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SMAC the Internet: App Economy & the Indian IT/ITeS Industry

**Dr. Anupam Khanna. Chief Economist
Indian Telecoms Last Mile Conference
ICRIER, New Delhi, March 7, 2014**

About NASSCOM

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Represents IT, BPM, Products, ER&D Industry

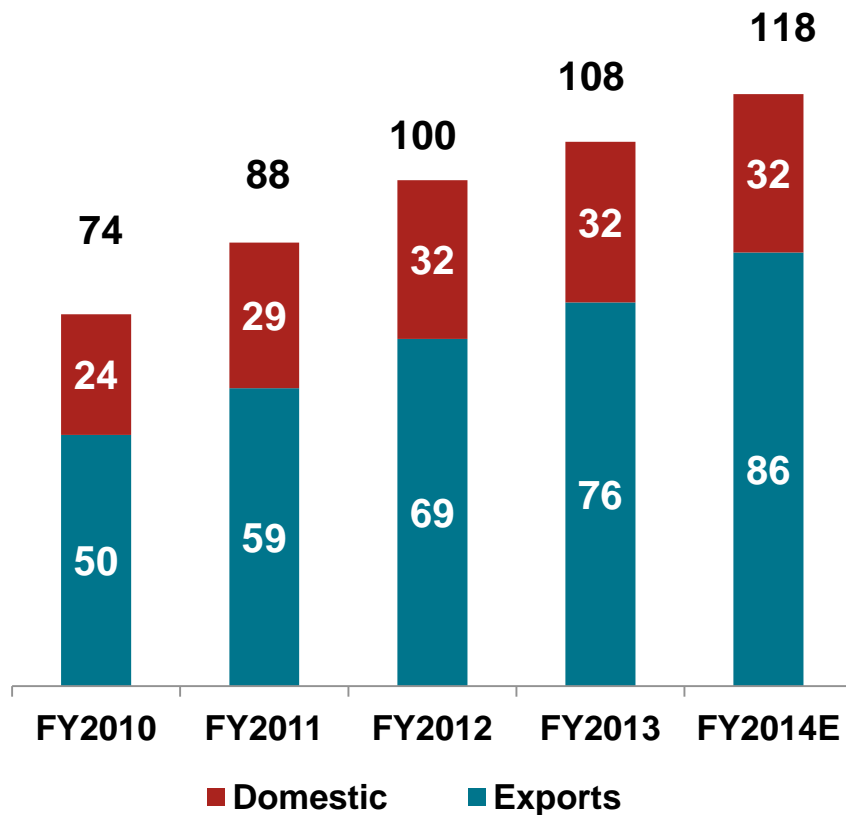
Over 1,300 members – Includes Indian firms, MNCs and GIC units

- **Policy Advocacy** – Partnership with the Government
- **Industry Development** – Research, Events, Forums, Market development
- **Enabling Environment** – Entrepreneurship, Innovation, Resource building, Security initiatives, Infrastructure
- **Global Trade Development** – Policy advocacy, Market development, International Partnership, WTO/Bilateral engagements
- **Sustainability** - CSR initiatives, Gender inclusivity, Driving Inclusive Growth, Green IT Initiatives



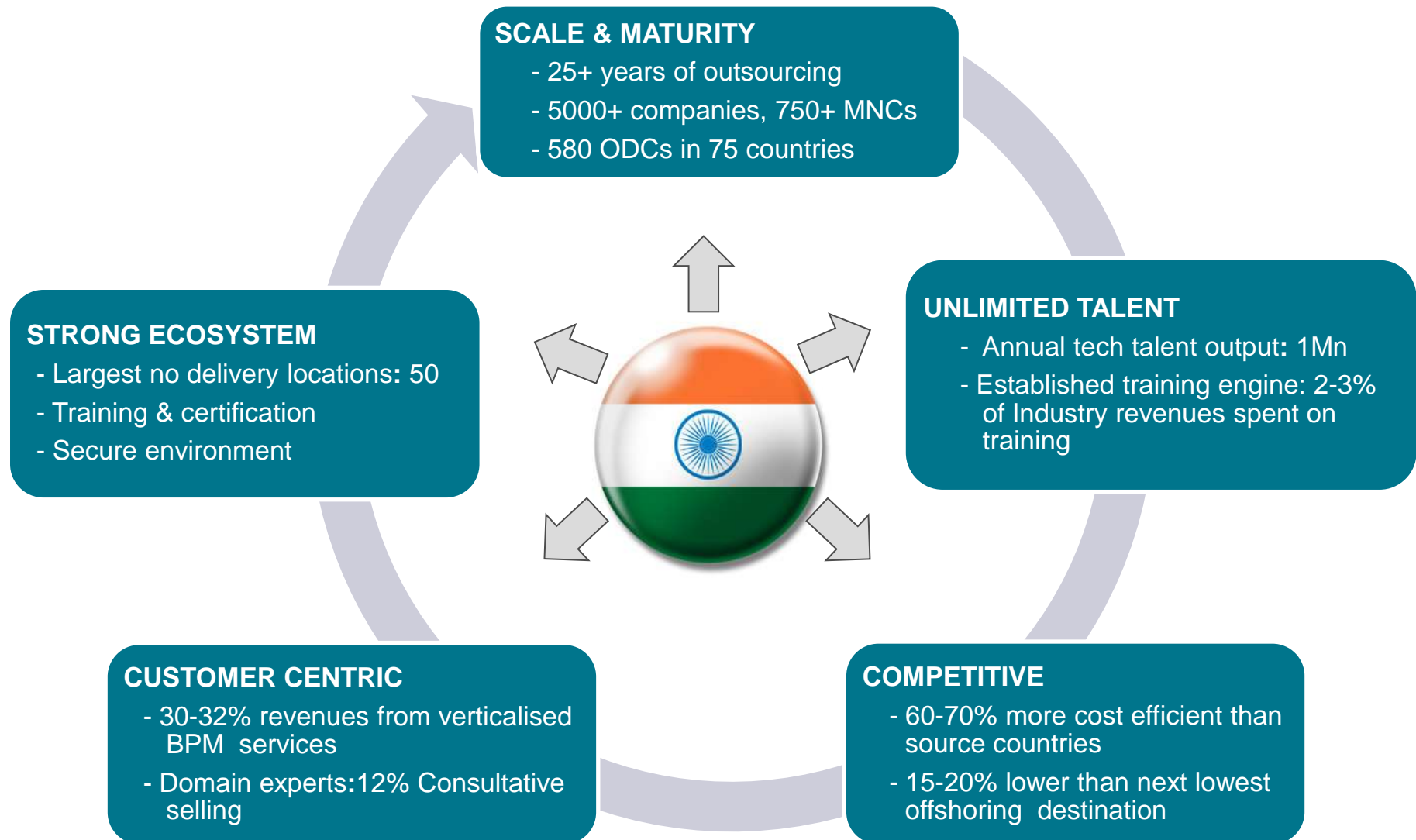
IT-BPM Industry – resilient, growing, evolving

IT-BPM revenue break-up
USD billion



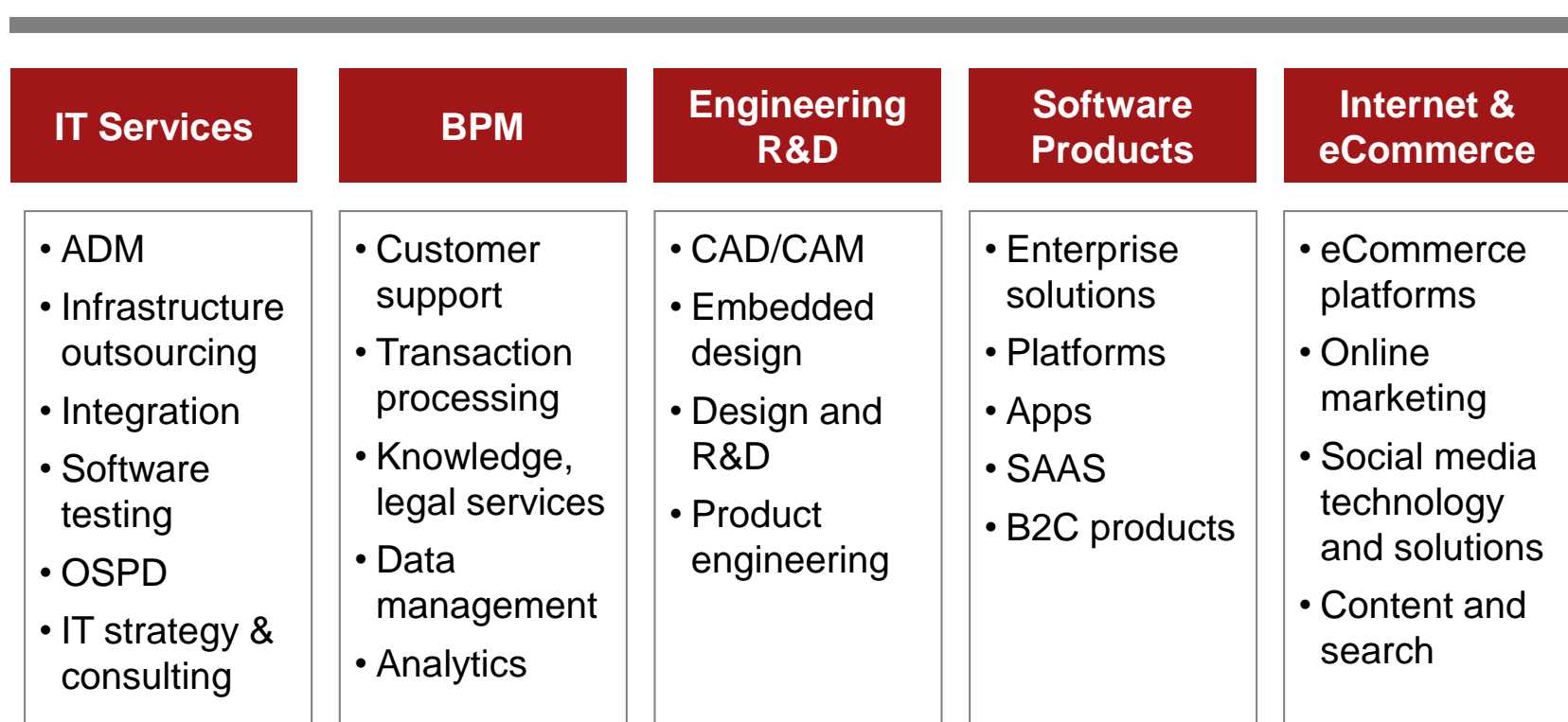
- Industry expected to aggregate **USD 118 billion** in FY14. Growth reflects variable impact of currency
- **1.7X** growth in the last 5 years – **USD 50 billion** added; CAGR of **12.4 per cent** in last 5 years
- Software and services revenue in FY14- **USD 105 Billion**
- Revenues from **SMAC: 5-10 per cent** of revenues
- Reinforces India's position as the one country from where you can do everything

Why India is a preferred destination



Services portfolio continually expanding

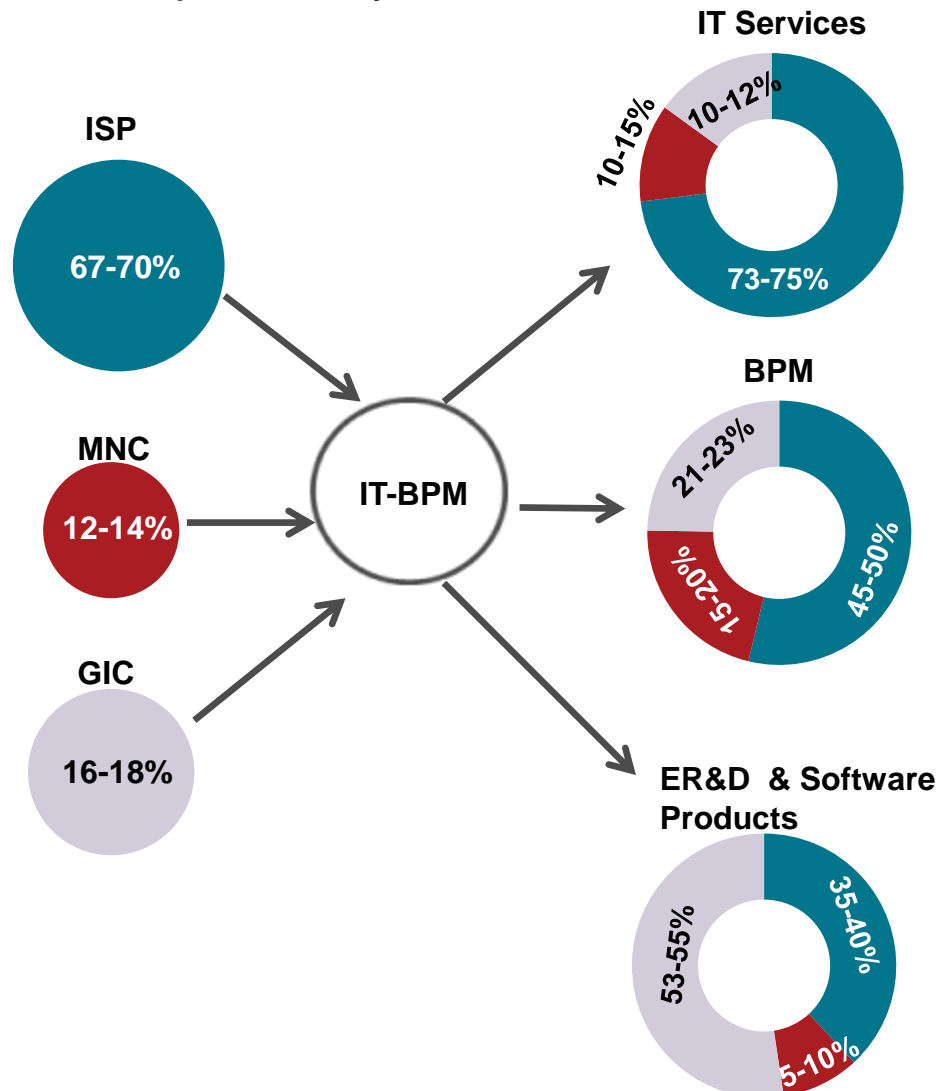
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Only country in the world with the capability to provide complete end to end services in IT, BPM, Products and ER&D

Industry represents a heterogeneous mix of Indian and multinational firms

IT-BPM Exports Industry Structure, FY2012



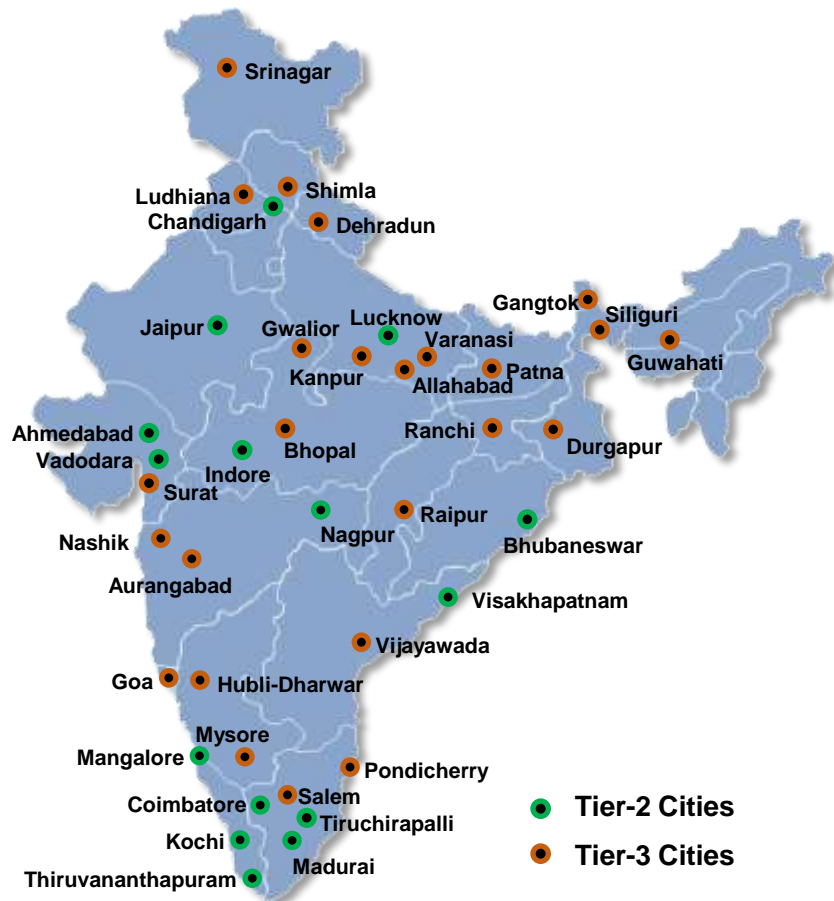
Category	Players (nos.)	% of Export Revenues	% of Total Employees
Large - sized	11	47-50% > USD 1 billion	~35-38%
Mid-sized	85-100	32-35% USD 100 mn- 1 bn	~28-30%
Emerging	~ 450-600	9-10% USD 10 million- 100 million	~15-20%
Small / Start Ups	> 4,000	9-10% <=USD 10 million	~15-18%

ISP: Indian Service Provider, MNC: Multinational Company, GIC: Global In-house Centre

Source: NASSCOM

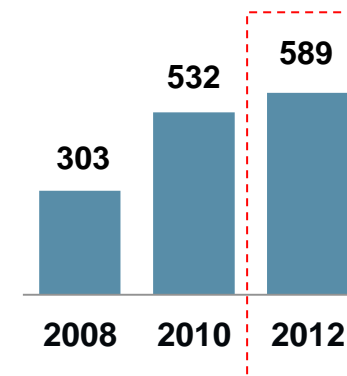
New emerging centres

Tier-2/3 cities in India



Tier-2/3 cities account for around 30 per cent of all operational IT SEZs

IT-BPM SEZ Unit Growth*



*Formal Approvals

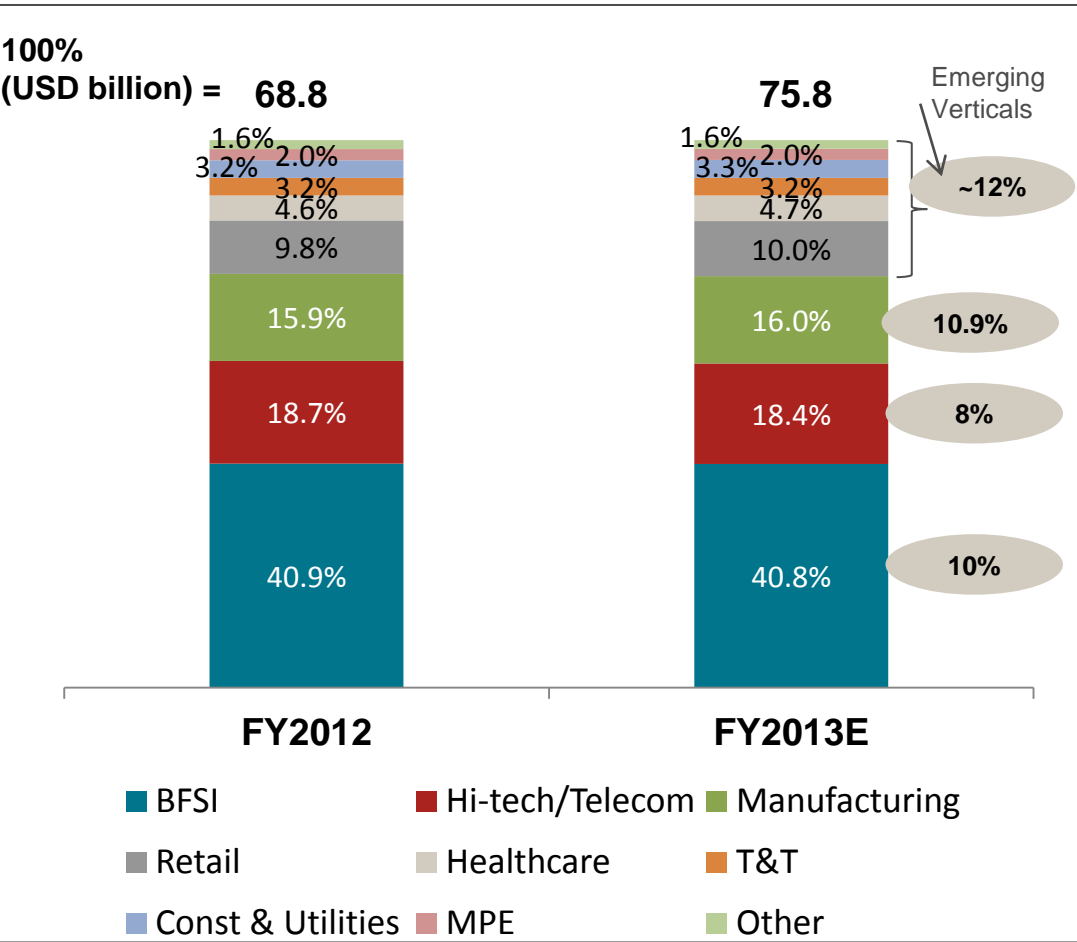
Source: NASSCOM; SEZ, India; KPMG Analysis; ITP Division, MoEA, Govt. of India

Advantages offered by Tier-2/3 Cities

- Availability of Knowledge Pool
- Lower Operating Cost
- Government Support and regulation
- Developing Infrastructure

Emerging verticals - main growth driver at ~12 per cent **NASSCOM®**

Vertical-wise* Break-up



Key Trends

- Mature outsourcing verticals - BFSI, manufacturing and telecom contributed over 75 per cent of exports
- Emerging verticals retail, healthcare and utilities- 2X growth from mature verticals
- BFSI at 10 per cent growth slightly below industry, pipeline strong

E: Estimate; *Excludes hardware exports
T&T: Travel & Transportation, MPE: Media, Publishing & Entertainment; Others: Include Government, Education
Source: NASSCOM

Entrepreneurial startups infusing energy and innovation

Diverse start-up landscape (Number of firms)

Emerging players
~1,000-1,200

Small sized
~15,000 players

~500

eCommerce

~400+

Education

250+

MPE,
Retail, Travel &
Hospitality

120-150

Telecom, Real
Estate
Manufacturing

100+

Agriculture, BFSI,
Energy, Govt,
Healthcare

Increase in start-ups focusing on solutions around SMAC

~150-200

Hardware and
Devices

~750-800

Internet/Web

~800-900

SMAC

- ~3X growth in new firms set up post 2005
- Bengaluru – one of the Top 20 startup ecosystems globally
- Verticals- Education & retail gained significant traction

Collaboration between large companies and startups

The digital wave - defining India, defining business

The SMAC Opportunity

USD billion

	2013	2016P
Social	16.9	34
Mobility	0.8	2.1
Analytics	18.4	44.2
Cloud	128	207

- SMAC reshaping businesses; consumers and all traditional approaches- the foundation for a Digital enterprise
- Consumerization of IT driving growth
- Start ups setting the pace in SMAC solutions

INDIA: FAST GROWING DIGITAL ECONOMY

920 million telecom subscribers

40 million smartphones

213 million internet users

India 3rd fastest growing app market

300 million+ app downloads

INR300 crore+ app market

Ecommerce revenues in 2013- USD 13 billion
4 year CAGR growth- 36 per cent

“SMAC” – Social Media, Mobility, Analytics and Cloud reshaping the future of the Indian IT Industry

Mobile payments Smart cities Connected Health Pivot merchandising
mBanking mHealth Smart Buildings mGovernance Platform-as-a-Service

■ SMAC, is becoming a business reality

- ✓ Social, mobility, analytics and cloud are reshaping the business, the consumers and all traditional approaches, Indian Industry has seen till now
- ✓ Movement towards the next orbit of innovation with consumerization of IT
- ✓ Opportunity to move to higher-margin business by offering creative solutions
- ✓ Help businesses grow dynamically instead of increasingly cutting margins for typical IT contracts
- ✓ Launching luxury product lines that comprise the SMAC suite of technologies to go the next level

■ Huge potential for revenue generation

- ✓ IDC Indian IT vendors expected to generate over \$225 billion in SMAC related revenue by 2020

Drivers/ factors contributing to the
changing landscape of Technology

Transformation
Remodelling business processes
through harmonizing technology
advancement

Client- specific outcomes
A meaningful change in the business
requirements i.e., end-to-end solutions

New paradigm for business
Efficiency, Enhanced customer
experience, Reduced time to market,
Connectivity, IT Consumerization

Impact is highly evident

- Create a new digital operating model and transformation to a permeable enterprise
- Engagement with a growing digital ecosystem
- Empower enterprises to embrace emerging technology trends and to benefit from the value expectations of customers
- Innovative thinking in business and enterprise architectures

SMAC: Driving incremental growth

SOCIAL

- For a global communications and high-tech firm
- Service provider designed a social networking capability, based on Salesforce.com Chatter platform

Benefits

- Better collaboration, easier access to sales-related content in real time
- Platform to share best practices; provided direct feedback mechanism
- Access to enhanced peer-to-peer networking and collaboration
- More client-facing time and improved reuse of existing collateral
- Improved performance and sales training programs

MOBILITY

- For a telecom service provider
- Mobile wallet service for India market where banks and similar institutions have lesser penetration than mobile

Benefits

- Consumers can conduct transactions at various eCommerce portals
- Pay bills, recharge accounts and shop at over 7,000 merchant outlets
- Conduct transactions online through multiple channels (mobiles, IVR S, ATMs, POS)

ANALYTICS

- For a national bank
- Create a credit card offering with rewards program to attract the young, professional demographic
- Service provider applied analytics on big data from sources (call centre, customer service emails, social media) to better understand customer profile

Benefits

- Bank developed new rewards program designed to appeal to upwardly mobile professionals
- Provided information for targeted promotions, incl. strategically placed social messaging, monitoring

CLOUD

- For a rapidly growing chain of hospitals in India
- All eight healthcare facilities connected by a private cloud

Benefits

- Enabled remote patient care - doctors remotely diagnose patients especially those in trauma without rushing to the hospital
- Timely diagnosis helping in getting immediate treatment to the patient

Mobility is setting new imperatives for operational efficiency and customer engagement

Enterprise Mobility – New strategic imperatives

- ❑ On demand channel for real time communication & connection between enterprises and customers in digital world
- ❑ Works with 2 strategic imperatives
 - ✓ **Enterprises to improve asset productivity**, profit margins, round the clock decision making, employee satisfaction and enhance brand presence
 - ✓ **Empower the customers through engaging experiences** and improved services quality through point of sale reach

To a Sales organization, mobile computing keeps salespeople out in the field talking to customers

To a Retailer, the same device that navigates a customer into a store can redirect the final sale to the competition

Enterprise Mobility – A profitable market

- ❑ Estimated to reach around USD 140 bn by 2020, a CAGR of approx 15%
 - ✓ North America, expected to remain the largest market
 - ✓ APAC expected to grow the fastest at ~21%
 - ✓ Existing spend of less than 5% on EM, expected to grow to 10-12% by 2020

To a Healthcare firm, a patient's vitals and behaviours may be constantly monitored, to increase the effectiveness of treatment

Enterprise Mobility – Growing opportunities for India

- ❑ India, expected to be a big market; capabilities need to be aligned in the right direction
 - ✓ Players need to build capabilities quickly – as market consolidates
 - ✓ Traditional IT players to add application development capabilities to offer more holistic end-to-end solutions
 - ✓ Need for consolidation to implement EM solutions across entire ecosystem
 - ✓ EM going forward, to be viewed from holistic approach of **cloud+ social+ mobile + location** powered with big data to explore new business opportunities

To a Bank/ FI, the mobile phone solution is a new wallet that could make the credit card obsolete

Enterprise Mobility- Impact

Indian providers are creating new business streams, enabling consumerization and enhancing process through mobility

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EM in Retail

- ✓ Shopper stop- customer service through connecting devices
- ✓ Pantaloon- Store operations effectiveness

EM in BFSI

- ✓ CanvasM technologies- Enabling wider reach of banking to the remote areas through Saral Dhan

EM in Healthcare

- ✓ Attinad Software- offering first of its kind mobile patient management solution for cancer

EM in Oil & Gas Industry

- ✓ Attinad Software- Mobile version of the electronic permit to work for better performance and control on the process



New Business Streams

- Mobile enabled business processes
- Creation of new revenue streams around mobile technology e.g., Surveillance and monitoring, e-governance, Patient Care, Supply Chain Management solutions



Consumerization

Enterprise Mobility

- Enhanced customer service delivery model
- Reaching customers at the point of sale through solutions like m-payments, m-commerce, m-retail, m-banking, mhealth and similar apps

Process Enhancement

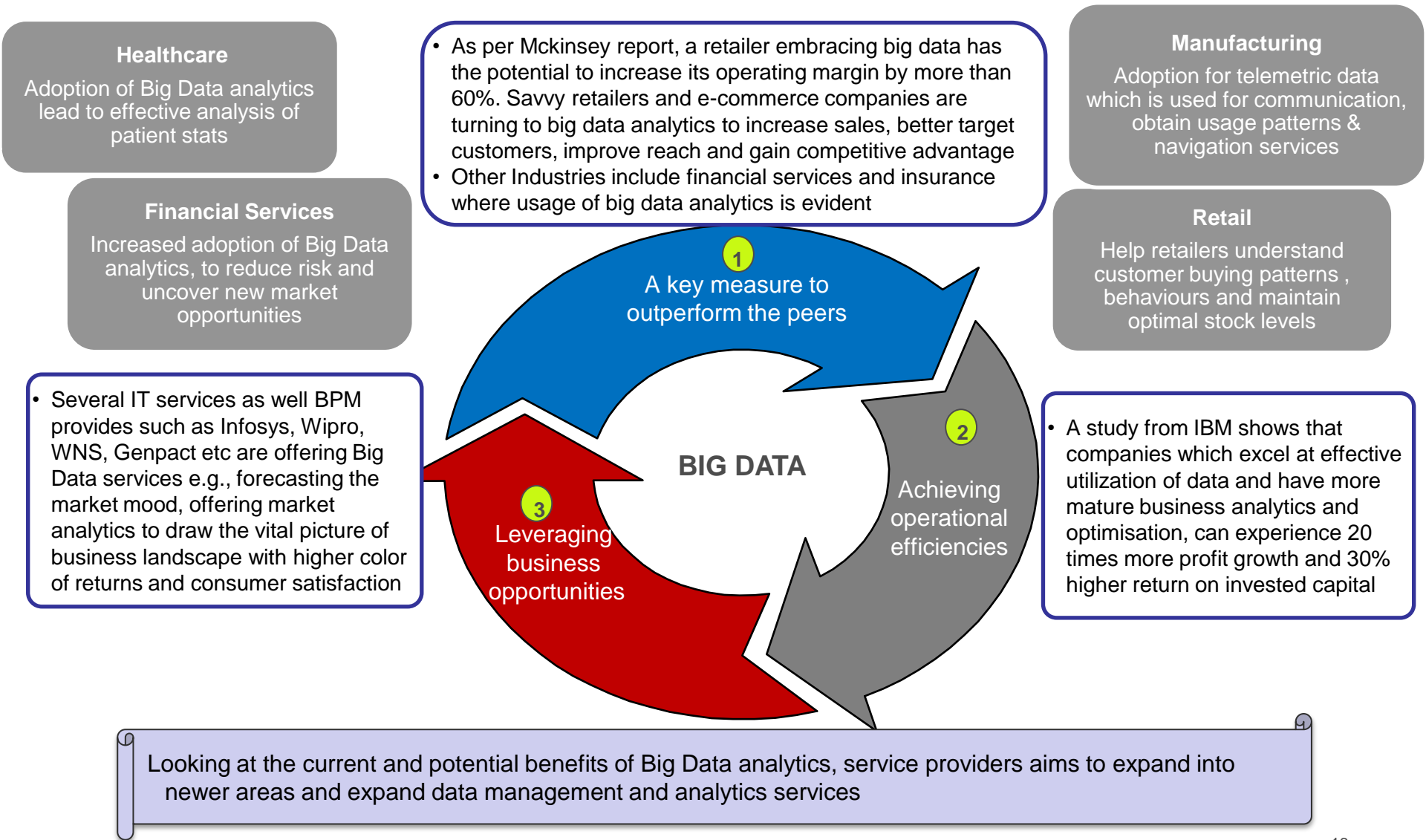


- Enables faster decisions on “GO”
- Making available Real time data from Enterprise to Edge e.g., Sales force, Field service, CRM
- Improves Sales cycle, Enterprise resource planning, Business intelligence etc

As mobile technologies become more mature and pervasive throughout an industry, there is a gravitation away from standalone solutions focused on specific functions to more broad and comprehensive innovative solutions *mBanking, mHealth, mRetail and mPayment have become part of the daily vocabulary of consumers and enterprises*

- **Big data- a new era in data exploration and utilization**
 - ✓ Uncovers hidden patterns, unknown correlations and other useful information
 - ✓ Rising impact on decision-making as analysis of data is as essential as business
- **Unfold 4 main broad objectives**
 - ✓ Derive meaningful insights for **innovative decision-making**
 - ✓ Improve **efficiency in business operations** by predictive analysis through usage and interpretation of voluminous data
 - ✓ **Competitive advantages over rival organizations** and result in business benefits, such as more effective marketing and increased revenues
 - ✓ **Customer centric outcomes** through uncovering and evaluating customers behaviour and buying patterns
- **Estimated to grow at 45% annually to reach ~USD 25 billion by 2015**
 - ✓ Indian Big Data industry expected to grow from ~USD 200 million in 2012 to ~USD 1.0 billion in 2015 at a CAGR of over 83%
 - ✓ North America, expected to provide the major opportunity
 - ✓ Emergence of niche start-ups and technological developments fostering growth

Consumers	<ul style="list-style-type: none">• Target segment identification• Buying patterns identification• Customer experience & loyalty management• Social media management
Operations	<ul style="list-style-type: none">• Productivity improvement• Process improvement• Streamlining operations
Product development	<ul style="list-style-type: none">• Innovative product/service development• Existing product/service improvement
Supply Chain	<ul style="list-style-type: none">• Supply chain interventions• Inventory management
Marketing	<ul style="list-style-type: none">• Cross-selling and up-selling• Innovative marketing• Advertising effectiveness measurement



Cloud adoption leading to improvement in cost along with virtualization through dynamic abstraction of IT services



NEW SERVICES

Market is expected to reach \$650-\$700B globally and \$15-\$18B domestic by 2020

Services

- Cloud consulting, system integration and cloud system operations capabilities
- Migration and integration of specific workloads onto the cloud and related process & integration design

CADM

- Applications development and management with focus on highly virtualized services
- Migration and enablement of traditional applications in cloud, custom development for cloud packages and applications maintenance

Software (inclg. Products)

- Shift from licensed to subscription based software deployment models
- Cloud enablement and software product development for ISVs
- Transition from basic service-oriented architecture to the way software is delivered (software as a service)

Testing

- Software testing services and management for complex testing environments and those requiring scalable test-beds

Hardware

- IaaS and cloud platform models
- Virtualized and cloud ready hardware as serve most on-premise needs

Impact is highly evident

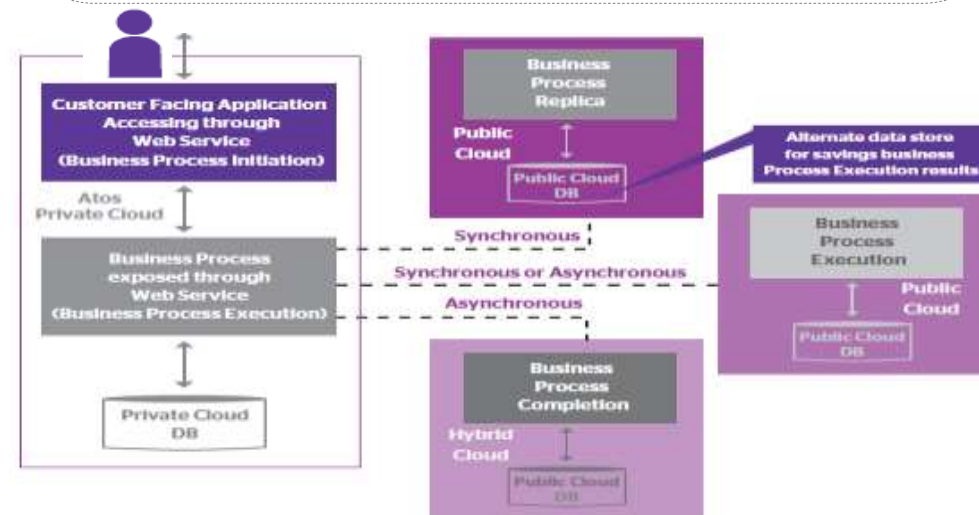
- **Business processes:** BPM solutions are modified to self-service, platform models enabled by cloud, and automated service delivery mechanisms offering value add to clients through pay-per-use-model, leveraging cloud as Business Process-as-a-Service
- **CADM/ Application Development:** Application software delivered as a service on cloud is gaining prominence with the advent of innovative solutions offerings with suitable pricing models
- **ER&D:** Virtualization has enabled efficient use of infrastructure/ engineering elements with adoption of Infrastructure as a service, computing platforms, data centers etc
 - ✓ Cloud penetration in hardware will show a major shift from 2012 (8% - 10%) to 2016 (22% - 24%)
 - ✓ IDC predicts 2013 will be a year of big jumps in SMEs business cloud use. Ecosystems of solutions that cluster around PaaS — will appear as "the most valuable real estate in the cloud."

Productizing services and monetizing existing CIS services- enabled by cloud adoption

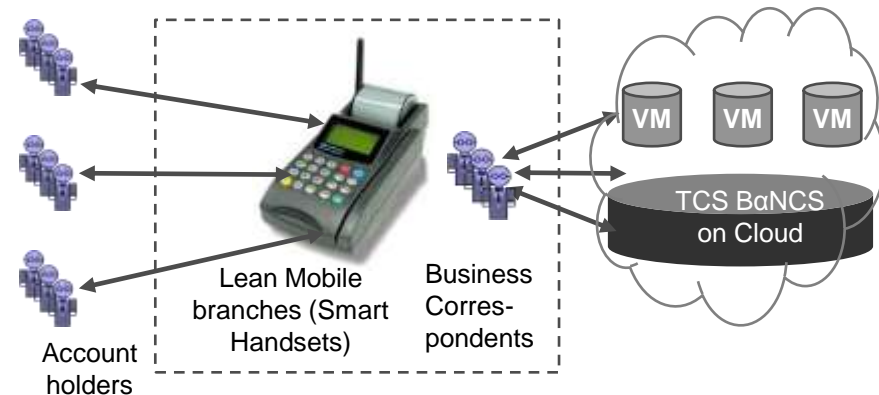
Illustrative Use Case: Enhancement of CIS through focus on core capabilities and rely on third parties for elements that do not constitute a competitive advantage

Enterprise's core business processes run across different clouds, requiring complex business transactions to connect to and span multiple and heterogeneous clouds. There is a need for a cloud-integration and delivery model that takes into account orchestration across clouds

- Ability to integrate applications built on various technologies (Java, .NET...) and collaboration between different protocols
- Managing transactions in a business process across different cloud environments
- Workload management and fail-over between Clouds. As cloud environments become more complex, customers can manage their cloud workloads better in an orchestrated environment



Illustrative Use Case: A new business model, enabled by cloud



Action

- Solution called TCS BaNCS adopted as a core banking solution with oriented architecture, making it amenable to the cloud
- C-EDGE is a joint venture between TCS and SBI to offer TCS's core banking solution BaNCS as a service to Regional Rural Banks through handhelds acting as point-of-sales terminals
- Select functionalities of the BaNCS provided on a monthly charge basis

Result

- Core services like term deposits, loans and overdrafts, cash credits, agricultural credits and subsidies are provided to banks at a low and predictable monthly rate
- Trade finance, remittance and foreign exchange services are also included
- Cooperative banks like Andhra Grameen Vikas Bank, Uttaranchal Grameen Bank and Purvanchal Grameen Bank are among adopters

Social media analytics- New way to integrate, analyze and enable clients to act

■ Social Analytics— segmenting big unstructured data (Social Media) on different dimensions

- ✓ Offers differentiated ability of **gauging customer opinion to support marketing objectives** and customer service activities
- ✓ Translate into a **revenue mechanism** that affects the profitability of the business
- ✓ Bring together **elements for thought process** based on the behaviour and buying trends of customers

■ Not a standalone activity, rather a part of digital marketing strategy

- ✓ Emphasis on 4 main imperatives- Listen, Respond, Engage and Nimble
- ✓ Influencer and follower model, positive as well as negative sentiments
- ✓ Marketing campaigns and strategies link to the ROI
- ✓ Build valuable leads of potential customers
- ✓ Intelligently identify USPs for better customer connection

■ An explosive growth opportunity for Enterprise Social Software with the market exceeding \$6.4 billion by 2016

- ✓ According to Forrester Research, spending on social business software is expected to grow at a rate of 61 percent through 2016

Brand Perception:

- To know what consumers are talking about a brand or product or services
- It is about analyzing the new trends in consumer preferences and taking feedbacks to improve on brand image and service offerings

Exploring Opportunities:

- Social media provides valuable data for business, along with a medium for conversation
- SMA tools enables to spot trends, opportunities and get insights, and to act by participating in conversations that are increasing ROI and operational efficiencies

Current trends and future outlook

Indian App / mobile Economy- facts

2nd largest mobile market and 8th fastest growing smartphone market with a 189% growth in 2012

Mobile subscribers were 1.6 million in 2000 and grew to 900 million by 2012, of which more than 44 million estimated to be smartphones

Mobile internet usage surpassed desktop Internet usage in May 2012. IAMA estimated the number of mobile Internet users to be 87.1 mn as of December 2012, with a large chunk of this number accessing apps on a daily basis

Represents a quarter of all mobile connections in Asia Pacifica with 900 million mobile connections - expected to rise to 1.16 billion by 2017

**With improved spectrum pricing and management, growth of mobile broadband service is expected to continue
3G and 4G adoption projected to increase by 31% between 2013 and 2017**

Smartphone penetration is 4 percent and is expected to grow to 25 percent by 2015

Classification of applications - basic, generic and industry specific

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1

Applications

Solutions that extend basic functionalities to the mobile

- Email
- Messenger
- Calendar
- Tasks
- Contacts

2

Generic Applications

Solutions which have applications across industries

B2E - Enterprise Resource Management
B2B - Supply Chain Management
B2C - Customer Relationship Management
M2M - Location Based Services

3

Industry Specific Applications

Solutions that are domain and company specific, often custom built or highly customized for an enterprise



Retail

- Mobile Commerce
- Point of Sale
- Coupons and Offers



Hospitality

- Digital Concierge
- In-Room Automation
- Customer Service



Financial Services

- Mobile Banking
- Loyalty Programs
- Financial Trading Systems



Media

- TV Everywhere
- Social Television
- Interactive E-books



Transportation

- Navigation / Telematics
- Airline Mobile Ticketing
- Automotive Apps



Public Sector

- Government to Citizen
- Smart Parking
- Education / Advocacy



Healthcare

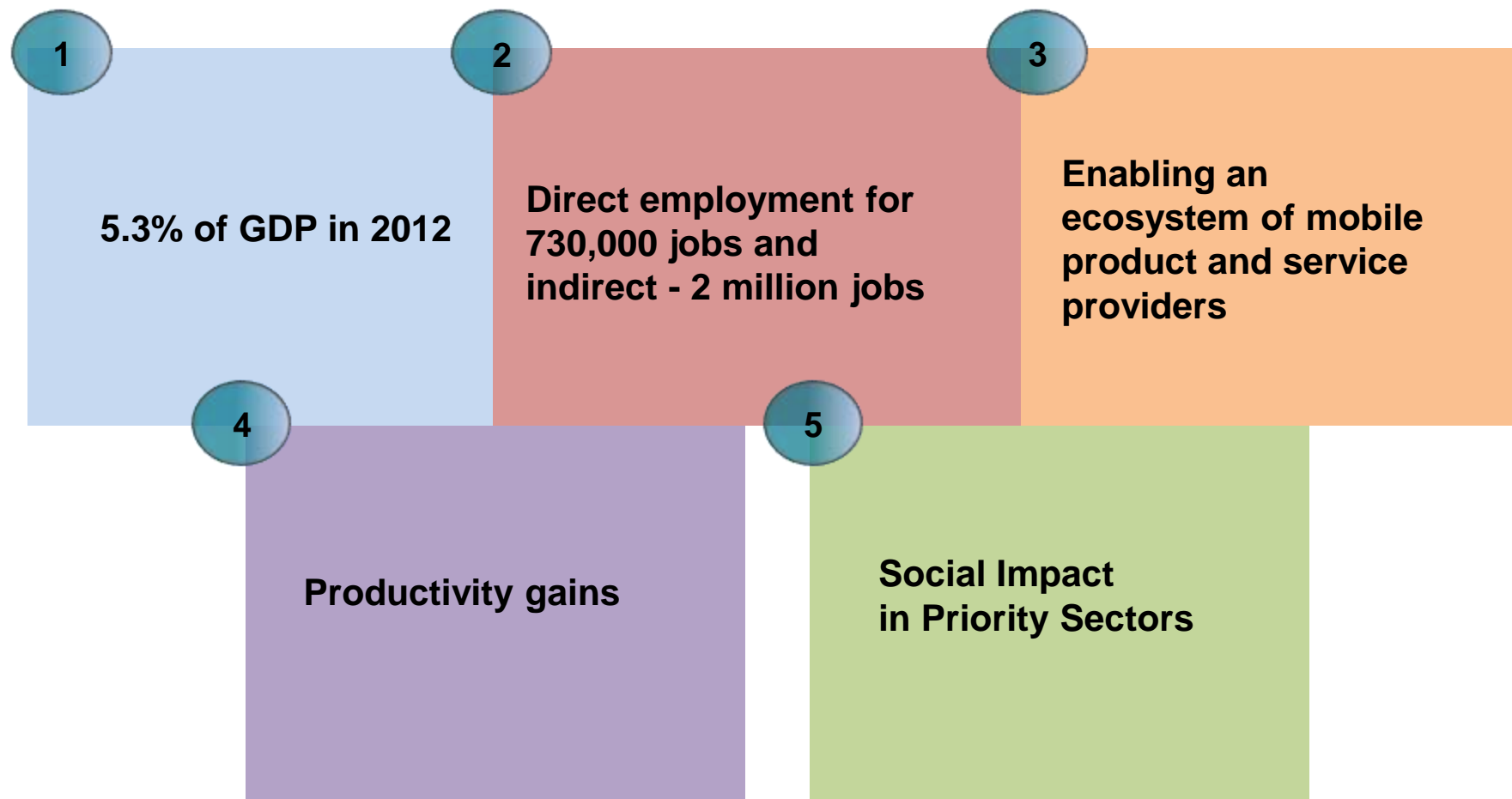
- Clinical Trials
- Salesforce Automation
- Tablet Electronic Records



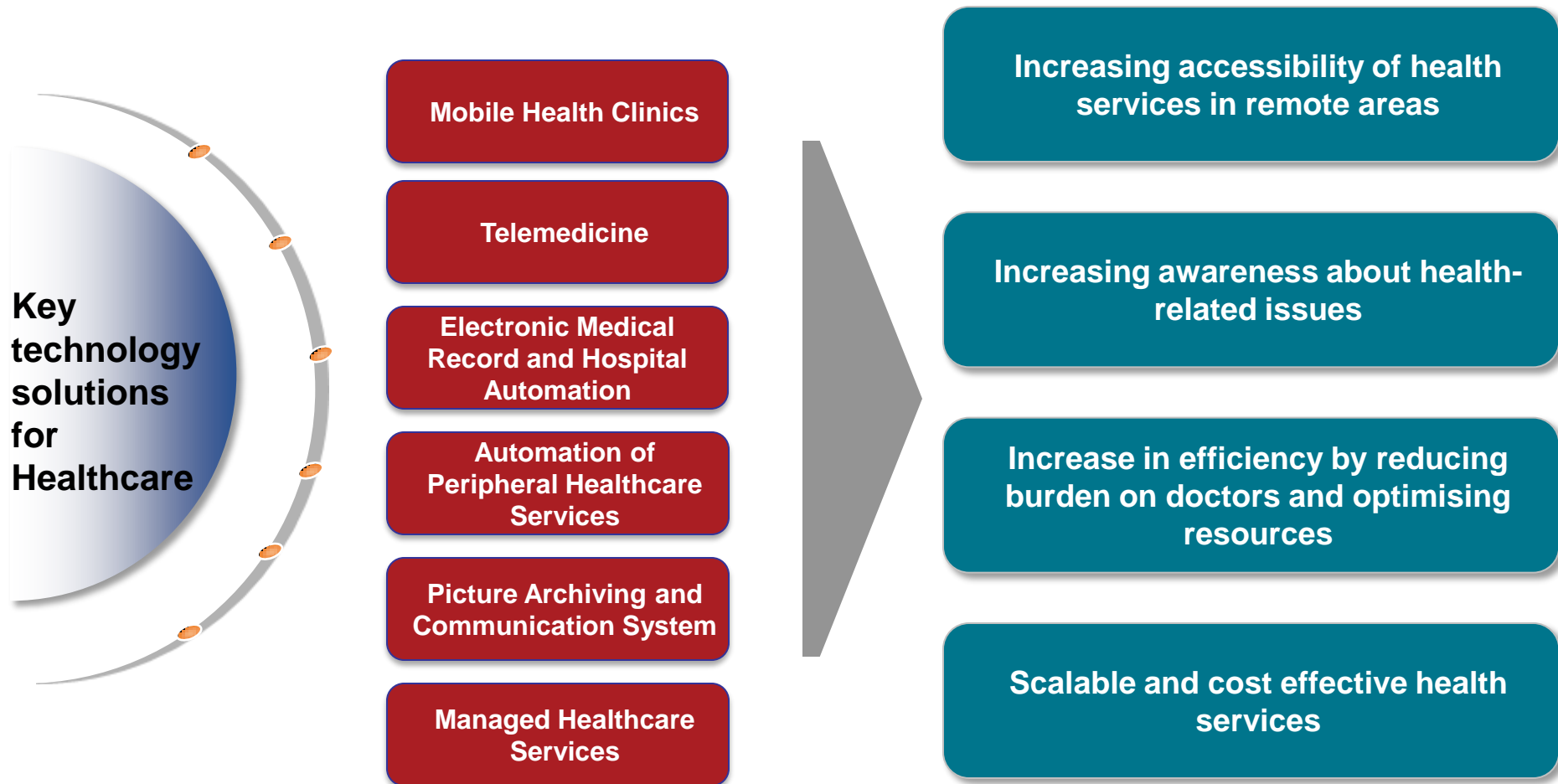
Telco

- Content Delivery
- App Stores
- Messaging

Mobile Ecosystem in India – Economic Impact



Healthcare: Improving accessibility & efficiency



Impact On Key Challenges - HEALTHCARE

Coverage / Access

- Saves travel time and improves retention rates for healthcare staff
- Remote diagnostic/treatment support
- Examples - Airtel's Mediphone service, Apollo Telemedicine Networking Foundation, Tata DOCOMO 'Sparsh

Communicable diseases

- Public health surveillance
- Patient monitoring / compliance
- Examples - Operation ASHA

Maternal and child healthcare

- Reduce mortality rates
- Educating and informing community workers who attend births and advise expecting mothers
- Examples - CommCare mobile app—powered by Dimagi, Vodafone's e-Mamta mother and child tracking initiative

Impact On Key Challenges – EDUCATION

Extending access to underprivileged communities

- Learning tools to empower teachers with new, engaging content - Vodafone Foundation with Pratham Education Foundation to deploy the 'Learning with Vodafone' Solution
- Self learning solutions - "hole in the wall"

Affordable education

- Providing content via the mobile channel
- Examples - Tata DOCOMO's Tutor on Mobile service

Improved quality of education

- Mobile can offer certification opportunities,
- Improve employment prospects in places where college education leaves graduates with only low quality skills

Banking and Financial Services: Increasing security and convenience for end users

**Benefit of IT-BPO
Products and
Services
on
Banking and
Financial
Services**

Internet Banking

**Mobile Bank
Branches**

ATMs

SMS/Mobile Banking

Phone Banking

**Customer Care
Services**

**Core Banking
Solutions**

Improving Security for both the User and the Provider

- Mobile and Internet Banking lower the requirement of cash handling
- Specialised security software ensure data privacy and security

Improving Customer Service

- Ease of information access and issue resolution through call centers
- Convenience due to higher responsiveness of online and mobile banking

Increasing Agility in Processes

- Enhanced efficiency in basic processes reduces number of trips to a branch
- User-friendly mobile/online payment solutions

Integration of Different Services and Processes

- Enhanced customer convenience due to integration of applications
- Ability to demand customised solutions on basis of the past track record

Mobile Banking

India's mobile banking customer base was 0.887 million in Sep '10

Mobile Banking

RBI guidelines have restricted the mobile banking transactions to INR 2,500 per transaction

Government as an Enabler

- Licenses for semi-closed wallet being issued to non-bank entities like Bharti Airtel and ITZ Cash
- RBI considering a dedicated clearing house for m-payments
- Considerations underway on m-pin based m-banking POS, mobile linked no-frills accounts using biometric authentication, etc.

Industry as an Enabler

- Mobile payment service providers (like Obopay) evangelizing the need for mobile money for banks like Yes Bank, Union Bank of India, etc.
- Following the success stories like M-PESA in Kenya and M-KESHO in Africa, M-PESA has been introduced in India by Vodafone and HDFC Bank

IT as an Enabler

- Mobile-based branchless banking platforms are being adopted by the banks, e.g. A Little World platform by SBI
- Large databases of information are available enabling automation of services like IVR

Impact On Key Challenges – FINANCIAL SERVICES

Increase access to financial services

- Access to poor
- Mobile micro-savings accounts

Government initiatives enhancing benefits for citizens

- Means of operating a secure, low-cost, time-efficient welfare disbursement system
- Facilitating e-Government and supporting disaster relief efforts

Potential impact and requirements for support

- Potential to serve 250 million people by 2020,
- Raising the adult financial inclusion rate to 65 percent

Retail Industry Growth Drivers

Business Trends

Increasing maturity of unorganized sector

Rising number of malls and supermarkets

New players entering the market, existing players rapidly expanding

Innovative store formats: community shopping, wedding malls, etc.

Companies establishing presence on the internet/online platform

Private brands/labels by big retailers

Technology Drivers

Need for Technology

Ensure faster and efficient transaction

Network all offices and outlets of the company

Enable an efficient supply chain network

Improve customer service

Address security at all levels

Finance & accounting and HR

Provide remote training to employees

Consumer Trends

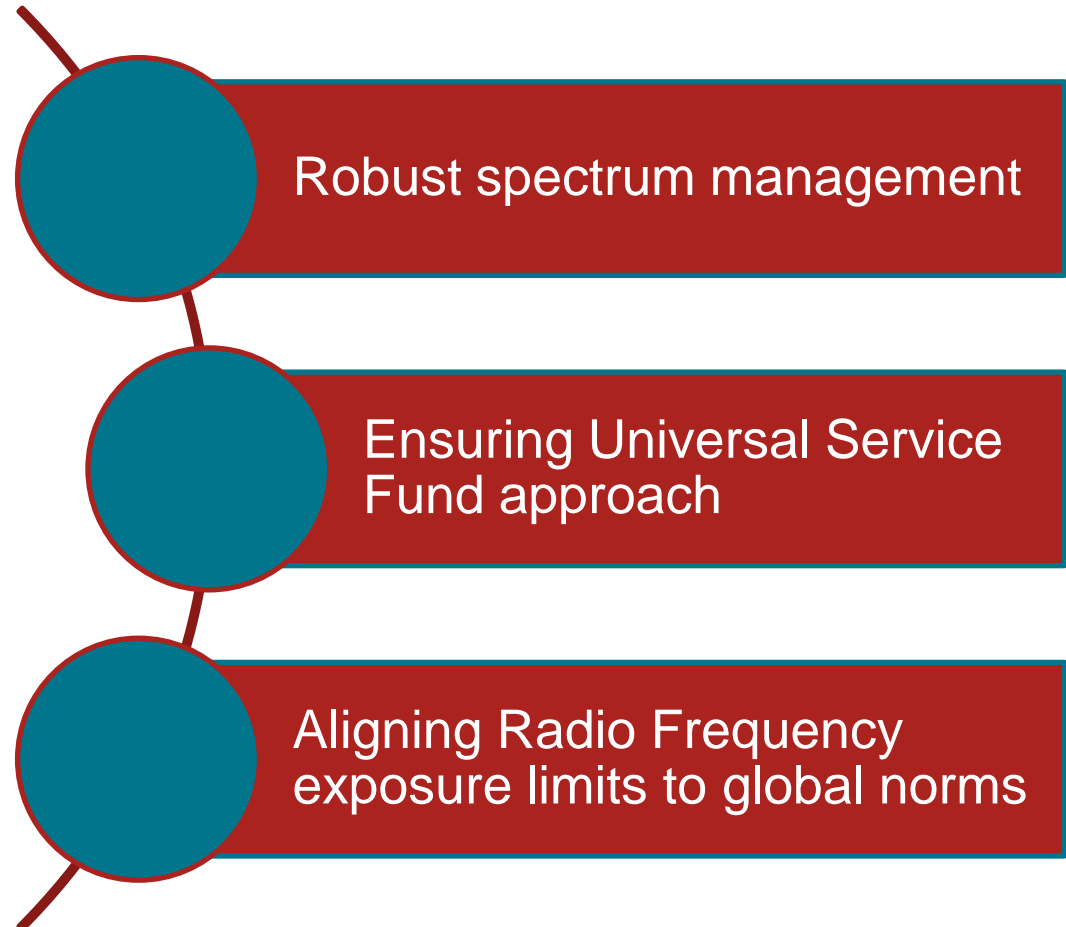
- ✓ **Payments** - Monetization of apps becoming easy
- ✓ **Information** - Easiest channel to disseminate information in short time – eg Mobond
- ✓ **Social** - Social connectivity through mobile app targeted as young population
- ✓ **Local** - Ability to reach remote and isolated areas - massive jump in number of smartphone users in tier-3/tier-4 towns in India

Policy challenges

Ecosystem - Stakeholders

- ✓ **Consumer**
- ✓ **Developer**
- ✓ **Telecom companies**
- ✓ **Employers**
- ✓ **OEMs**

Policy Framework



Hypermobility...but only for some ??

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- Mobile Financial Services: EKO
- Mobile Phones for Data and Text
- Rural Development: Ekgaon , Nano Ganesh
- Health Diagnostics (Avoidable Blindness): 3nethra
- Public Health (Maternal & Child Health): e-Mamata
- Travel Services: iXiGO
- Unique Identification System: Aadhar

Blindness

A Global threat

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Problem

- Blindness is a Global threat to health and productivity
- Of the 39 Mn blind people in the world **12 Mn** live in India
- Africa has approximately **19%** of the world's blindness
- **80%** blindness caused due to –
 - *Cataract / Glaucoma / Refractive Errors/ Diabetic Retinopathy/AMD*
- Of the **60 Mn** Diabetic patients in India **20%** will develop diabetic retinopathy



80% of blindness can be prevented if pre-screened

Challenges

- Scalability – Low Patient-to-Ophthalmologist ratio; 1:70000 in India
- Affordability – Expensive devices which require trained ophthalmologist
- Rural reach – Only 7-10% of the people are screened on time
- Awareness – Lack of awareness about detecting eye disorders early

An Effective Pre-screening tool is the Unmet need!

Forus 3nethra

A Pre-screening Ophthalmology Device

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3nethra is an affordable multi-functional portable ophthalmic imaging system



Cornea Imaging



Retina Imaging

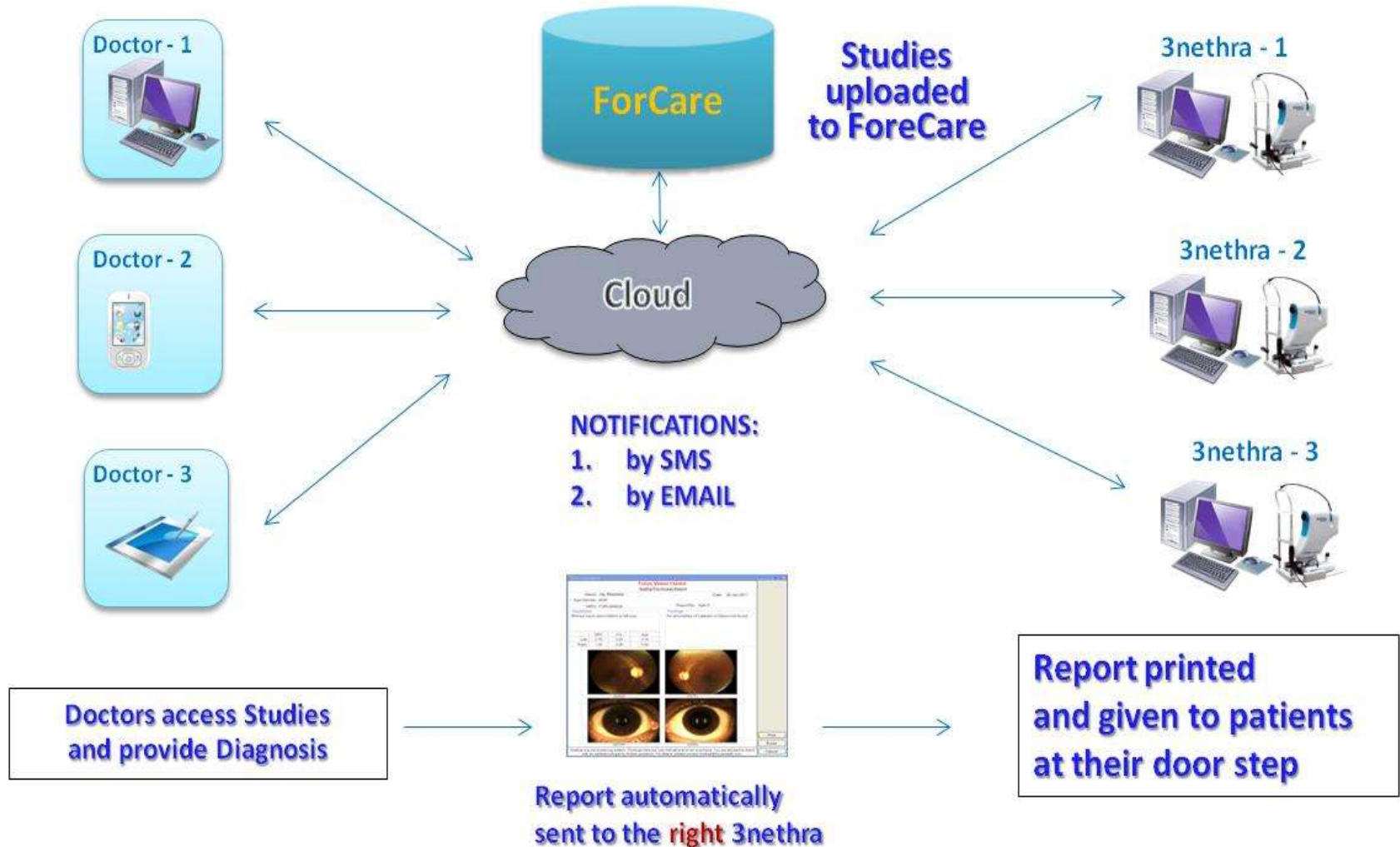


Refractometer



3nethra
A Forus Health Product

3nethra Pre-screening in Rural India



Gleanings from Recent Academic Research

- How is Mobile Internet Different? (*Ghose et al*)
 - Ranking Effects Higher: Suggests Higher Cognition Load
 - Higher Benefits from Browsing Geographically Closer Markets
 - More Recent Posts More Likely to be Clicked
- Mobile E-Commerce (*Einav et al*)
- Mobile Money Services (*Gutierrez & Choi*)
 - Possible at widely different stages of Financial Development
 - Requires a Vibrant & Competitive Telecommunications Sector
 - Regulatory Framework Need Not be Very Sophisticated
 - Some Critical elements in Legal Framework
 - Electronic Signature Law Support for Retail Payment Services