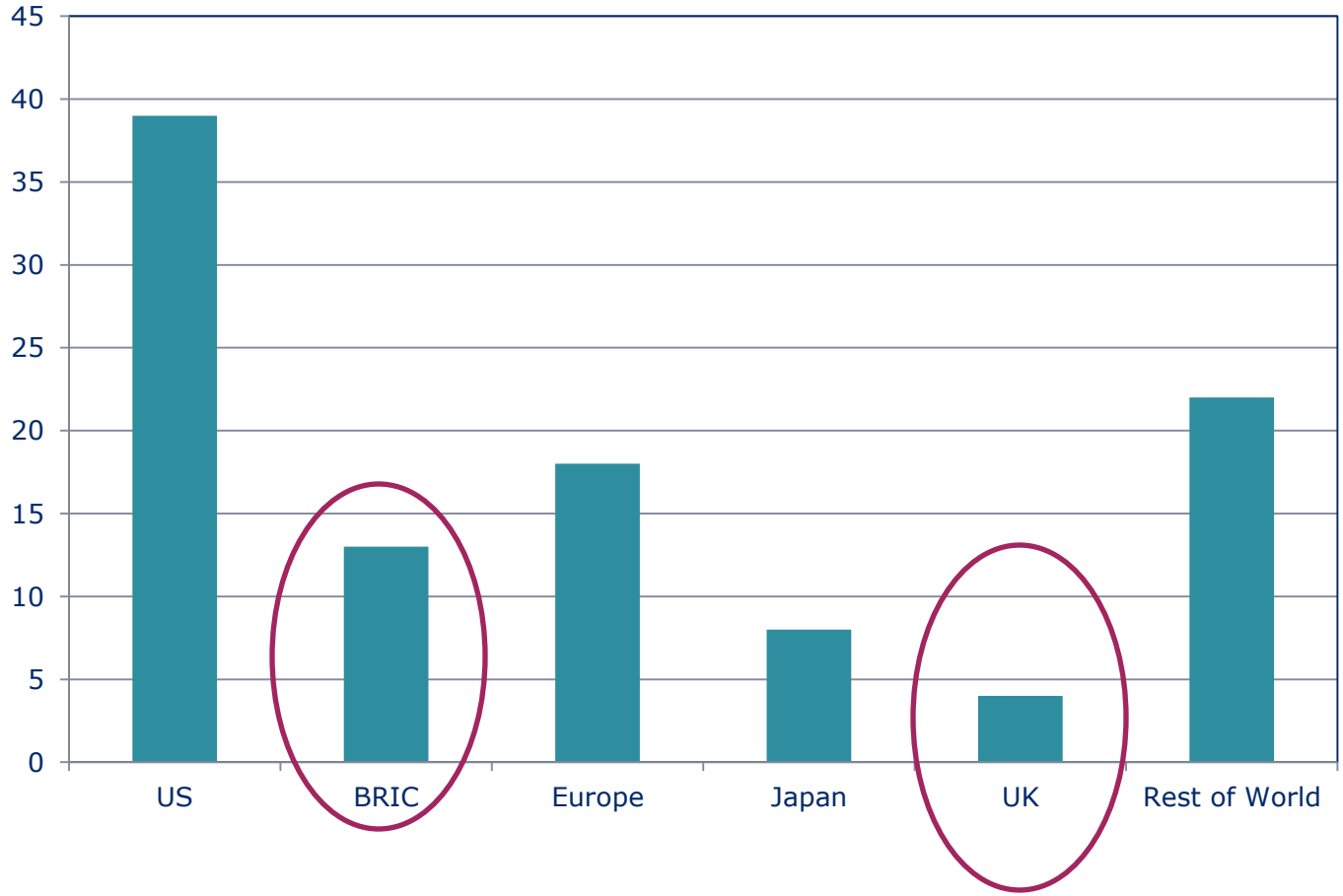
	2009	2012-13	2015
Funding support	• **Seed capital of $16,250** from friends and family • **Incubated by Morpheus Venture Partners**, Bangalore	• **Raised $4.6 mn from Sequoia Capital** in Series A funding	• Raised **$30 mn from Sequoia and Matrix Partners** in Series B funding • **Raised $90 mn** from Tencent Holdings, Google Capital, Sofina, and Altimeter Capital
Service profile	• **Practo Ray, SaaS based clinic management software for doctors** • EMR, appointment, billing, cloud telephony services	• **Practo.com, doctor discovery platform** to find the right doctors and **book appointments** free of cost	• Added **diagnostic center search** to Practo.com • **Entered the enterprise segment for hospitals** • **Launched**
Revenue model	• **Practo Ray is sold as a monthly/annual subscription based product** ($16 and $32 per month)	• **Contextual advertisements** from hospitals and clinics •**Sponsored listing** for hospitals and clinics	• **Qikwell and Insta Health's revenue from hospitals**
Scale achieved		• **Expanded to Indonesia, Singapore and Philippines** • 2 lakh doctors, 5,000 diagnostic centers, 10,000 hospitals	• **Annual revenue ~$3 Mn** • **Acquired FitHo**, a fitness app • **Acquired competitor Qikwell** • **Acquired HIS provider Insta Health** Solutions for $12 mn • **90% market share amongst doctors** using mgt. software

Case in Point:

Portea: Basic home care to complete patient health management at home

	2012	2013-14	2015
Funding support	• **Co-founded by Zachary Jones and Karan Aneja with personal funds**	• Bought over by Meena Ganesh and Ganesh Krishnan • **Raised $8 mn from Accel Partners and Ventureast** in Series A funding	• Raised **$37.5 mn from Accel Partners and International Finance Corporation (IFC)** in Series B funding
Service profile	• **Basic home health services by physiotherapists, nurses and doctors**	• Home based p**alliative care, geriatric care, post-operative care** • **At home sample collection for tests**	• **Medical equipment for rent or purchase** • **Wearable devices for remote monitoring** • Grooming, housekeeping, cooking support for elderly
Revenue model		• **Visit by a nurse is ~$6 -7, nursing aides for 12 hour stay is ~$10**	• Medical equipment for rent or purchase • **Care packages for ortho, neonatal and cancer care**
Scale achieved		• **Presence in 4 cities in India** • **~2000 transactions/month**	• **Presence in 24 cities** • **200 nurses and 600 nursing attendants and services over** • **60,000 patients every month**

The top 100 innovative companies…



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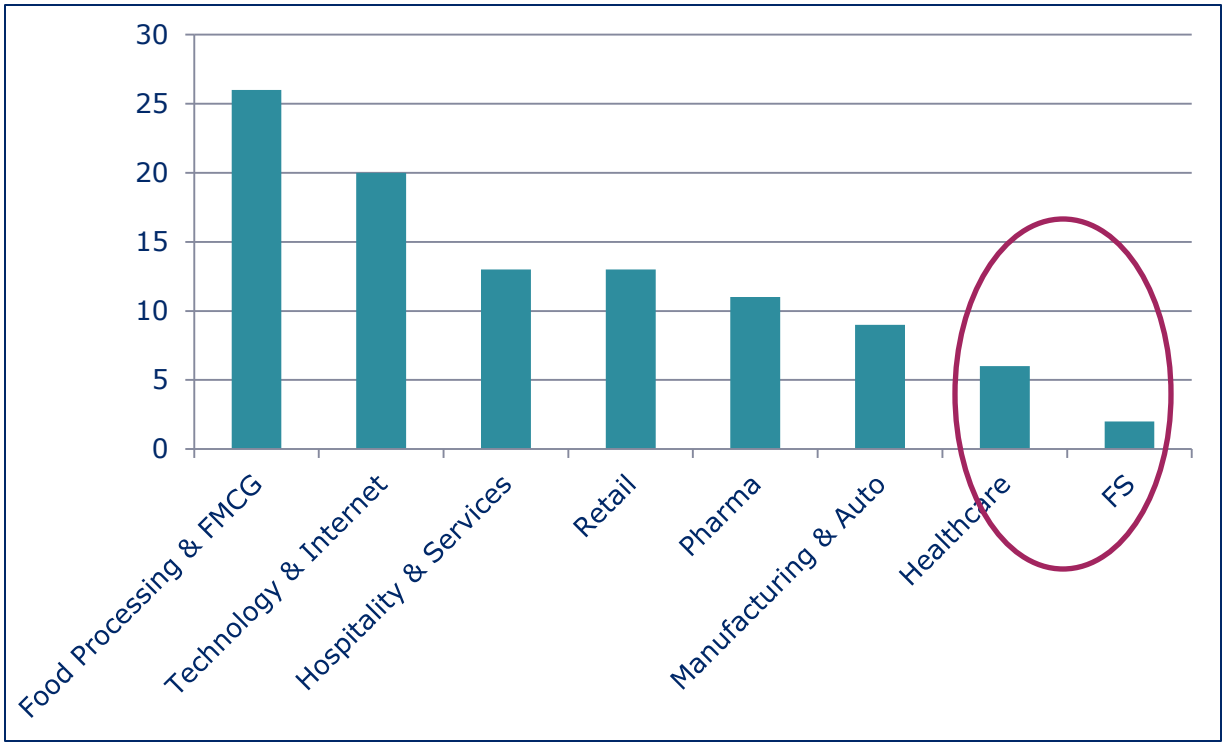
…and across Industries



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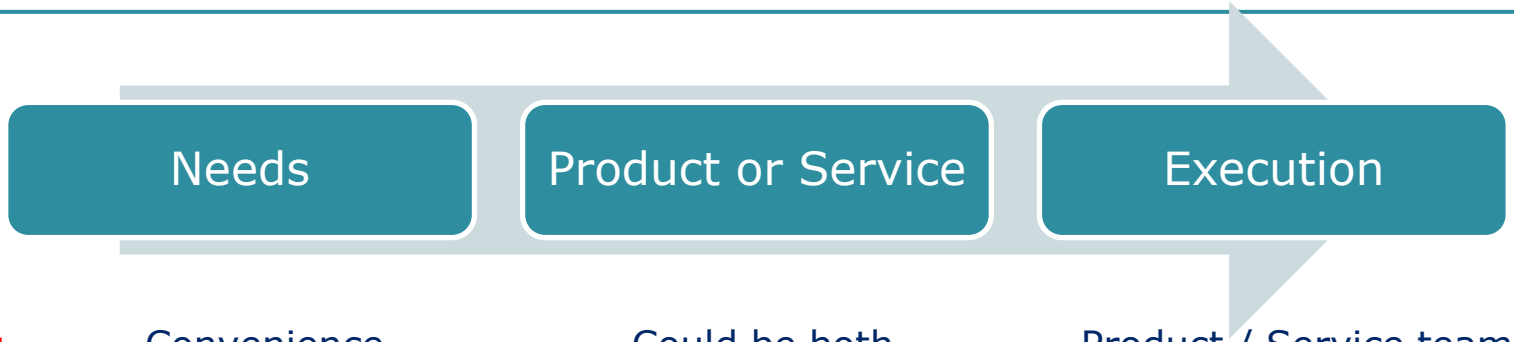
Steve Jobs Vs. Apple – Who is innovative?

Is the answer simpler between **Bill Gates** Vs. **Microsoft?**

How about **3M?**

Are we talking about individuals or organizations?

It could be a simple journey…



Banks:	Convenience	Could be both	Product / Service teams
Airlines:	Comfort	Could be both	Ground Staff/ Air crew/ Back end
Telecoms:	Evolving	Primarily product	Product team/ Alliances/ Acquisitions

What makes it complex?
Are we truly listening to what our customers want?
Are we realizing their needs could be changing?
Are we responding fast enough to their needs?
Is our competitive landscape itself changing?

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What are our complexities?

The disease burden increases and we are faced with newer and challenges of bigger scale

3 markets exist in one – private healthcare, need for affordable health, and no access at all!

The regulator in many places is also making structural decisions that have an impact on health delivery

We are dealing with human behavior at every level!

The good news?

Financial Services

Social Media

Equipment

Startups

Pharma

We are not in it alone!

Technology

Biotech

Telecoms

Care providers

Payors

Medtech

Internet

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Investments across Digital Health platform elements by leading players; Limited number of scaled up incubators

		Digital Health elements				Others			
		EMR/EHR	In-clinic	mHealth	Data analytics	Diagnostics	Medtech	Capacity building	
Corporate	Microsoft ventures	DAILY ROUNDS	Praxify, FlamencoTech	✓	✓				
Corporate	GE Healthcare	✓	✓		✓	✓	✓	GEN WORKS	Several projects underway in GE
Corporate	GenNext Innovation Hub (Reliance)				Health Vectors				Started in 2014
Incubators	InnAccel					Sattva Medtech	Coéo Labs		Raised USD 10-12 m, plans 25+ projects
Incubators	Villgro			jeewan		beampu	OneBreath		
Incubators	Healthstart	KIVI Health	Careway Health	biNo				medicea	
Institutions	Dlabs (ISB)	✓	✓	✓	✓				xxx
Institutions	CIIE (IIM A)	iKure	✓	✓		Biosense	Forus		
Investors	India Angel Network						ARCATRON MOBILITY		
Investors	Qualcomm							PORTEA Home health	Plans to invest USD 150 m in India

What does all this mean for us?

Given an industry like ours, how do we innovate?

Are we innovating enough?

What needs to change?

Why innovate?

There is no option….

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https://www.youtube.com/watch?v=NugRZGDbPFU