

# Challenges in the indian medical diagnostics market economics essay



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As you notice in the figure above, while the general trend for growth in the market looks healthy, the two main regions contributing to market growth by 2015 are the United States and the RoW (Rest of the World). The RoW market will expand by an estimated 8% from 2011 to 2015 and hence will be the major focus area for most medical diagnostics companies. In order to aid this growth, quite a few of the companies have setup global research, development and manufacturing centres within the emerging market economies and India and China host most of these centres.

There is a considerable level of investment in healthcare underway in the developing economies in order make healthcare accessible to a majority of their population which still is under the poverty line. Also, the opening up of the financial sector to foreign direct investment in some of these key markets has also opened up the insurance market and this in turn should open up the growing middle class to utilizing more of the healthcare and diagnostics services

#### Roche Diagnostics in India

Roche Diagnostics in India is focussed on the Professional and Molecular Diagnostics portfolios along with a strong history on the Diabetes Care front, and has had an annual growth rate of approximately 18% year-on-year over the last 3 years. The customer base varies from large hospital chains and global laboratory chains with business in India to local laboratory chains and government owned health centres and hospitals. The annual turnover at Roche India is around 45 M USD for the year 2011 and has been showing steady growth over the last 3 years. There are plans on introducing the

Applied Science and Tissue Diagnostics portfolios also in the immediate future into the country.

### Challenges in the Indian Medical Diagnostics market

While there is a broad spectrum of potential and current customer base, there are a multitude of challenges facing the business in India. While a lot of these issues are common across all manufacturers, there are some which are definitely a lot more challenging to resolve than the rest. While the broad challenges facing anyone who wants to do business in India include the political, policy and bureaucratic hurdles, there are a few which are specific to the medical diagnostics industry. In order to understand these better, there were a few interviews conducted with employees in Roche Diagnostics India and also with employees from some of our customers (hospitals and laboratories). The questionnaire and the outcome of the survey are included in Exhibit A.

A quick summary of the survey shows the following points coming across as key challenges for the medical diagnostics market in India

High price of medical diagnostics equipment (most of the equipment is imported from western economies or Japan and hence there is a high level of import taxation)

A majority of India's population lives in villages and do not have access to sophisticated medical diagnostics and medical care

The central and state government health departments do not have the capability to fund acquisition of large purchases and do not make adequate investments in the diagnostics area

Bureaucratic and policy delays make it quite difficult to even get paid for those purchases that have been made by the government

A general perception exists that a lot of the imported equipment, while they address and cater to critical disease identification, do not focus on the more common ailments in the rural areas in India. So while there is a lot of functionality and science, is this what India needs?

Another interesting viewpoint from quite a few of the respondents to the survey was the question on whether the price was too high since the quality of the products were too high and whether the expected life of the instruments were too high. In essence they were questioning if they were paying for quality that was not needed.

While the above were seen as challenges, the sector is still viewed as one with a tremendous potential for growth and companies like Roche, Abbott and Siemens are market leaders in the country. There is not enough local competition in this sector and this could be due to the high level of technology integration between the hardware, software and chemistry components (reagents). There are some local technology companies that have partnered with some of the international companies (e. g. Wipro and GE Medical Systems) and have come out with products more relevant to the Indian market, however, these are just a handful.

## **The Problem Statement**

### Roche's Challenges in India

Roche has had a subsidiary in India for the last 35 years and has made significant progress in the medical diagnostics market in India. The current turnover for the subsidiary is around INR 150 crore (about 45 Mio USD) and the growth rate is pegged to be around 20% per annum. While the figures make the story look impressive, it is pertinent that we focus on the challenges facing the company in India and position the company to achieve a growth rate at par with some of the faster growing regions. In order to understand the challenges faced by the company (as perceived by Roche), I had a few interview sessions with – the Roche India GM, the Head of Sales for Roche India, the APAC Region Head for Roche, the Head of Roche Professional Diagnostics (RPD) and the Head of Roche Molecular Diagnostics (RMD).

The main concern that came out from these interviews was the lack of a structured laboratory and medical diagnostics industry in India. This lack of structure and maturity has wide-ranging impacts on Roche's ability to move forward within the market

As a result of the above, it becomes increasingly difficult to place our instruments in the small laboratories and hospitals which are a majority of the vehicles that deliver these diagnostics services to the people in India. About 70% of India's population are in rural areas and hence the access to the bigger market has to be through these smaller laboratories and government hospitals and health centres.

We do not have any manufacturing or assembly happening in India for our instruments and hence have to deal with the expensive import of instruments from Germany, the United States, Switzerland and Japan. This puts us at a disadvantage with some of our competitors who have manufacturing and assembly facilities locally and are able to price their equipment lower.

The budgets that hospitals and laboratories carry and the pricing models that exist prevent them from procuring highly priced Roche instruments

Lack of a structured and widely prevalent insurance repayment model makes it even more difficult to price the diagnostics tests at the right level.

Currently the pricing of diagnostic testing is much lower in India than in most other countries and hence the return on investment is much lower in comparison to other countries

How do you sell mature products in developing economies

The above outcome from the interviews and the surveys highlight the complexity that exists within the existing infrastructure, business practices, policies and the bureaucratic processes in some developing economies.

Though they might have a market for all kinds of products, it does complicate the ability of a company to sell within the country successfully and leaves the company to find alternate solutions to either make the product more acceptable or to circumvent the existing hurdles and find the path of least resistance towards reaching the market. The high level of capital investment needed by the buyer is at times mitigated by financing

provided by the multinational that brings in the product. An example of this <https://assignbuster.com/challenges-in-the-indian-medical-diagnostics-market-economics-essay/>

is how the trucking industry in India has opened up fully to companies from MAN, Volvo and the like whose trucks cost more than twice the trucks manufactured and sold by Indian manufacturers like Tata and Ashok Leyland. MAN and Volvo have setup their own financing arms which fund these expensive purchases and hence attract customers who otherwise would not have been able to. Leasing of such equipment too has now been positioned as a new option to make such expensive deals viable.

### Volume selling of hi-tech products

While hi-tech products are available in India either through the direct import route or through CKD (Completely Knocked Down) kits which are then assembled within India, there still is a big gap between their expected sales vs. actual revenue. The high level of taxation on imports and the high cost of manufacture in the western world make it essential that these companies maintain a low margin and make the product more accessible to the volume market. The main challenges on this front can be summarised as

High rates of import taxation and high cost of manufacturing resulting in very high price tag

Low margins when competing with locally manufactured products

Low rate of consumption in the market due to higher selling price

## **Data Collection**

Medical diagnostics in India

“ Heightened physician awareness to better clinical outcomes and increasing patient requirement to avail of high quality care, have made it imperative for providers to deliver targeted therapy. This has been made possible by the availability of sensitive and specific diagnostic tests, along with technologically advanced medical devices and equipment. These further enable healthcare providers to utilize material and human resources optimally.” (KPMG CII Report, ‘ Excellence in Diagnostic Care 2011’)

Overall, the Indian healthcare industry is estimated to grow at a rate of 23 percent per annum, from the current size of USD 35 billion, to reach USD 77 billion by 2012. 1, 2 This growth will be driven by healthcare facilities, private-public projects, medical diagnostic and pathological laboratories, and the health insurance sector. The diagnostics sector is projected to contribute USD 2.5 billion, by 2012. An overview of the medical diagnostics and devices market, shows that as of FY 2008, the diagnostic and pathological laboratory (path lab) test services market holds 52.1 percent of share, followed by devices.

Demand for these sectors has been spurred by a steady rise in:

- healthcare spending, which accounts for over 5 percent of GDP. Of this, public spending will approximate 2.5 percent by 2011, compared to the existing level of 0.9 percent<sup>2</sup>
- increasing consumerism. With economic growth augmenting incomes of the middle and upper classes, their demand for accurate and timely medical care, is likely to increase. As a result, healthcare expenditure will command a greater share of the wallet. Indians are becoming more aware of their health, <https://assignbuster.com/challenges-in-the-indian-medical-diagnostics-market-economics-essay/>



due to the improved availability and accessibility of better health related information. Current trends include continuous monitoring of health status through regular check-ups, and of health information by patients

- the dynamic healthcare landscape in the country will further augment the demand for effective therapeutic modalities. Trends include increasing incidence of lifestyle related diseases, greater awareness of health related concerns, growth of medical tourism, increasing penetration of health insurance in the country. Statistics indicate that there has been an approximately 25 percent increase in laboratory business due to screening and follow up for lipid profile<sup>3</sup>, blood glucose levels, glycosylated haemoglobin, speciality tests for thyroid hormone levels, basic cancer markers.

Despite the wide ranging issues and challenges mentioned above, these two sectors are slated to emerge as powerful healthcare players. The diagnostics and pathological lab test market has the potential to grow at a CAGR of 18.9 percent from FY 09-13, while on the other hand, the medical devices market is estimated to grow at 23.2 percent, over the same period

Insurance and payee models

“ Global experience, both in highly industrialised countries as well as in low- and middle-income economies clearly demonstrate the importance of achieving universal coverage through either a purely tax-based regime or social health insurance mechanisms or a mix of both. Although India followed a mix of these strategies since 1950s, the penetration of health insurance remained low for the next six decades.”

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In India there are four main types of insurance models

- (1) Voluntary health insurance schemes or private-for-profit schemes - Bajaj Allianz, ICICI Lombard etc are examples for this
- (2) Employer-based schemes - about 30 - 50 million people get covered under these schemes
- (3) Insurance offered by NGOs / community based health insurance, and
- (4) Mandatory health insurance schemes or government run schemes (namely ESIS, CGHS).

India's tryst with health insurance program goes back to the early 1950s, with the launch of Employees State Insurance Scheme (ESIS in 1952) and Central Government Health Scheme (CGHS in 1954).

However, India's landscape of health insurance has undergone tremendous changes in the last three years with the launch of several more health insurance schemes in the country, largely initiated by central and state governments. It is fascinating to observe the rapid and significant change in the geometry of health insurance coverage in the country. The country that has been witness to three health insurance programs until 2007 (ESIS, CGHS and Private Health Insurance - PHI), is now swamped by a plethora of insurance programs, in less than three years time. The breadth, depth and height of health insurance coverage has witnessed enormous leap during this period.

The breadth of the coverage- denoted by the percentage of population covered by the insurance scheme - has accelerated from about 75 million people covered (roughly about 16 million family beneficiaries) in 2007, to an estimated 302 million people in 2010, about one-fourth of the population. Comparatively, the breadth of the coverage is by any global standards quite breath-taking and occurred at a rapid rate in a span of three years, and this feat could be achieved even among the vulnerable population and informal workers, where the penetration is otherwise difficult till recently. The realisation among the leadership for the commitment to cover nearly all of the population despite their socio-economic status is quite commendable, since evidence clearly suggests that in India, it's not only the poor but a large sections of above poverty line (APL) population also end up paying catastrophic payments and suffer impoverishment (transitory poverty) due to illness.

Given its relative infancy, private health insurance has certainly progressed over the past 20 years, although there is much to do if it is to cover the current and future needs of a large number of individuals and families. To discover where it can or should develop it is first important to consider where it stands today. In what areas should the industry improve its capability, including the details of its offerings, its operations and its administration? Specifically, this means looking at what products are on the market, how and to whom they are marketed, how the industry relates to its customers and to the delivery system and its administrative capabilities. Virtually all health insurance products in the Indian insurance market are designed to meet the hospitalization expenses of the policyholder. This has not changed

significantly since the introduction of health insurance in 1986. Health insurance policies do not cover dental services, vision services, preventive care, home health services or long-term care and, rarely, out-patient services. In many cases policies exclude certain kinds of care, even if a hospitalization occurs.

Drug pricing and treatment options

Public sector vs. Private sector in India

## **Analysis**

### **Profile of laboratories in India**

The diagnostic landscape in our country is highly fragmented. Still largely populated by unorganized players, approximately 10 percent is constituted by organized entities. The diagnostic lab business has traditionally been considered a high margin, asset-intensive business. Thus, in an effort to match increasing demand, large players have endeavoured to increase pan-Indian presence, by building national networks, over the last few years. Simultaneously, the market has witnessed continuous mushrooming of foreign players as well as standalone regional players. In addition, market leaders have expressed intent to penetrate foreign markets such as the Middle East and Sri Lanka, whose economies are growing on par with India.

Growth has been pursued via a combination of the organic and inorganic route. A majority of growth in the organized sector has occurred through acquisitions and Brownfield projects, rather than setting up green field laboratories. Different approaches have included expansion via hub and

spoke models (one reference lab - many collection centres), PPP initiatives, IPOs, and receiving funding from private equities.

### **Model description: Hub and spoke expansion**

Tier II and III cities present an attractive opportunity for large corporate players. These cities represent an area of underserved need, with a growing need for improved health infrastructure. From the standpoint of large players, seeking to establish presence, expansion into these unexplored regions is associated with certain drivers and challenges, as listed below:

#### DRIVERS

- These are areas with huge unmet demand for diagnostic services
- Improved accessibility of these areas due to building of new national/international airports for example: Nagpur, Vishakapatnam
- Government is trying to open up these untapped markets through public private partnerships.

#### CHALLENGES

- Difficulty in recruiting and retaining medical and paramedical talent
- Difficulty in patient recruitment and retention as business is based on credibility in local communities
- Profitability of centres in Tier III cities restrains large players from entering them i. e, challenges exist around scale and price points.

It is thus easier for large players, to partner with a renowned local lab in the region which has got a good brand, accreditations, good quality and service. Thus, a hub and spoke model is a popular strategy and is typically established in the following manner:

1. Reference labs, which act as regional hubs, are set up in large metropolitan areas. They offer comprehensive and specialized testing capabilities.
2. Satellite labs feed reference labs, and offer a limited test menu. These can be either owned or franchised.
3. Collection centres are located in hospitals, nursing homes, pathology labs, doctors' clinics, etc. Here samples are collected and forwarded to either a satellite/reference lab.

CC = Collection centre

Source: <http://www.slideshare.net/vandalmax/medical-diagnostics-india-sample>

A common variation in the above model is the absence of satellite labs. This model offers several advantages. For the large diagnostic players (acquirers): (i) Potential for better leverage of capital expenditure by effective extension of catchment area by tapping regional/local network of acquired labs (ii) Referral to the hub is locked in, from the satellite labs/ collection centres (iii) satellite labs have a lower capital expenditure structure (iv) They can leverage the transportation and logistics network of the existing standalone labs. The duration of time taken to move the sample <https://assignbuster.com/challenges-in-the-indian-medical-diagnostics-market-economics-essay/>

from site of collection to site of processing is of critical importance, since the turnaround time for reporting is proportionately influenced by the same.

On the other hand, this model prevents the smaller diagnostic players which get acquired, to (i) survive the competition offered by large players, in terms of a wider repertoire of tests (ii) they can leverage the technological infrastructure, including IT network of the acquirer. Again, this is another critical factor in minimizing the time lag for reporting since, for example, online reporting of laboratory diagnosis over a local area network significantly improves reporting time.

Laboratory management in India is a super specialized arena. The need of the hour is to make dedicated investments in terms of sophisticated analytical technologies, and skilled human resources, equipment, reagents; comply with stringent accreditation guidelines; provide excellent customer service such as an exhaustive test menu, along with short and accurate reporting times. It is found that the cost of testing is inversely proportional to the workload and directly proportional to the overheads. Since a lab within a hospital is run as one of the many departments, it typically does not receive the necessary attention from hospital management.

This results in high inventory and costs, pilferage, inadequate quality / service turn-around-time causing dissatisfaction amongst clinicians and patients. In order to overcome these challenges, hospitals today are increasingly outsourcing lab management to external referral laboratories. This relatively new phenomenon is called Hospital Laboratory Management (HLM).

HLM allows hospitals to offer the best diagnostic care to their patients, while maintaining focus on providing their core healthcare services. At the outset, the hospital saves both time and cost to set up a full-fledged, technologically advanced lab

- The referral lab carries out a wide range of clinical lab tests, and delivery time of results is reduced (by as much as 80 percent), as compared to manual workflow

- Expert opinion can be garnered from different fields such as Haematology, Clinical Pathology, Genetics, Molecular Biology, and Microbiology.

Automation and other technology can be utilized effectively and efficiently.

Thus, in-house laboratory experts can ensure that doctors are provided with associated clinical information to assist diagnosis, on reports

- The number of Hospital Staff can be reduced, as existing hospital staff can be supplemented by highly skilled and trained manpower from the external lab

- Hospital can leverage the IT (information technology) infrastructure of the external lab. This offers the following advantages: (i) Operational streamlining of lab processes: for example, bi directional interfacing with lab equipment reduces data entry errors, reduced staff and time dedicated to manual data entry and specimen tracking, real time status of each lab study allowing doctors to estimate the time of reporting without interrupting lab staff (ii) Seamless and relevant information becomes available across the hospital to support effective decision making for patient care, hospital

administration and critical financial accounting. The lab management  
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systems can be integrated with an electronic medical record (iii) This IT backbone can also help the hospital prepare itself as a centre for clinical trials, requisitioned by international pharmaceutical companies. Customer relationship management can also taken care of by the external lab

- HLM is being offered by diagnostics majors such as Metropolis, 3 and is a boon especially for smaller hospitals (200-250 bed strength), who find it difficult to manage it themselves.

### **Instrument price vs. Purchasing power**

In 2004, author C. K. Prahalad delivered a paradigm-shattering book entitled “ The Fortune at the Bottom of the Pyramid: Eradicating Poverty Through Profits.” The book challenged the notion that the only way to improve the lives of those living in poverty at the Bottom of the Pyramid (hereafter BOP) was through public and non-profit sector intervention. The book suggested that the private sector has a critical role to play in the alleviation of global poverty- not by donating product but by selling product that benefits the lives of people making less than \$2/day.

The pyramid developed by Prahalad divides the world into four tiers:

Source: “ Fortune at the Bottom of the Pyramid” C. K. Prahalad

Selling to the world’s poorest people (approximately 4 billion people) means a re-examination of the “ price-performance” relationships for products/services coupled with a new level of capital efficiency. Because of that, selling to the BOP presents a managerial challenge that requires a transformation of managerial practices in established multinational

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corporations. BOP strategies are about giving the massive population base living on less than \$2/day access to solutions that radically improve their well-being. While geography and infrastructure are significant barriers, the greatest limiting factor is cost, according to authors Prahalad and Hart because poor have to pay a “poverty penalty.” This refers to the premium that they are required to pay for products for which the rich pay a lower price. The poor pay more for water, food, electricity, etc. because they buy lesser quantities.

A second limiting factor is dominant logic: players in both the public and private sector tend to operate in familiar ways and may be resistant to thinking outside the box.

Source: “Fortune at the Bottom of the Pyramid” C. K. Prahalad

BOP initiatives may require private, public, and non-profit sector entities to develop partnerships or at least understand how to work in parallel within the new paradigm. Established managerial practices in multinational corporations require a paradigm shift in order to meet the needs of the bottom of the pyramid. Decision-makers within multinational corporations have not been conditioned to focus on solving problems for the world's poorest.

Successful BOP products deliver on three key questions:

1. Does it solve a problem for the poorest?
2. Is it economically viable? Does the business case hold up to scrutiny?

### 3. Is it scalable? Is it repeatable elsewhere?

The Indian market for medical equipment and supplies ranks among the world's top 20 but, still, the market remains disproportionately small with very low per capita spending. The hi-tech end of the medical device market is dominated by imports, while Indian manufacturers of good quality mid/low tech products struggle with a stigma for unreliability. However, it has been estimated the market will grow by an average of 15.6 percent over the next few years, to around USD 4.8 billion by 2015. Detailed regulation of medical devices is still under consideration. Even though, this may deter sectoral growth, a significant opportunity is presented by the huge influx of foreign players which are consolidating operations in India. They are either entering joint ventures / licensing agreements to manufacture their products locally / employ local agents to distribute them. These collaborations have been boosted by exhibitions, trade fairs and seminars conducted by the government bodies and equipment manufacturers, to create awareness about their international standards of production and exhibit their products.

Companies with manufacturing facilities in India

Company

Facilities in India

GE Medical Systems

Overhaul and refurbishment centre in Bangalore in South India

Siemens

Manufacturing plant in Goa – X-rays, Scanners, Ultrasound systems etc

Bayer

Manufacture of chemical/immunochemical test systems as well as blood and serum analysers

Source: IBEF Healthcare, Indian Law Offices “ Indian Healthcare Sector”;

Company websites; Livemint “ GE sets up facility in Bangalore to refurbish medical equipment”,; Webpic “ Proven Trade Contacts” Nov 2009;

JV/Tie-ups between foreign and Indian companies

Company

Nature of JV/Tie-up

Pyng Medical Corp

Expanded its exclusive dealer network globally by adding vTitan Corp. (P) Ltd. in India

ET Trivitron Medical Technologies

Will manufacture and market Cardiac Diagnostic instruments by setting up Trivitron’s Medical Technology Park in Chennai

Wipro GE Medical Systems

It is India’s largest exporter of medical systems, pioneered manufacture of Ultrasound and Computed Tomography systems in the country

## Proton Health Care

Tied-up with Delhi based SM Logistics for distributing its digital health monitoring devices such as blood pressure monitors, ultrasonic nebulisers, body fat scales and thermometers.

Source: IBEF Healthcare, Indian Law Offices “ Indian Healthcare Sector”; Company websites; Livemint “ GE sets up facility in Bangalore to refurbish medical equipment” ,; Webpic “ Proven Trade Contacts” Nov 2009;

Companies like GE Medical Systems have adopted the strategy of designing and manufacturing products for the BOP segment and have come out with disruptive innovation to become market leaders in these products. This clearly means an acceptance of a lower margin per product sold, but the opening of the doors towards a much higher volume sale. An example in this scenario is a new ECG (Electro CardioGram) that was introduced by GE in India (in collaboration with their partners Wipro). The price of this equipment was one-sixth the cost of a normal ECG, and hence leading to significantly lower margins while sales skyrocketed with a new class of customers having been added to the ECG segment.

Here is how I would try and portray this balance between profitability/sustainability vs. value to the community

GE Medical Systems have since taken this innovation to other parts of the world (South East Asia and Latin America) and have also broadened out into an entire family of products which have been researched, developed and marketed for a much broader section of society.

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## **Pricing per unit consumed or rather pricing per service**

While one of the ways in which to reach out to the bottom of the pyramid is to lower the cost of manufacturing and also to limit the functionality of the product to what is required along with sourcing components locally, there is yet another perspective to approach this problem. In most of the cases today, the cost of service is driven by the cost of the product that is used to perform the major part of the service. If you take the example of a restaurant, the cost of having a meal in a restaurant is mainly driven by establishment costs, cost of labour and yes there is a final component which is the cost of the material used in the meal. Similarly the cost of diagnostics test is determined by the investment in the asset and the investment in the laboratories themselves.

This leads us to the question of reducing the cost of the asset in addition to techniques used to reach the BOP. Quite early in the planning of a business, it has to be decided whether to offer products or services. The outcome of this decision will depend on a wide range of factors, all of which should be considered carefully. In order to come to a conclusion on which one is better, there needs to be an analysis of the detail. Harry Beckwith in his book 'The Invisible Touch: The Four Keys to Modern Marketing' laid out the following primary differences

- \* Products are manufactured while services are delivered

- \* We used products and experience services delivered to us

\* While products have physical attributes and characteristics before we evaluate and decide whether to buy them or not, services do not even exist even when we buy them

\* Products are impersonal while services are personal. A service relationship is intangible but can be experienced and reveals the people involved, both the provider and the customer.

While the first two of his four points above are self-explanatory, the evolution of technology h