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NAVIGATING MERGERS AND ACQUISITIONS IN THE INDIAN PHARMA INDUSTRY: A HOLISTIC EXAMINATION OF LEGAL FRAMEWORKS

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1. BIRD' S EYE VIEW

The globalisation process heavily favours the influence, presence, and involvement of foreign owned enterprises in national economies due to the development of competition, financial liberalisation permitting capital flows, and rapid technical changes. Additionally, many domestic enterprises engage in corporate restructuring as a result of this. The procedure has resulted in a large reorganisation and redeployment of the firm's assets, changing numerous industrial sectors in the process. Strong merger and acquisition (M&A) activity is being seen globally in the current form of industrial ownership. The phenomena has a tendency to facilitate a firm's organisational structure and core competences being reconfigured.

The majority of M&A transactions are driven by the desire for financial synergies, market dominance, access to distribution channels, or entry into new geographic areas, proving that not all M&A transactions are driven by technological considerations. But in the current globalised environment, there are some high-tech sectors where innovation is essential for maintaining a competitive edge. Even when the deal is not innovation-driven, these companies will take the impact of M&A on technological performance into account and select the best financial and innovation strategy. In the current market, technological expertise is increasingly important for success, and factors like firm size, history, and equity are becoming less and less important.

Additionally, organisations have the opportunity to acquire important patents, IP rights, and proprietary technology through M&A transactions. They are able to establish themselves as leaders in specific therapeutic disciplines by acquiring the exclusive right to develop and

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distribute cutting-edge pharmaceuticals. Many M&A deals are motivated by the desire for financial synergies, market dominance, or access to distribution channels, but in high-tech industries where innovation is a key competitive advantage, the impact on technological performance is also taken into consideration..

2. HYPOTHESIS

H_0: There is no significant statistical change in the profitability of Dr Reddy's pre- and post-merger period.

H_1: There is a significant statistical change in the profitability in Dr Reddy's pre- and post-merger period.

H_0: There is no significant statistical change in the profitability of Cipla's pre- and post-merger period.

H_1: There is a significant statistical change in the profitability of Cipla's pre- and post-merger period.

Based on the above variables utilized in the hypothesis, the **research question** to be answered is ***whether M&A influences the profitability of a company, in consideration of the pre- and post-merger period as variables***.

3. OBJECTIVES

- To understand the statistical growth of M&A in pharmaceutical sector.
- To discuss the Legal framework supporting M&A, taking the pharmaceutical sector into account.
- To Analyze the pre-merger and post-merger period- selected companies

4. CURRENT TRENDS IN M&A

Indian pharmaceutical companies are putting a variety of strategies into practise to improve their market share and broaden their product lines. In order to gain direct access to well-established product domains in particular therapeutic segments, they are buying divisions of smaller Indian or foreign companies. This enables them to increase their visibility and take advantage of current market opportunities. ***For instance***, to strengthen their position in the Indian market, Cipla purchased the Vysov and Vysov M brands from Novartis AG.[2]

[2]Cipla acquires trademark rights of Vysov (2019)

Obtaining exclusive marketing rights for patented goods through licencing agreements with innovators enables businesses to market and sell them in particular regions for a predetermined amount of time. The co-marketing agreement between Glenmark Pharmaceuticals and Torrent Pharmaceuticals for the diabetes medication Remogliflozin Etabonate in India is an illustration of such a partnership.[3] As evidenced by Gilead's licencing of Remdesivir during the pandemic, non-exclusive licencing agreements have also been established to meet the increased demand for specific medications.[4]

Another tactic used by both Indian and foreign pharmaceutical companies to concentrate on their core portfolios is the divestiture of non-core divisions or brands. This enables them to more effectively allocate resources and realise cost savings in departments like inventory, field force, sales, and marketing. For instance, Sanofi sold Universal NutriSciences its nutraceutical business.[5] Additionally, for the purposes of research and development, foreign pharmaceutical companies are increasingly working with their Indian counterparts. These partnerships seek to create formulations for both domestic and international markets. The cooperation between MedGenome and US-based Emmes, a clinical research organisation that specialises in rare diseases, is an illustration of such a partnership.[6]

5. MARKET SIZE OF PHARMA INDUSTRY

The pharmaceutical industry experienced significant M&A activity in the first half of 2022, with total deal values exceeding an impressive $4.39 billion. A sizeable portion of this sum was attributable to Biocon Biologics' impressive $3.34 billion purchase of the global biosimilar portfolio of Viatris Inc.[7] By making this tactical choice, Biocon Biologics is able to

https://www.cipla.com/press-releases-statements/cipla-acquires-trademark-rights-vysov.

[3] Glenmark & Torrent sign licensing agreement for co-marketing of Remogliflozin Etabonate in India (2019) https://torrentpharma.com/pdf/investors/Glenmark_Torrent_co-marketing_of_Remogliflozin_Etabonate_in_India.pdf.

[4] Gilead Sciences Announces Steps to Expand Availability of Remdesivir in India (2021) https://www.gilead.com/news-and-press/press-room/press-releases/2021/4/gilead-sciences-announces-steps-to-expand-availability-of-remdesivir-in-india,

[5] Sanofi India Limited announces sale and transfer of its Nutraceuticals' business to Universal NutriSciences (2021) https://www.sanofi.in/dam/jcr:fdbb7074-d61a-48db-9a62-5d1b4838b020/Sanofi%20India%20%20Universal%20Nutriscience%20%20July%2028%202021.pdf,

[6] Emmes and MedGenome Launch Genomics Strategic Partnership Focused on Advancing Rare Disease Research (2021) https://emmes.com/content/emmes-and-medgenome-launch-genomics-strategic-partnership-focused-advancing-rare-disease,

[7] Biocon Biologics Completes Acquisition of Viatris' Global Biosimilars Busines (2022) https://www.biocon.com/biocon-biologics-completes-acquisition-of-viatris-global-biosimilars-business/,

increase its market share for biosimilars and strengthen its position as a key player in the sector.

The Indian pharmaceutical market is predicted to grow dramatically, with revenues reaching $65 billion by 2024 and roughly $130 billion by 2030.[8] The industry is currently estimated to be worth $50 billion, with exports accounting for over $25 billion of that value.[9] India contributes significantly to the export of generic medications, with 20% of the market.

India has the most manufacturing facilities outside of the US that have received FDA approval. The size of the domestic pharmaceutical market is anticipated to triple over the following ten years, according to the Indian Economic Survey 2021.[10] The domestic market was worth $42 billion in 2021, and it is anticipated to grow to $65 billion by 2024 and $120-130 billion by 2030.[11] In India, the pharmaceutical industry is anticipated to grow at a rate of about 11% per year for the next two years, surpassing $60 billion in value.India occupies a significant and growing position in the global pharmaceutical industry.The Indian pharmaceutical industry is currently valued at $42 billion globally, with annual revenue growth expected to increase to 17.7% in August 2021 from 13.7% in July 2020.

6. LEGAL FRAMEWORK OF M&A IN THE PHARMA SECTOR: CHALLENGES AND PROPOSALS

As per the **Foreign Exchange Management (Cross Border Merger) Regulations, 2018, Regulation 5[12]** in accordance with the Foreign Exchange Management (Transfer or issue of any Foreign Security) Regulations, 2004, discusses on the outbound merger and the ways in which a person residing in India may purchase or hold securities of the resulting company. Additionally, a resident person may purchase securities outside of India up to the Liberalised Remittance Scheme's permitted limits.

Moreover, as per Regulation 9[13], according to Rule 25A of the Companies (Compromises, Arrangement and Amalgamations) Rules, 2016[14], any cross-border merger-related transaction

[8] Formulating success: The Indian pharmaceutical industry. https://www.investindia.gov.in/sector/pharmaceuticals,
[9] Indian Pharmaceutical Industry (2023) https://www.ibef.org/industry/pharmaceutical-india,
[10] KEY HIGHLIGHTS OF THE ECONOMIC SURVEY 2021-22 (2022), https://pib.gov.in/PressReleasePage.aspx?PRID=1793829,
[11] Role of Digitalization in Pharma Sector (2022) https://www.indianpharmapost.com/webinarpast,
[12]Regulation 5, Foreign Exchange Management (Cross Border Merger) Regulations, 2018
[13]Regulation 9, Foreign Exchange Management (Cross Border Merger) Regulations, 2018
[14]Rule 25A, Companies (Compromises, Arrangement and Amalgamations) Rules, 2016

carried out in accordance with the relevant regulations will be assumed to have received prior approval from the Reserve Bank of India. This indicates that the merger transaction is taken to have obtained the required Reserve Bank approval without the need for a separate application or approval procedure. A certificate from the managing director/whole-time director and company secretary (if available) is required when submitting an application to the National Company Law Tribunal (NCLT). This certificate attests that the business(es) adhered to the rules that apply to the cross-border merger.

Notably, **Regulation 11**[15] of **SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 (Listing Regulations)** states that a listed entity must make sure that any scheme of arrangement, amalgamation, merger, reconstruction, capital reduction, or similar activities presented to a court or tribunal do not contravene or supersede the rules of securities laws or the requirements of the stock exchange(s).

To understand the trends of M&A transactions in the pharmaceutical industry, it is crucial to target specific challenges that may arise in the process. The following analysis gives an in-depth explanation of the existing as well as proposed laws in M&A in India and the underlying challenges. Tapping these challenges enables the efficient execution of M&A transactions by addressing and tackling probable future roadblocks.

6.1. Insider trading

Under Regulation 9(1) of Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 2015, The Securities and Exchange Board of India ("SEBI") has, in order to protect the interests of investors in general and to put in place a framework for prohibition of insider trading in securities of the Company and to strengthen the legal framework thereof, has issued ***the Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 2015 ("the Regulations") pursuant*** to the powers conferred on it under section 30 of the Securities and Exchange Board of India Act, 1992 ("SEBI Act"). The Regulations provides that every listed company shall frame (a) Code of Conduct, to regulate, monitor and report trading by its employees and other connected persons and (b) Code of Practices and Procedures, for fair disclosure of unpublished price sensitive information (UPSI), towards achieving compliance with the Regulations which includes the

[15] Regulation 11, SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 (Listing Regulations) https://www.sebi.gov.in/legal/regulations/feb-2023/securities-and-exchange-board-of-india-listing-obligations-and-disclosure-requirements-regulations-2015-last-amended-on-february-07-2023-_69224.html,

policy for determination of "legitimate. Therefore, the PIT prohibits the dissemination as well as the receipt of UPSI.

The regulation for insider trading has been appreciated by many because it has been re-iterated that it shall lead to effective conduct of due diligence in M&A deals This is because the exception allows an acquirer company to gain access to requisite information about its target company even when the information continues to remain unpublished.

6.2. The Companies Act, 2013 in reference to other laws relevant in the Pharma sector:

Section 230[16] applies to businesses looking to enter into a compromise with their shareholders or creditors. This section gives businesses a framework for restructuring their operations, including mergers, amalgamations, demergers, reconstructions, or other agreements that affect the rights and interests of creditors or shareholders.

Challenges & Checklist:

Essential legal mandates during disclosure of material information under Section 230(2)(a) of Companies Act, 2013:

In reference to the Drugs and Cosmetics Act, 1940:

- Section 18(c) a **license** is mandatory for the manufacturing for sale or distribution or stock or exhibition or distribution of any drug.
- Section 18B – **maintenance** of records as mentioned in Section 18(c).

In reference to Drugs and Cosmetics Rules, 1945:

- There are no specific provisions on M&A activities in the given rules but it mentions on the ***change in constitution or membership*** in the company and it's affect on the license.
- **Rule 23 and 27**[17] **read with Form 10:** The licensee (the company) must promptly send a written notification to the licencing authority if the **structure of a company operating under a licence changes.** This implies that the licencing authority must be informed of any changes to the firm's ownership, composition, or organisational structure. In the event of such a change, the firm's current licence shall remain in effect for a maximum of three months following the date of the change.

[16]Section 230, The Companies Act 2013
[17]Form 10: License to import drugs, DRUGS AND COSMETICS RULES 1945

- In observation of the above and the Cosmetic Rules 2020 and Medical Devices Rules 2017, it can be opined that the timelines for submitting application for obtaining license for the change in constitution differs. ‘
- In Rule 25 of the Cosmetic Rules 2020, and Rule 27 of the Medical Devices Rules 2017, the concept of “change in constitution” has been defined comprehensively. But no definition has been given in the Drug Rules 1945, as is necessary for the interpretation of Form 10 of the said Rules.

6.3. **FDI Policy 2020**:

India is home to more than 3,000 pharmaceutical companies with a strong network of more than 10,500 manufacturing plants. The Indian government is also pushing for reforms for businesses looking to invest in India via different investment initiatives. Greenfield investments are investments in new plants. The government of India supports the Indian pharmaceutical players by announcing effective policies from time to time. **Pharma Vision2020** aims to make India a global leader in comprehensive drug discovery and development along with mass production of low-cost generic drugs. The Government of India has also shown an inclination to grow the Indian pharmaceutical sector by introducing effective laws on foreign investment in the pharmaceutical sector. A Brownfield investment refers to an investment in an existing plant. Brownfield investments are usually made through mergers and acquisitions. Brownfield investment is preferred over Greenfield investment because it saves the initial time and cost of starting a project. After all the basic infrastructure (such as production equipment, capital equipment, local labor, and local approvals, etc.) already exists and is a relatively faster and cheaper Greenfield project alternative.

The pharmaceuticals department is administered by Department of pharmaceuticals, and the percentage of FDI investment is 100% but there is a sectoral bar which has been added into.

Greenfield Investment

When we talk about greenfield investment, there is 100% investment available under automatic route wherein FDI, foreign direct investments can be attracted without requiring any approval from the government or the Reserve Bank of India..

Brownfield Investment

When we talk about Brownfield investment the investment percentage even though it is 100%, creates restriction in automatic route which is applicable on till 74% and if the

investment exceeds 74% then the government route is to be followed, where the foreign direct investments shall require the prior approval of the government or RBI. This ensures that the sectors where the involvement of foreign parties are critical is properly regulated.

Sector Specific Conditions

The conditions to be followed for investment is sector specific. **For Greenfield and Brownfield investments**, a non-compete clause will not be allowed in both investments except in special circumstances with the approval of the Government. The potential investor and the investee must submit a certificate in the prescribed form for foreign investment together with the application.

Conditions applicable to Brownfield investments is Maintenance of research and development and expenditures should be maintained for 5 years at an absolute quantitative level. The benchmark for this level would be set to the highest level of R&D expenditure incurred in any of the three financial years immediately preceding the FDI induction year. The level of production and supply of National List of Essential Medicines (NLEM) should be maintained during the next 5 years at an absolute quantitative level. The benchmark for this level would be set to the level of production of drugs and/or consumables by NLEM in the three financial years immediately preceding the year of FDI induction. Of these, the highest level of production in any of the three years would be considered as the level. In case there is a transfer of technology, information will be provided to the administrative ministry along with bringing foreign investment into the investee company. Compliance with the conditions mentioned will be monitored by the Administering Department of the Ministry of Health and Welfare, the Ministry of Medicines, or any other regulatory authority as notified by the Central Government from time to time.

Challenges & Checklist:

Between a Limited Liability Partnership (LLP) and a Limited Liability Company (LLC), an LLP structure is not preferred for a pharmaceutical manufacturing company because an LLP whose business is to manufacture drugs cannot receive foreign investment under the present foreign direct investment policy. Since under the brownfield investment the FDI allowed is 74% in automatic route and above that there is government route applicable and the LLP conditions state 100% FDI is allowed through the automatic route and there are no FDI-linked performance conditions, into an LLP is permitted under automatic route.

6.4. ESG in pharma sector

ESG, which stands for Environmental, Social, and Governance, refers to three critical variables that are used to assess a company's sustainability and ethical impact. It has received a lot of attention in recent years from both investors and customers to the point that it has become a common business jargon. ESG indicators assist in evaluating an organization's capacity to retain customers, employees, and bring about growth opportunities. ESG considerations have become a key check box in shareholder meetings while considering potential M&A transactions.

One of the most significant transformational changes to hit the pharmaceutical industry in the last three years—and not just the result of the pandemic—has been the rapid acceleration and focus on sustainability initiatives. This is due to the wider environmental, social, and governance (ESG) agenda that has become an essential part in the strategic development of every corporation, including those in the pharma world.

Introducing a reporting compliance, in order to enhance the reliability of ESG disclosures, the BRSR (Business Responsibility and Sustainability Report) Core shall be introduced, which contains a limited set of Key Performance Indicators (KPIs), for which listed entities shall need to obtain reasonable assurance. It means Pharma companies must have clear visibility now on the total life-cycle impact of their respective company's manufacturing. That includes the need for its manufacturing and particularly the environmental impact to be documented thoroughly and done so with an eye on a future where oversight and reporting expectations will only grow. Any pharma company not asking the right questions of supplier's risks facing challenges in the near future from regulators, consumers, investors, and governments.

ROLE OF ESG IN DUE DILIGENCE FINDINGS

Since ESG compliance has become the foremost priority for long-term investors, a thorough assessment of risks forms a crucial part of any deal to avert reputational damages, lawsuits, and fines.

2018, for example, the Securities and Exchange Commission announced that the French pharmaceutical company Sanofi would pay more than $25m to resolve charges that its subsidiaries had made corrupt payments to win business. It, therefore, becomes crucial to have a detailed ESG strategy that goes beyond the acquisition process and assists the buyer in

analysing if the target generally complies with the standards prevalent in the sector, whether any claims have been made that might point to greenwashing and what other risks the acquirers might face.

Challenges

Even though ESG has been in frame for a long period of time, but still there is no regulatory framework available to look through the compliance work. A proper regulatory framework is necessary since number of companies have significant ESG footprints in their value chain The Board approved the proposals on introduction of a regulatory framework for ESG rating providers ("ERPs") in the Indian securities market, should be introduced to govern the same and enhance the transparency in ESG rating rationales so that there is no conflict of interest emerging and providing an assured data.

SEBI board meeting on 29th march approved the regulatory framework for ESG (Environmental, Social and Governance) Disclosures, Ratings and Investing and amendments to SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 and SEBI (Mutual Funds) Regulations, 1996 to facilitate a balanced approach to ESG.

6.5. Active Pharmaceutical Ingredient (API) and investor attraction

Covid-19 global pandemic not only made healthcare and pharmaceuticals sector an important aspect but also made India a reliable substitute to China for API procurement. the Active Pharmaceutical Ingredient (API) sector is in the spotlight for mergers and acquisitions (M&A). To manufacture or import Active Pharmaceutical Ingredient (API)/drugs to India, the company or the organization should seek prior approval from the Drugs Controller General of India (DCGI) for licensing to produce and distribute. The company should also follow the norms stipulated by the Central Drugs Standard Control Organisation (CDSCO) to produce the drugs. The Ministry of Health and Family Welfare will monitor the DCGI and CDSCO. To support DCGI and CDSCO in widening scope and research, the Government of India (GoI) has formed the Drug Technical Advisory Board (DTAB) and Drug Consultative Committee (DCC). The New Drugs and Clinical Trials Rules, 2019 work as the guiding rule for APIs. The application for permission to manufacture such drug shall be made to the Central Licencing Authority by the manufacturer of the active pharmaceutical ingredient in Form CT-13 by Rule 59 of the 2019 rules. The Central Licencing Authority shall be

responsible for scrutinizing the documents furnished and application made, and if satisfied or rejected the same has to be conveyed to the applicant within 90 days. The license granted to manufacturer of active pharmaceutical ingredient shall make use of the API for the purposes specified in the said permission only. Any deficiencies arising in the application shall be rectified within a stipulated period of time authorized by the licensing agency. The validity period of the permission granted shall be valid for a period of three years from the date of issue.

7. ANALYSIS OF PRE-MERGER AND POST MERGER PERIOD- SELECTED COMPANIES

For about Rs 1,850 crore in 2020, Dr Reddy's Laboratories purchased Wockhardt Ltd's branded generics business in India, Nepal, Sri Lanka, Bhutan, and the Maldives, as well as its manufacturing facility at Baddi in Himachal Pradesh.[18] The agreement includes a portfolio of 62 brands across many therapeutic categories, including dermatology, neurology, and respiratory. The anti-diabetic medication Vildagliptin was sold to Cipla in December 2019 along with the brand name and trademark rights for Vysov and Vysov M (Vildagliptin + Metformin). In accordance with their co-marketing agreement with Novartis, the company had been promoting Vildagliptin under the names Vysov and Vysov M.[19]

DR REDDY'S LABORATORIES				
	POST-M&A		PRE-M&A	
	2023[20]	2022[21]	2021[22]	2020[23]
Gross Profit Margin (%)	20.66	12.07	13.86	7.46
Net Profit Margin (%)	18.12	9.80	9.99	11.24
Return on Equity (%)	19.35	11.35	11.06	12.98
Return on Assets (%)	13.96	7.33	7.33	8.72

[18] Dr. Reddy's Laboratories to acquire select business divisions of Wockhardt in India (2020) https://www.drreddys.com/media/904665/press-release_dr-reddys-wockhardt.pdf,
[19] Cipla acquires trademark rights of Vysov (2019) https://www.cipla.com/press-releases-statements/cipla-acquires-trademark-rights-vysov,
[20] Annual Report of Dr Reddy's 2022-23 https://www.drreddys.com/cms/cms/sites/default/files/2023-05/IFRS%20Consolidated%20Q4%20FY%202023.pdf,
[21] Annual Report of Dr Reddy's 2021-22 https://www.drreddys.com/cms/cms/sites/default/files/2022-07/Annual_Report_FY2022.pdf,
[22] Annual Report of Dr Reddy's 2020-21https://www.drreddys.com/cms/cms/sites/default/files/2021-08/drl-annual-report-fy2021.pdf,
[23] Annual Report of Dr Reddy's 2019-20 https://www.drreddys.com/cms/cms/sites/default/files/2021-08/annualreport2020.pdf,

Return on Capital (%)	25.95	15.44	15.84	12.04

CIPLA LABORATORIES				
	POST-M&A		PRE-M&A	
	2022[24]	2021[25]	2020[26]	2019[27]
Gross Profit Margin (%)	22.2	22.77	16.64	15.61
Net Profit Margin (%)	11.76	12.53	9.02	9.22
Return on Equity (%)	12.07	13.12	9.81	10.17
Return on Assets (%)	9.28	9.56	6.53	6.37
Return on Capital (%)	17.04	16.78	12.32	11.13

The profitability ratio for Dr. Reddy's and Cipla is shown in the data structure above, broken down into the four-year pre- and post-merger periods. Respectively. A company's capacity to generate profits from sales or operations, balance sheet assets, or shareholders' equity is evaluated by profitability ratios. They demonstrate how effectively a business produces revenue and value for shareholders. Higher ratios are frequently preferable to lower ratios because they show that revenue is successfully converted to profit.

PROFITABILITY RATIOS- DR REDDY'S LABORATORIES LTD.							
	Mean		Variance		Mean difference	t-value	p-Value (2-tailed)
	Pre	Post	Pre	Post			
Gross Profit Margin (%)	10.66	16.365	36.89405	20.48	-5.705	5.21004566	0.12072265
Net Profit Margin (%)	10.615	13.96	34.6112	0.78125	-3.345	0.69905956	0.61160177
Return on	12.02	15.35	32	1.8432	-3.33	0.6713709	0.6235970

[24] Annual Report of Cipla 2021- 22 https://www.cipla.com/sites/default/files/Annual-Report-2021-22-single-page.pdf,
[25] Annual Report of Cipla 2020- 21 https://www.cipla.com/sites/default/files/CIPLA-AR-2020-21-Single-Page.pdf,
[26] Annual Report of Cipla 2019- 20 https://www.cipla.com/sites/default/files/2020-08/CIpla-AR-2019-20.pdf,
[27] Annual Report of Cipla 2018- 19 https://www.cipla.com/sites/default/files/Cipla%20AR%202018-19-2.pdf,

Equity (%)						7	6
Return on Assets (%)	8.025	10.645	21.97845	0.96605	-2.62	0.65336658	0.63156379
Return on Capital (%)	13.94	20.695	20.695	55.23	-6.755	2.01341282	0.29346858

PROFITABILITY RATIOS- CIPLA							
	Mean		Standard Deviation		Mean difference	t-value	p-Value (2-tailed)
	Pre	Post	Pre	Post			
Gross Profit Margin (%)	16.125	22.485	0.72832	0.403051	-6.36	10.8053	0.0084
Net Profit Margin (%)	9.12	12.145	0.141421	0.544472	-3.025	7.604801	0.0168
Return on Equity (%)	9.99	12.595	0.254558	0.742462	-2.605	4.693694	0.0425
Return on Assets (%)	6.45	9.42	0.113137	0.19799	-2.97	18.41916	0.0029
Return on Capital (%)	11.725	16.91	0.841457	0.183848	-5.185	8.513452	0.0135

The ability of Dr. Reddy's and Cipla to deliver goods at either a high or low cost is shown by their profitability ratios. Following the merger, all profitability ratios increased, highlighting the positive effects of operating performance and higher overall yield. Following the merger, GPM increased, demonstrating the management's ability to control COGS and favourable purchasing practises.

While concentrating on its core businesses of active pharmaceutical ingredients, generics (reverse-engineered drugs similar to their branded counterparts), branded generics, biosimilars (biotherapeutic products similar in terms of quality, safety, and efficacy to licenced reference biotherapeutic products), and over-the-counter drugs to grow over the short term, Dr. Reddy's and Cipla have experienced a significant upturn over the past four

years. An increase in shareholders' funds due to effective management practises and advantageous industry competition is indicated by the mean difference value of ROA/ROI. Utilising all of its resources, Dr. Reddy and Cipla's increased sales revenue and saw a quick rise in profits after the merger. Positive ROE pre- and post-merger indicates less hedonistic financial leverage practises. Less debt in the capital structure meant lower financial expenses.

The analysis shows a strong correlation between capital actually employed and profits that were actually realised. Due to wise M&A and investment choices over the years, ROCE has shown positive return. Because of wise financial investment choices, the management team has been able to provide the required minimum return on invested capital. The top management implemented strict controls over the budgetary system, which produced ideal borrowing practises. The creditworthiness of Dr. Reddy and Cipla was upgraded by major financial institutions as a result of their effective management techniques and ability to produce the minimum required rate of return on invested capital. We are unable to reject the null hypothesis because the observed difference is not statistically significant even though Dr. Reddy's profitability ratio has changed significantly and the p-value is higher than the significance level. However, there has been a significant change in Cipla's profitability ratio, and since the p-value is below the significance level, we reject the null hypothesis, indicating that the observed difference is statistically significant.

8. STATISTICAL SIGNIFICANCE

After examining the profitability of the businesses, it was determined that both had experienced significant growth under the parameters used. The pre- and post-merger periods of both businesses have resulted in gains in their capacity to turn a profit and their effectiveness in operation. The purpose of the study was to comprehend the individual and collective financial performance, which reveals a favourable environment. T-test and P-value were the instruments used to evaluate the performance. It operates on the basis of two different types of hypotheses, alternate and null, which are provided. The alternate hypothesis informs us that there has been a significant change, while the null hypothesis confirms that the data gathered and valuation performed lead to no significant change. The calculated probability is used in the p-value method of hypothesis testing to determine whether there is sufficient evidence to reject the null hypothesis. The initial assertion about a population (or the method used to generate the data) is the null hypothesis, also referred to as the conjecture. If the population parameter is different from the value of the population parameter stated in

the conjecture, this is stated in the alternative hypothesis. Normally, a p-value of 0.05 or less is regarded as statistically significant, and in that case, the null hypothesis should be disregarded. If the p-value is greater than 0.05, the null hypothesis is not rejected because the deviation from it is not statistically significant. In the study mentioned above, we concluded that when we looked at Cipla's ratios, the null hypothesis was rejected, indicating that M&A had a significant statistical impact on the company's growth over time. We cannot ignore the fact that even though the statistical analysis shows a significant change. Since there is a year gap between the two sets of data, external factors like monetary policy, general economic activity, and political issues could have an impact on the performance of both companies. At the end, we still come to the same conclusion: M&A increases company profitability, and both companies experience post-merger growth.

9. CREATING A STATISTICALLY SIGNIFICANT GROWTH

To create a statistically significant growth the measures would start by analysing the pharmaceutical market thoroughly, taking into account trends, client demands, and the competitive environment. You will be better able to comprehend market dynamics and potential growth opportunities thanks to this analysis. Invest in effective R&D initiatives to create cutting-edge, potent medications. Concentrate on regions where there may be a market need or unmet medical needs.[28] R&D initiatives ought to be propelled by a mix of internal expertise, partnerships, and collaborations with research institutions. Make sure all legal requirements and instructions are followed to the letter. Obtain the required approvals and continue to abide by the rules governing the creation, production, and marketing of medicines. Negative effects on growth prospects can result from non-compliance, including delays and setbacks. Optimise and review your product portfolio on a regular basis. Think about elements like market demand, profitability, patent expiration, and the competitive environment. To maximise the potential of current products, make investments in product life cycle management, including line extensions, new indications, or reformulations. Create a thorough market access strategy to make sure your products get to the right patients. Recognise the dynamics of pricing, reimbursement procedures, and market-specific laws. Conduct health economic analyses to show how valuable and economical your products are. Investigate opportunities for strategic M&A actions to improve your product line, expand into

[28] Duggal, N., 2015. Post merger performance of acquiring firms: A case study on Indian pharmaceutical industry. International Journal of Research in Management and Business Studies, 2(3), pp.24-28.https://www.academia.edu/download/40885071/1-neha.pdf,

new markets, or gain access to cutting-edge technologies. Synergies, increased market share, and access to new customer segments can all help M&A speed up growth.[29]

10. SUMMARY OF KEY FINDINGS AND CONCLUSION

Acquiring or merging with other businesses that have complementary products or pipeline candidates, companies frequently seek to expand the range of products they offer. As a result, they can broaden the scope of their services and therapeutic specialties. Companies can gain access to new technologies, research platforms, and scientific expertise through M&A activities. Pharmaceutical companies can bolster their R&D efforts and hasten the development of new drugs by acquiring firms with promising drug candidates or cutting-edge research capabilities. M&A deals are frequently motivated by the desire to enter new international markets.

In summary, mergers and acquisitions in the pharmaceutical sector have many advantages for businesses. They give businesses the chance to diversify their product lines, increase their capacity for research and development, access new markets, cut costs, create synergies, and acquire valuable patents and intellectual property. Pharmaceutical businesses can deliver a wide range of efficient treatments while also enhancing their competitive position and driving innovation by taking advantage of these advantages. M&A activities are a key strategy for pharmaceutical companies looking to thrive in a highly competitive and quickly changing environment due to the dynamic nature of the industry and the constant pursuit of growth and innovation.

[29] Dhingra, K., 2019. An analysis of mergers and acquisitions in Indian pharmaceutical industry. Amity Global Business Review, 72, pp.72-96. https://www.researchgate.net/profile/Jose-Vargas-Hernandez/publication/351824016_Strategic_Entry_Branding_Into_New_Latin_American_Markets_An_Institutional_And_Cultural_Approach_Bimbo_Case/links/60abeb3c45851522bc150eb0/Strategic-Entry-Branding-Into-New-Latin-American-Markets-An-Institutional-And-Cultural-Approach-Bimbo-Case.pdf#page=72,