Internationalisation Strategies of Indian Pharmaceutical firms

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December 2007

IKD WORKING PAPER NO.23

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Abstract

In last decade a host of new multinational enterprises have risen from developing countries such as Indian and China. These new multinational enterprises (MNEs) are dominating global economy and challenging existing paradigms of international business literature. In this context this paper tries to explore whether internationalisation of firms from developing countries can be explained in terms of mainstream theories derived mainly from studies of Western multinational corporations or do these cases present new insights in the explanations that have been offered for latecomer multinationals. With this in mind, the present paper explores patterns and motives for internationalisation by Indian pharmaceutical firms. It focuses on internalisation that is directed towards expansion into foreign markets and accessing new technologies. The paper moves beyond study of export from domestic units and investigates different strategies adopted by Indian firms to internationalise their operations.

The evidence presented here suggests that Indian pharmaceutical firms are internationalising by acquiring small firms as well as setting up their subsidiaries, in order to access resources, move up value chain and enter new markets. Each of these routes have provided certain benefits but equally posed different challenges and risks.

1. Introduction

Globalisation is widely seen as a dominating phenomenon of 21st century encompassing world wide integration of financial systems, trade liberalisation, deregulation and market opening resulting in a global market and patterns of industrial development. In last few decades it is evident that firms and institutions from peripheral countries or developing world are making sustained and deliberate effort to take advantage of the new opportunities. The rise of East Asia followed by growth in China and India has led to emergence of new breed of multinational enterprises (MNEs) from these countries. By the end of 2004 China emerged as fifth largest outward direct foreign investor with a total US $ 37 billion and was the third largest exporter after Germany and the US (Child and Rodrigues, 2005). Similarly albeit on a smaller scale in the last decade Indian economy saw a dramatic growth in overseas investment by the Indian industry. The firms from latecomer countries are making inroads in sectors such as manufacturing (steel and pharmaceuticals) and services (IT) and trading as well as high-technology sectors like semi-conductors. Some of the firms such as Infosys, Lenovo, Ranbaxy and Espat are now competing at a global level.

Multinational enterprises from developing countries are a clear representation of a sustained increase in outward foreign direct investment (FDI) from developing countries which has risen from $60 billion in 1980 to $ 869 billion in 2000 and to a total in excess of $1trillion for the first time in 2004 (UNCTAD, 2004). Outward FDI from developing countries accounts for more than 10 percent of the world's outward FDI. The rise of outward FDI and new MNEs that embody it, from economies such as India, China, Korea, Singapore, Malaysia and Taiwan is a key phenomenon for the world economy in last decade. It shows that firms from developing countries are rising to compete at the frontiers of the world market and this paper reviews the strategies they have adopted to achieve that by using case studies of five Indian pharmaceutical firms.

The first wave MNEs from the developing world documented by authors such as Kumar and McLeod (1981) and Lall (1983) succeeded as international players despite many difficulties. Their success was due as much to the difficulties encountered at home as to the incentives driving internationalisation. One of the most salient features of first wave MNE activity is the direction and motivation of FDI compared to western MNEs. Much empirical work on first MNEs indicated strong and marked trend investments in neighbouring and other countries which were at a similar or earlier stage of their development. Prominent first wave countries such as India, Philippines, Argentina and Columbia did not show any significant increase in either the level of the total outward FDI, nor a significant shift towards developed country hosts.

But the arrival of the second wave MNEs from developing countries represents quite a different phenomenon. First wave countries experienced very low or negative economic growth rate whereas second wave countries grew rapidly over the intervening decade and half. This has been further enhanced by fundamental changes in the world economy which were a direct result of globalisation. Globalisation has created a more broad and competitive market across countries due to convergence of production and industrial patterns. As a result firms need to have

competitive advantages that are globally viable rather than domestically. Most of these developing countries also went through a fundamental shift in the policy orientation from an import substituting role to an export oriented outward economy. Firms in these countries now faced competition in domestic market with global firms and needed upgrade their capabilities to survive. These changes had a profound impact in creating a second wave of MNEs from developing countries. Therefore Mathews (2006) argues that analysis of second wave requires different perspectives that differ from those created to account for outward FDI from developed countries, and the first wave of MNEs from developing countries.

Initial analysis of second wave of MNEs reveals that overseas move of firms in the second wave is a result of the 'pull factors' that are drawing firms into global connections unlike 'push factors' that drove firms as stand alone players in the first wave (Mathews, 2006). Dunning et al. (1997) suggest that in the case of second wave of MNEs from East-Asian countries such as Taiwan and Korea were subsidised by governments with government policy interacting with firm strategies. The rise of second wave MNEs from emerging countries is less driven by cost factors per se, but more by a search for markets and technological innovations to compete successfully in the global economy (Yueng, 2000). The sudden appearance of the second wave of firms and their capacity to create competitive positions to existing incumbents has raised interesting questions as they are not simply occupying space vacated by incumbents instead in many cases they are creating new economic space by their organisational and strategic innovation. Thus the changes in the world economy, specifically its globally interlinked character is responsible for driving the new approaches to and patterns of internationalisation in firms from peripheral countries. Therefore Mathews (2006) suggests that existing theories and framework of internationalisation have failed to capture organisation and strategic innovations adopted by developing country MNEs for new modes of internationalisation.

In this context the Indian pharmaceutical industry provides an ideal case to investigate approaches and motives of second wave MNEs firms from developing countries.

From the beginning of the 1990s, the Indian government started liberalisation by removing restrictions on trade such as regulations on FDI and opened Indian market to overseas firms. As a result of liberalisation policy Indian economy witnessed dramatic growth, changes in domestic market and firm activities specifically in relation to overseas expansion strategies. The cumulative number of overseas project approved during the 1990s is estimated to be 2652, a nearly 11 fold increase from the number of projects permitted during 1975-90 (230) (Pradhan, 2004). The growth of overseas investment is been characterised by significant changes in location and sectoral distribution. In the 1990s the majority of investments have originated from the service sector and were increasingly developed country-oriented with majority ownership in most cases. The most important destination of Indian outward FDI to date is the USA which accounted for 19% of total cumulative outflows from 1996-2003. In 2005 Indian firms acquire 136 firms overseas with a total value of US $4.3 billion. The Indian pharmaceutical industry is at the forefront in international expansion compared to other manufacturing sectors in the Indian economy.

The Indian pharmaceutical industry is the thirteenth largest in the world in terms of market output; accounting for a market of about US$ 2.5 billion (Ramani, 2002). It is ranked as the most advanced pharmaceutical industry amongst developing countries and is one of India's best science-based industries. Indian firms have been investing abroad for many years but it is only since the late-1990s that outward FDI flows have risen considerably. The liberalisation of government policies and relaxation of regulations on FDI abroad have helped Indian firms to expand internationally. In the last decade some Indian pharmaceutical firms have successfully internationalised their operations and emerged as a major producers and suppliers of generic drugs all over the world. This paper presents a study of internationalisation motives and strategies adopted by Indian pharmaceutical firms. In the absence of more systematic longitudinal firm level data this research is based on case study evidence.

The findings suggest that Indian pharmaceutical firms are accessing advanced markets and acquiring new technology through the process of internationalisation. Indian firms augmenting existing skills in production capabilities and process R&D by acquiring technology focused firms in advance markets. The analysis suggests that Indian pharmaceutical firms have adapted to the realities of globalisation and are finding new niche through the process of internationalisation.

The structure of the paper is as follows. Section 2 presents relevant theoretical literature summarising mainstream and alternative explanations for the internationalisation of firms with particular emphasis on studies of firms from developing countries. Section 3 discusses development of the Indian pharmaceutical industry and follows it with detailed case studies of internationalisation in five Indian pharmaceutical firms. This section provides main evidence for insights. The final section analyses the evidence and elaborates broader theoretical and managerial implications of the analysis.

2. Internationalisation of firms from developing countries

The mainstream perspective in international business assumes that firms will internationalise on the basis of a definable competitive advantage that allows them to secure enough to cover the additional costs and risks associated with operating abroad (Buckley and Ghauri, 1999; Caves 1971). Dunning (1981; 2001) draws together elements of previous theories to identify ownership, location and internalisation (OLI) advantages that motivate internationalisation. Ownership advantages are firm-specific factors such as superior proprietary resources or managerial capabilities that can be applied competitively in a foreign country (Barney, 1991). Location advantages can account for decisions to invest in foreign countries that offer superior market or production opportunities to those available elsewhere or opportunities to secured valued inputs. Internalisation may accrue to firms that can reduce transaction costs by investing abroad so as to undertake transformation or supporting processes more effectively that that can be achieved through market transactions. The benefit of internationalisation advantage depends on ownership capabilities and in general this has been a dominant explanation for the emergence of internationalisation by firms. FDI occurs when a firm chooses to exploit the

monopolist advantages of its intangible assets through direct production rather than exporting from its home country or licensing the advantages to a third party abroad. The existence of impediments to a free flow of products between nations such as tariffs and non-tariff barriers and market failures in the arm's-length transactions in intangible assets tends to decrease the profitability of exporting licensing relative to FDI. This influential perspective is mainly developed on the basis of studies of large western MNEs, which suggests that internationalisation is motivated by a firm's wish to exploit its existing ownership advantages (Child and Rodrigues, 2005). The rise of MNEs has been attributed to efficiency advantages in the management of inter-dependencies concerning know-how, reputation, the value chain and marketing through internationalisation. Thus conventional view of mainstream theory of internationalisation focuses on overseas possibilities of assets exploitation.

The late 1970s saw a stream of research on FDI by firms based in developing countries such as Brazil, India, Indonesia, Mexico (e.g. Kumar and Mcleod, 1981; Lall, 1984 Lecraw, 1977). These studies concluded that developing country multinationals invested abroad based on firm specific advantages in product and process technologies that suited conditions in the host countries in which they invested. They competed on price rather than product differentiation, normally utilising smaller scale, more labour intensive and more flexible technologies than did other MNEs (Lecraw, 1993). Some studies indicate that MNEs from developing countries suffer disadvantages compared with MNE from developed countries. These disadvantages include outdated technology, personalised management system and limited knowledge of overseas markets. The findings are consistent with the argument that multinational companies (MNCs) from developing countries need to catch up if they aspire to become global players.

Studies based on multinationals in the newly industrialising countries of East Asia have pointed out considerable differences in some of their features. These firms have pursued accelerated internationalisation over the course of the past decade and acquired a global reach in a fraction of the time taken by their predecessors. Mathews (2002) proposed alternative internationalisation framework; Linkage, Leverage and Learning (LLL) framework for latecomer MNEs. It emphasises importance of external linkages and the capacity of new resource poor firms to leverage resources from such linkages. This perspective suggests the possibility of firms developing international links in order to seek assets; firms enter international business to develop new resources and capabilities which they lack. This argument is mainly applied in the case of firms from latecomer countries such as South Korea, Taiwan, Hong Kong and Singapore. Mathews (2002) points out that firms in these countries did not start from positions of strength but rather 'from the resource meagre position of an isolated firm seeking some connection with the technological and business mainstream'.

However both these frameworks fail to provide any reference to the institutional context. Dunning (2006) suggests that institutional capabilities of firms and the incentive structure and enforcement mechanisms of home and host countries are key factors affecting clustering, leveraging and learning aspects of MNE activity but remains neglected. Child and Rodrigues (2005) also argue that mainstream perspective on the internationalisation of the firm focuses strongly on the firm as an actor and less on its embeddedness in its wider society. In case of

developing countries the institutional context and specifically government policies tend to play an important role in creating the 'rules of the game' for businesses. India and China are two larger countries where government involvement has been particularly significant (Dunning and Narula, 1996). Pradhan (2004) analysing determinants of overseas investment activity of Indian manufacturing firms suggest that internationalisation of production activities of Indian firms is partly influenced by policy liberalisation during the 1990s. In the beginning of 1991 India's policy regime on trade, industry, FDI and technology saw many transformations such as removal of restrictions on imports, liberalisation of FDI policy and launching of several trade promotion measures. The Indian pharmaceutical and IT industries choose internationalisation as an important part of their strategy to succeed in this new liberalised economic environment. This study of Indian pharmaceutical industry may well provide new insights regarding the relevance for firm internationalisation of the interplay between government and entrepreneurship. The relative success of the Indian pharmaceutical industry in last the decade suggests influential role of government policy in shaping firm strategies towards internationalisation.

3. The Indian pharmaceutical industry

Although India currently represents just US $6 billion of the $550 billion global pharmaceutical industry, its share is increasing at 10 % a year. The organised sector of India's pharmaceutical industry consists of 250 to 300 companies, which accounts for 70 % of the market, with the top ten companies representing 30%.

The Indian pharmaceutical industry has developed wide ranging capabilities in the complex field of drug process development and production technology. It is well ahead of other developing countries in process R&D capabilities and the range of technologically complex medicines manufactured (Kale and Little, 2007)

The Indian government adopted a new Patents Act in 1970, which laid the foundations of the modern Indian pharmaceutical industry. It removed product patents for pharmaceuticals, food and agro-chemicals, allowing patents only for production processes. The statutory term for production processes was shortened to five years from grant or seven years from application. The 1970 Patent Act greatly weakened intellectual property protection in India, particularly for pharmaceutical innovations. It started the era of reverse engineering where firms developed new products by changing their production processes. Trained manpower, comparative ease of imitation and a strong chemistry base among Indian research institutes supported manufacturers and gave the Indian pharmaceutical industry its current profile.

The industry's exports were worth more than US $ 492.30 in 2005-06 and they have been growing at a compound annual rate of 22.7 percent over the last few years (National pharmaceutical policy, 2006). The value of the Indian pharmaceutical industry's overseas acquisition has grown from just US $8 million in 1997 to $116 million in 2004 (Bloomberg, 2005). Indian firms have acquired over US $1 billion worth of pharmaceutical companies overseas in 2005.

There are 3 developments which are pushing expansion of the Indian pharmaceutical industry into overseas markets;

a. Opportunities opened in the US generic market due to the Hatch-Waxman Act,

b. Increasing outsourcing by MNC pharmaceutical firms and

c. strengthening of patent laws in the domestic market. These three developments are creating new challenges and opportunities for Indian industry and internationalisation is one of route adopted by Indian to succeed in this new environment.

The generic opportunity is a result of the passing of the Hutch Waxman Act in the US in 1984. Under this new law, manufacturers of generic drugs no longer had to go through a lengthy period of extensive clinical trials in order to market a generic drug - demonstration of bio-equivalence was sufficient to acquire a patent on a generic drug. Procedures were established for the resolution of disputes between branded drug manufacturers and generic manufacturers. Western markets were a lucrative business opportunity and the low cost advantage enjoyed by Indian firms on account of the cheap availability of scientific labour combined with scale economies inherent in the manufacture of bulk chemicals made for big margins. Between 1999 and 2005 drugs worth $ 64 million went off patent allowing generic companies to take advantage of better business opportunities. In the generics industry prescription drugs worth $40 billion in the US and $25 billion in Europe are due to loose patent protection by 2007-08. In 2004 the US senate passed the Greater Access to Affordable Medicine Act diluting some of the pro-innovator provisions of 1984 Hatch-Waxman Act, giving a big boost to the generic business in the US. Similarly Europe is emerging as a key market and a potential growth driver. The size of market in 2006 was US $ 14.2 billion with Germany, France, the UK and Italy accounting for more than 50% of market. Governments in Europe are trying to reduce healthcare costs by embracing generic drug companies. Liberalisation facilitated the ability of Indian firms to exploit this opportunity to market generics drugs to the US and other Western economies. Indian firms are preparing themselves to take a share of this increasing global market. Indian drug manufacturers currently export their products to more than 65 countries worldwide; the US being the largest customer. However Indian firms face some difficult challenges such as non tariff barriers, decreasing profits in the generics market, competitive threats from big pharma MNEs and reputation in western markets. For example, US regulation disqualifies Indian firms from bidding for government contracts and Indian firms have to submit separate applications for each state even when firms have FDA approved products and facilities. Another challenge is the reduction in profit margin due to intense competition from Chinese and Eastern European manufacturers as well as authorised generics produced by main manufacturer. Currently Indian industry is estimated to account for 22% of generics in the world market. Indian firms are aiming to move up the value chain by developing capabilities to produce ‘super generics’ rather than ‘generics generics’ to branded generics.

Furthermore, stronger patent protection under the new patent law of 1999 has shut down the avenues for exploitation of generics opportunity in domestic market, but promised large rewards to Indian firms that could leverage their reverse engineering capabilities in advanced markets. The stronger patent law restrict reverse engineering of newly patented molecule, thus affecting an important source of growth for Indian firms. Also

multinational pharmaceutical firms have entered India after 2005 and using the same resource base as Indian firms to compete in the Indian domestic market further increasing pressure on profit margins of Indian firms.

The contract research and manufacturing services (CRAM) market has emerged as huge opportunity for the Indian pharmaceutical industry. According to Frost and Sullivan (2005), the global outsourcing market is worth $37 billion and growing at almost 11%; 50% of the contract manufacturing market is in North America, 40% in Europe and just 10% in Asia and the rest of the world. Indian firms possess requisite capabilities to cater for the requirements of outsourcing markets, still India accounts for barely 1.5% of the global CRAM industry. Due to untested patent protection law and lack of data protection MNC firms are reluctant to outsource early stage R&D work to Indian firms. Therefore Indian firms are trying to increase their share in the outsourcing market by moving closer to the market.

Geographically the overseas acquisition by Indian pharmaceutical firms continues to be directed at developed countries specifically the US and Europe (Table 1). Out of 32 acquisitions listed in Table 1 only 6 are in developing markets and the remaining rest of 26 are in advanced markets such as the US and Europe. The major acquisitions are in the area of marketing although some companies are investing in building manufacturing and R&D capacities in developed markets. Indian companies have already established manufacturing plants in the US, Europe, Brazil, Russia and China.

Table 1 Recent acquisition by Indian pharmaceutical firms (Ref: KPMG Report, 2006)

Company	**Focus area**	**Year**	**Target**	**Value US $ Million**
Dishman Pharma	Contract manufacturing and research service	2005	Syprotec (UK)	93.5
Dr. Reddy's Laboratories	US generics, speciality products, APIs, formulations, custom synthesis	2004	Trigenesis (US)	11
		n/a	BMS Laboratories and Meridian Health care	16
		2005	Roche's API Business (Mexico)	59
		2006	Betapharm	572
Glenmark Pharma	Drug discovery research, formulations	2004	Kinger Lab (Brazil)	5.2
		2005	Uno-Ciclo (Brazil)	4.6
		2005	Servycal SA (Argentina)	n/a
Hikal	API's contract manufacturing	2004	Marsin (Denmark)	6 million for 50% stake
Jubilant Organosys	CRAMS, pharma speciality, chemicals, intermediates,	2004	PSI (Belgium)	16
		2005	Trinity Laboratories (along with subsidiary Trigen Laboratories)	20.25 million for 75% stake

	formulations, medical chemistry and clinical services		(US)	
		2005	Target Research Associates	33.5
Matrix Labs	CRAMs, generic APIs, intermediates and formulations	2005	MICHEM (China) (JV)	n/a
		2005	Docpharma (Belgium)	263
		2005	Explora Laboratories (Switzerland)	n/a
		n/a	Fine Chemicals corp (South Africa)	n/a
Nicholas Piramal	CRAMS space – contract manufacturing, APIs, branded formulations	2004	Doubtrex brand acquisition (US)	
		2004	Rhodia's inhalation business (UK)	14
		2005	Biosyntech (Canada)	6
		2005	Avecia Pharma (UK)	16.9
Strides lab	Generics, OTC and nutraceuticals	2005	Manufacturing plant (Poland)	8
		2005	Beltapharm (Italy)	EUR 1.6 million (70% stake)
Sun Pharma	Branded formulations, US generics, APIs	2005	Two facilities from Valent Pharma (Hungary, US)	10
		1997	Caraco (US)	7.5
		2005	Able Laboratories (US)	23.15
Ranbaxy	US and Europe generic markets	2004	RPG Aventis (France)	84
		n/a	18 generic products from Efarmes S.A. (Spain)	n/a
		2005	Brand –veratide from P&G (Germany)	5
Torrent	Formulations, European generic market	2005	Heumann Pharma (Germany)	n/a
Zydus Cadilla	Contract manufacturing and generics	2003	Alpharma (France)	6.6
Wockhardt	Biogenerics, US and Europe generic market, Branded generics	2003	CP Pharma (UK)	20
		2004	Esparma (Germany)	11

The major Indian companies such as Ranbaxy, Dr. Reddy's Laboratories, Wockhardt and others have established their own brand image in the international market and are taking steps to consolidate their activities. Indian firms are compensating for the spiralling cost of selling and marketing in advance countries by setting wholly owned subsidiaries or acquiring local firm. Thus reinforcing the argument that Indian firms internationalisation through acquisition is directed towards acquiring new knowledge in different areas such as R&D capabilities, regulatory skills and distribution networks.

4. Firms under investigation

The findings of this paper are based on the study of internationalisation motives and patterns adopted by five well established Indian pharmaceutical firms, viz. Ranbaxy Laboratories, Dr. Reddy's Labs, Wockhardt, Nicholas Piramal and Sun Pharmaceuticals Ltd. The primary data for the case studies were collected through a variety of sources: interviews with R&D presidents, senior scientists and IPR managers working in these firms, data in Annual reports, analysts' presentations and articles in the business press.

Table 2 Firms under investigation

Name of the firm	**Year established**	**No. of overseas Manufacturing plants**	**No. of overseas acquisitions from 1990**	**Turnover (2005) US $ Million**	**% of turnover from overseas (2005)**	**IPO**
Ranbaxy	1962	8	11	1340	80	1994
DRL	1984	2	4	546	66	2001
Wockhardt	1959	3	4	324	67	2003
NPIL	1988	5	3	313	30	
Sun	1983	4	3	292	40	2007

All these firms are privately owned business with family ownership and ranked amongst top ten firms in India. Table 2 shows that large part of their turnover comes from overseas markets while advance regions such as US and Europe account for more than 80% of overseas revenue. All these firms raised money through IPOs (Initial Public Offerings) before embarking on the overseas acquisitions.

Table 3 points out acquisition activities of five firms under investigation. It shows that majority of acquisitions of these five firms were in advance regions such as Europe and USA.

Table 3 Acquisition history of the five firms (Ref: Annual Reports, 2006)

1. Ranbaxy Laboratories Ltd				
No.	**Year**	**Acquired firm**	**Focus area**	**Value**
1	1995	Ohm Laboratories (USA)	US generic markets, manufacturing facilities	
2	2000	Basics (Germany) Bayers generic business	European generic market	
3	2004	RPG Aventis (France)	European Generic Markets	US$84 million
4	2005	18 generic products of Efarmes S.A. (Spain)	Product portfolio	
5	2005	Veratide from P&G (Germany)		US$5 million
6	2006	Unbranded generic business of GSK in Italy and Spain	Product portfolio	
7	2006	Trepia (Romania)	European Generics market	US$324 million
8	2006	Mundogen GSK subsidiary in Spain	European Generics Market	
9	2006	Belgian company Ethimed NV	European Generics Market	
10	2006	Sentek's Autoinjector business (US)	Product Portfolio	
11	2006	Unbranded generic business of Allen SpA, a division of Glaxo SmithKline (Italy)	European generics market	
2. Dr. Reddy's Laboratories				
1	2002	BMS laboratories and Meridian labs	UK generics market	US $16 million
2	2004	Tregenesis (US)	Speciality products – access to drug delivery platforms in the dermatology segment	US$11 million
3	2005	Roche's Generic Business (Mexico)	US generics market	US $ 59 million
4	2006	Betapharma (Germany)	European Generic Market	US $ 572 million
3. Nicholas Piramal Ltd				
1	2004	Rhodia's International business	European generics market	US $ 40 million

		(UK)		
2	2005	Avecia Pharma (UK)	European generics market	US $ 16.9 million
3	2005	Biosyntech (Canada)	R&D capability	US $6 million

	Year	Region	Mode of entry	Purpose
4. Wockhardt Laboratories Ltd				
1	2002	Wallis Laboratories	UK generics market	
2	2003	CP Pharma (UK)	European generics market	US$20 million
3	2004	Esparma (Germany)	German generics market	
5. Sun Pharma				
1	1997	Caraco (US)	US API market	US $7.5million
2	2005	Two facilities from Valent Pharma (Hungary, US)	Product portfolio	US $ 10 million
3	2005	Able Laboratories (US)	US generic market	US $ 23.15 million

4.1 Ranbaxy Laboratories

Ranbaxy Laboratories Limited was established in 1961 and listed on the Bombay Stock Exchange in 1973. Ranbaxy started as a manufacturer of active pharmaceutical ingredients (API) and soon began looking at international markets for exporting these ingredients. By 2006 Ranbaxy has world-class manufacturing facilities in eight countries namely China, Ireland, India, Malaysia, Nigeria, Romania, the US & Vietnam.

Table 4 Internationalisation history of Ranbaxy Laboratory

1	1977	Nigeria	JV	Manufacturing and Marketing
2	1983	Malaysia	JV	Manufacturing and Marketing
3	1987	Thailand	JV	Marketing
4	1992	Hong-Kong	Subsidiary	
5	1993	Canada	JV	
6	1993	China	JV	Manufacturing and Marketing
7	1993	Netherlands	Subsidiary	Manufacturing and Marketing
8	1995	USA	Acquisition	Manufacturing

9	1996	China	JV	Manufacturing and marketing
10	1996	China	JV	Manufacturing
11	1996	Thailand	JV	Manufacturing
12	1996	Netherland	Subsidiary	Manufacturing
13	1997	Netherland	Subsidiary	Trading
14	1998	Malaysia	JV	Manufacturing
15	1998	Thailand	JV	Trading
16	2000	Germany	Acquisition	Generic company
17	2002	Germany	Acquisition	Brand product
18	2002	Japan	Acquisition (10% equity stake)	Trading
19	2002	USA	Acquisition	Liquid manufacturing facility
20	2003	France	Acquisition	Generic business
21	2005	Spain	Acquisition	Generic business
22	2006	USA	Acquisition	Branded products
23	2006	Italy	Acquisition	Generic business

Table 4 shows internationalisation history of Ranbaxy over the years. In 1977, Ranbaxy established a subsidiary in Nigeria through a joint venture and in 1984 it expanded operations to Malaysia. In Nigeria Ranbaxy supplied equipments against its share holding in the joint venture unit in 1978. Due to FDI laws prevalent in country, the company's equity contribution has to be in the form of exports of Indian made capital goods and know-how. The main motives of Ranbaxy's Nigeria venture were to exploit its process advantage by supplying cheap drugs to the unmet demand in a developing country (Pradhan, 2006). The joint venture in Malaysia was formed by the Indian and Malaysian government. Compare to the 10% holding in the Nigerian joint venture, Ranbaxy had a 53% holding in their Malaysian joint venture. Since then Ranbaxy has expanded its geographical presence through joint ventures to new countries like Thailand, Canada and China and through wholly own subsidiaries in countries like the Netherlands and Hong-Kong. At the end of 2005, the number of subsidiaries and joint ventures of Ranbaxy stood at 50 covering a total of 30 countries (Pradhan, 2006). By 2006 in 48 overseas ventures, Ranbaxy holds a majority or full ownership showing a preference towards full ownership in overseas expansion.

The firm was listed on the Luxembourg Stock exchange in 1994 and raised money to establish a global presence in generic drugs manufacturing through a combination of overseas investments and foreign acquisitions. After Euro issue Ranbaxy invested close to $100 million over a four year period globally and created physical infrastructure in different parts of world.

Ranbaxy entered the US in 1995 by acquiring an FDA-approved manufacturer, Ohm Laboratories. In 1996, it started a joint venture with another US based firm Schein Pharmaceuticals for marketing Ranitidine in US. In 1998 Ranbaxy established a 100 percent subsidiary in the US and started marketing products under its brand name. Within just four years of starting its US operations, Ranbaxy touched the US $ 100 million mark for sales in the US.

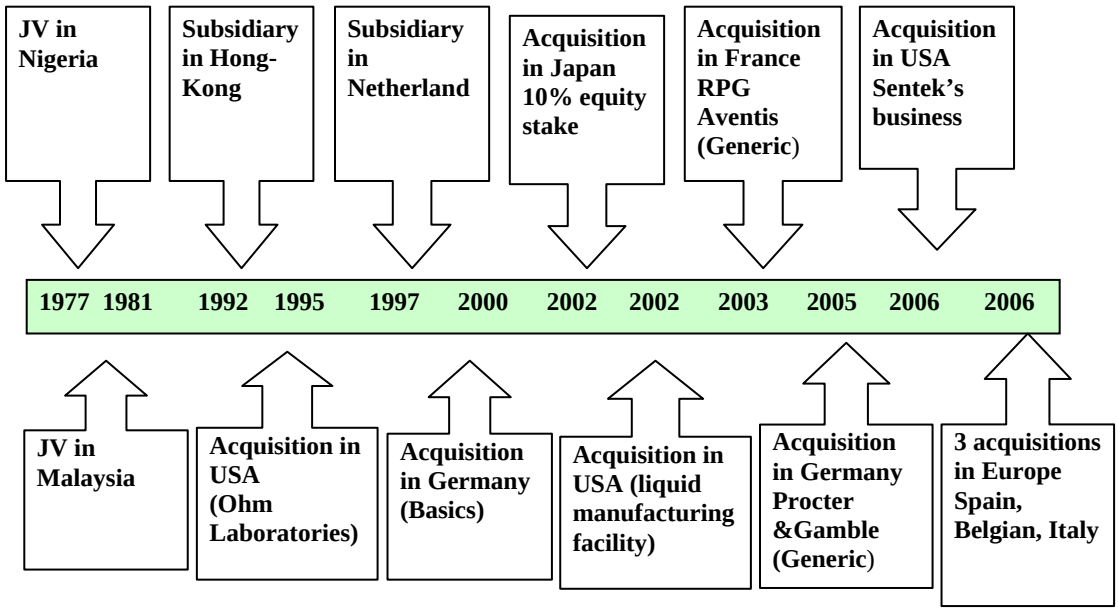
The firm also began expanding its production facilities in Europe by setting up a subsidiary in the UK (1994) and establishing a manufacturing plant in Ireland (1995). These have proved instrumental in Ranbaxy's forays into other European markets; the company first entered UK and created a critical size which provided the company with a platform to expand it further in Europe. After UK entry it swiftly expanded into Poland ($ 6 million), Hungary ($ 4 million), the Czech Republic ($ 8 million) and the Slovak Republic ($ 8 million); each of which were million dollar businesses during expansion. The manufacturing plant in Ireland provides the backbone of Ranbaxy's European business. In recent years Ranbaxy has pursued an aggressive acquisition strategy for the internationalisation of its operation. In 2004, the company consolidated its position in the European market further by acquiring the fifth largest generics company in France. In 2006 Ranbaxy acquired two generic companies namely, Terapia in Romania and Ethimed in Belgium and followed that by buying a large unbranded generic product portfolio of Allen S.P.A in Italy.

In order to protect its international investments, Ranbaxy also applied for patents all over the world for its innovative production processes. The experience gained also developed regulatory skills needed to obtain approvals for its products under Para 2 of the Abbreviated New Drug Applications (ANDAs) scheme in the US.
In the case of Ranbaxy joint ventures, acquisition and organic route have emerged as key part of Ranbaxy's internationalisation strategies. Ranbaxy began with joint ventures in developing countries first and then in other developed countries. This has proved an importance source of learning for operating in international markets. At the heart of strategy was sequential expansion; first prioritise market in overseas country, then export in that country or form joint venture to understand dynamics, then set up infrastructure and finally start expanding. Malvinder Singh, CEO of Ranbaxy describes internationalisation strategy of Ranbaxy,

> "Our first joint venture in Nigeria (1977), then we went to Malaysia and then to Thailand. There we picked up and learnt what is meant to operate in international market, at patent regimes, at marketing and distribution. It is completely different. So we moved up value chain in our products and up the export markets from developing nations to developed countries. By that time 1993 had come. We said it is not just India; the market is global of which India is one market".

(Rediff. Com (2004), The Rediff interview/ Malvinder Singh President Ranbaxy).

Flow Chart 1: Ranbaxy's overseas expansion



	Year	Region	Mode of entry	Purpose
1	1995	Hong-Kong	Subsidiary	Trading
2	1995	Russia	JV	Manufacturing
3	1995	Russia	JV	Marketing and trading
4	1996	Netherland	Subsidiary	Manufacturing

4.2 Dr. Reddy's Laboratories

Dr. Reddy's laboratories (DRL) was founded by Dr. Anji Reddy, who formerly worked in the public sector company Indian Drugs and Pharmaceuticals Ltd., in 1984, and in 1986 it started operations on branded formulations. Within a year of its inception, DRL also became the first Indian company to export active pharmaceutical ingredients to Europe. By 2006 DRL's earnings totalled revenue US $ 546 million of which overseas market brought 66%; US contributed 16%, Europe 11% and rest of the world 39%. Table 5 tracks strategies adopted by DRL to expand its operation to rest of the world.

Table 5 Internationalisation history of Dr. Reddy's Laboratory

5	1999	Brazil	JV	Trading
6	2002	UK	Acquisition	Manufacturing and European generic market
7	2004	USA	Acquisition	Specialist generic R&D
8	2005	Mexico	Acquisition	Manufacturing facilities
9	2006	Germany	Acquisition	Manufacturing and specialist generic

The transition from a predominantly API focused firm to being a formulation company started in 1987 and in 1994, DRL started targeting the US generic market by building a state of the art manufacturing facility. In three years DRL filed its first ANDA in 1997 for Ranitidine 75mg tablets, and improving on that, in 1999 it submitted a Para IV application for Omeprazole- the drug it had so successfully marketed in India.
The big achievement of DRL's generic foray came in 2001 when DRL became the first Indian company to launch the generic drug, Fluoxentine (a generic version of Eli Lilly's Prozac) with 180 day market exclusivity in the US. As a result of market exclusivity DRL's international sale of Fluoxentine 40mg, increased massively and its generic turnover touched $23.2 million for the third quarter of 2001, with Fluoxentine sales contributing 87% of these sales. This marketing success was followed by the launch of Ibuprofen tablets 400, 600 and 800 mg in the US under its own brand name in January 2003. Direct marketing under the DRL brand name represented a significant step in the company's efforts to build a strong and sustainable US generic business. It was the first step in building DRL's fully fledged distribution network in the US market.

DRL's international marketing successes were built on a strong manufacturing base which itself was a result of inorganic growth through acquisition of international and national facilities. DRL merged with Cheminor Drug Limited (CDL) with the primary aim of supplying APIs (active pharmaceutical ingredient) to the technically demanding markets of North America and Europe. This merger also gave DRL entry into value added generics business in the regulated markets of APIs. DRL began its major international production by entering Russia through a joint venture with Biomed in 1992 and in 2002 DRL converted the joint venture into a fully owned subsidiary. It strengthened its Indian manufacturing operations by acquiring American Remedies limited in 1999. This acquisition made DRL the third largest pharmaceutical company in India, after Ranbaxy and Glaxo (I) Ltd., with a full spectrum of pharmaceutical products, which included bulk drugs, intermediates, finished dosages, chemical synthesis, diagnostics and biotechnology.

In 2001 DRL completed its US initial public offering of US$132.8 million ADS (American depository shares) issue and also listed on the New York Stock exchange. The funds collected from US IPO were diverted into the international expansion of production and acquisition of technology based companies. In 2002, DRL started its European operations by acquiring two pharmaceutical firms in the UK. The acquisition of BMS Laboratories and its wholly owned subsidiary, Meridian UK allowed DRL to expand geographically and gave the company an opportunity to enter the European market. In 2004 DRL acquired Trigenesis Therapeutics Inc; the US based private dermatology company. This acquisition gave DRL access to certain products and proprietary technologies in the dermatology segment.

In 2006 DRL acquired Betapharm for US $ 572 million; highest overseas acquisition by Indian firm in pharmaceutical sector. Betapharm markets high quality generic drugs and has a strong track record of successful product launches. With a current portfolio of 145 marketed products, the company is one of the fastest growing generics companies in Germany. This acquisition is a strategic strategy by DRL to gain an entry platform for the European generics markets and achieve a significant scale in the global market. The acquired firm is in turn expected to leverage DRL's product development and marketing infrastructure to achieve further international

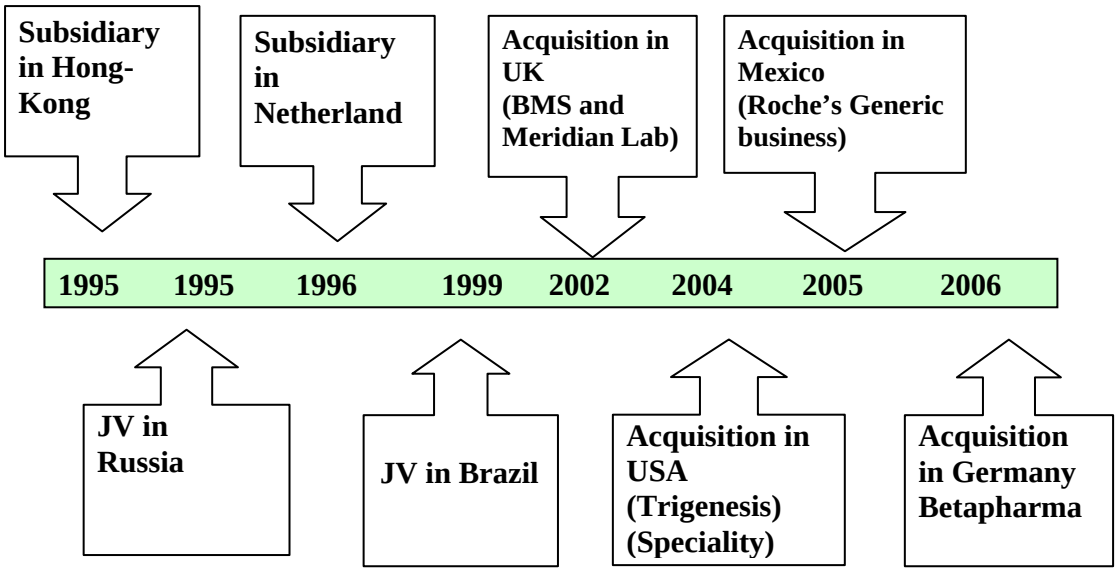
growth and expansion. This acquisition also includes a research centre which focuses on applied health management.

G.V. Prasad explains rationale for Betapharm acquisition:

> "Betapharm has contributed 20% of our revenues. German market is more challenging as even the government wants to decrease prices of generics. But it is different from the US. Branded generics have a longer lifecycle and price realisation is better. So it is good market to be in".

(Business World, 2005)

Flow Chart 2: DRL's overseas expansion



4.3 Wockhardt Ltd

Wockhardt was started by the Khorakiwala family in 1959 as a small pharmaceutical distribution and selling entity. The company set up its first formulation plant in 1977 and soon established a bulk drug plant in 1983. In many ways it is a typical business house that has diversified into other businesses overtime. Currently, Wockhardt's product portfolio includes pharmaceuticals (bulk drugs and formulations), medical nutrition, Agri-sciences and also hospitals. This diversified portfolio of products also makes the position of Wockhardt quite different from that of the other firms we have studied. In particular, the existence of a thriving hospitals business makes it potentially possible for the company to be a fully integrated company, viz. undertake clinical trials and be a manufacturer of drugs.

The company was privately held and listed on Mumbai stock exchange recently in the year 1992 and followed that with listings in Luxemburg in 1994 and in the US in 2003. Despite this only 35% of its shares are publicly held and only 9% are held internationally.

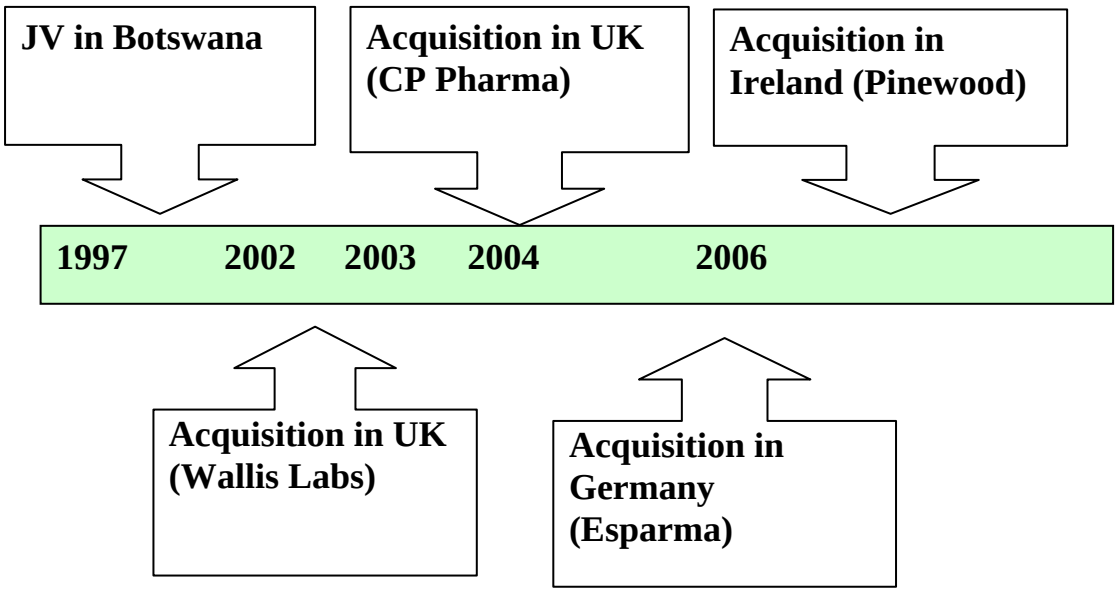
Table 6 Internationalisation history of Wockhardt

	Year	Region	Mode of entry	Purpose
1	1993	Ireland	Subsidiary	Trading
2	1993	USA	Subsidiary	Marketing
3	1996	Ireland	Subsidiary	Manufacturing
4	1998	Ireland	Subsidiary	Manufacturing
5	1998	UK	Acquisition	Manufacturing – European Generics business
6	2003	UK	Acquisition	Manufacturing
7	2004	Germany	Acquisition	European generic business

As Table 6 shows Wockhardt started targeting international markets only in the late 1990s when early entrants like Ranbaxy and DRL had already made exports of generic drugs from India credible. Wockhardt's expansion of international production into Europe and the US is based largely on acquisitions of plants that had FDA approval. Thus, it entered the UK market by acquiring Wallis Laboratory in 1998 and CP pharmaceuticals in 2003. In 2004 Wockhardt streamlined its European operation by selling Wallis's manufacturing plant to Bristol Laboratories and shifting some of the manufacturing operations of Wallis to CP Pharmaceutical's plant in the UK and the rest to the company's Indian plant. Wockhardt is also investing £1 million for up-gradation of the CP pharmaceutical plant to make it the company's largest overseas manufacturing base and it main base for European operations. In 2004 Wockhardt acquired the German pharmaceutical company 'Esparma', GmbH to enter Germany, the largest generic drug market in Europe. Esparma has a portfolio of 135 marketing authorisations, of which 67 are in Germany. The company also has nine international patents and 94 trademarks. This acquisition has given Wockhardt increased depth in their product portfolio and helped company to strengthen its presence in the European generics market.

Wockhardt launched its US operation by starting Wockhardt Americas Ltd and now has its own marketing and regulatory teams based in the US. In 2004 key officials handling corporate scientific affairs and intellectual property management were relocated from Mumbai to the newly established subsidiary in the US. Wockhardt's US strategy is based on launching formulation products through the ANDA route (rather than file DMFs) and since 2003 it has filed 17 ANDA applications with USFDA. It doesn't intend to sell API in the US and European markets, and currently sells four products in the US – ranitidine, enalapril, bethanecol chloride and captopril.

Flow chart 3: Wockhardt's overseas expansion



4.4 Nicholas Piramal India Ltd (NPIL)

NPIL is part of the Piramal Enterprises, one of the India's largest diversified business groups with interests in retailing, textiles, auto components and engineering. In 2000, the group consisted of 26 companies (including joint ventures), with aggregate revenues of about US$500 million, however in the last ten years their pharmaceutical business has emerged as the fastest growing and most profitable of the lot. The Piramal enterprise was founded in 1933 and until 1987 most of the group's revenues had come from textile business. Increasing uncertainties in the textile sector prompted the group to diversify and in 1984 it acquired a small glass company, Gujarat Glass which supplied bottles and vials for the pharmaceutical industry. In 1988 the group went ahead and acquired Nicholas Laboratories, an Indian subsidiary of a UK based pharmaceutical firm, renamed it Nicholas Piramal India limited (NPIL) and made it profitable in 4 years.

The success of this acquisition possibly spurred Piramal group to use acquisitions as a strategy of growth. The company acquired Roche products (India) Ltd in 1993, Sumitra pharmaceuticals and Chemicals in 1995, and Boehringer Mannheim India Ltd in 1997. In April 1997 these three companies merged with Nicholas Piramal and a new management team was set up to manage it. This initial acquisition spree was followed by two more acquisitions – Rhone Poulenc (India) in 2000 and ICI (India) pharmaceuticals in 2002. In Dec, 2003 NPIL bought a 50% stake in Sarabhai pharmaceuticals ltd. Since most of the sellers were MNC pharmaceutical firms who wanted to leave the Indian market, NPIL acquired these firms at attractive prices and quickly synergised skills resulting in large benefits.

These acquisitions also helped NPIL create strong linkages with MNC pharmaceutical firms and consequently NPIL has developed an impressive record in managing business partnerships (JVs and alliances) with a number of multinational firms like Roche, Boehringer, Allergan, Boots, Aventis, and Novartis. As a result NPIL has established itself as a partner of choice for any MNC looking at the Indian market.

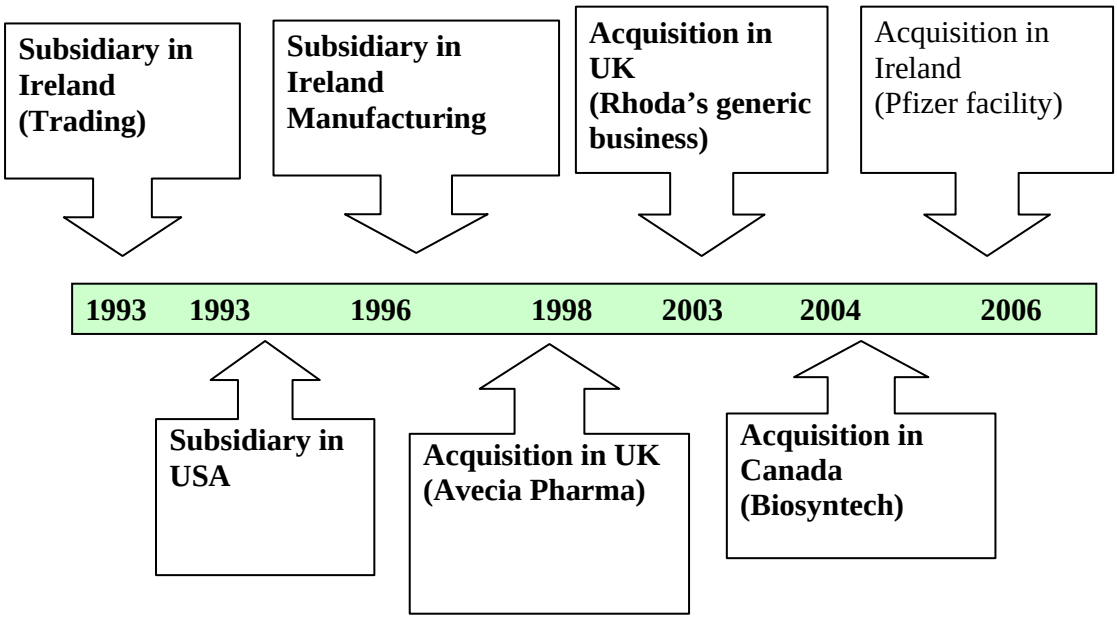
Thus, NPIL has decided not to target US markets with generics products. Instead NPIL aims to generate the same financial resources through alliance with overseas pharmaceutical companies and therefore its main focus areas are custom synthesis and contract manufacturing instead of generic markets in advanced countries. Table 7 shows effort of NPIL to internationalise its operation all over the world.

Table 7 Internationalisation history of Nicholas Piramal

In 2005 NPIL took first step in becoming global custom manufacturing company by acquiring Avecia pharmaceuticals in UK and its affiliate company Torcan Chemical Ltd, Canada for US $ 22 million. Avecia is a global custom manufacturing player focused on providing custom chemical synthesis and manufacturing services to innovator services. Avecia gives access to NPIL in high-technology areas such High-Potency substances, Bioconjugates, Biotransformation and Chiral technology.

	Year	Region	Mode of entry	Purpose
1	1996	Mauritius	Subsidiary	Trading
2	1997	Botswana	JV	Trading
3	2004	UK	Acquisition	Generic products
4	2005	Canada	Acquisition	Contract manufacturing firm
5	2006	UK	Acquisition	Contract manufacturing firm

Flow chart 4: NPIL's overseas expansion



4.5 Sun pharma

	Year	Region	Mode of entry	Purpose
1	1993	Hungary	Subsidiary	Manufacturing
2	1994	Switzerland	Subsidiary	Trading
3	1994	Ukraine	Subsidiary	Trading
4	1995	UK	Subsidiary	Manufacturing
5	1997	USA	Acquisition of 30% stake	Manufacturing
6	1997	USA	JV	Manufacturing
7	1999	USA	JV	Manufacturing
8	2002	USA	Acquisition of further 4 %	Manufacturing
9	2004	USA	Acquisition	Product portfolio
10	2005	Hungary	Acquisition	Manufacturing facility
11	2005	USA	Acquisition	Manufacturing facility

Sun manufactures and markets speciality medicines and APIs for chronic therapy areas such as cardiology, psychiarity, neurology and gastroenterology. In 2005 Sun Pharma is ranked fifth among all Indian pharma companies with a 3.44 per cent market share. In the Indian market, the company is a leader in niche therapy areas of psychiatry, neurology, cardiology, diabetology, gastroenterology, orthopedics, with a rank among the top 3 companies.

Sun Pharma began operations in 1983 with 5 psychiatry-based products, first with 2 people and then with a 10 employee team and within a year, a compact manufacturing facility for tablets and capsules was set up in Western India.

By the end of 2005 Sun pharma had established a total of 15 manufacturing plants in Europe, the US and India. Table 8 details the strategy of internationalisation that led to expansion of production all over the world.
In 1989 Sun pharmaceutical started exporting products to neighbouring countries of India. Sun pharmaceuticals plans to sell API products to large innovator or generic companies in the US and Europe and in 1997 Sun began process of entry in international business with its first international acquisitions. As part of a technology-for-equity agreement, a stake was acquired in a generic dosage form manufacturer; the Detroit-based Caraco Pharm Labs. An equity stake was also taken in MJ Pharma, a manufacturer of several dosage form lines with UK MHRA approval for Cephalexin capsules. In same year TDPL, a company with an extensive product offering (oncology,

fertility, anaesthesiology, pain management) was merged with Sun Pharma. TDPL's products offer a ready entry with known brands and customer equity into new high growth therapy areas like oncology and gynaecology.

Table 8 Internationalisation history of Sun Pharmaceuticals Ltd

Sun pharmaceutical is targeting API market in advanced countries such as Europe and US. With governments the in these parts are promoting the use of low cost generics, it is estimated that these sales will move to generic markets, implying a good scope for API supply. Due to intense competition from API manufacturers in Eastern Europe and China, it is expected that API markets will continue to show margin pressure. As a response to this, the company is trying to differentiate its product offerings by targeting speciality API.

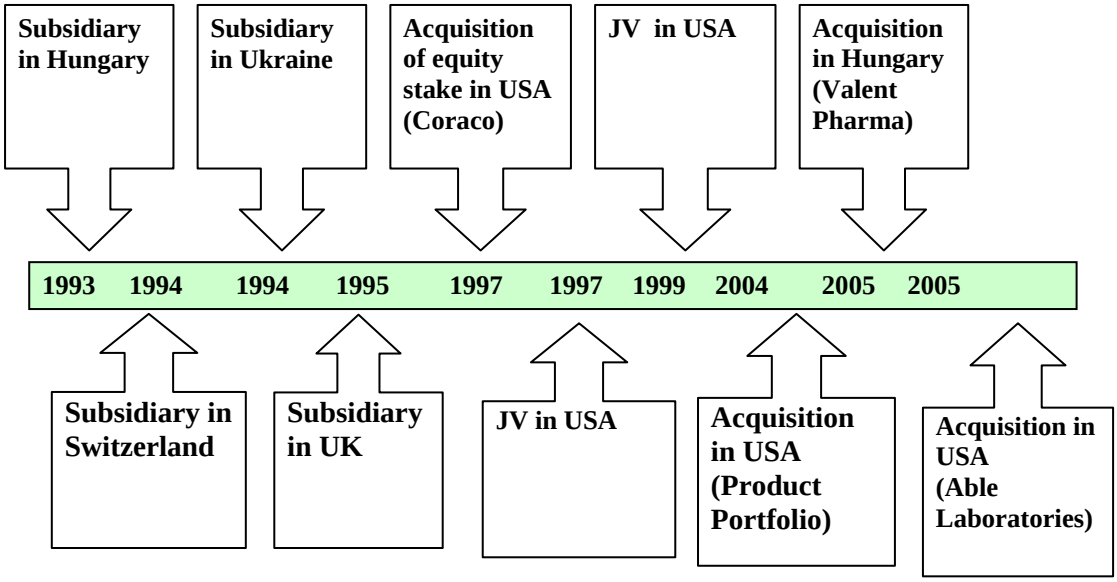
Therefore the company started developing API for anticancers, peptides, steroids and hormones through new acquisition. In 2004 Sun Pharma bought niche brands from the US based company Women's First Healthcare (WFHC, not listed) for less then $4 million. In same year Sun Pharma increased its stake in Coraco to over 60% from 44% by acquiring a common stock and options from 2 large shareholders of Caraco.

In 2001, WFHC had acquired the US rights for Ortho-Est, Midrin and one more product, for a total of $25.7 million plus royalty payments. For Sun pharma acquisition was a first step in the branded generic space in the US at a reasonable cost.

In 2005 Sun acquired a Hungarian firm to operate in the controlled substance market; company bought raw materials and dosage form manufacturing operations of ICN Hungary from Valeant Pharmaceuticals. Sun is aiming to address opportunities in the regulated markets with complex products and therefore in 2005 Sun acquired a manufacturing plant at Bryan, Ohio, USA to make semi-solids, pastes and liquids, and work begun on capacity increases and streamlining operations. In December 2005 Sun acquired the intellectual property and assets of Able Labs from the US District Bankruptcy court in New Jersey.

By 2006 company sells a total of 28 products in the US generic market, all of which contributes to sales of around $100 million. In 2007 the company has raised about $350 million through convertible bonds, with the rest coming through internal accruals for further acquisitions in the US and Europe.

Flow chart 5: Sun Pharmaceutical's overseas expansion



5. Analysis and Discussion

In the last decade Indian pharmaceutical firms have emerged as most aggressive overseas investors of all Indian industries. Analysis of Indian firms' internationalisation strategies suggests that acquisition is preferred route Indian firms' international expansion compare to organic routes in advanced countries. G.V. Prasad comments,

> "Though organic growth is good, benefits of right fit are many; and we have seen them with our recent acquisitions".

The benefits are created through synergies formed by the product pipeline of Indian firms and assets provided by overseas firms. Indian firms have a large pipeline of products, cheap manufacturing facilities and an ambition to enter the advanced markets of Europe and the US. However Indian firms lack distribution set up, regulatory capabilities and high-end technological capabilities. Thus through acquisition Indian firms are generating synergies with their competitively priced products.

The overseas expansion of Indian firms is related to the need to improve global competitiveness, acquisition of assets (including research and contract manufacturing firms, in order to further boost their outsourcing capabilities), move up the value chain, improve their product offering and consolidate existing market shares.

5.1 Market seeking motives

Indian firms are seeking to increase their market share with more acquisition in Europe and the US. Malvinder Singh, Chief executive of Ranbaxy elaborates,

> "we are aggressive and hungry for growth. The Indian market won't fulfil our aspirations".

(Financial Times, 10th October, 2006)

Indian firms are consolidating their markets by acquiring generic firms in advanced markets and creating business links with MNE pharmaceutical firms. This is clearly evident in NPILS's acquisition of production facility of Pfizer in Scotland. NPIL has a contract for process development and scale up deal for Pfizer's animal healthcare

products. But with acquisition of Pfizer's production facility in Scotland NPIL has emerged as the largest supplier in dollar terms as Pfizer has agreed to source from this facility for the next five years (Kamath, 2005).

5.1a Asset seeking motives

Acquisition of R&D and Regulatory capabilities

Although India is a low cost location for drug manufacturing and process R&D, analysis suggests that Indian firms are acquiring assets in advance countries to augment their current capabilities and set up business closer to customers. For example in the case of bulk drugs MNC firms are currently outsourcing work on intermediates to Indian firms but really reluctant in the case of outsourcing other work such finding efficient processes for new or patent expired drugs even though Indian firms have excellent capabilities. Indian firms are responding to these challenges by setting up operations close to customers through acquisition of western firms in highly regulated advance market. NPIL's acquisition of UK based Avecia helps the company to fill a knowledge gap in early stage R&D works and bid for contracts from firms operating in advance countries. Avecia owns a 100% subsidiary in Canada which works on early stage R&D. Thus these acquisitions are providing access to customers who may not have done business with Indian firms.

Move up the value chain

Indian firms are trying to move up the value chain by acquiring specific skills and technologies in advance markets. In high volume-low cost API market Indian firms are now facing competition from Chinese firms which can manufacture bulk drugs at a cheaper rate than Indian firms. Indian firms are using access to technology as a differentiating factor where competition on the basis of cost has limitation. Nicholas Piramal's acquisition of Avecia or DRL's acquisition of Trigenesis shows Indian firms efforts to move up the value chain by augmenting existing capabilities through acquisition. Avecia, Nicholas's acquisition is able to make toxic products and other high value drugs such as hormones and owns a fermentation equipment to make drugs more efficiently. These drugs require a high quality of safety and containment and therefore they are highly-priced making them more profitable to innovators. DRL's acquisition of Trigeneis gives company access to certain products and proprietary drug delivery technology platforms to develop a pipeline of drugs in the dermatology segment. One of Trigeneisis's proprietary technologies takes care of major challenges faced in the formulation and delivery of drugs in the areas of oral, injectables, inhaled and topical delivery.

5.1b Efficiency seeking motives

Increasing global competitiveness

The internationalisation of Indian firms motivated by creating links in advance markets to acquire R&D capabilities, regulatory skills and marketing and distribution networks. For example, Dr. Reddy's entered into a marketing agreement with Euro drug Laboratories, a pharmaceutical company based in Netherlands, for improving its product portfolio for respiratory diseases. Thus Indian strategies are aimed towards further augmenting existing process R&D capabilities and improving existing outsourcing capabilities. This is directly related to improving global competitiveness by increasing their product offering and moving up the value chain.

5.2 Internationalisation strategies of Indian pharmaceutical firms

Indian firms are leveraging their existing capabilities in process R&D by entering generic markets in advanced countries such the US and Europe. Joint Venture and Subsidiary were dominating mode of entries in the past however after economic liberalisation acquisition emerged as main mode of overseas expansion.

Acquisition dominant strategy for internationalisation in Europe compare to the US and developing countries

These firms are acquiring firms in Europe in order to augment their regulatory skills and enter new markets. For example DRL's acquisition of Betapharm provides DRL with access to a fast growing generic market in Europe. This acquisition couples DRL's product strength with Betapharm's front-end presence and thus leveraging DRL's domestic manufacturing advantage.

The Indian firms' acquisition patterns show that Indian firms are more active in acquiring firms from Europe compared to the US. Initial analysis suggests due to European government's price controls and other regulations use of generics is growing quickly in Europe. Another factor aiding acquisition in Europe is the wider range price range of companies available whereas the US is more expensive and risky for Indian companies. Therefore Indian firms adopted acquisition route to enter European generics market but in the case of the US generic market firms have preferred an organic route. G.V.Prasad elaborates on acquisition strategy in US and Europe:

> "If we do want to acquire anything in the US, it will be to jumpstart our speciality product business. And in Europe the idea would be to expand geographically".

Indian Firms are avoiding competition with Big Pharma by operating in generic market and instead of competing Indian firms are collaborating with big MNC firms. These firms are competing in the generic market and not in the prescription based drugs market which is dominated by incumbent pharmaceutical MNEs. Thus new firms are not simply occupying spaces vacated by incumbents but instead of creating new economic space for themselves. Dr. Reddy's is presently licensed by Merck & Co. to sell an authorized generic version of the popular drug simvastatin (Zocor) in the USA. Since Dr. Reddy's has a license from Merck, it is not subject to the exclusivity period on generic simvastatin of 180 days from June 23, 2006, which is split between Ranbaxy Laboratories (also from India) and Teva Pharmaceutical Industries.

The changes in US generic market regulations and liberalisation of Indian economy have played a key role in aiding Indian firms internationalisation strategies. Thus findings of the study supports Mathews (2006) argument that changes in world economy and its interlinked character is responsible for driving the new approaches and patterns of internationalisation.

The widely adopted OLI framework in IB characterising MNE advantages over domestic firms in terms of their ownership, locational and international advantages is a framework that sees MNEs as deriving advantages from superior resources that they exploit abroad. But findings of the study support Mathews (2006) argument that MNE firms from developing countries are looking for ways to access needed resources precisely through linking up with some firms abroad and are internationalising in order to access the resources that they lack.

6. Conclusion

In last decade Indian pharmaceutical industry has emerged as one of the main producers and exporters of generic drugs to all over the world. This study documents the internationalisation strategies of Indian pharmaceutical firms which has played key part in emergence of global capacity of Indian pharmaceutical industry. The insights from the study suggest that overseas expansion of Indian firms is related to the need to improve global competitiveness, acquisition of assets (including research and contract manufacturing firms, in order to further boost their outsourcing capabilities), move up the value chain, and increase their product offering and consolidation of existing market shares. The pattern of internationalisation suggests that the acquisition route is a more preferred strategy due to synergies available to Indian firms. However in the US generic market the organic route has emerged as a preferred way of internationalisation.

The insights from this research suggest that globalisation is opening up a whole set of opportunities for firms in developing countries. These firms created linkages through internationalisation and the learning experience resulting from these linkages and the leverages which these linkages provide to firms has emerged as one of the main motive for internationalisation of firms.

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