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Abstract

Entry strategies are one of the important decisions in the process of internationalization. Decision on entry mode is one of the most critical decisions having significant and farreaching consequences on a firm's performance and survival in the target foreign market. This study focuses on the path of internationalization of Indian Pharmaceutical industry and makes an attempt to identify the major determinants influencing entry mode decision. The study concludes that both firm specific as well as the policy changes at the country levels, host country?s as well as domestic policies together influences the decision of the firm on entry mode.

Index terms— entry modes, internationalization, mergers, acquisitions.

1 I. Introduction

ndian economy is currently booming. More and more Indian industries and companies are expanding their activities in foreign markets. It is seen that the destination, mode of internationalization and motivations for global expansion are changing. Literature has established the factors that are most influential in deciding the modes of internationalization for Indian pharmaceutical companies. It was considered important to validate the results by evaluating the current scenario and trends for modes of internationalization in the industry. Therefore, a detailed analysis of five leading pharmaceutical companies of India is conducted. These companies have extensive experience in both domestic as well as foreign markets and therefore warranted a detailed study on their approach and experience in various modes of internationalization. This paper lays out the detailed internationalization efforts of top 5 Indian pharmaceutical companies. These companies were ranked based on their revenue . Top 5 companies by revenue were selected from the big size category. These companies are Sun Pharma, Dr. Reddy's laboratories, Cipla, Lupin and Aurobindo Pharmaceuticals. This category is the most active in internationalization efforts and have gone through multiple modes of internationalization in their evolution. Complete history of the companies is studied to understand the reasons for various modes of internationalization decisions during different stages of the company's life. **??**able 1 below details out some general characteristics of these companies. Aurobindo Pharma became a public company in 1992 and listed its shares in the Indian stock exchanges in 1995. It has a presence in key therapeutic segments such as neurosciences, cardiovascular, antiretrovirals, anti -diabetics, gastroenterology and cephalosporin, among others.

The company entered the specialty generic formulations segment through cost effective manufacturing capabilities. Today, after a decade or so, it has evolved into a global company manufacturing API's and formulation products based on its innovation capabilities. Aurobindo's R&D capabilities has resulted in filing of multiple patents, Drug Master Files (DMFs), Abbreviated New Drug Applications (ANDAs) and formulation dossiers across the world. In fact, AurobindoPharma is among the largest filers of DMFs and ANDAs from India.

Aurobindo exports to over 125 countries across the globe. Around 70% of its revenues are derived out of international operations. It's manufacturing units have been approved by leading regulatory agencies such as USFDA, EU GMP, UK MHRA, South Africa-MCC, Health Canada and Brazil ANVISA.

Aurobindo Pharma Ltd. has evolved into a knowledge driven, R & D focused company, with its manufacturing and marketing infrastructure spread across many countries. Aurobindo has invested significant resources in regulated markets by designing five of its units for APIs and five units for Finished Dosages. These units are approved by US FDA, UKMHRA, WHO, MCC-SA, ANVISA-Brazil, and TGI-Australia. Aurobindo has a robust product portfolio of over 400 generic specialties.

2 b) Path to Internationalization

Aurobindo has been very active in the international pharmaceutical space. Aurobindo started internationalizing in the 1990's by setting up subsidiaries in various countries. This was followed by doing strategic acquisitions in 2000's to enhance company's product portfolio and access new markets. Table 2.2 below details the international operations of Aurobindo. Aurobindo Pharma concluded a strategic deal to acquire Italian operations of Germany based TAD Pharmaceuticals in 2007. This acquisition gave Aurobindo access to more than 70 ready to market products. This strategic acquisition is expected to jump start the business for Aurobindo in Italy where the market and the regulatory procedures are considered as the one of the toughest in all EU. Aurobindo also acquired high profile OTC brands -Mapooro and Carmiooro from TAD as a part of this deal. This was company's third acquisition in Europe, after acquiring Milpharm Ltd in UK and Pharmac in International B.V., in Netherlands. The Company believes that such acquisitions reduce the time to market and enhance the relationships in the generic value chain in addition to building a broad and formidable product portfolio. To conclude it can be said that Aurobindo-Pharma has identified international operations as a major part of its growth strategy. It has been gradually expanding its global network of marketing and manufacturing operations. Geographically, its focus has been majorly on China, Brazil, Japan, Netherlands, South Africa, Thailand, UK, USA and Russia. It can be said that subsidiary has been its most preferred modes of internationalization. Aurobindo is today well positioned to surmount any further challenge in international expansion.

3 c) Analysis & Conclusion

4 III. Cipla Pharmaceuticals

Cipla is a global pharmaceutical company. It is one of the oldest pharmaceutical companies in India and is present in more than 170 countries across the world. The list of countries includes the U.S., Canada and countries in Europe, Africa, Australia, Latin America and the Middle East. Cipla's research and development focuses on developing innovative products and drug delivery systems. It has been responsible for creating multiple new products that are accepted in India as well as globally. Despite the tightly regulated environment of foreign countries, Cipla today has more than 30 manufacturing facilities across India that have been approved by major international regulatory agencies including US FDA, MHRA-UK, WHO, Department of Health-Canada, MCC -South Africa, ANVISA -Brazil, and PMDA -Japan.

The company engages in R&D and also offers technical consultancy services. CIPLA's R&D focuses on innovation, both product and process, that result in cost and time saving. CIPLA has gained expertise in producing generics of very complex molecules. The company has given many generic solutions to India and to the world.

5 b) Path to Internationalization

The core of Cipla's international business is strategic alliances for product development, registration and distribution of the products. Its international business continues to be a major revenue driver for the company. Their overseas sales represent 53% of the total income. Cipla continues to expand and modernize its manufacturing and Research & Development facilities. Table 7 As part of their growth strategy, Cipla acquired Celeris in 2013. It is a pharmaceutical distribution company based out of Croatia and was recently renamed as Cipla Croatia.

In July 2014 Cipla signed an exclusive partnership with BioQuiddity (Europe based company) to market One Dose Ready fusORTM (a drug used in regional anesthetic applications for post-surgical pain management). Cipla also entered into an alliance with Serum Institute of India to launch vaccines in Europe.

Currently, CIPLA is one of the world's largest generic pharmaceutical companies with its products sold in over 180 countries. So far, the main mode of international business is exports of formulations, Pharmaceutical ingredients, prescription and over-thecounter drugs, and veterinary products. However, going forward CIPLA is looking to make a shift in its business model.

6 c) Analysis & Conclusion

Cipla is the oldest company amongst its Indian peers. It did not realize the benefit of mergers, acquisitions soon enough and so got left behind a little but is now catching up fast. Just like its peers in Top pharmaceutical companies of India, and as can be seen in Apart from Medpro's acquisition, CIPLA did not grow inorganically through mergers and acquisitions. The company has always expanded organically. Further, except Medpro, CIPLA's physical expansion always took place within India. This may be because any expansion outside India might have made CIPLA vulnerable for legal suites for the previous breach of intellectual property rights.

Therefore, while operating from India, CIPLA conducted its international business through indirect exports. However, the company hopes that it will not face too many challenges when it moves abroad in the near future because it has partners across the globe to help with whom it has long standing relationships. Company is planning to undertake foreign direct investment for expansion in near future. The expansion is most likely to be a forward expansion as the company aims to build marketing and sales network in abroad.

7 IV. DR. Reddy Labs

Dr. Reddy's Laboratories is an emerging global pharmaceutical company. It has three core businesses: Pharmaceutical Services and Active Ingredients, comprising Active Pharmaceuticals and Custom Pharmaceuticals businesses; Global Generics, which includes branded and unbranded generics; and Proprietary Products, which includes New Chemical Entities (NCEs), Differentiated Formulations, and Generic Biopharmaceuticals. Table 4.1 lists out some other basic facts about the company. Dr. Reddy's began as a supplier to Indian drug manufacturers. It soon started exporting to other lessregulated markets. This meant not having to spend time and money on a manufacturing plants or seek approval from a drug licensing body such as the U.S. Food and Drug Administration (FDA). This was a great advantage and helped spur the phenomenal growth of the company.

By the early 1990s, bolstered by the expanded scale and profitability in unregulated markets, the company started focusing on tightly regulated markets. It started getting approvals from drug regulators for their formulations and bulk drug manufacturing plants in more-developed economies. This allowed their movement into regulated markets such as the US and Europe.

In 2001 Reddy's completed its US initial public offering of $132.8 million American Depositary Receipts (ADR) issue and also listed on the New York Stock exchange. Funds raised from the US initial public offering helped Reddy's move into international production -and take over technology -based companies.

By 2007, Dr. Reddy's had six FDA-plants manufacturing active pharmaceutical ingredients in India. It also had seven FDA-inspected plants making patient-ready medications -five of them in India and two in the UK.

Reddy's also invested heavily in building R&D labs and is the only Indian company to have significant R&D being undertaken overseas. Dr. Reddy's Research Foundation was established in 1992 and dedicated to research in area of new drug discovery. At first, the foundation's drug research strategy revolved around searching for analogues but its changed focus to innovative R&D by hiring new scientists.

8 b) Path to Internationalization

Reddy's path into new drug discovery involved targeting specialty generics products in western markets to gain drug discovery abilities. This led Dr. Reddy to adopt aggressive merger & acquisition strategy to explore the international markets. Table 4.2 below lists out the internationalization history of the company. Dr. Reddy was a very early mover into the Russian market, forming a joint venture with the country's biggest pharmaceuticals producer Biomed in 1992. In 1993, Reddy's entered into a joint venture in the Middle East and created two formulation units there and in Russia. Reddy's exported bulk drugs to these formulation units, which then converted them into finished products. In 1994, Reddy's started targeting the US generic market by building state of art manufacturing facility.

By 1997, Reddy's was ready for the next major step. From being an API and bulk drug supplier to regulated markets like the USA and the UK, and a branded formulations supplier in unregulated markets like India and Russia.

In 2000, Dr. Reddy's Research Foundation set up a US lab in Atlanta, dedicated to discovery and design of novel therapeutics Reddy's merged Cheminor Drug Limited (CDL) with primary aim of supplying APIs to the technically demanding markets of North America and Europe. This merger also gave Reddy's entry into value added generics business in the regulated markets of APIs.

In 2001 Reddy's became the first Indian company to launch the generic drug, fluoxetine (a generic version of Eli Lilly and Company's Prozac) with 180-day market exclusivity in the USA. The fluoxetine marketing success was followed by the launch of ibuprofen in US under its own brand name, in January 2003. It was the first step in building Reddy's fully fledged distribution network in the US market.

In March 2002, Dr. Reddy's acquired BMS Laboratories, Beverley, and it is wholly owned subsidiary Meridian Healthcare, for EUR 14.81 million. Recently, Dr. Reddy's entered into an R&D and commercialization agreement with Argenta Discovery Ltd., a private drug development company based in the UK, for the treatment of COPD.

With growing success in the generics market, Reddy's also came to realize the need for developing marketing and distribution capabilities in the USA. The company already had one tie-up with Pharmaceutical Resources, Inc. to market Fluoxentine 40 mg tablets. It also had a tie-up with Par Pharmaceuticals Inc., to produce and market over-the-counter drugs in the U.S. In addition to the United States, Reddy's generics business had established a presence in the UK as well. Reddy's also plans to expand its presence in Canada and South Africa. Its API business had sales in over 60 countries, with the US and India being the most significant revenue contributors. The branded formulations business was active in over 30 countries and Reddy's was a significant player in the Indian and Russian markets. The business planned to significantly increase its presence in China, Brazil and Mexico in the near future.

In 2004, Reddy's acquired Trigenesis Therapeutics Inc.; the US based private dermatology company. This acquisition gave Reddy's access to certain products and proprietary technologies in dermatology segment.

In March 2006, Dr. Reddy's acquired BetapharmArzneimittel GmbH from 3i for EUR 480 million. This is one of the largest-ever foreign acquisitions by an Indian pharmaceutical company.

9 c) Analysis & Conclusion

Dr. Reddy's Labs has been a very aggressive player in the international acquisition space. Its initial success came through exports of generics which continue to be the growth drive to this date. Reddy's successful growth into a fully integrated pharmaceutical company in less than a decade was founded on a successful and targeted program of inorganic growth and investments in process R&D. It had chosen a high risk-high gain strategy to growth by going into direct competition with existing patent holders.

A major challenge for Reddy's is to find ways to de-risk its overall strategy. One way may lie in managing the cash flows from the 'safer' API and formulations businesses. Another way may be to seek out more experienced partners for the R&D business or use acquisitions to boost R&D resources and revenues. It has chosen the global route and went on an acquiring spree.

10 V. Lupin

Lupin is an innovation led transnational pharmaceutical major producing and developing a wide range of branded and generic formulations as well as biotechnology products and APIs globally. The Company is a significant player in the Cardiovascular, Diabetology, Asthma, Pediatrics, CNS, GI, Anti-Infective and NSAID space and holds global leadership positions in the Anti-TB and Cephalosporin segment.

11 b) Path to Internationalization

Lupin is one of the largest and fastest growing pharmaceutical companies in India. It is present in more than 70 countries. Lupin has used a mix of international expansion strategies which reflect the need and stage in the growth life cycle of Lupin itself. Table 5.2 below shows the internationalization history of Lupin.

12 (E)

In 2002-03 Lupin had already made inroads into the active pharmaceutical ingredient or API supplies in the US and Europe, but was a fringe player in most other markets.

Lupin Pharmaceuticals, Inc. entered the U.S. generic pharmaceutical market in 2003. Since then company have received more than 75 FDA approvals and have become one of the fastest growing pharmaceutical companies in the US.

Lupin operates a globally integrated network of 11 manufacturing facilities. Their world class facilities are built to manufacture and deliver a wide range of finished products to the US market. USA is the main market fir Lupin's operations. Lupin has experienced a wide degree of transformation. It has started with opening a subsidiary in USA to sell its while the same team is selling some other companies product in the country.

Medicines in Japan have different specifications from other markets. The percentage of residual impurities and the raw material strengths are different from that of US or European requirements and therefore, cannot be clubbed together with those markets. As a result, Lupin revealed the first step in its strategy-a cooperation agreement with a 50-year old local drug firm Kyowa Pharmaceutical to market medicines in Japan. The agreement turned out to be pivotal. While Lupin had to develop and manufacture the medicine, Kyowa was supposed to conduct regulatory testing, obtain approvals and market the drugs in Japan. Two years later, Lupin acquired a majority stake in privately-held Kyowa, and in 2008, turned it into a 100 per cent subsidiary. Kyowa gave Lupin lot of insights into the working of the Japanese generic market. Company added new products in the Kyowa pipeline, and in less than three years, doubled its turnover.

13 c) Analysis & Conclusion

Again, just like its peers in Top pharmaceutical companies of India, and as can be seen in Fig 5 ??1 and 5.2 below, the export intensity has been directly correlated with R&D expenses as well as Total Assets.

14 Total Assets & Export Intensity Lupin

Lupin started with the organics entry in international market. but with its strengths and capabilities it moved to other non-organic modes of expansion as well.

Thus, it can be said that Lupin is set to emerge as a transnational enterprise from a purely Indian operation leveraging its ownership resources of low cost manufacturing and acquired R&D capabilities, tuning its strategies to enter markets with best location advantages and using its core competencies to internalize key functions and actually magnetizing these strategic assets.

15 VI. Sun Pharmaceuticals Laboratories

16 LTD.

Sun Pharma is a global, integrated, specialty pharmaceutical company. It manufactures and markets a large basket of pharmaceutical formulations in India, US and several other markets across the world. In India, the company manufactures products in niche therapy areas of psychiatry, neurology, cardiology, diabetology, gastroenterology, orthopedics and ophthalmology. Several regulatory agencies, including FDA-USA, EMA-Europe, MHRA-UK, MCC-South Africa, TGA-Australia, ANVISA-Brazil, WHO-Geneva, BfArM-Germany, KFDA-Korea and PMDA-Japan, have certified their facilities.

Their track-record of successful collaborations includes various in and out licensing of products and technologies, joint ventures, as well as mergers & acquisitions.

Their early investments in R&D began three decades ago. It enabled the company to make technology as their key differentiator and develop a basket of robust products for diverse markets across the world. The company have around 1800 research scientists working in multiple R&D centers. Their scientists have expertise in developing generics, Active Pharmaceutical Ingredients (APIs), Novel Drug Delivery Systems (NDDS) and New Chemical Entities (NCEs).

17 b) Path to Internationalization

Sun pharmaceutical started exporting products to neighboring countries of India in 1989. Table 6 Then in 1991, fall in bulk drug prices was a setback for the company. It realized the mistake of depending on a single product line so it started to diversify across multiple formulations. Russia became the biggest export market for Sun but the 1998 collapse of the Russian economy came as a big jolt for the company. Sun has become too focused on Russia as country and lost a big chunk of business due to the political upheaval. That's when Sun decided to focus on three key therapeutic areas by employing similar production technology. This allowed Sun to serve different market segments while using the same technology and thereby allowing them access to the best of both worlds.

In 1997, Sun did its first international acquisition. The main purpose of the acquisition was to acquire the technology. As a result, Sun acquired many companies with equity stake. MJ Pharma, TDPL were few of them. Apart from acquisition as a mode of internationalization Sun also focused on exports. In 1997, Sun reported the exports as 18 percent of their total sales. Although Sun was present in many regulated and unregulated markets, USA still remained the single most important country.

In 2004 Sun Pharma bought a few exclusive brands to consolidate its positions as a leader in the segment. The brands were purchased from the US based company Women's First Healthcare (WFHC). Acquisition of WFHC was the foundation stone for entering the branded generic space in the US at a reasonable cost. 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 There is intense competition from API manufacturers in many other developing countries. Therefore, the company is trying to diversify its product offerings by targeting specialty API. The company's acquisition of Knoll's bulk drug facility and its purchase of controlling stakes in Gujarat Pharma, MJ Pharma, and Caraco (U.S.) provide Sun with additional R&D capabilities and access to U.S. FDA approved factories.

As can be seen in Fig 6 **??**1, increase in R&D had a positive impact on export intensity of the company. After the thorough analysis it can always be said that Sun Pharma is internationalizing with a high pace, but still challenges are on the way. Sun is taking corrective measures to eliminate the threat of increased patent protection. It is investing heavily in sales and marketing capacities and plans to implement its branded generic strategy in multiple markets.

18 VII. Comparative Analysis of Findings From Case Studies

The first step in internationalization for a small company is always exports. This would mainly be achieved by entering into an agreement with another company in that country. The guiding factor behind it is the philosophy of the company to count on quality. The small company prefers in investing in quality rather than marketing and distribution. Moreover, to encourage the exports they get various incentives from Indian government in form of duty drawbacks, duty free imports of raw materials etc. So it is not only the enthusiasm of the entrepreneur, but also the encouragement on behalf of government that leads to internationalization. As is evident from the table above that regulatory framework, R & D and Market Size have been some of the factors that have influenced the modes of internationalization decisions for these companies. Fig. **??**.2 below further shows the R&D expenses at these 5 pharmaceutical firms. Mergers & Acquisitions are generally followed by larger companies. The guiding objective is either to enter a new market quickly or gain a dominant position in an existing market. Through acquisitions, company generally looks for market expansion and operational efficiency. Perhaps it can be said that mergers and acquisitions are generally guide by an objective of resource seeking. In the global world we live in today, there is cut throat competition at every level and it becomes imperative for firms to go for continuous product expansion and market expansion. This product and market expansion is achieved through mergers and acquisitions.

19 0%

Subsidiary route or establishing a manufacturing plant in the foreign country is followed by even fewer and largest companies as it is the most cost and time intensive approach. Setting up a new unit takes time as it requires getting all the approvals from local authorities.

Acquisition has emerged as a dominant strategy for internationalization in Europe compared to the US and developing countries. Indian companies are acquiring firms in Europe in order to gain experience in regulatory skills. Use of generics in European market is growing quickly due to government's price controls and

20 (E)

Dr. Reddy has once again been a leader in R & D activities over the years. In fact, as stated in the case study for Dr. Reddy, the company has always looked to augment its R & D capabilities through active mergers and acquisitions. other regulations. DRL's acquisition of Betapharm provides the company with access to that market. DRL's strength in the product segment combines with Betapharm's front-end presence and thus enhancing DRL's domestic manufacturing advantage. Another factor aiding acquisition in Europe is the wider range of companies available compared to US where acquisition is more expensive and risky for Indian companies.

21 VIII. Conclusion

To conclude, the changes in US regulations and liberalization of Indian economy have played a key role in aiding Indian firms internationalization strategies. Thus findings of the primary study support the argument that changes in world economy and its interlinked character is responsible for driving the new approaches and patterns of internationalization.

Moreover, the leading Indian pharmaceutical firms show that strategy of acquisitions and direct foreign entry can result in higher profits as long as it is supplemented with superior technology. The insights from the primary study suggest that the motive behind overseas expansion of Indian firms is the need to improve global competitiveness and acquisition of assets including research.

US remains the most attractive market for companies taking the export mode. Given the cost difference between India and US in terms of manufacturing, it is highly beneficial for a company to manufacture in India and export to developed nations.US remains the toughest market to enter too. Getting approval from US FDA opens the floodgates for the company to export its products to multiple countries across the world. But getting US FDA approval requires lot of time and money investment as the requirements for approval are very stringent. The second largest Pharma market in the world is Japan. Japan is supposed to be the most difficult Pharma markets to access. However, Lupin's success in establishing significant presence in Japan shows that building a footprint in this market is not impossible. Indian companies are also look at establishing their foothold in other managed but less regulated markets such as South East Asia and Africa. Liaisons in these developing markets can be facilitated more efficiently by collaborating with international agencies or via government intervention.

After the thorough analysis of the pharmaceutical companies and pharmaceutical industry of India it is found that Indian Pharmaceutical companies are capitalizing on export opportunities in regulated as well as semi regulated markets. Changes in the global arena in terms of increasing healthcare cost have been able to create space and opportunities for Indian pharmaceutical players. Further change in regulatory as well as business perspective is pushing the companies to adapt and change their business strategies. As a result, companies are trying to tap newer markets for their expansion. Company size remains a big factor in determination of modes of internationalization. Size determines the financial and operational capabilities of the company. which further enables the company to take the decision of being risk averse or risk taker. [1]

1

Figure 1: Table 1 :

2

	1: Aurobindo Pharma -basic facts
Headquarters	Hyderabad, India
Public or Private	Public
Year of Establishment	1986
Revenues (2013-14)	$1.25 bn
Specialties	R&D, Manufacturing Capabilities, Regulatory Approvals
a) Synopsis of the Company	

Figure 2: Table 2 .

[1] Year 2018 © 2018 Global Journals Internationalization of Indian Pharmaceutical Industry

2

28

2: International Operations History -AurobindoPharma

(E)	Year	Modes of internationalization	Company Name	Country	Factor Motivating
	1998	Subsidiary		USA	International presence
	1998	Subsidiary		China	International presence
	1999	Subsidiary	Aurobindo (H.K.) Limited	Hong Kong	Market access
	1999	Subsidiary	APL Pharma Thai Limited	Thailand	Market access
	1999	Joint Venture		Brazil	Resource seeking
	1999	Joint Venture		China	Resource seeking
	2000	Joint Venture		USA	Resource seeking, Facilitating manufacturing of formulations
	2001	Subsidiary	AB FarmoQuimicaLimitada	Brazil	
	2002	Joint Venture		USA	
	2003	Joint Venture	Shanxi Tongling Pharmaceuticals	China	Resource seeking for manufacturing of Penicillin.
	2004	Subsidiary	Aurex Generics Ltd	UK	
	2004	Joint Venture		USA	This deal helped the company to locally manufacture in USA.
	2005	acquisition	USFDA approved manufacturing facility		The basic purpose was to facilitate the growth platform.
	2006	Acquisition	Milpharm	UK	inorganic growth in Europe to reduce the time to market and enhance the relationships in the generic value chain
	2006	Acquisition	Pharmacin International B.V.	Netherlands	Market seeking
	2007	Subsidiary		Japan	Market seeking for generics
	2008	Acquisition	TAD	Italy	Italian operations of German pharmaceutical major TAD Pharmaceuticals

Figure 3: Table 2 .

3

1: Cipla -Basic Facts

Headquarters	Mumbai, India
Public or Private	Public
Year of Establishment	1935
Revenues (2013-14)	$1.6 bn
Specialties	Pharmaceuticals

a) Synopsis of the Company
Cipla have 34 manufacturing facilities that make Active Pharmaceutical Ingredients (APIs) and formulations, which have been approved by major international Regulatory Agencies. They have 2000 products in 65 therapeutic categories with over 40 dosage forms.

Figure 4: Table 3 .

3

2: International Operations History -Cipla

Year	Modes of internationalization	Company Name	Country	Motivating Factor
1984	Subsidiary	Cipla USA Inc.	USA	first Indian company to receive US FDA approval
2002	Exports		Anglo America, South Africa	Market Seeking
2002	Strategic Alliance	MedproPharma	South Africa	Strategy alliance to enter the African market
2011	Acquisition	Manufacturing unit	Uganda	Market Expansion
2012	Acquisition			Integration of value chain and strategic asset seeking
2012	Joint Venture	Aspen Pharma	Australia	First Mover Advantage
2013	Acquisition	Celeris	Croatia	
2013	Acquisition	CiplaMedpro	South Africa	Low Cost Advantage, expansion and recognition
2014	Collaboration	TevaPharma Industries Ltd.	South Africa	Low Cost Advantage
2014	Licensing Agreement	Gileed Sciences Ltd.	USA	To sell and manufacture low cost medicines.
2014	Joint Venture	S&D Pharma	U.K.	Market seeking, Strategic Asset seeking
2014	Marketing Agreement	BioQuiddity		to market One Dose Ready fusORTM in regional anesthetic applications
2015	Joint venture	Cooper Phar-	Morocco	Market seeking

4

	1: Dr. Reddy Labs -basic facts
Headquarters	Hyderabad, India
Public or Private	Public
Year of Establishment	1984
Revenues (2013-14)	$2.25 bn
Specialties	Pharmaceuticals, Specialty, Bigeneric, API, Generic Formulation

[Note: a) Synopsis of the Company]

Figure 6: Table 4 .

4

Year 1992 Joint venture Modes of internationalization 1993 Joint venture 1994 Exports		Company Name B
1994 Joint Venture 1994 Subsidiary		-Dr. Reddy's Labo
1995 Exports		-
2000 Subsidiary		Reddy US Therap
2000 Marketing Alliance		Triomed
2000 Joint Venture		KunshanRotam Pharmaceutical Co (KRRP)
2002 acquisition		BMS Labs and its
2003 Joint venture		Par-Pharma Inc.
2003 Subsidiary		-
2004 Agreement		Eurodrug Labs
2004 Agreement		Pharmaplan
2004 Joint Venture		Venturepharm
2004 Acquisition		Trigenesis
2005	Sales & Development Agreement	Rheoscience A/S,
2006 acquisition		Betapharma
2006 Licensing Agreement		MERCK AG
2006 Licensing Agreement		Molteni

Figure 7: Table 4 .

5

1: Lupin -basic facts

Headquarters	Mumbai, India
Public or Private	Public
Year of Establishment	1968
Revenues (2013-14)	$1.89 bn
Specialties	Formulations, APIs, Generics, Biotechnology, Novel Drug Discovery and

a) Synopsis of the Company

Lupin is the 5th largest and fastest growing top 5 generics player in the US (5.3% market share by prescriptions, IMS Health) and the 3rd largest Indian pharmaceutical company by sales. The Company is also the fastest growing top 10 generic pharmaceutical players in Japan and South Africa (IMS). Lupin benefitted from the cost arbitrage between India and developed countries as all of Lupin's manufacturing plants initially were located in India. From

Figure 8: Table 5 .

5

2: International Operations History -Lupin

Year	Modes of internationalization	Company Name	Country	Motivating Factor
2003	Subsidiary	Lupin Pharmaceuticals Inc.	USA	Market Access
2004	Subsidiary	Lupin Australia Pty Ltd., Australia	Australia	Market Access
2004	Strategic alliance	Baxter	USA	Will provide Lupin access to the US ceftriaxone via
2005	Strategic agreement	GSK	Philippines	Geographical expansion
2006	Acquisition	51% equity in DafraPharma ltd	Belgium	strategic initiative
2007	Subsidiary	Lupin Atlantis Holdings SA	Switzerland	-
2007	acquisition	Kyowa	Japan	Kyowa has major strengths in product development, manufactu marketing of its products nationwide. Lupin will be able to add significant value through its strengths in R&D and global marketing, leading to major synergies.
2008	Acquisition	Generic Health	Australia	Business expansion
2008	Acquisition	Pharma Dynamics	South Africa	3rd largest generic company in the SA prescriptions
2008	Strategic Agreement	ASCENA	USA	Extend Suprax franchise and enhance the value of b
2008	Acquisition	HormosanPharma	Germany	-
2009	Subsidiary	Lupin (Europe) Ltd.	UK	-
2009	Subsidiary	LupinPharma Canada Ltd.	Canada	-
2009	Acquisition	Multicare Pharmaceuticals	Philippines	acquisition offers Lupin an entry into this $2.5 billio
2010	Subsidiary	Lupin Mexico S.A. de C.V	Mexico	-
2011	Acquisition	I'Rompharmaceuticals	Tokyo	IP's strong presence in the DPC hospital segment in Japan, through its line of injectable products, is an ideal fit with our existing oral business portfolio in Japan.
2011	Licensing agreement	Sydney	Australia	-
2011	Supply agreement	farmanguinkos	Brazil	providing comprehensive therapeutic care in the areas of conventional TB and MDR-TB,
2013	Licensing Agreement	Romark Lab	USA	grow its brand franchise
2014	Joint venture	yoshindo	Japan	First step forward to establishing Lupin's global Bi
2014	acquisition	Laboratorios grin	Mexico	Specialty Ophthalmic Company; Enters the Latin A
2014	acquisiti[illegible]	Nanomi B.V.	Netherlands	of Nanomi's [illegible]

6

1: Sun Pharma -basic facts	
Headquarters	Mumbai, India
Public or Private	Public
Year of Establishment	1983
Revenues (2013-14)	$2.56 bn
Specialties	Formulations, API, US Generics, Specialty brands, Technically complex formulations

a) Synopsis of the Company

[Note: Over]

Figure 10: Table 6 .

6

.2

Figure 11: Table 6 .

c) Analysis & Conclusion

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. In the same year, Sun acquired a manufacturing plant at Bryan, Ohio, USA, and work begun on increasing the capacity and making operations more efficient.

[Note: Sun]

Figure 12:

R&D expenses & Export Intensity Sun Pharma

40 R & D Expenses million dollars) (in 0 1000 2000 3000 20% 40% 60% 80% 100% below internationalization efforts of top 5 pharmaceutical Export Intensity Table 7.1 summarizes the companies by modes of internationalization.

R&D Expenses Export Intensity

Total Assets & Export Intensity Sun Pharma

(E) Total Assets (in million dollars) 0 50000 100000 150000 0% 20% 40% 60% 80% 100%

Total Assets Export Intensity

Figure 13:

7

Name of the firm	Aurobindo	Cipla	Dr. Reddy's	Lupin	Sun Pharma
No. of countries exporting to	100	170	130	100	150
No. of Acquisitions	6	5	3	11	13
No. of Joint ventures	7	3	6	2	0
No. of subsidiaries	3	1	6	6	6
No. of Agreements	2	3	10	6	1

Sun Pharma and Lupin have been very active in acquisitions. Aurobindo has relied more on joint ventures whereas Dr. Reddy's has explored multiple modes of internationalization almost equally. Table 7.2 further details out the reasons for selecting a particular modes of internationalization by these companies. comparative analysis on these companies as to wha was a significant modes of internationalization and was factor influencing the decision.

Figure 14: Table 7 .

7

Company Name	Key Modes of taken internationalization	Factor that influenced internationalization modes of	Explanation
Aurobindo	Acquisition	Market Size	The Company believes that such acquisitions reduce the time to market and enhance the relationships in the generic value chain in addition to building a broad and formidable product portfolio.
Cipla	Strategic Alliance	Regulatory framework of host country	Cipla is one of the oldest pharmaceutical companies based in India. During it's early evolution years, it copied many patented drugs due to lax regime in India and exported them to less regulated markets. This prevented Cipla from expanding in the West as it always feared for patent infringement lawsuits due to tight regulatory framework in those countries.
Dr. Reddy's	Joint Venture	Market Size	Dr. Reddy's was the first mover in Russian market. It's first ever joint venture was with Biomed of Russia and it gave Dr. Reddy unparalleled access to the Russian market.

Figure 15: Table 7 .

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