



ICT Adoption in Healthcare Industry – India

August 2011

Executive Summary

Market

- Healthcare spending as a percentage of national GDP has grown from a1% FY 20-- - - - to b1% FY 20-- - - -
 - Indian healthcare industry is estimated to grow from the current INR c1 bn (approx.) to over INR d1 bn by 20--
- With over x1% annual growth in volume, the healthcare industry is on the threshold of a booming business

Drivers & Challenges

Drivers:

- Greater Scope in Untapped Market
- Increased Quality & Success Rate in Treatment
- Storage & Accessibility of Citizens' Health & Identification Information

Challenges:

- Cost of implementation
- Migrating from Legacy technology
- Dearth in Tech Savvy Medical Personnel

Trends

- Indian healthcare industry's spending on IT is expected to go from the current INR y1 mn to upto z1 bn annually by 20--
 - IT spending within existing infrastructure1 in India is expected to grow at a CAGR of m1%
- Condition1 is a driver for healthcare companies adopting cloud while condition2 is one of the impediments working against it
- Ministry of Health and Family is computerizing basic information systems at infrastructure3

Competition

Major ICT Vendors

Major ICT Vendors			
Company 1	Company 2	Company 3	Company 4



• Introduction

• Healthcare Market - Overview

- Drivers & Challenges

• ICT Market - Overview

- Key Technical Enablers & Barriers
- Scope of ICT in Healthcare
- ICT Selection Criteria
- ICT Solutions for Healthcare

• Role of Cloud in Healthcare

• Government Initiatives

• Major ICT Vendors

• Major Healthcare Players in India

• Case Studies

• Strategic Recommendation



Background

Why ICT?

- Information Communication & Technology (ICT) is the science & art of using element21, element22 & element23 collectively or semi-independently
- IT operations have put India on a global map & they compete with global companies in terms of aspect21 & aspect22
- Vast amount of aspect23 available in the country with aspect24 related to ICT or IT

India's IT sector has vast IT a2, b2 & c2

Why healthcare industry?

- Healthcare is a booming industry in India
- With aspect25, aspect26 & aspect27, result21 & result22 healthcare is the need of not only today but also of the future
- Growing numbers of foreign citizens visiting India for healthcare needs gives the country an opportunity of larger market base
 - India's doctors are regarded as one of the best in the world & thus attract patients from all over the world

Healthcare industry is growing sector as it is the need of urban & rural India and a large number of foreign citizens



m3 for urban & foreign patients are sufficient whereas for rural citizens it's below par

Market Overview – Healthcare Industry (1/3)

- Approximately n3% of India's population who resides in area1 are deprived of p3
 - Only q3% of the personnel1 live in semi-urban area and a mere r3% reside in rural areas
 - Increase in income can be seen in rural areas as well & hence healthcare needs are rising in rural areas
- Urban population is well covered with basic & intermediate healthcare services but it demands service1 & service2
- Foreign nationals are visiting India more & more for healthcare services
 - India is regarded for its quality healthcare at low cost
 - Cost of service3 in India is around s3% of the cost in country1
- Almost t3% of product1 for private infrastructure1 is imported
 - Peak import duties have been lowered to bring India in line with institution1 norms

Country Snapshot - India

<i>Total Population</i>	a3 bn
<i>Middle Class Population</i>	b3 mn
<i>Human Development Index Score</i>	C3
<i>Human Development Index Rank</i>	#d3
<i>Healthcare Allocation in Budget</i>	INR e3 bn
<i>Total Expenditure on Health Per Capita</i>	INR f3
<i>No. of Hospitals</i>	G3
<i>No. of Medical Colleges</i>	H3
<i>No. of Medical Graduates Per Year</i>	J3
<i>No. of Nursing Colleges</i>	K3
<i>No. of Pharmacy Colleges</i>	L3

Source:



Drivers & Challenges – Summary

Drivers

Greater Scope in Reach & Service Delivery

Increased Quality & Success Rate in Treatment

Improved Pharmaceutical Manufacturing

Efficient Pathology & Diagnostics

Storage & Accessibility of Citizens' Health & Identification Information

ICT implementation cost and the whole Migration process from legacy technology Are the biggest barriers

Reaching the untapped & limited reach areas By implementing ICT would be most rewarding For healthcare companies

Challenges

Cost of implementation

Migrating from Legacy technology

Dearth in Tech Savvy Medical Personnel

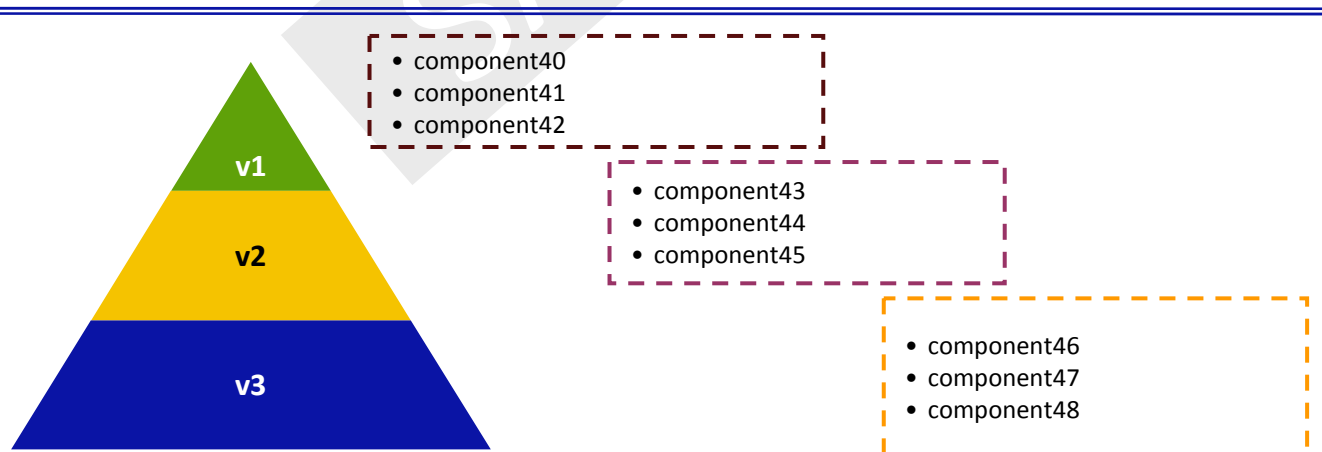


Indian industries are embracing ICT to enhance their growth & credibility

Market Overview – ICT

- ICT industry in India plays a major role in stimulating the country's GDP, thereby contributing to the growth of the overall Indian economy by a large extent
- **Currently, the industry in India is valued at more than USD x8 bn**
 - ICT industry accounts for x9% of the country's GDP and provides employment to more than x10 mn people directly and x11 mn indirectly
 - Per capita contribution of the industry in the country accounts for USD x12 mn
- The boom in the industry has also led to the enhancement of various other sectors thereby adding fuel to the growth of the country
 - The industry is all about connectivity and requires a lot of product_a support thereby increasing the demand of sector20 tremendously
 - It requires extensive man power and space for its operations which in turn raises the demand for demand1 and demand2 significantly
 - The industry mainly the youth for employment thereby providing ample opportunity to about x14% of the entire population in the country which in turn enhances the employment status of India
 - PC shipment in the year 20-- was valued x15 mn

Components of ICT



Source:

ICT solutions relevant to healthcare industry

ICT Solutions (1/4)

Solution1

- It also helps in bringing down the operational cost & reducing medical errors
- x

Solution2

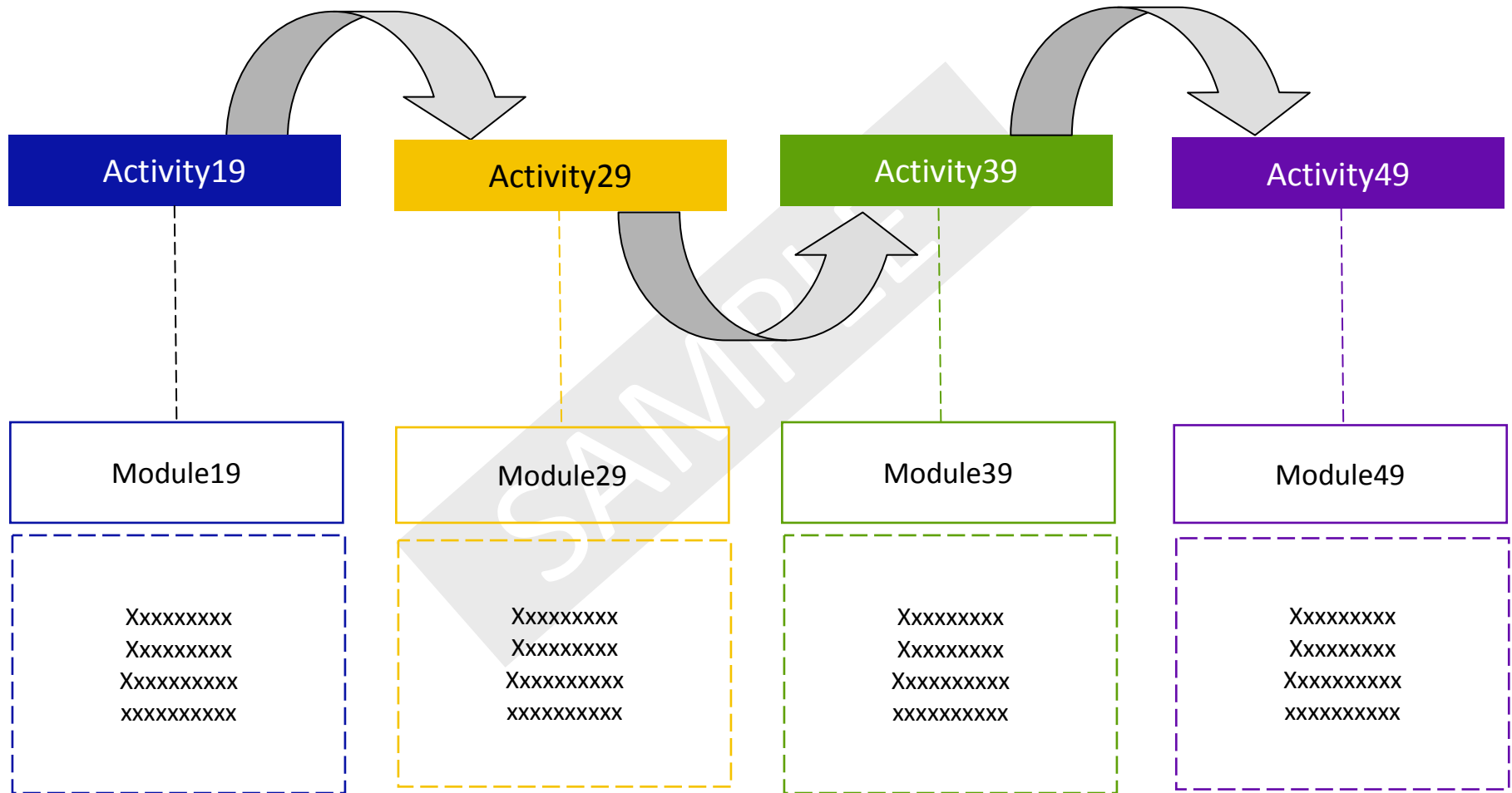
- x
- x
- It enhances the life, portability, availability of the aspect18 & makes the process more economic

Solution3

- x
- Its primary aim is to make resource18 available

Solution19 centralizes aspect19 & provide them as resource19 for result19

Solution29 Structure



Source:

... but for healthcare industry technology10 is equally attractive



Key Cloud Based Trends (3/3)

- There's a huge opportunity for Cloud computing in healthcare industry as aspect10 look at increasing the amount of aspect20, especially aspect30
- Opportunity for Cloud solutions in the Indian healthcare industry is expected to touch INR a10 mn by 20--
 - Cloud computing is expected to comprise b10% of the total annual healthcare IT spending in India
- type10 and type20 Cloud are expected to find greater acceptance among infrastructure10
 - type30 Cloud is expected to find preference among infrastructure20 for technology10 and technology20
- In healthcare industry, Cloud will bring opportunities in the areas such as area10, area20, area30, area40, area50, area60 etc

tech10 in Healthcare

- Feature10 offered by the tech10 attracts adoption in the healthcare institutes
- Only x10-y10% of the total capacity of the server is used
- type11 & type22 solutions costs a healthcare institute approximately z10% of the total IT spend

Tech20 in Healthcare

- Tech23 applications have boundary less opportunity as most of the healthcare solutions can be offered in the Tech23 format

Tech30 in Healthcare

- Tech33 provides the opportunity to cut down on the custom solution development cost & over all platform build up complexity

Source:



Government Initiatives

ICT & Healthcare Initiatives (4/4)

Computerizing
Information System at
Public Hospitals

- Ministry of Health and Family is computerizing basic information systems at the top public tertiary hospitals

X123 project by O123
Authority123 of India

- Xxxxxxxx
- Yyyyyyyy
- Zzzzzzz

SAMPLE

Source:



Major ICT players in the market (X/Y)

Company Snapshot: CompanyAA

Corporate Information

Headquarters	city12, state12
Company Type	Listed
Founded	19--
Key People	Mr. X12 – <i>designation12</i>

Healthcare Solution Offering

Products
Solution121
Solution122
Solution123
Solution124

Business Highlights

- Company12 provide various IT services catering to multiple industries & verticals
- Company12 is a subsidiary of parent12
- Company12 is one of the leading system integrating services providers in India
- Company12 Joined hands with company121 to roll out nationwide installation12 environment across India
 - x

Major healthcare players in India (X/Y)

Company Snapshot: companyab

Company Snapshot:

Primary Industry	Industry_type13
Headquarter	City13, state13
Contact No.	Phone: 91 -- -----

Business Highlights

- Company13 provides treatment for disease1, disease2 in primary, secondary, and tertiary care sectors
- Company13 recently rolled out nationwide project13 in the various healthcare facilities to increase reach & quality

Key Contacts

Mr. x13
Designation13



Professional History
Designation43 – Company111
Designation53 – Company211
Designation63 – Company311

Other
University11
College22

Mr. x23
Designation23

Professional History
NA

Other
University12
College23



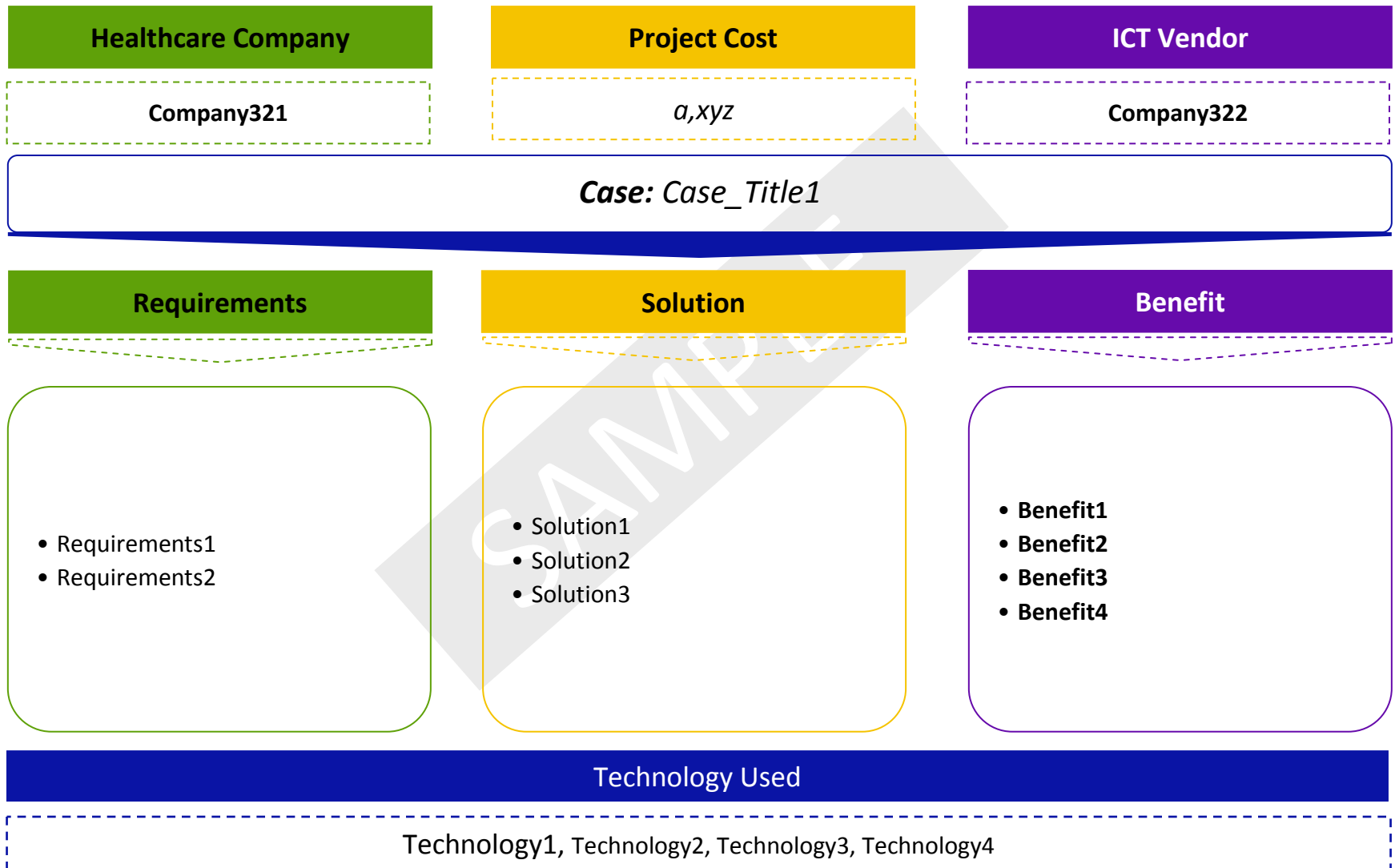
Mr. x33
Designation33

Professional History
Designation73 – Company121
Designation83 – Company231
Designation93 – Company341

Other
University31



Case Study A



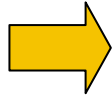
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Strategic Recommendations (2/2)

For area15, focus on area16 & solutions15

**Solution15 for
area15**



- mmmmmmmmmmm
 - nnnnnnnnnnnnnnn
- ppppppppppppp
 - qqqqqqqqqq
- rrrrrrrrrrrrrrrrrrrrr

SAMPLE

