

Using innovation to increase accessibility

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Agenda

1. What drives innovation in healthcare?
2. How easy is innovation?
3. Innovators and their mantras
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

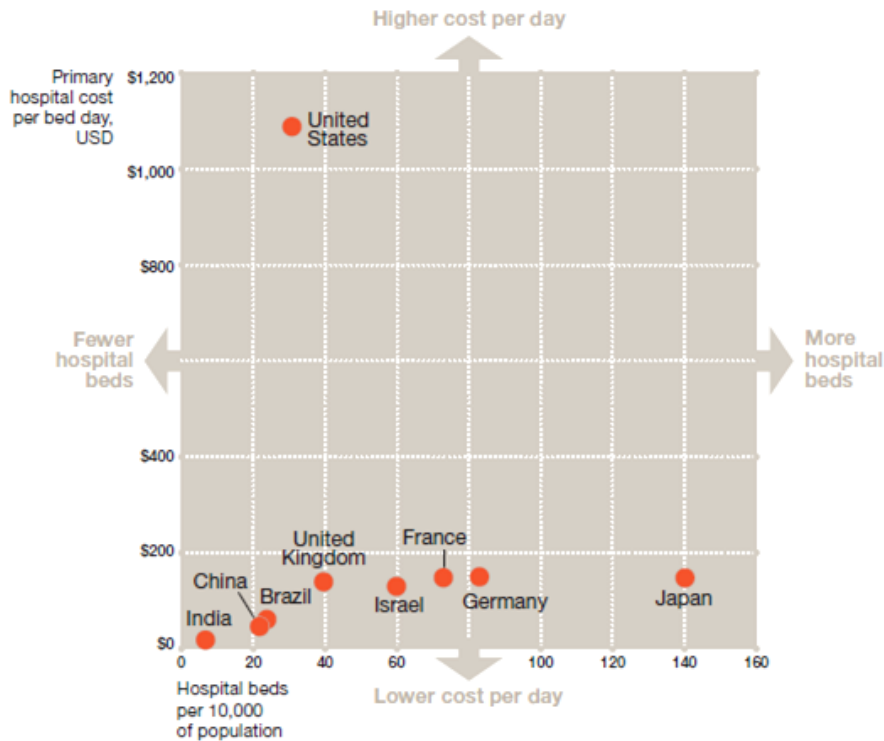
What drives innovation in an emerging market?

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 diseases
- 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



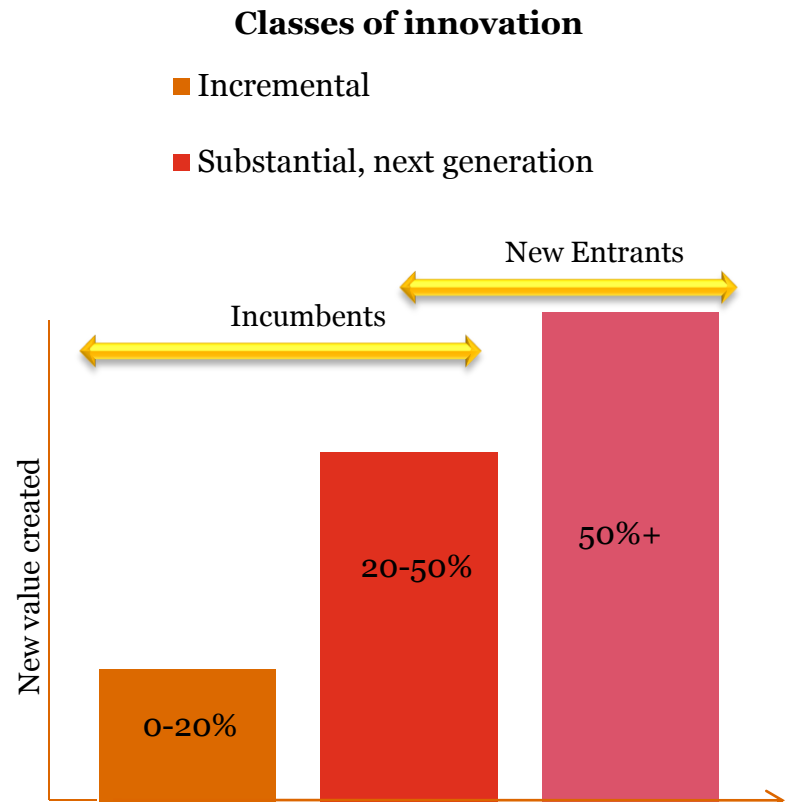
Source: World Health Organization

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

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

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 mantras

3

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.

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.

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.

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

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

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.

MicroBusiness 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.

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.

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.

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)

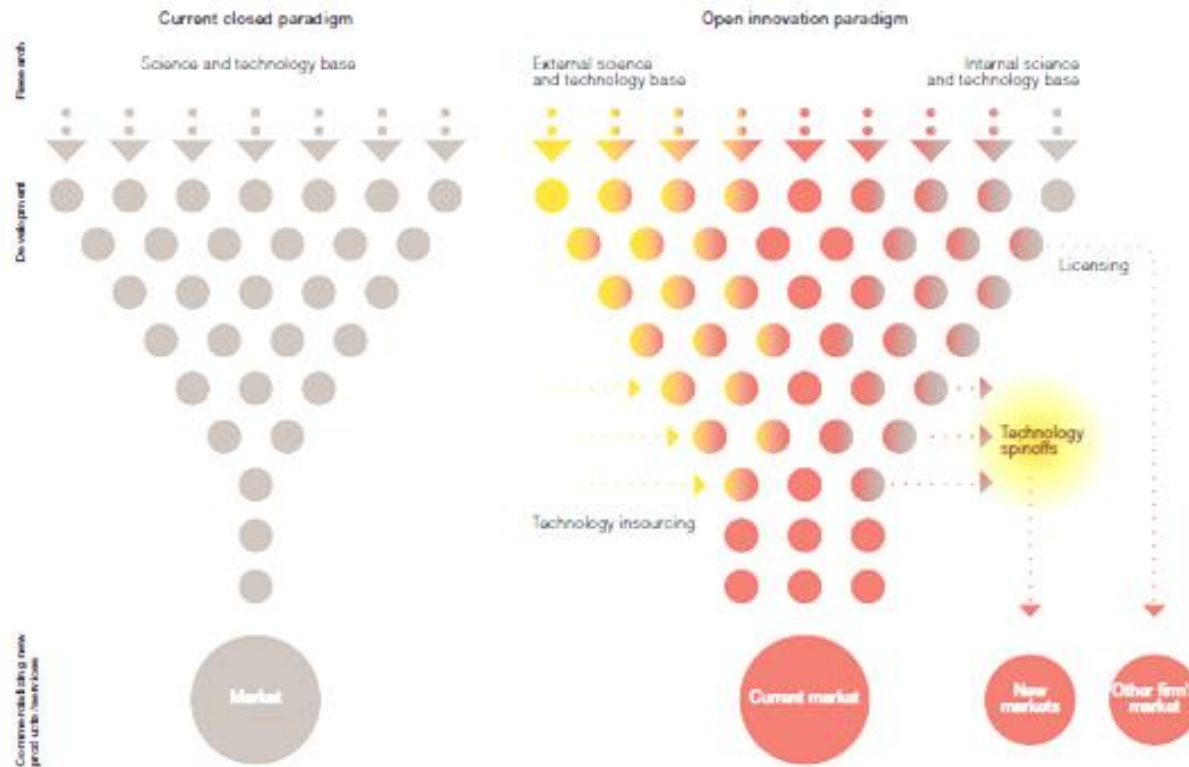
Note: Expectations regarding companies' innovation over the next 3 years

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.

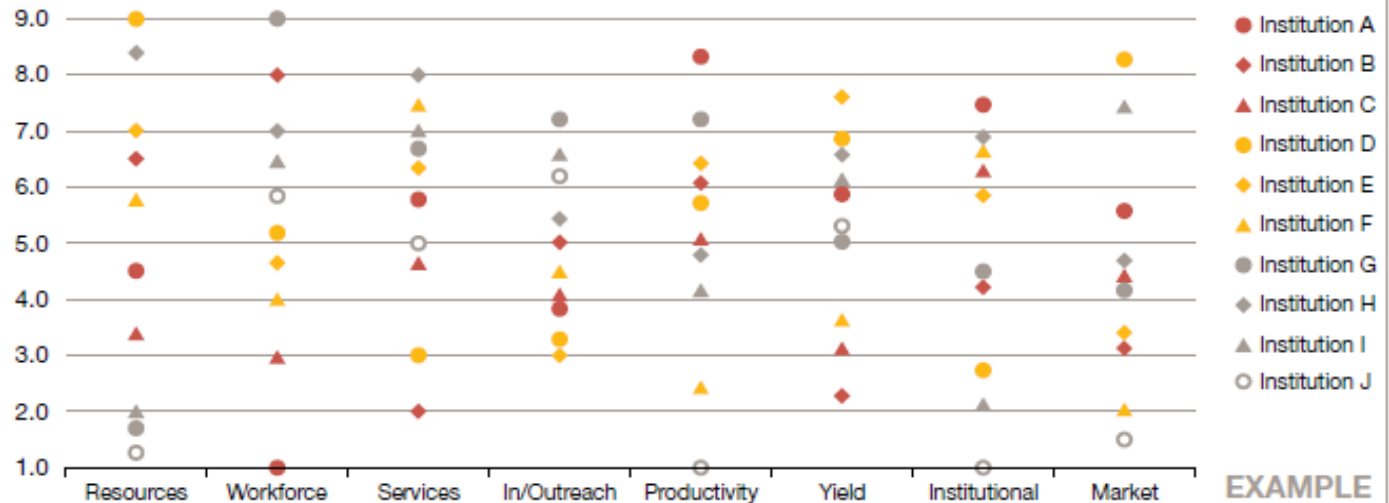
Can we measure innovation?

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

Scoring innovation

B) Scatter chart

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



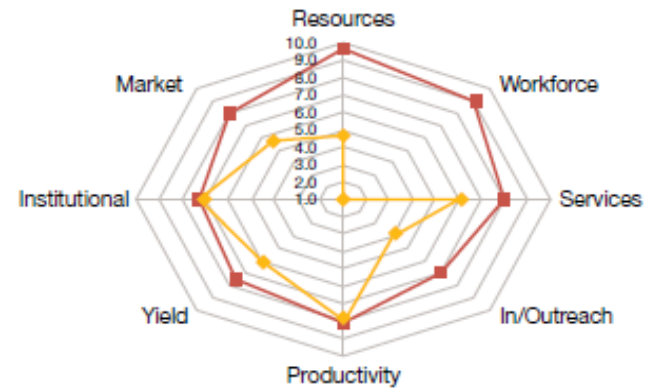
C) Radar graphs

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



Institution 1 (example) compared with best practices



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 14th Annual Global CEO Survey

“Running to stand still”

Contact us

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Thank You