CHAPTER III
DR. REDDY'S LABORATORIES LIMITED

Dr. Reddy's Laboratories started from 1984. Dr. Reddy's begun like some other players of that era in India. The concentration had been strengthening reverse engineering capabilities to produce high quality bulk drugs and formulations at low cost, and sell them in the domestic market. The importance of these skills could not be exaggerated, for they created the technological foundations for company's successful foray into the international generics market.

The company realised even in the early days that the ultimate accolade for a pharmaceutical company came from the strength of its drug discovery programme and the size of its new chemical entity pipeline. Consequently, Dr. Reddy's became one of the very few pharmaceutical companies in India that started investing in new drug discovery capabilities and research. This happened even when the company had less money in the coffer.

For every new drug that was launched, some 10,000 molecules fail, that the average cost of bringing and New Chemical Entity (NCE) to market was over US$ 800 million and the time taken was anything between 10 and 12 years. This was the facts and figures often inundated by the founder Chairman Dr. Anji Reddy. But the because of the visionary challenge of the chairman, the company tested successful R&D driven pharmaceutical company and proved its ability to consistently beat the above averages company exemplified this tenet.

Dr. Reddy Laboratories filed its first patent applications in USA in 1995, covering novel anti-diabetic and anti-concern molecules. Despite the sales and market capitalisation that were significantly less by global standards, the company succeeded in creating a substantive NCE pipeline. The company had not less than 10 NCEs in
various stages of development, of which two were at phases II and II of clinical trial. Characteristics of a discovery driven mid-sized US pharmaceutical company was that it had something like eight late-stage NCEs in its pipeline. Although Dr. Reddy was far smaller in size, the company could not meet this norms in the next few years.

Dr. Reddy's was a global pharmaceutical powerhouse committed to protecting and improving health and well-being. The company has seven strategic business units as follows:

1. Branded Finished Dosages
2. Generic Finished Dosages
3. Bulk Actives
4. Custom Pharmaceutical Services
5. Biotechnology
6. Critical Care
7. Discovery Research

Dr. Reddy's had a leading presence in India and the world market for value-added branded finished dosages. They had over the years acquired a strong reputation for quality branded formulation. The integrated R&D facility and ability to scale-up production, while following exacting international quality standards, gave the edge. The state-of-the-art R&D facilities developed formulations and prepare bio-batches and finished dosages in line with global regulatory requirements. This helped the company carve a niche in the world market.
Dr. Reddy's international operations span Asia, Africa and Latin America. With the help of joint-ventures, the company became one of the leading Indian pharmaceutical companies in Russia, Latin America, Africa and China. The company also made a foray into developing markets like Myanmar, Sri Lanka, Vietnam, Kenya, Trinidad and Malaysia. Brazil and China were the focus markets in this millennium.

Innovator products worth US$ 60 billion were likely to go off patent in the next 8-10 years in the regulated markets. Dr. Reddy's recognised this opportunity for further expansion. The Generic Finished Dosages business, operational since 1998, would target over 60 percent of the drugs going off patent between 2002-2008. Dr. Reddy's pipeline of Generic Finished Dosages, backed by state-of-the-art infrastructure and top-quality professionals made this a viable proposition.

Dr. Reddy's was vertically integrated, from process development of the API to the submission of dossiers for finished dosages. This gave control over the supply chain and the ability to offer quality products at the right time and at competitive prices.

Dr. Reddy's had a dedicated R&D team for galenic development. The capabilities include development of innovative drug delivery systems like timed-release, sustained-release and extended-release. The manufacturing unit had five dedicated production lines, three of which were earmarked for coated and uncoated tablets and two each for hard and soft gelatin capsules. Dr. Reddy's analytical technology helped to develop efficient analytical methods and quality audits so that the products met high quality standards. Company's dedicated teams developed dosage forms for the US, Europe and overseas IPR issues.
The high-tech facilities follow cGMP guidelines in the production of finished dosages. The facilities were designed keeping in mind the latest concepts of layout, flow of manpower and materials, treatment of water and contamination control.

Dr. Reddy’s had a wide range of generic products at various stages in their pipeline. Development and quality assurance teams used advanced analytical instruments like HPLCs, GCs, stability testing equipment and dissolution comparisons. Discovery research needs sustained funding. With a large number of block-buster drugs going off – patent by 2005, the global generic market was set to explode. Any company that successfully challenged patents in the US market would reap phenomenal benefits during the mandated marketing period. The generic challenge, therefore was to ensure that the company gets benefits of such marketing exclusively for different formulations on a more or less regular basis. Dr. Reddy had already filed 23 Abbreviated New Drug Applications (ANDA) with the US food and Drug Administration (USFDA). Of these, the company had USFDA approvals for 10, and the 13 that were pending, including eight para IV patent challenges, represent a potential annual market of US$ 11 billion.

Generic was an important part of company’s business per se. But it assumed even greater significance to the company as a source of finance for funding discovery research. Dr. Reddy viewed generics as the instrument to generate cash for ploughing back into discovery.

Since its inception in 1984, Dr. Reddy’s had chosen to walk the path of discovery and innovation in health sciences. The company had been in a quest to sustain and improve the quality of life, and had nearly two decades of experience in creating safe pharmaceutical solutions with the ultimate purpose of making the world
a healthier place. Dr.Reddy's competencies cover the entire pharmaceutical value chain — API and intermediates finished dosages (Branded and Generic) and NCE research.

The research centre used cutting-edge technology and discovered breakthrough pharmaceutical solutions in select therapeutic areas. In short span of operations, company filed for more than 75 patents. Dr.Reddy was the first Indian company to out license an NCE molecule for clinical trials. To strengthen the research arm, the company set up a research subsidiary, Reddy US therapeutics Inc, in Atlanta, USA. The company exported API, branded formulations and genetic formulations over 60 countries. The company's inherent strength lies in identifying relevant API and formulations, and selling them at affordable prices across the world. A few of API such as Norfloxacin, Uprofloxacin and Enrofloxacin enjoy a large customer base. Finished dosages had an enviable track record. Some of them such as Nise, Omez, Enam, Stamlo, Stambo Beta, Gaiety and Ciprolet are among the top brands in India, and many became household names in near-regulated countries too. Generic formulations had also became very popular in quality conscious regulated markets such as the US and Europe. All this had been possible because of the innovative and sustained marketing efforts.

Vision:

The company wanted to become a discovery-led, global pharmaceutical company. The top management realised that it could achieve the vision through developing a work place that would attract, energised and helped to retain the finest talent available. An organisational culture that was relentlessly focused on the speedy translation of scientific discoveries into innovative products that made a significant
difference in people's lives. A global marketing organisation that understood and responded to the needs of the customer.

APIs:

API division was a proven manufacturer of bulk activities. Today its emphasis is on building profitable revenue from exports to regulated markets, like USA and Western Europe. It offered an unparalleled portfolio for the US market, and tied-up with large US generic companies. All six of its manufacturing facilities were USFDA inspected. It's state-of-the-art infrastructure gave speed, flexible scale, competitive cost and its excellent process chemistry skills to ensure that its portfolio keeps up with market needs. Apart from its own profitable operations, the vertical integration it offered made it critical to the success of other divisions of Dr. Reddy's.

Generics:

The generics business gave Dr. Reddy's a direct presence in first world markets. It had always an export focus and grown aggressively on the back of a slew of profitable products, successfully cleared inspections by USFDA, MCC and the MCA. It's path to value took the high risk, high return route, with a series of patent challenge products. It's current focus was to innovate and build both technological and commercial skills to build capabilities for speciality products.

Branded Formulations:

The branded formulations business evolved from an Indian market player to a global organisation. Starting with brands based on its own formulations, it has grown through brands and company acquisitions, a valuable product mix, distribution strength, and therapeutic area focus to become one of the country's largest players.
The figures from Rs.47mn in 1987 to Rs.6,057 mn in 2002. In addition alliances and joint ventures helped rapidly to grow its international operations, which were key to its move up the value chain. Dr.Reddy’s branded formulations were marketed in countries across Russia, US, Latin America, South Asia, China & Africa.

**Critical Care Division:**

The main objective of this division was to create a strong base in speciality segments for a sustainable long-term competitive advantage. To meet this objective, opportunities and issues had been identified and strategies formulated to exploit the opportunities. The critical care division dealt with high value low volume oncology products. The total oncology market in India was estimated to be approximately Rs.250 crores growing at a rate of 20 percent. This segment was growing at a rate faster than that of the industry. Dr.Reddy had taken a big leap from 4th rank in the year 1999-2000 to 2nd rank in the year 2000-2001. Armed with a highly motivated and committed team, a compelling corporate image and a radical marketing approach, the critical care division was all set to capture the emerging opportunities. The salient features of the key processes were creativity and innovation. Significant emphasis had been put on various social causes through support services, awareness and education programs which would enhance the corporate image. Dr.Reddy was a research based and caring health care company.

**BioTechnology Division (BTD):**

BTD was set up in 1998 with a mission to develop a totally indigenous biogenerics technology platform that could offer Indian consumers generic versions of imported therapeutic recombinant proteins at affordable prices. This division made a capital investment of Rs.100 million in a team consisting of 48 members working in
various projects. The complete product development capability from molecular biology, fermentation, protein purification, cell culture to production at a commercial scale. Dr.Reddy’s launched India’s first totally indigenous biotechnology product, GRASTIM in July 2001, with no technical tie-ups or collaborations with academic institutes or companies outside India.

**Discovery Research:**

Dr Reddy’s discovery programme started with pure emphasis on equipping. It was the heart of its vision. The company wanted to be discovery-led global company. Its atlanta, USA lab was founded on early stage research skills, like target identification and high throughput screening. Aurigene, a discovery services units, adds automated medicinal chemistry and structure based drug design to the mix.

**Cost Effective Quality Research:**

Usually it took 10-15 years for a drug to traverse from laboratory to market. The expenses during this journey amount to approximately US$ 800 and more. So the companies were beginning to focus on decreasing the drug development timeline and expenses by introducing effective technologies as well as outsourcing strategies. Standing evidence was the Technology Development Centre (TDC) at Miyapur.

SBU custom chemical services (CCS) provided services in custom synthesis, contract manufacture and supply of key intermediaries. TDC was a dedicated back-end facility of custom chemical services.

**Safety, Health and Environment:**

Dr. Reddy’s safety, health and environment was an integral part of the business commitment to environments. Appropriate behaviour was an important part of its
values. The SHE management emphasised three kinds of responses: Avoid, Minimize and Treat. The most preferred response was to avoid the generation of waste by better processes, then to minimize the impact on environment, wherever possible, through process modifications and lastly to treat whatever was the residual impact.

**Bulk Manufacturing Facilities:**

Bulk Manufacturing facilities aimed at a robust waste management infrastructure that was not product specific. The target was to continuously upgrade the facilities. All the bulk facilities had streamlined solid waste disposal to a secured landfill site and to authorised third parties. The organic fraction of the solid wastes were reprocessed as fuel at some of the company's facilities.

The environmental impact of any new activity needs to be evaluated before its commencements. At the bulk facilities, a process named "Symphony" assessed the environmental impact of each product from the initial stages of product development.

**Generics Plant:**

Dr. Reddy's Generics facility met the highest International standards in drug manufacture. Its desire to match this on the environmental front led to its implementing the environmental management system (ISO 14001 standard). The facility had obtained ISO 14001 certification in the month of May 2002.

**Human Resource Management:**

The strategic approach adopted to manage the people side of the transformation. It had been founded on the basis of sound HR philosophy, principles and policies. A delicate balance had been struck between centralisation and decentralisation in order to enhance responsiveness and stakeholder satisfaction.
At the highest level, HR contributed to corporate governance through the formation of management council, which was a watch dog for organisational health and the strategy formulation body. At a functional level, talent acquisition, development and deployment were the key focus areas besides articulating critical processes to enhance performance orientation.

Dr. Reddy had always adopted an integrated approach towards managing human capital. Key strategic initiatives like management development, leadership development, building performance driven culture had been kick started.

Variable Pay had been introduced for all the executives, which was arrived at based on the performance of the individual, the business unit and the overall organisation. Talent acquisition in India, the senior manager team had been strengthened with the addition of about 33 people at the level of senior manager and above. Strategic positions in the area of business development and marketing were filled in by extremely competent professionals in USA. The intellectual property management team had also been expanded to sharpen the competitive edge of the organisation.

VRS and Exit of Poor Performers. A voluntary separation scheme was announced in January 2002 to keep pace with productivity; 63 workmen have opted for this scheme and the entire process had been managed smoothly. In addition, about 10 executives were facilitated to exit the organisation due to poor performance.

Employee stock option plan (ESOP) had been implemented during the same year with grant size linked to performance. Leadership was a key pillar for organisation building and managing change in a dynamic global scenario. A
structured process of Leadership Development aimed at the top 50 positions of strategic importance had been initiated.

A panel consisting of the CEO, COO (Chief Operating Officer) and the management council members review their performance. Adopting a competency-based framework was also contributing to making people management more scientific and sustaining a performance-driven culture.

**Dr.Reddy’s Foundation:**

The Foundation runs three flagship programs:

**Child and Police (CAP) Project:** In association with the Andhra Pradesh State Police as an innovative public private partnership to demonstrate a model to address the learning needs of children at risk.

**The Teen Channel – Community Learning Centres Initiative:** A program from the CAP Project platform, attempts to connect learning and livelihoods in a model that addresses critical issues affecting the quality of life and future of adolescents who opt of school as well as potential dropouts among school going adolescents in the 13-17 years age group.

**Livelihood Advancement Business School (LABS):** A new-economy livelihood promotion-training program which was custom-designed for various population segments like school dropouts, unemployed street youth, retrenched workers, migrant youth, resettlement community members in the 18-25 years age group, primarily belonged to the poorest 15 percent of the Indian population.
Focus:

As many as 200 scientists work on process innovation and simplification, cycle and manufacturing cycle time reduction, waste and energy reduction and continuous process improvement, the key focus was to use the most advanced techniques of product identification and structure elucidation. The scientists developed processes for over 100 molecules. Their talent and superior R&D skills fuelled rapid process development and reduced product development time.

The fully equipped pilot plant and sophisticated infrastructure gives a competitive edge in R&D operations. Dr.Reddy’s efficient R&D and engineering teams work constantly towards improving processes and technologies.

Manufacturing Capabilities:

The bulk manufacturing operations, spread over 6 units in the state of Andhra Pradesh in India, have a total manufacturing capacity of over 1950 KL. These facilities were built and operated according to the latest systems of cGMP. The facilities were approved by the USFDA and other reputed international regulatory agencies for all major products. State-of-the-art equipment and instruments gave the edge to compete globally. The infrastructure, with its optimum installed capacities and capital costs, gave sustainable competitive cost advantage. Dr.Reddy’s had superior technical & innovation capabilities courtesy people, who repeatedly proved their ability to rise to challenges.

All operations were supported by fully integrated supply chain practices and ERP systems (SAP R/3), which enabled to provide faster response and service to customers across the world. As an environmentally responsible organisation, manufacturing operations were equipped with state-of-the-art effluent treatment
facilities, including aeration & evaporation systems, zero discharge facilities. The operations and infrastructure were engineered to optimise solvent and by-product recoveries.

The comprehensive manufacturing services include R&D labs, pilot plants, technical services, quality control, quality assurance and regulatory affairs. Custom Pharmaceutical Services (CPS) aspire to be the partner of choice for all strategic sourcing needs of Innovator companies worldwide. In an industry cluttered with chemical manufacturers, CPS stands out because of:

- Understanding of the Pharmaceutical business and associated expertise needed, rather than just being a chemical provider
- A service mix covering the entire pharmaceutical value chain.

CPS’s cutting edge lies in its experience and expertise spanning a range of technologies, talented scientific, personnel, large manufacturing capacities, modern infrastructure, speed and accuracy in response and customised and cost-effective solutions to a variety of chemistry problems.

To achieve its business objectives, CPS executes cost effective and time bound projects for its customers, providing cGMP compliant products manufactured in FDA inspected, ISO certified facilities. A team of experienced project managers ensured smooth progress of the projects from initiation to closure in order to avoid any cost and time overruns. Each project team was supported by world-class software, hardware and communication channels to execute the project to customer’s satisfaction.
CPS's competitive advantage lies in its entrepreneurial set-up, which could act fast and flexibly, leveraging the diverse resources and capabilities to provide quality solutions to customers.

**Process R&D Capabilities:**

- Over 20 years of experience
- Expertise in handling multi-step synthesis
- Efficient technology transfers & up scaling from lab to pilot and to commercial manufacturing
- Capability to handle chiral molecules
- Process development of NCE's and their intermediates
- Significant experience in polymorphism

**Analytical R&D Capabilities:**

- Method development and validation
- Impurity profile established expertise in isolation, identification and characterisation
- Certified, Qualified and Validated Equipment.

**Global Pharmaceutical Market:**

The world Pharmaceutical market was estimated at US$ 364 billion and was expected to grow to US$ 550 billion by 2005. With an inflation adjusted compound annual growth rate of 20% over the last two decades, growth of this market as significantly outstripped global economic growth. Developed countries represented
not only the largest, but in some cases, also the fastest growing market. The US was
the largest single homogenous market currently generating around US$ 182 billion in
annual pharmaceutical sales. This was followed by Europe and Japan, each of which
account for sales worth US$ 88 billion and US$ 48 billion respectively.

Despite the huge, and growing size of the global market, the industry
continuously enjoyed consistent high return on invested capital even after capitalising
the huge R&D investment. Several factors contributed to this high returns, but the
chief among them were low levels of competition.

First, there were huge entry barriers and over the last few years there had been
a contraction in the number of international players owing to consolidation and
concerted Merger and Acquisitions. Second, in sharp contrast to other industries, any
two given drug companies usually compete narrowly with each other. There were
more complementarities in product portfolios than direct substitutes. Third, patents
created significant periods of product protection from generic products. Thus in a
particular therapeutic segment, the typical global scenario was one where only three
or four products compete with each other in mass consumer markets with powerful
underlying growth. And while generics constituted a very large and rapidly growing
market throughout the world, it was occupied by distinctly different pharmaceutical
players. There were hardly any international companies that were strong in both new
drug discovery and in generics.

Not surprisingly therefore, the global pharmaceutical industry continued to
remain one of the largest creators of shareholder value. The five major drivers to
growth of pharmaceutical industry over the short to medium term were demographics,
diet and lifestyle, diagnostics, new drug discovery and health care.
Indian Pharmaceutical Market:

With a totals annual turnover of Rs.20,000 crores in the pharmaceutical industry showed a remarkable growth and maturity during the last four decades. The capital investment grew from Rs.140 crores in 1965-66 to over Rs.3000 crores in 2001-2002. India, which 16 percent of the world's population produced only 1.2 percent of global output of pharmaceutical and the annual per-capital consumption of drugs in India was one of the lowest in the world at $3. At the same time the Indian prices of drugs were only 12-20 per cent of prices in developed countries but the production and consumption of drugs in India were disproportionate to the medical needs of the country. But still the development of professionalised systems of medicines and their practitioners, building up of hospitals and primary health centres all over the country, production and distribution of much-needed drugs, immunization against diseases such as diphtheria, pertussis, tetanus, measles, mumps, rubella and tuberculosis through national programmes helped the country to achieve improved health status.

The increasing emphasis on exports, the pharma industry became a major exporter even though the medical and market needs of the country were the primary concerns of the industry in the early days. The Indian patents act 1970 permitted Indian companies to manufacture and sell to patients, since the act did not provide for protection of products. The Government of India had protected the domestic manufacturers by restricting imports through licensing tariffs and other mechanisms. The strengthening chemical engineering capabilities, and process technology development made it possible for India to produce practically all the synthetic bulk drugs, most of them at competitive prices and quality matching the best in the world. Today the Indian companies could freely exports bulk drugs to countries where there
were no valid patents exports of patented products to countries where there were valid patents are possible only under licence from the patents.

It was estimated that at current prices, drugs worth $ 40 would go off patents and became generic drugs by 2005. India had the capability to meet the demands of a major portion of the emerging generic market. Even if the selling price is lower capturing 20 percent of this market was activable, which would bring revenues equal to durable that of domestic market today. However, the Indian industry ensured production under Good Manufacturing Practices as well as early filing and approvals for their Abbreviated New Drug Applications (ANDA).

During last 8 years, the top ten companies in India with over 30 percent of the Industry turnover, involved in new drug discovery research in view of the emerging product patent regime. They together spent over Rs.350 crores on R&D where the major accounts went to drug discovery. Indian Giants Ranbaxy, Dr. Reddys and many others have a creditable patent portfolio and entered into licencing arrangements with MNCs to develop their inventions further. But still lack of economies of scale, high financing costs, poor technology and even poorer marketing capabilities all added up in the recent past to near crisis in a section of the industry. The companies flourished through exports which had economies of scale, state-of-the-art technology and marketing strengths.

The Indian industry would not be allowed to manufacture, market or import a patented drug except under licence from the patentee since the country was obliged to implement a globally harmonised product patent regime by 1st January 2005. The Doha declaration at the fourth Inter-Ministerial Conference of WTO once again made
it clear that the public health needs would supercede private rights granted under the patent system.

After 2005, it was better at least for the leading companies in India need to reinforce their commitment to new drug discovery research, considering that even the largest companies would not be able to develop new drugs from concept to global markets. The licensing and collaboration rate for drug development after a candidate molecule had been identified and patented would be the answer. For this the country developed own strategies for new drug development based on alternate systems of medicines. The discovery of new indications for existing drugs, new drug delivery systems of marketed products, chiral drugs based on racemates currently used and biotechnology products and processes need to be evolved. The products made through this approach definitely satisfy patentability criteria to attract global interest and market. Further more the restructuring of the industry with the merger of many small and medium companies or their acquisition by larger companies was necessary. The opportunity for India to be a major supplier for the global generic markets as well as for patented products under licence was well recognised the world over. So that India had the potential to produce 4 percent of global output of drugs against one per cent in the coming five years.

Despite having a very large number of players, India accounted only 1.3 percent of the global pharmaceutical market. Sales of the domestic industry was exceeded Rs.260 billion from 2001-2002. Bulk drugs (APIs) business account 21 percent of the sales while formulations account for the remaining 79 percent in Indian pharmaceutical market.

Over the 20,000 registered pharmaceutical manufacturers existed in the country, leading 250 pharmaceutical companies control 70 percent of the market. The
market share of multinational corporations had fallen from 75 percent in 1971 to around 35 percent, while the share of Indian companies had increased from 20 percent to nearly 65 percent.

More than 60 percent of India's APIs production was exported. The balance was sold locally to other formulators. Over 85 percent of the formulations produced in the country was sold in the domestic market, where India largely self sufficient in formulations.

**Growth of Information Technology in the Organisation:**

The need for information systems was felt right at the time of inception in 1984. Then this requirement was slowly fulfilled through EDP department. It had been recognised by the management that for providing accurate and timely information, computerisation is a must. All functions/processes of the company were IT driven which helped to attain better productivity, transparency, efficiency and quality with providing better work environment.

The top management had the vision and commitment to introduce IT in the every functions of the business activities. The automation of all the departments was completed in 1994. By that time itself the management identified the power of Information Technology in the development of business.

The future plan of the company said that to become the first Indian pharmaceutical company to entrench globally by successfully taking products from discovery to commercial launch. The company emphasised the application of Information Technology, improvements in operation through initiatives in the supply chain and knowledge management gave in the cutting edge.

In a major development during 1999, the company decided to enable E-Business in the marketing and other functions of the internal activities of the
company. As part of the E-Business process the company initiated to launch its customer2drl portal which connected their customers in export markets through the country managers appointed by the company. The company gained high return from the initiative. Meanwhile company also introduced Vikreta2drl for direct transaction between the company and its selected vendors for the domestic operations. This process was also web enabled. The Vikreta was integrated with SAP. So the business partner sitting in any nook and corner of the country could contact the company at faster speed. The communications happened within a click of a mouse instead one week for traditional method of business operation. The total communication and transaction between the business partners became transparent.

The E-Business activities were successfully carried out only because of the successful operation of ERP in the organisation. The major achievements were not only from the time and cost involved but also from the efficiency on the total performance of the system. The business planning process of the company was highly rated because of the involvement of top management and the effectiveness of the time frame.

When the company wanted to implement an integrated package for all internal systems, the support was not available from large vendors of such products. Even if it was available, the entire process was not timely.

**Information Technology Strategy:**

As per Dr. Reddy’s Laboratories, every IT related project proposals started with the business requirements and analysed of how the Information Technology could be used for improving efficiency or effectiveness. Though there were some problems in the initial stage of the implementation, ERP was successful in the company. The current IT strategy or E-commerce initiative was based on the
successful implementation of ERP. The strategy could be developed only when there were remarkable participation among the business partners. The company initiated the E-Business developments and convinced their business partners about the efficiency of the system. They were not forced to use E-commerce. By realising the benefits and reduction in the transaction cost, the business partners adapted the technology. The information system department has collected inputs required for the present E-commerce strategy from various functional departments. The entire strategy was discussed and finalized, but the responsibility of implementing the strategy rests with the IT department.

It was understood that the IT strategy clearly signified the requirements directly in the case of decision support systems and increased operational efficiency. It described the tracking system by integrating the supply chain and by enabling with web.

The IT strategy implementation consisted of factors like resource allocation, and influence of users and top management. As per the resource allocation was concerned, the IT budgeting was done like any other capital items of the company. Whenever the need for some IT solutions was justified, the necessary budgets were provided. In the history of the company, never an IT proposal was delayed or dropped for want of budgets. Even though there were no fixed percentage profit or cost reduced through IT, the current IT spending only looks at the qualitative measurement in the short term.

The users come out with requirements as they see benefits. Any small benefits in any communication process would lead to a huge benefits by meeting more area of operation and also by improving the productivity. Today the company could not
survive without IT. The core reasons for the success of IT development was the top management support during the implementation.

The success of strategy was based on the tangible benefits, intangible benefits, satisfied users and also definitely top management satisfaction. The purchase order and all other schedules were automatically generated by the system which was integrated with SAP R/3, ERP package. The order processing time was brought down to a click of a mouse. The operational efficiency improved to a greater extent. The quality of decision making at all levels of management has improved. The upstream and downstream partners are connected with the company. A total paper less working environment has been brought, which improved the quality of working. order receiving, order execution, delivering, forecasting, servicing, efficiency of communication has resulted through the system. The user satisfaction based on user requirements, user participation, total transparency, immediate response was totally high. The key users in all functional department showed high level of satisfaction. On the other hand the company had good reputation. The top management was able to see the entire activities in each department which ultimately make high level of satisfaction.

Customer 2drl.com (E-commerce portal):

Customer2drl was a very interesting story of the successful operation of E-commerce in India, done by a major pharmaceutical company. They showed that the business used Internet to gain global visibility across their extended network of the trading partners and helped them to respond quickly.

Out of the generic bulk and branded formulations divisions, branded formulation divisions exporting unit was doing E-commerce with four major Russian countries and two countries in Asia-Pacific region. According to a company official,
Dr. Reddy's Laboratories were planned to extend the network further to twenty seven (27) countries all over the world.

The company believed that, in the information age; timely, accurate, reliable and consistent information for the right people at the right time would improved the efficiency of business and strength the relationship between the business partners. The company used the Internet technology basically on three major processes; forecasting, actual ordering and making stock statements.

The company started customer2drl.com, a business solution which provides a platform to exchange information between customers and Dr. Reddy's. It was the pure form of paperless transaction which used online communication for information sharing and integration.

Information flow was the key to the success of any organisation. Timely, accurate, reliable and consistent information which was accessible to right people at the right time, was the need of the hour. The overall performance of the company was based on the quality of information, speed of communication and the decisions reached on the basis of the information. Information flow would helped to improve the efficiency of core business, strengthen relationship with both customers and partners, extended business in new ways and developed better service and new products.

Customer 2drl eliminated move misrouted forms, cost of invoices, redundant entries, missing cheques or delays. It enabled information sharing, routine communication and reserve face to face interaction for the activities that add the most value. www.customer2drl.com was a web service to help, improved collaboration and communication between the company and its business partners.
At the click of a mouse the business partner could create purchase order to Dr. Reddy quite easily. Tracking of purchase order (PO) status, receiving dispatch details and knowing about Dr.Reddy's new products was also possible through customer2drl website. The company's business partners could communicate through e-mail for clarifying doubts promptly. The site helped to know when you would get your stock. It updated stock statements, sales status and acknowledged stock receipts.

The company provided a user ID and password to the concerned business partners to logon into the website. This system facilitated complete transparency of information and reduction of the direct and indirect costs involved in the front-end operation of business activities.

Dr.Reddy Laboratories had appointed country managers in different parts of the world. All the country managers were able to get the updated information about Dr.Reddy's products at the click of a mouse. The effective interaction between the trading parties and DRL reduced the communication gap there by improving the customer service. These country managers were authorized to do business in their consecutive areas. They check the orders and approved it through the internet communication.

The person sitting in the planning and customer service relations department could either process or reject an order by sitting in his place, within few seconds he received the correct order. So the correction or clarification of the order and its approval or rejection which had taken usually 3 days to complete now took only a few seconds. Earlier for urgent orders company had to make fax messages to both parties made large amount of money for the first stages of order processing at Dr.Reddy’s. This led to the effective utilisation of online communication, which ultimately
affected the overall business practices. The time and money saved for an order processing through customer2drl system was tremendous, compared to the surface mail system.

**How to access customer2drl.com:**

Access to customer2drl did not cost a fortune, for the business partners. Only a Personal Computer, preferably a Pentium with windows 98 or 95, an Internet connection and a browser (MS Internet Explorer 5.0 or above for enhanced performance). Access ID and password provided by the company. Once connected to Internet, open the browser and type http://www.customer2drl.com to enter the site’s logon page. To logon enter user’s ID and password in the boxes provided and click ‘go’ button. Change password immediately after logon to ensure security. If the users troubled in logging or forgotten the password they could contact the administration.

**Main Services Provided:** An overseas customer could create purchase order by selecting the products and enter the purchase order. Click on ‘prepare order’ to continue. Enter quantity for products. Click on ‘Get Prices’ to continue. The Delivery schedule can also be selected through the system. The first button will be default delivery date for all products. Further changes could be made to specific products. Provide discount required and percentage free of cost as per negotiations with Dr. Reddy’s representative. Terms and conditions could be submitted by clicking ‘submit’ button to Dr.Reddy’s manager for further processing. It was mandatory to provide delivery schedules for all products.

The business partner could view the status of their orders while being processed in the system. This would help them to track progress of their purchase orders and remain updated at no cost at all. In the order itself, the user had different
options. He could create new order and submit to Dr.Reddy's Manager (Country Manager). Create order based on agreed contracts through “create order” facility. Click on Re-order to use existing order as templates for creating similar orders with different quantities. The user could save a lot of effort and time. At the same time the partners could view status of order accepted by Dr.Reddy, routed to production. The order dispatched by the company, saved order for editing and submitting to Dr. Reddy’s, orders submitted to Country Manager (CM) for processing, orders returned by CM for clarification and re-submittal, orders returned by Dr. Reddy’s Supply Chain Manager for clarification/changes and re-submittal, orders returned by the Dr.Reddy’s representatives and rejected by the customer could easily viewed through the system. Re-orders could also be created from old orders by just changing quantities and terms and conditions.

The customer2drl provided stock and sales details regularly to help Dr. Reddy’s to serve their business partners better. The partners could add new material to the statement and provide sales information on a monthly basis. Rest would be calculated by the system for the user’s convenience. All the statements could easily be edited and viewed.

Customer2drl’s self service option provided information that was relevant for business between the company and partners. The open/closed invoices and dispatched made against invoice can be viewed. The payment details for each invoice could be created by clicking ‘Payment details’.

The business partner could get quick information regarding statement of accounts between any two dates as he/she chooses, all dispatching made and payments made, current outstanding based on the current date chosen in the date
range. But the users provided sales information by the 5th of every month and monthly forecast before 4th of every month.

**Dispatch Details could-be Viewed as Follows:** Click on ‘dispatches’ in the main menu and select “To be acknowledged”. This would provide a list of purchase orders with dispatches from Dr.Reddy’s. For every order, select a specific delivery that you want to acknowledge. The dispatch details and acknowledged delivery appears along with specific comments. Once acknowledged, dispatches could be viewed at “acknowledged” menu.

The customer 2drl also had features like ‘search’ where any data pertaining to the partner within the site could be accounted for the category, ‘Mail’ contact. Change password and change of address were the other features of customer2drl. Change of address maintain profile and address details at one single location.

There were unlimited scope for E-commerce activities world over, which forced the policy makers and business leaders think over to restructure their business practices in order to cope with the changing technologies. There was a say that adopting any of western success strategies may not be effective in India. But the success story of Dr.Reddy’s proved that good planning and effective strategies enabled the company to immensely benefit from adopting new technology.

There was a need to involve all stakeholders like employees, external suppliers and customers right from the conceptual stage need to re-evaluate a company’s core competences. Earlier study about E-commerce in pharmaceutical industries showed that the bulk drug segment of the industry was threatened by the restricted life cycle of the molecules and import from other countries. But they could be competitive by developing into research-based firms and improved their domestic sales. Here also
company’s concentration was to reduce the transaction cost of ordering and supplying. Dr. Reddy’s Laboratories proved that this could be achieved through customer2drl.com. The formulations segment under the government control and competitive market faced challenges to the firm. In order to meet the challenges the firm improved their supply chain efficiencies and inventory management. The extended application of E-commerce also reduced order fulfillment cycles and inventories thereby improving profitability.

The traditional business operates with purchase order receipt and invoice requisitions for quotations. First of all the blue print had to be requested from the storage, retrieved from the vault, transported to the processing site, photocopied, folded, attached to paper requisitions, stuffed in to the envelopes and mailed out. All these procedures take a lot of time and money for the successful completion. The labour involved in these process was also costly. But with the implementation E-commerce system, the following reduction could be met.

The cost of major process in an order execution was given below:

<table>
<thead>
<tr>
<th>Factors</th>
<th>Reduction in percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor involved in the procurement process</td>
<td>30%</td>
</tr>
<tr>
<td>Material cost</td>
<td>5 – 20%</td>
</tr>
<tr>
<td>(Due to wide reach)</td>
<td></td>
</tr>
<tr>
<td>Staff redeployed</td>
<td>60%</td>
</tr>
</tbody>
</table>

Here the sourcing department had got 6 to 8 free days. So that they could concentrate on strategic activities rather than on the paperwork, photocopying etc.
They could use these time for identify suppliers, prepares a request for bid, negotiate price and award a contract to the supplier. Now the total time of 18 to 23 days had been reduced to 9 to 11 days. Invoices were automatically reconciled with purchasing orders, reflecting any modifications that happened along the way. The productivity also improved by 10 percent. But proper training should be given to the concerned people for the successful operation of E-commerce.

The exports or international marketing division of the branded formulation was doing business with a total of 33 countries all over the world. These countries may or may not have sub agents. But DRL has got country managers to look after all transaction between the company and its business partners. DRL did business with the following countries. The exports business usually contribute 80 percent of the branded formulation division with 2 Asia Pacific countries and 4 other countries. They were Russia, Sri Lanka, Vietnam, Ukraine, Kazakhstan, Belarus.

Dr. Reddy's Laboratories had also launched B2B e-commerce portal for their domestic operation. All the selected major vendors were connected to the company through Vikerta2drl.com. Once the www.vikreta2drl.com was connected, the vendor gets username and password to logon to the site. When the vendor logon to the vikreta, the system alerts about new purchase order, schedule agreement and mails. The site provided complete information on purchase orders including the print versions. Both the business partners could view the shipment details online. Account statement and outstanding balances also could be viewed in the system. The mail facility enabled effective communication between DRL and its vendors. The multiple options searching facility facilitated the strong relationships between the company and its business partners,
The vikreta2drl was connected to supplier who supplied both and direct and indirect materials. Direct materials include raw materials, intermediates, and packaging materials whereas indirect materials consist of capital equipment and MRO’s. Once the user ID and password was entered the supplier could download the purchase order from the ERP implemented through the SAP system. The ERP was integrated with web. When the purchase order was downloaded the data could be posted in the site, which generated purchase order against the purchase request. Then the approval process has to be carried out. This would alert the vendor to send e-mail or SMS for further communication. Then the system could note the information on product specification, quantity, delivery and price. The system also provided to enter the payment details (Cheque number, date, amount and Bank). When the goods received at the plant, GR could be seen by vendors against the supplier.

The total time taken for some of the major activities were given below. The time taken in different mode of operation was as follows:

<table>
<thead>
<tr>
<th>Activities</th>
<th>Post</th>
<th>Fax</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiving of purchase orders</td>
<td>5 days</td>
<td>2 days</td>
<td></td>
</tr>
<tr>
<td>Clarification time</td>
<td>12 days</td>
<td></td>
<td>15 minutes</td>
</tr>
<tr>
<td>Acknowledgement</td>
<td>5 days</td>
<td></td>
<td>3 minutes</td>
</tr>
<tr>
<td>Posting of order to the concerned Department</td>
<td>2 days</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: primary data collected by the researcher

In the international market, an average of two orders from each country which usually took 5 minutes to 2 hrs to process. The above table was calculated based on that.
Lessons Learned From Customer2drl:

The customer portal initiated 4 years back taught a lot of things to the company. As far the pharmaceutical industry was concerned, selling or marketing products by launching it on the website and ask the customer to proceed was difficult for business purpose. Instead of push strategy, the company had to apply pull strategy. The demand of IT had been made by the customers.

The customers were hesitated to use web services to contact the company. There were many reasons for the low level of usage. Out of the six countries used customer2drl, the usage level had come down to two countries namely Russia and Srilanka. The major reason for the low level usage of customer2drl was as follows:

1. The access to internet connectivity at each of these countries.
2. The customers were more comfortable and convenient in using fax and telephone
3. The customers did not wanted to log on to the Internet and enter so many things about them repeatedly
4. The customers were interested Electronic Data Interchange (EDI) rather than E-commerce oriented business process.

Dr. Reddy was doing EDI operation among the customers in US. All these customers preferred to send either fax message or e-mail attached messages. The customer2drl process was now limited and benefited to the marketing executives and some country managers for international operations.

Vikreta2drl (B2B e-commerce portal):

Dr. Reddy's Laboratories also launched B2B e-commerce portal for their vendors operating the country. All the selected major vendors were connected to the company through www.vikreta2drl.com. Once the site was connected, the vendor
could enter his username and password to logon to the portal. When the vendor logon to the portal, the site alert about new purchase order, schedule agreement and mail. There were three types of purchase order namely schedule order, service order and normal order. The site provided complete information on purchase orders including the print versions. Both the business partners could view the shipment details online. Account statement and outstanding balances also could be viewed in the system. The mail facility enabled effective communication between Dr. Reddy’s and its vendors. The multiple options searching facility facilitates the strong relationships between the company and its business partners. Both the business partners could view the supply documents. All the purchase procedure was carried through the vikreta2drl.

The vikreta2drl was connected to supplier who supplied both direct and indirect materials. Direct materials include raw materials, intermediates and packaging material whereas indirect material consist of capital equipment and MRO’s. Once the user id and password was entered the supplier could download the purchase order from the ERP implemented through the SAP system. The ERP was integrated with web. When the purchase order was downloaded, the data could be posted in the vikreta site, which generated order against the purchase request. Then the approval process had to be carried out. This would alerts the vendors to send e-mail or SMS for further communication. Then the system could note the information on product specification, quantity, delivery and price. The system also provided to enter the payment details (cheque number, date, amount and bank). When the goods received (GR) at plant, GR details can be seen by vendors against the suppliers.

**E-enabled Human Resource:**

Dr. Reddy’s Laboratories recently constituted a multi tiered team of IT, HR and finance to relook the entire practice based on single point data capture, minimised
human intervention, synergies of operation, ensuing data integrity, improved service delivery, relieving business HR from transactional roles, build adequate control and failsafe mechanism for each processes. After several rounds of dialogue between HR service providers at the various business, a workout was conducted. The result was that the entire process has to be defined end-to-end. It was realised that the IT enablement for the entire process end to end was aspirational at the moment. So that the responsibilities were clearly defined for manual parts of the process. The HR module of the ERP implemented across the business units was chosen for getting benefits.

A web enabled service portal with workflows for applications like leave for employees, recruitment and travel was linked to the company's intranet for ease of use and wide access. The employees were permitted to use leave application facility, checking of balances, travel request which was conceived mainly through kiosk with less access to direct systems. The intranet had been used for e-enabled recruitment indenting system, displaying hot jobs and allowing application. The application which takes its routing from the main employee database, allows the central talent management team to sort through the resume database using customised querying on any combination of the factors like qualification, experience and age. The employee could also get his record, department colleagues, ex-company colleagues, same blood group report, birth days and anniversaries of colleagues and can search some other employee details. The management could take personnel decisions based on the report on unit wise headcount, reporting relationship, education and experience which was available on line.

There were major challenges during the implementation. The translation of the complex matrix organisation into the rigidity of an ERP made a complex challenge. It
was a challenge to integrate and offer a uniform quality of service and experience to customers. The different ways on overtime, medical, leave, travel allowance, leave encashment had to be sorted out and standardised to meet the strait jacket requirement of the ERP. The union agreed on the different pay structures and allowances needed highly differentiated mapping for each location. The new way of working made the resistance to process re-engineering either because of the loss of power syndrome or getting more workload syndrome. Oth the new and old process were run parallel. The departmental agenda for timely completion, others for building controls, documentation quality, and users for ease of use created problems of prioritisation. The data formats for quality and style for data were needed to be standardised before pushing it into the enterprise system.

**Lessons learned:**

Workflow tools were the centre of E-enabled HR. The success of E-HR hinges on systems that easily exchange data. An effective E-HR can leverage the value of an Enterprise Resource Planning (ERP) system and help the organisation to understand the business better. The effective workflows and cleverly designed processes could release executive time for doing more strategic work. Employees might be confused by various E-processes. So training for the employees was vital.

**Latest E-commerce Developments:**

Dr. Reddy’s were using all the transactions payable at various Strategic Business Unit (SBU). These transactions had been centralised in one shared services centre. The vendors could call and know about the statement of payment, date of payment, the invoice position, the cheque status.
On the vendor portal vikreta, there was a speech recognition software which recognise the vendor status, invoice received, payment statement and defects. All most 2000 vendors logon to the system every month.

Marketing representative has to call upon a doctor and make a monthly plan. Every month they need to sent the monthly plan. The monthly plan has to be executed by making a call to a doctor. When the marketing representative sent the plan it had taken one month time to process and pass the information to the senior manager. But through this system all the 1500 medical representatives were provided with Reliance wireless phone and PDI. Whenever the Representative get his plan he calls the doctor and puts the feed back into the hand held machine, which could be connected to the mobile phone. So that he could sent all information daily without going to an Internet café or facing the problems in the accessibility of Internet. The Reliance mobile phone is internet enabled. All the southern states had been connected through the wireless mobile facility. Only the Calcutta geographic region was facing some problems with Reliance connection. Huge investments had been made for the wireless telephone system. The PDI cost was only Rs.12000. Once the information sent to the company, the next day it could be retrieved through the net and processed. Instead of the earlier one month time for the information processing, it happens now on-line. The analysis made mainly based on the type of doctor, the representative contacted, the help plan given to the doctor, and sample given to the doctor.

Future Plan:

Dr.Reddy's future plan focused mainly on the IT enabled Business Process. The company also planned to web enable all the facilities provided in the automatic speech recognition system.
Dr. Reddy's Laboratories Limited

Dr. Reddy's Laboratories is an emerging global pharmaceutical company with proven research capabilities. The Company is focused on creating and delivering innovative and quality products to help people lead healthier lives.

Our technologies and expertise in the development and manufacture of quality organic intermediates, bulk actives and finished dosage forms have been critical to our success in delivering innovative and affordable life-saving medicines to customers world-wide, including Europe, Japan and the US.

Dr. Reddy's Q2 FY05 revenue at Rs.5,407 million; Net income at Rs.517 million

Notice of Board Meeting