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# *Using Innovation to Increase Accessibility*

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# *Agenda*

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1. What drives innovation in Healthcare?
2. How Easy is Innovation?
3. Innovators and their Mantra
4. Flipping the current business model
5. Learning's for providers in the developed world
6. Can Innovation be taught?

# *What drives innovation in Healthcare?*

**1**

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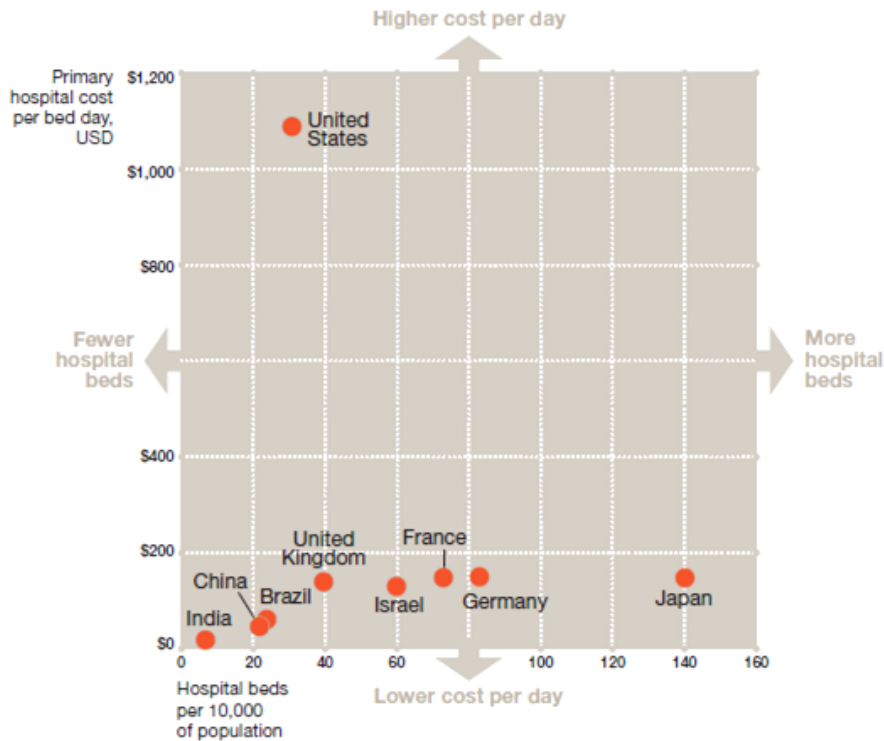
## *What Drives Innovation in an Emerging Market?*

*Accessibility is primarily limited by Affordability*

- Large and exponentially growing population base creating a huge demand
- Government unable to cater to demand
- Rising incomes allow patients to switch to the private sector
- A Dual burden of Disease
- Inadequate access to Capital and Talent
- Access to healthcare is limited by affordability

# Hospital Beds and Physicians per Capita

Figure 5: Hospital beds per capita versus hospital cost per bed day



Source: World Health Organization

Figure 13: Hospital beds versus physicians per capita



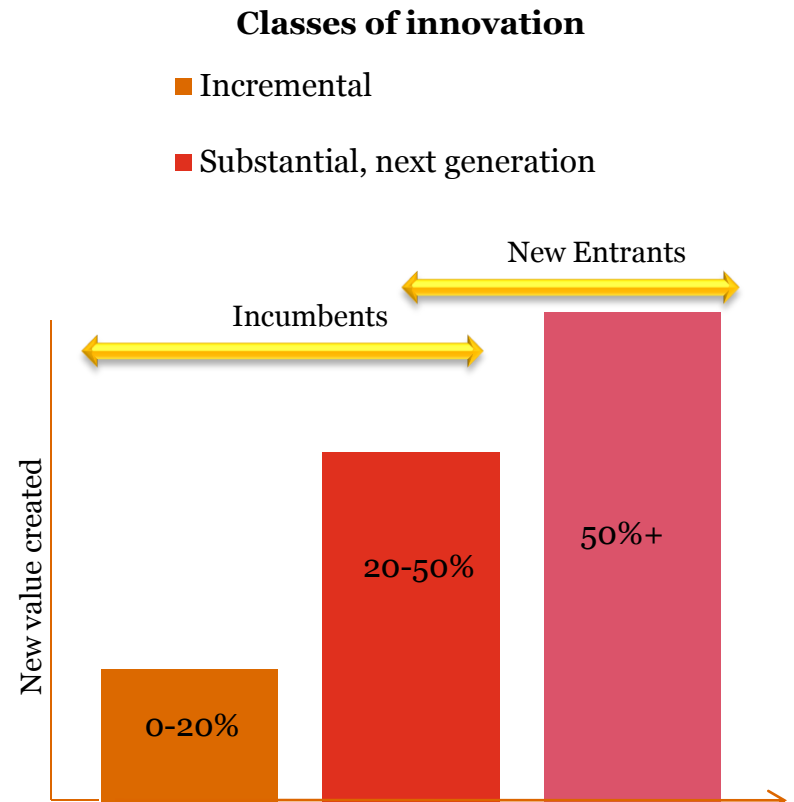
Source: World Health Organization

## ***Innovation= Value-Creating Novelty***

A new idea or product becomes innovative only when it creates value.

Not all innovation is equal. Based on the amount of value it generates, innovation can be classified as:

- **Incremental** – Adding a new feature to an existing product
- **Substantial** – Next generation
- **Radical** – Revolutionary



*How easy is  
Innovation in  
Healthcare?*

**2**

## ***Barriers to Innovation***

### ***Highly Fragmented Industry***

- Highly Fragmented Industry
- Multiple Stakeholders
  - Government
  - Providers
  - Medical Profession
  - Equipment Suppliers
  - Insurance Companies
  - Financers
  - Consumer
- Ability to replicate and scale up operations
- Funding Innovation



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## *Where the Emerging Markets lead:*

*No Legacy  
Systems*

- Huge Market
- No Legacy Systems
- Rising Incomes
- Demographic Dividend
- Access to Human Capital at a low cost

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## *Innovation: A dynamic Process*

*Radical  
redesign of the  
delivery  
process*

*Ability to  
survive in an  
uncertain  
environment*

- Process Innovation
- Product Innovation Lags Behind

# *Innovators and their Mantra*

3

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***Innovators have found ways to deliver care effectively at significantly lower cost while improving access and increasing quality (1/3)***

## **Radical redesign of delivery process**

Emergency Management and Research Institute (EMRI), India – A centralized emergency response service addressing the challenge of poor or non-existent access to emergency support across India.

Health Management and Research Institute (HMRI), India – An easily accessible digital health platform integrating a medical advice hotline, a mobile medical outreach component, and telemedicine solutions.

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***Innovators have found ways to deliver care effectively at significantly lower cost while improving access and increasing quality (2/3)***

## **Dissecting process innovation chain**

**Economies of scale** – Narayana Hrudayalaya follows a factory like approach, uses high volumes to reduce healthcare costs. In 2008, Narayana's 42 cardiac surgeons performed 3,174 cardiac bypass surgeries which is more than double of 1,367 performed at the Cleveland Clinic, a U.S. leader at the same time. Each of these surgeries at Narayana costs around \$2000, compared to \$5000 in any other private hospital in India, whereas in the U.S. it costs somewhere between \$20,000 - \$42,000.

**Use of technology** – Aravind Eye Care uses Aravind Telemedicine Network to support video conferencing for 3000 rural patients.

**'Right Skill' the workforce** – LifeSpring uses midwives to provide most of the care at their maternity hospitals, thereby linking skills and training requirements to the task at hand. This allows a just a single doctor to oversee significantly more patients by focussing on tasks that specifically require a doctor's attention. LifeSpring only charges \$40 for a normal delivery, rather than a typical \$200.

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*Innovators have found ways to deliver care effectively at significantly lower cost while improving access and increasing quality (3/3)*

## **Dissecting process innovation chain**

**Standardize operating procedures** – Aravind Eye Care standardizes the entire end-to-end patient pathway – from initial diagnosis to surgery, recovery, and discharge with high efficiency. In a conventional Western hospital an eye operation would typically take 30 minutes – Aravind Eye Care does it in 10 minutes.

**Borrow someone else's assets** – HMRI takes advantage of established supply chains by operating medical convoys, mobile health facilities from public hospitals.

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***Ankur Project, Gadchiroli – “The hope of saving the new borns”***

***Home Based  
Newborn Care***

- Community consent and involvement of stakeholders
- Orientation, training of the traditional birth attendants and health workers
- Data collection, quality control, and monitoring of the systems

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***Aravind Eye Clinic, Madurai– “In service for sight”***

***Eliminate  
Needless  
Blindness***

- Standardization and engineering cataract surgery for high volume production
- Added key elements – dedicated factory for producing lenses, training center to provide key skills, specialist ophthalmic research centers, and an international eye bank
- Process Innovation



## *Narayana Hrudayalaya, Bangalore – “Walmartisation of cardiac care”*

*Economies of Scale*

*Process Innovation*

- Better purchasing power – Narayana Hrudayalaya is India’s largest purchaser of heart valves
- Cost Innovation: Redesigning products and processes from scratch
- Doctors on fixed salary, not compensated on per surgery and are required to perform more surgeries – bringing down the cost per procedure

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## *Shasthya Sena (Health Force), Bangladesh*

*Improving the performance of informal providers*

A program designed to improve the quality of the services provided by informal providers in rural Bangladesh and integrate them into the country's health system by networking the providers and establishing quality monitoring mechanisms.

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## ***Micro Business for Health/ HealthKeepers, Ghana***

***Applying  
business  
solutions for  
better health***

A social microfranchise program that applies tested business methods to provide poor rural communities with access to affordable healthcare products, services, and information.

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## *LivingGoods, Uganda*

*Delivering  
affordable  
basic health  
products door-  
to-door*

An “Avon-like” network of franchised community health promoters who provide health education and earn a living selling essential health products door-to-door.

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## *Smile-on-Wheels Program, India*

*Reaching the  
poor through  
mobile  
solutions*

A national mobile hospital program catering to underprivileged children and women in remote rural areas and urban slums using primarily volunteer physicians and nurses.

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## *Greenstar Social Marketing, Pakistan*

*Harnessing the private sector to reach the poor*

A comprehensive social franchising and marketing program increasing access to and use of health products, services, and information among low socioeconomic population groups through an extensive private provider network.

# *Flipping the current business model*

4

## *Flipping the current business model*



- Reinventing Systems of Production and Distribution
- Scaling out rather than Scaling Up: involving varied stakeholders for expansion
- Redefining roles both Clinical and Managerial
- Straddling the Pyramid
- Keeping the “human touch” intact



## *Mobile Healthcare: Physician Perspective*

**56%**

Expedite  
decision  
making

**39%**

Decrease time  
it takes for  
administrativ  
e tasks

**36%**

Increase  
collaboration  
among  
physicians

**26%**

Allow more  
time with  
patients

**24%**

Have not  
affected my  
day-to-day  
work

Source: PricewaterhouseCoopers' HRI Physician Survey, 2010

*Learning's for  
providers in the  
developed world*

*5*

## The key lessons



- Redefine your core competence
- Driving efficiency and creating value with a network of partners
- Simplify procedures so that they can be replicated easily
- Collaboration: Internal and External
- Develop the capability to reconfigure in an adverse environment

# Involvement external partners

Q: To what extent do you agree or disagree with the following statements about your expectations regarding your company's innovation over the next three years?



Base: All respondents (1,201)

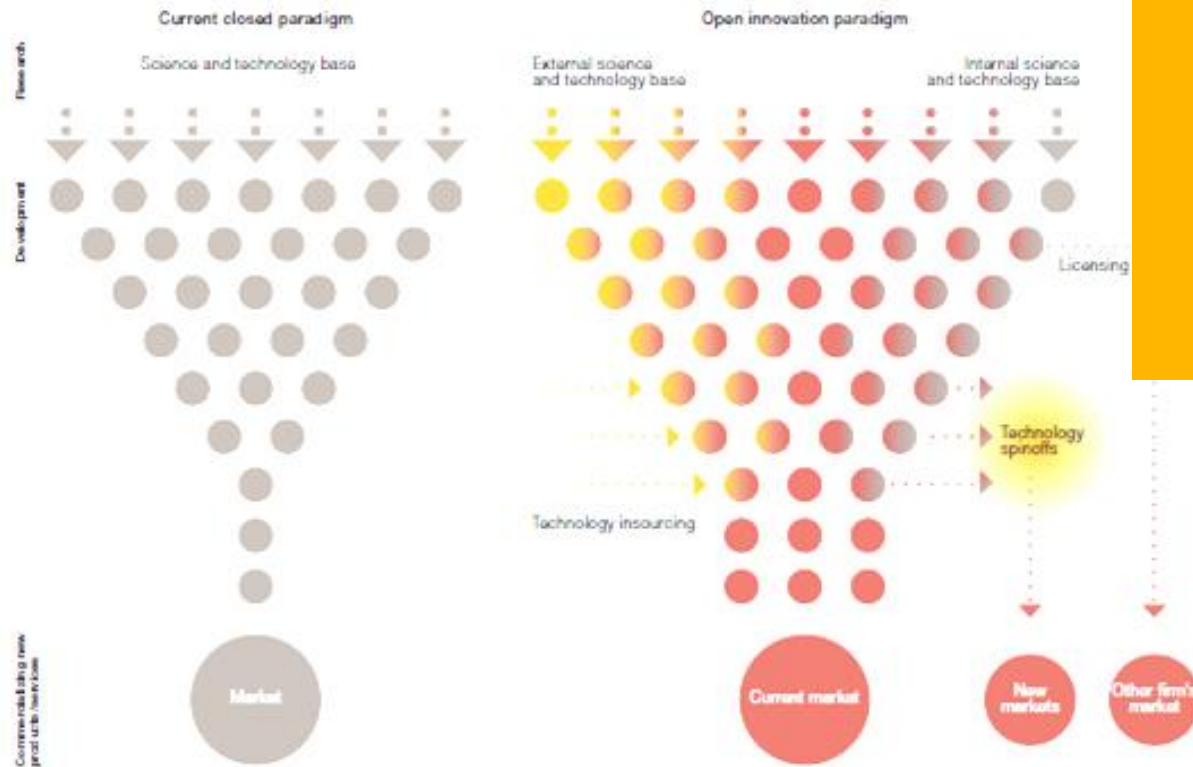
Note: Expectations regarding companies' innovation over the next 3 years

Source: PwC 14th Annual Global CEO Survey

*Can Innovation be  
taught?*

6

# Paradigms of Innovation



Thrift not waste  
Inclusion not  
Exclusion  
Bottom up  
Participation  
Flexible thinking  
and Action

Source: Concept derived from Henry Chesbrough, "Open Innovation: A New Paradigm for Understanding Industrial Innovation," in *Open Innovation: Researching a New Paradigm*, edited by Chesbrough, Vanhaverbeke and West, p.3. Oxford University Press, 2008.

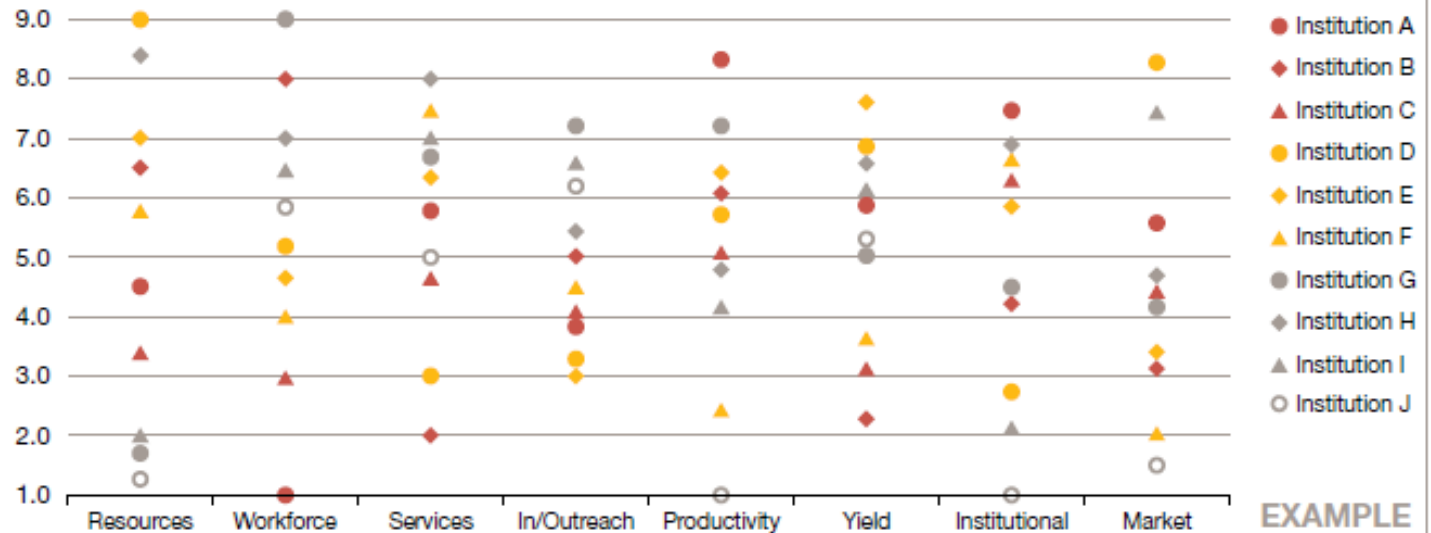
## *Can we measure Innovation?*

<b>Dimension</b>	<b>Key questions</b>
<b>Input</b>	
Resources	<ul style="list-style-type: none"> <li>Does the institution have adequate funding to drive innovation?</li> <li>Does the institution invest in innovation by providing adequate gap development funding?</li> <li>Does the institution invest in innovation by supporting a high performing TTO?</li> </ul>
Workforce	<ul style="list-style-type: none"> <li>Is the TTO large, experienced and focused enough to sufficiently support the faculty?</li> <li>Do licensing managers receive the support they need from specialists and interns/fellows?</li> <li>How large is the pool of faculty members with active research funding?</li> </ul>
<b>Activities</b>	
Services	<ul style="list-style-type: none"> <li>What services does the TTO provide to the faculty and the institution?</li> </ul>
In/Outreach	<ul style="list-style-type: none"> <li>How active/strategic is the TTO in reaching out to the internal and external communities?</li> <li>How transparent are the processes, procedures, activities, and outcomes of the TTO?</li> </ul>
<b>Output</b>	
Productivity	<ul style="list-style-type: none"> <li>How efficient and resourceful is the TTO in transforming inputs into outputs?</li> </ul>
Yield	<ul style="list-style-type: none"> <li>How effective are the office's technology transfer efforts in producing results?</li> </ul>
<b>Impact</b>	
Institutional	<ul style="list-style-type: none"> <li>How does success in technology transfer benefit the institution?</li> <li>How stable are the revenue flows from licensing and royalty payments?</li> <li>How engaged is the faculty/ inventor community?</li> </ul>
Market	<ul style="list-style-type: none"> <li>How does success in technology transfer benefit the external community (i.e. patients, economy, external research community, etc.....)?</li> </ul>

# Scoring innovation

## B) Scatter chart

Useful in visualizing comparative results in all Dimensions, as compared with other institutions.

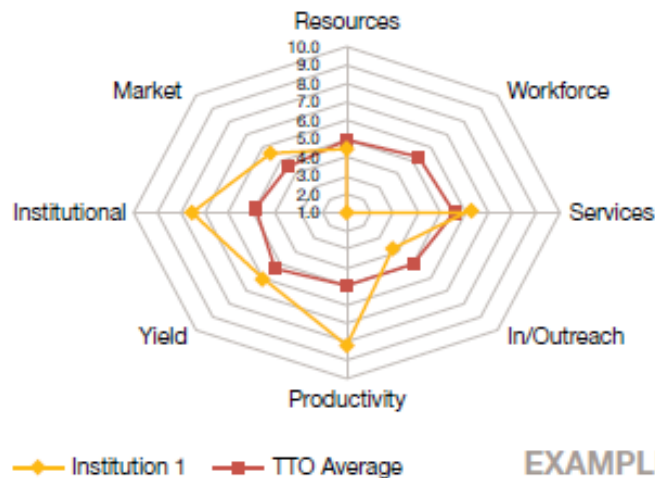


EXAMPLE

## C) Radar graphs

Useful in comparing two sets of data (more than two is confusing), for example one institution with leading practices and the TTO average.

Institution 1 (example) compared with the TTO average



EXAMPLE

Institution 1 (example) compared with best practices



EXAMPLE



## *Creating a culture of innovation*



- Revamping the organisation for innovation
- Using technology to drive ambidextrous innovation
- Innovation begins with consumers
- Making innovation local
- Giving consumers their say
- Opening innovation to supply chain partners and beyond

Source :Growth reimagined Prospects in emerging markets drive CEO confidence PwC 14<sup>th</sup> Annual Global CEO Survey

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“Running to Stand Still ....”

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## ***Contact us***

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**For further dialogue, please  
contact:**

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# *Thank You*