



A 21st Century trend revolutionizing the diagnostic pathology Industry

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INTRODUCTION

Corporate chain of pathology labs and diagnostics that was unheard of in India till late 90s of the last century. In 21st Century India it is fast becoming the norm with more major chains like Wellspring Labs, Thyrocare, SRL Ranbaxy, Dr Lals, Metropolis in the race. The day is not far when a standalone pathology lab, typically run by locally Pathologist will either cease to exist or will become a collection centre for one of the corporate chains.

Wellspring Labs and Diagnostics of Piramal Healthcare Group, is a classic example in Indian scenario where the group began with just 2-3 labs in Mumbai in 2003-4. Today in first quarter of 2008, it is already India's largest chain with more than 90+ labs & diagnostics centres throughout the country and even outside.

Is the trend transforming the healthcare industry in the same way that we witnessed the transformation in Banking in the last decade and Retails business more recently. The answer is yes. And there cannot be two opinions about the single most important factor effecting the change. The ICT.

Healthcare is a bit late to join the ICT party but it is expected to exploit the most. Simply because healthcare industry had very little investment in legacy IT systems which could impede the rapid adoption of modern ICT with all its benefits.

CHANGING FACE OF INDUSTRY

2.1 NEED IS MOTHER OF ALL INVENTIONS - BUSINESS CHALLENGES DRIVE THE SOLUTIONS

Growing economy and market in India has been dictating the way solutions emerged. It's true that the business and delivery models have changed when corporate houses with large treasure chests and strategy for massive scaling defined the benchmark for pathology services. The impact of mergers and acquisitions in the business has redefined the operations and outreach.

Many smaller hospitals do not have core competence to run pathology department to ensure quality services and prefer to outsource the Lab business to a trusted chain. This leads to faster growth of chains. Increasing number of International players and new local player's are entering the clinical lab segment and competitive landscape has led to faster consolidations. This 'gold rush' like many in the past will see survival of the fittest. The fitness criteria will be decided by their ability to assimilate and deploy modern technologies including ICT!

Enterprise LabNET solutions can do to Labs & Diagnostics what Core Banking did to banking sector in India

2.2 UNITY IN DIVERSITY: THE MAIN CHALLENGE

Organic growth for big corporate houses is not very exciting when large opportunities are opening up and chances of losing it to competition is high. So the corporate chains typically build core competence of their own, through green field projects, laying down best practices that can be showcased e.g. Core lab with Histopathology Centre of Excellence. But faster growth typically comes from acquisitions, franchisee model and outsourcing non strategic business. More Brown field projects get rapidly added to the chain in this manner. This leads to a heterogeneous combination of processes, policies, philosophy. And that's where the biggest challenge of corporate governance strikes. Heterogeneous processes are difficult if not impossible, to be controlled centrally. Managing multiple labs, with its heavy reliance on cash transactions, is not very different from managing multiple Udipi restaurants from an central location, which has not been really possible.

Add to this the sensitivity of the business as it relates to health, and the high cost of

equipment and reagents which go into running the business profitably. It is a recipe for disaster unless the management is very clear about how it going to ensure uniform quality processes across the chain and control over the finances and materials.

Encouraged by their earlier experience and success of deploying ERP's like SAP , Oracle etc in managing other business of manufacturing or distribution, corporates are quite clear about the need to deploy ICT as a strategic lever and looking for similar solutions which can be applied to healthcare.

This where highly specialized solutions like 21st Century HealthNET become critical to corporates in pursuing their high trajectory growth strategies.

2.2 TRADE OFF RESULTING FROM UNITY IN DIVERSITY

This nature of business results into a trade off on many aspects in implementation of the solution. Conceptualizing the correct Enterprise business & delivery model is key and accordingly choice of appropriate ICT solution helps Corporate finish this tight rope walk.

Fig. 1.0: Labnet++ schematic for Enterprise chain of Labs

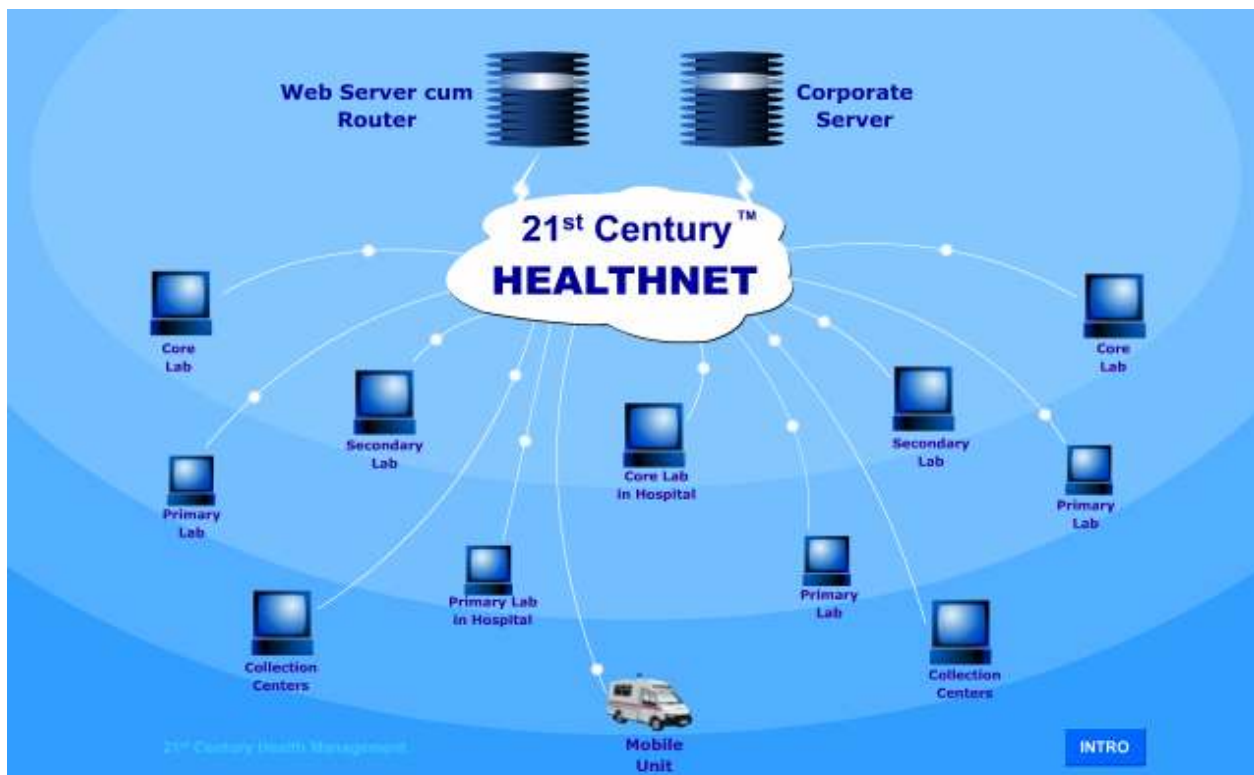


Table 1.0 discusses tenets of Enterprise model and considerations for correct trade off.



TENETS OF ENTERPRISE MODEL	CONTROL	FLEXIBILITY
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Diversity in culture, Philosophy of the acquired lab within the chain. Enforcing ICT can lead to huge cultural shock.

Eg. A smaller lab may not have departments like Hematology, Microbiology, Histopathology etc as per Corporate structure and may just have Radiology and Pathology sections.

Similarly parameters of the same test may have different ranges as per demographic diversity.

ICT driven processes follow minimum mandatory quality norms for Corporate. This helps in monitoring utilization of capabilities and the quality levels. Such as ensuring right choice of the equipments to meet load. Enforcing bar coding for better traceability of the sample etc

Workflows suitable to local environment is ensured and system provides adequate flexibility.

Eg ICT allows 'configuring departmental structure, ranges of the parameters to suit local need.

Users and roles can be defined locally by the local administrator.

Meaningful consolidation of data needs standard structure of clinical and business data across the chain.

Eg. The same test may be referred as CBC in one city and Haemogram in another. Corporate HO may want to find total no of these tests performed within the chain.

Generic data structure necessary for consolidation. ICT defines this generic structure which covers all possible data and ensures none is repeated. Common Financial data structure is defined across the chain

Local labs can 'configure' the nomenclature of tests / parameters.

Diagnostic Results can be reported in a format that may vary locally but only from the perspective of formatting. Data structure remains the same.

Enforcing the policies from the Corporate HO.

The HO should have central control on critical functions of the chain. Whether to allow a lab to add a new test in it's services, deciding commercial limits on the rates has to be governed centrally.

ICT ensures that the non compromizable policy norms are built from day one.

Any change in this must be approved by the Corporate.

Local labs however can configure the system within the boundaries drawn by the HO.

Eg the rates of services can be modified within limit without any approval.

ADVANTAGE ICT

Once the tenets of Enterprise model are adhered to, critical business needs of the Enterprise LIS are taken care of. Now it's up to ICT to faithfully deliver the benefit.

3.1 RECOGNIZING COMMON SERVICE REQUESTER, SUPPLIER, PAYER ACROSS THE CHAIN

Enterprise model recognizes

- **A common Service requestor** such as a patient needing services from different locations. Eg A mobile corporate credit patient getting health check up tests done in Mumbai in the morning and expecting results in Chennai on reaching in the evening. Entire Lab NET should recognize this credit patient with unique ID and apply appropriate rates for the credit account.
- **A common payer** such as insurance company.
- **A common Supplier** such as approved vendor supplying reagents across the country.

3.2 RESOURCE POOLING

Connectivity that is leveraged by ICT effectively addresses resource pooling. Scarce resources can be optimally used across the chain.

- **Highend medical equipments in Core lab** can be optimally used by the chain by booking the test remotely on core processing lab. Phlebotomy can be done at the collection centres and the sample gets registered in core lab through Enterprise LAB NET.
- **Specialist pathologists** can remotely authenticate reports by reviewing the data for more than one processing labs. This increasing productivity of high cost and scarce resources.

3.3 CUTTING EDGE COMMUNICATION

The acid test for service quality in healthcare should be to reduce anxiety in the minds of service requestors.

- **Web reporting** can crash delays in accessing the reports and bottlenecking at the dispatch counters. Corporate health check ups are ideally suited for this model

- **Findings thru SMS:** Stat reports can be SMSed through SMS server on the Enterprise to facilitate immediate treatment plan.
- **Integration with HIS for in patients:** Ward / ICU access to the lab report is critical and HL7 interfaces of LIS can make it available in such mission critical requirements.

3.4 IMPROVING EFFICIENCY

Automation has two necessary impacts:

- **Reducing turn around time** by cutting waste in the processes removing redundancies. Bar codes and direct interfacing with hitech medical equipment is key.
- **Accuracy :** Eliminating human errors by automation and increase in accuracy and predictability
- **Reducing cost:** manpower cost is the single largest cost in delivering healthcare. Appropriate use of ICT enable processes can simultaneously reduce manpower cost and errors.

3.5 EFFECTIVE MIS

Corporate data consolidation must be exploited further by dynamic analysis of data across the chain.

- **Management by exception thru alerts and alarms** helps the management detect deviation from the desired process and take corrective action immediately.
- **Summary reports** are typically important from commercial angle to budget, monitor expenses, evaluate utilization of capital purchase accurate estimation of the cost per test etc.
- **Comparisons** can be done for evaluating performance of various units in terms of revenue generation per test, total revenue, average patient load, turn around time etc.
- **Predictability of business outcome** is the final goal of management. MIS leverages this by projecting the outcomes and evaluate sensitivity of parameters affecting the outcome. There is no other way to strategize future business.

HIND SIGHT:

A GOOD ENTERPRISE MODEL HAS ITS ROOTS IN A GOOD STANDALONE LIS MODEL

4.1. DOMAIN KNOWLEDGE

It is obvious that the Enterprise model rests on the solid platform of domain knowledge of LIS. Enterprise LabNET is a new business model, but without in-depth knowledge of aspects of running a pathology lab one cannot think of building a Enterprise solution.

4.2. EFFECTIVE IMPLEMENTATION

Success story of Lab NET is incomplete unless effective methodology for implementing the solution is applied. The role of change management, business process improvement and "human psychology" in the successful use of these modern day panaceas cannot be overemphasized

This is more so in the case of Enterprise because of scale of operation, diversity in cultures. Orientation of users, correct means of escalations and handling people related issues is as critical as technical aspects of solution! The rapid growth of Wellsprings Labs and Diagnostics, a Piramal

Healthcare group company, from a single Centre in Lower Parel to becoming India's largest chain of Labs and Diagnostics presents an excellent case study of a powerful 21st Century LabNET++ solution adopted in copybook fashion.

Similar success stories are being rapidly scripted by 21st Century Health in seven countries in Middle East where it is consulting leading Diagnostics & healthcare Chains such as Welcare World Health, Gulf Healthcare International etc.

IN CLOSING:

Healthcare providers in India are fast realizing that ICT is not a cost Centre but the most powerful tool capable of catalyzing productivity and contributing immensely to the profitability of their business. Budgeting for ICT based processes, which is today a measly 0.5 % of the healthcare, spend is being enhanced upwards of 2-3 % by enlightened newcomers from India and abroad. It is simple arithmetic that if 2-3 % investment can make the balance 97-98% spend more efficient by 5-15% , it will help the business of healthcare be more profitable at lower prices and handle larger volumes.

