The Impact on Key Performance Indicators after Merger & Acquisition
(A case study on Pharmaceutical Industry)

Faisal Shehzad, Mian Haroon Arshad

Department of Business Administration
Master’s Program in Finance
Master’s Program in Accounting
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Supervisor: Juha Maki
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Abstract

Merger and Acquisition is an important activity for the companies involved in it. They are a method for the acquiring company to increase not only its market presence, but it also helps to increase shareholders' value and diversifies the product portfolio. This study is focused on the pharmaceutical industry because of its global presence and due to the importance of pharma industry in our daily lives.

Businesses all over the world operate in a cycle of booming and crashing. We found out that most of the mergers which happened in the pharma industry were during the booming period of business. We found out that there are different reasons for both the buying and the selling company to participate in the Merger and Acquisition process.

The authors have used secondary source of data collection because meeting in person to collect primary data is not possible due to the current situation of Covid-19. We have decided to use Qualitative approach for data analysis as our research is focused on only the key performance indicators using the data from 4 major mergers.

The selection of cases in the study is made considering the geographical presence of the companies. We have tried to cover mergers from diverse markets to understand and show the reader how it affects the key performance indicators in different markets.
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1. Introduction

This introductory chapter starts with the background of the chosen topic. Thereafter, a thorough discussion about the problem and the research gap will come, which will be followed by the purpose of this thesis and the accompanying research questions. Finally, this chapter will be ended up with the delimitations of the study.

1.1 Study Background

The pharmaceutical and biotech industries have become progressively concerted in the last three decades. In this connection, only in 1985, 10 largest companies reported for about 20 percent of world sales, again in 2003, another 10 biggest companies constitute around 48 percent of sales, are the result of consolidation due to mergers (Kumar, 2012, p.3). The worth of M&A in this sector surpassed USD 500 billion in the period from 1988 to 2000 (Budhwar, Varma & Katou, 2009, p.92). The 1996 merger of Cuba and Sandoz, which created agribusiness giant Novartis, resulted in huge cost savings of near to 1.5B Swiss francs in the 1st year of the merger alone (Kumar, 2012, p.4).

The first phase of M&A can be traced back to the merger event carried by Beecham in 1938. Beecham acquired two well-known firms of that time known as Macleans Ltd and Eno’s Proprietaries Ltd (Kumar, 2012, p.9). One year later in 1939, Beecham again moved ahead with the acquisition of County Perfumery Co. Ltd. Further, after ten years, third known M&A activity occurred between the Joseph Nathan Company and Glaxo Laboratories Ltd in 1949 (Davenport-Hines & Slinn, 1992, p.17). During the same year, Bencard Ltd was forcibly acquired by Beecham Group Ltd as it was seen as an unethical acquisition of that time by many researchers.

The second wave of consolidation in the pharmaceutical industry happened in the later part of 1980 started with the most known merger of that time among Smith, Kline, and Beecham, after a time another big M&A event that happened was between Bristol-Myers and Squibb during the late 1980s (Kumar, 2012, p.3). These mergers have increased scope and reach due to the effective use of the available workforce. It should be noted that the major achievement of these M&A transactions was income from increased medical and geographic coverage. Pharmaceutical companies have also benefited from reduced costs. According to researchers, it was between the
1980s and 1990s when the highest number of M&A transactions were recorded in the pharmaceutical industry around the globe (Budhwar et al., 2009, p.92).

According to recorded history, the highest number of horizontal mergers happened in the 1990s mostly in the western part of the world. Among popular names resulted from M&A transactions of horizontal nature includes; Glaxo and Wellcome, Upjohn and Pharmacia, American Home Products and American Cyanamid, and Hoechst and MMD have mainly resulted to create more value (Kumar, 2012, p.3). According to Kumar (2012, p.3), the above M&A transactions were mainly carried to gain the benefit of economies of scale by reducing cost. However, it should be noted that the merger among Zeneca, Merck, and Lilly was vertical and was also carried in the 1990s. Therefore, almost half of the previous transactions took place between 1994 and 1996, and ten of the 15 largest pharmaceutical transactions were horizontal (Kumar, 2012, p.3).

One of the most talked-about and critical vertical takeovers of that time was Burroughs Wellcome by Glaxo in 1995 (Kumar, 2019, p.142). Furthermore, after this successful M&A transaction, it was found that overall sales of Glaxo amplified from € 618M to € 5,656M from 1980 to 1994. According to Budhwar et al. (2009, p.96), two companies were brought into M&A due to the same problem of fewer sales, a higher market value of around $2B was achieved after this merger. Hence, it can be concluded that such kind of M&A transaction has served two functions, where one is the reduction in the cost of operation and the second is the high increase in sales volume.

According to the research work of Danzon, Epstein, and Nicholson (2007, p.8), the most popular and big names in the pharma industry today resulted from the horizontal nature of M&A transactions that occurred in 2003. The current status of GSK has resulted from a long journey that started from Glaxo then acquired Wellcome, further in a later stage Smith and Kline French were acquired and finally, Beecham become part of GSK. Furthermore, Aventis is formed from a merger with Hoechs from Germany, from France was Rhône-Poulenc. Besides other small innovative forms like Dow, Rorer, Merrill, and Marion were also acquired by Aventis. Another well-known company Pfizer was formed by merging Pharmacia and Warner-Lambert where Upjohn was also encouraged in this opportunity (Kumar, 2019, p.142). Between 1985 and 2007, 51 large companies in the sector merged to form only ten organizations (Kumar, 2012, p.3). It is found that historically M&A transactions among large pharma carried to reduce cost, has
achieved their tasks of doing so (Banal-Estañol, 2007, p. 3). The success of M&A transactions in the pharmaceutical industry can be proved from the point that there are around 1345 cases of M&A activities in terms of assets and companies within a decade that ends on 31st December 2009. Further, these M&A transactions have mobilized transactions price of more than USD 694 billion within that period (Kumar, 2012, p. 3). Finally, one of the biggest transactions ever recorded in the pharmaceutical industry was around 74 billion dollars paid by BMS to Celgene as an M&A transaction.

1.2 Problem Discussion
The objective of this thesis is to carry out a detailed analysis of mergers and acquisitions that have occurred in the pharmaceutical industry from the transactions reported to date to determine the impact of mergers and acquisitions on the financial information of the companies, once the transaction is finalized. Since pharmaceutical mergers and acquisitions are some of the largest transactions even occurred in any other industry. Therefore, this study has focused only on the pharmaceutical industry to examine the influence of M&A transactions on the financial information of merged companies. Based on thesis aims, this study will determine whether all mergers and acquisitions have produced the desired positive or negative results in the pharmaceutical industry or not. Further, whether companies were able to achieve the goals set before the actual M&A transaction, and whether or not all M&A decisions in the pharmaceutical sector have been good. To achieve the objectives of this study, the author took into account popular companies that resulted from mergers and acquisitions and attempted to determine the impact of M&A companies on their financial information after successful deals.

1.3 Research Purpose
The purpose of this research work is to determine the actual impact of M&A on the financial information of merged pharmaceutical companies after the deal was noticed successfully. Further, once the M&A deal is complete the resulted in the company will use all resources of merging companies to achieve their desired objectives many be in terms of increase in sales, going outside national boundaries, achieving a competitive edge, facilitating R&D work, gaining new market access and so on. Therefore, here author will identify whether M&A was good or not and whether it should be carried or not based on a detailed analysis of the literature of these companies.
1.4 Research Questions

- What encourages M&A transactions in the pharma industry?
- What are the outcomes of M&A transactions in the pharmaceutical industry?
- Whether M&A transaction resulted in a good performance or not?

1.5 Delimitations

According to the authors of this research work, his study aims to bond academic research and contexts to factual merger cases, certain delimitation in the analysis has been found. The inspiration for this work is to validate an overall valuation of the M&A process rather than to forecast particular worth. Below are some important delimitations of this study:

- It is supposed that the readers have a good know-how of economic and financial theories and have been formerly part of the strategy and assessment frameworks. Hence, comprehensive elucidations of related theories and predictions are very restricted. Simply, a good chunk of information on each concept related to M&A is given.

- Overall, 5 M&A cases are discussed and based on those cases, the conclusion is made and suggestions are offered for all stakeholders. Further, only those companies are selected for an analysis whose data is available in scientific research papers.

- Due to the unavailability of the required information, the authors have selected only 5 companies regardless of when the deal was closed.
2. Scientific Method

In this chapter, basic information about scientific methods is given under different subheadings.

2.1 Choice of the Subject

The pharmaceutical industry is one of the leading industries in terms of innovation and revenue generation. Due to that this industry has witnessed a wide array of M&A since the industry has gained some importance in our society. According to researchers, the pharmaceutical industry is the only industry that has witnessed the highest number of M&A since recorded history. As the purpose of this study is to determine the impact of M&A on key performance indicators of the companies after a new company or bigger company is resulted from the transaction. Therefore, the pharmaceutical industry can best serve as an industry in which M&A studies can be carried out.

2.2 Preconceptions

McGuigan & Weil (2010) argued that students succeed when the threshold barriers are crossed that relate to the preconception of some subjects as initial accounting techniques are predicted as monotonous and less engaging while the students perceive it as a book-keeping exercise with the addition of key performance indicators analysis at the maximum while in some cases reverse situation occurs where the students perceive the subject as interesting but in reality, may find it boring.

2.3 Ontology

Ontology is a division of philosophy and it is also a science that governs the reality of events, objectives, relations, and processes in each field of study. It is sometimes called "metaphysics," that is, an investigation into which several possible alternative ontologies apply to reality (In Garden, 1964). The term (Ontology) was first used by Rudolf Göckel and Jacob Lorhard in 1963 while this word first occurred in Bailey’s vocabulary of 1721 that defines it as ‘an account of being in the abstract’ (Barry Smith, 2003).

We as researchers have perceived the phenomena of the spillover effect of financial information on mergers and acquisitions. As the social norms are changing so are the organizations where
they are growing through mergers and acquisitions. Every industry seems to grow with the help of mergers and a vast number of mergers are found in the pharmaceutical industry.

Bryman and Bell (2011) described constructive ontology in line with an ontology that suggested researcher with a relativist ontology perceives reality as something built up of phenomena and structures. Daniel Kudenko (2010) says that constructive ontology requires existing features to generate a new feature representation or extend the existing one and this approach will only be successful if this initial set is a suitable starting for extraction, construction, or selection.

2.4 Epistemology
Epistemology can be explained as the relationship between researcher and study (Solomon et al., 2018, p. 3). The main idea behind epistemology is to define how we study our reality and what acceptable knowledge in that reality is. According to Saunders, Lewis, and Thornhill (2009, p. 113), there are four main streams of epistemology: positiveness, pragmatism, pragmatism, and interpretivism. The choice of the epistemological point of view is positively correlated with the chosen ontological point of view.

Realism and positivism follow the logic of science (Benton, 1981, p.17), but take a different approach to interpreting science studies. The difference between positivism and realism is related to "observation." Positivists investigate where they test theories without noting that the judgment on the tested theory is "true" or "false." Meanwhile, realists are trying to figure out what mechanisms underlie observable phenomena. Regarding interpretivism and pragmatism, interpretivism affirms that there is a connection between the researcher's knowledge and the observed object, so it is impossible to separate them (Wahane, 2019, p.25). On the other hand, pragmatism supports the idea of multiple realities that can explain the world, rather than a single point of view (Kelemen & Rumens, 2008, p.233). According to Saunders et al. (2009, p.110), pragmatism and interpretivism are closely linked to the subjective ontological vision; Positivism and realism now correlate with an objective ontological view.

In this study, the author distances himself from any influence on the research results. From an epistemological point of view, this study follows the position of positivism. This is possible as soon as this study is free from all forms of consciousness (Al-Saadi, 2014, p. 2).
2.5 Research Approach

As it is made clear in the earlier sections of the research that the research is based on the constructive and analytical presumption of reality and knowledge. Furthermore, it is also being said that the purpose of this research is to develop an understanding of the financial effects of a merger and acquisition. However, there are two primary areas of research, one is qualitative and one is quantitative and this research report is completed with the help of qualitative research methods. According to Sam (2020, p.7), a mixed method of research involves the potential strength of both quantitative and qualitative research methods, and the mixed method allows a wider perspective for a researcher so that he can investigate relationships that exist between the complex layers of multifaced research.

Positivism is an approach to research that is based on the philosophical stance of natural scientists that is working with observable reality in a society that leads to the creation of generalization while this particular approach relates to the data and facts that are not compromised or biased (Saunders, Lewis & Thornhill, 2012, p.39) therefore it is based on quantitative research as this type of research is focused on the discovery of facts however there are some limitations of this method of research where it cannot be applied to every case, for instance, an investigation involving 2000 students and 20 teachers will not be able to consider several variables. In contrast, is interpretivism that is opposite to the technique defined above as it takes a subjective view of findings where it considers the depth of variables and factors related to a situation. This approach also considers differences such as circumstances, cultures, and times leading to the development of different social realities. In this approach, insights are gathered rather than applying the universal laws (Saunders et al., 2012, p.113; Bhattacharjee et al., 2012, p.825) Interpretivism is based on some variations such as Hermeneutics that is a study of philosophy, Phenomenology that seeks to understand the world and Symbolic interactionism that considers symbols as social objects (Alharahsheh & Pius, 2020, p.41).

This study is based upon the qualitative method of research that will take into account the interpretivism approach to research.
2.6 Research Strategy

The purpose of this research is to attain a deeper knowledge of the spillover effects of financial information on mergers and acquisitions therefore the research will be focused on the interpretation and phenomena instead of quantification of data. Qualitative research can be through inductive or deductive way while both the processes involve three main phases: preparation, organization, and reporting of results. The first phase consists of gathering suitable data, making something out of that data, and choosing the unit of analysis while the second phase of an organization includes creating categories and abstraction (Elo & Kyngäs, 2008, p.109) and the third phase of reporting involves describing results by the content of the categories. The selection of the qualitative research is supported by the reality that is described and has a constructive ontology, an interpretive epistemology, and an inductive research approach as these techniques categorize a qualitative research methodology (Bryman, Teevan & Bell, 2005, p.293).

The chief criticism of qualitative research is that it is difficult to generalize findings to settings not studied (William, 1993, p.16). It is also being said that all individuals are biased and their biases can impact the quality of the research performed (O’Gorman & MacIntosh, 2014, p.61) therefore we have explained this in the preconception part. What preconceptions we have and in what ways they can affect the research. Unconscious bias is not permanent instead they are malleable and actions can be taken to limit their impact on the quality of research (Dasgupta, 2013, p.13).

Literature and theories that are used in this study are found with the help of a database provided to students by Umea University that is a Business Source Premier. Further, to enhance the quality of this study Google Scholar is used to extend the possibility to find relevant research on the topic.

2.7 Literature Search

This literature search is based on:

Table 1. Literature search keywords

<table>
<thead>
<tr>
<th>Merger and acquisition strategies</th>
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<td>The spillover effect of financial information</td>
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2.8 Research Design

The philosophical perspective chosen in the study determines the research design that we will use (Kumar, 2014, p.103). The research design can be qualitative or quantitative. Quantitative research design is often associated with any data acquisition or analysis process (Saunders et al., 2009, p.151) that generates or uses digital data. Meanwhile, the qualitative research design is linked to the same processes, but without numerical data. In addition, the author will discuss the two study designs and provide arguments for which they will be used for this study.

The design of quantitative research is usually study-specific and its validity and reliability are always verified (Kumar, 2014, p.103). Quantitative studies use numerical data, commonly called quantitative data. Qualitative data are strongly linked to positivism and interpretivism, so the results show a high degree of validity and reliability (Collis & Hussey, 2013, p. 131). According to Kumar (2014, p.101), quantitative studies have enough data to be replicated for verification and reaffirmation purposes. Usually, quantitative studies are done to test a theory about numerical data that excludes personal opinions as much as possible.

The main idea of qualitative research design is to provide understanding, explanations, clarifications, and beliefs about the object under study (Kumar, 2014, p.103). Often, qualitative studies are carried out to build a theory on the subject of study through interviews or other means, to collect the opinions and beliefs of people about the phenomena under study. As a general rule, qualitative studies are used when there is a lack of information about the object under examination.

Based on the above discussion, the authors in this study are going to use a qualitative research design based on the nature of the study.
2.9 Ethics in Business Research

When people think of ethics (or morality), they think of guidelines that distinguish correct from incorrect, like the golden rule ("do whatever you want"), a code of conduct like the Hippocratic Oath. This is the most common way of defining "ethics": standards of behavior that distinguish acceptable behavior from unacceptable behavior.

Ethical behavior in research studies generally represents an appropriate attitude towards the research object (Saunders et al., 2009, p.183). As a researcher, one must be careful with the data of other organizations or individuals and follow moral standards to study the desired object. These ethical and moral standards can vary from country to country and culture to culture. However, Saunders et al. (2009, p.198) has provided several sources on ethics in business research and has summarized the most common and relevant ethical issues in a list:

- The researchers should guarantee the privacy of the participants in their study as much as possible if the participant wishes so.
- No one can be forced to participate in a study. This must be a voluntary decision of the participant.
- The participant must not suffer any harm such as physical pain or stress.
- The behavior and objectivity of the researcher should be humble and clear (Saunders et al., 2009, p.186).

Besides the above points, many other things must have been cared about while going for research work and collecting related data from respondents.

- The researcher should not over-represent or under-represent the topic, people, culture, etc.
- Research should not include things or data in research work that are not related to the topic under study.
- Research should not lengthen his/her work unnecessarily.
- The author must not reveal any incomplete or absurd reason for conducting the research.
- The author should not exceed the given number of words limit.
- The author should avoid too much generalization for the sake of more words.
- The author must not do this in a vacuum.
In this study, the author would try to follow the ethical standards for himself as much as possible. Because this research will analyze secondary data, it would not have direct participants but would use data that has been collected and analyzed by other researchers.

2.10 Theory Choice
Since the main aim of our study is to assess the spillover effect of financial information of mergers and acquisitions and to assess this it is important to understand the factors that drive the companies to expand through mergers and acquisitions. Therefore, merger and acquisition strategies of small and large firms in the pharmaceutical industry are discussed where the focus is on the need for expansion and how these companies expand while the effects of financial information in mergers and acquisitions are discussed at large.

To understand the expansion of companies through mergers and acquisitions, two main theories have been used. One is Ansoff’s matrix and the other is Risk Management Model. Ansoff Matrix is a tool that analyses and plans strategies for growth. The matrix has four strategies: Market Penetration, Product Development, Market Development, and Diversification. All these strategies are helping in assessing the expansion of firms through mergers and acquisitions. For example, companies may expand through developing new products or new markets or may diversify which would lead to a merger of a small company. The other model chosen is the risk management model, which takes into account the risk factors involved in merger and acquisition activities. The objective of the model is to maximize the probability of success of merger and acquisition activities by managing and reducing the associated risks (Chui, 2011, p.11). The aim of using this model is that it is the most appropriate to use in the case of merger and acquisition that will evaluate the effects of financial information due to merger and acquisition on the companies that have undergone this change.

2.11 Source Criticism
A book named “Models as Mediators” was derived from the slogan models, written by Morgan and Morrison in 1999. This book guides in describing the relationship between the theory and reality. In the book, they argued that theory is a set of claims and representative models of the theory while Van Fraassen (1989, p.121) argued that theory is a set of models and the representative models are to be found among these. Giere (1999, p.41) argued that theory only
provides ideal models that are simple. Nowak (1980) discusses that models look real when more and more factors that relate to the real situation are added into the ideal model to achieve a good representation of the phenomena being discussed. All the writers discussed above argued that there is a huge difference between the theory and when that is applied to a model in practice but Nowak (1980) argued that these models will look like real when more relevant factors would be added to the situation and therefore Risk Management model is used for assessing the effects of mergers and acquisitions on financial information so that they will present a clearer picture of reality.
3. Sustainability

In this part, the authors have discussed the sustainability of this research report.

Sustainability is a system-based approach for an environment where one is subjected to a better ecosystem that is favorable for both humans and animals (Gray, 2010, p. 48). Sustainability is the ability to survive relatively continuously in different areas of life. In the current century where global warming is on the rise, the ecosystem’s ability to live together with human civilization is known as sustainability (Whiteman, Walker & Perego, 2013, p. 310).

The author has decided to explore mergers and acquisitions topics for his current business research work. Based on studies it was found that M&A is very common in pharmaceutical companies than in other industries therefore, the author decided to study M&A transactions that have been done to find the impact of M&A activity on a business financial information before and after actual M&A transaction. For that purpose, the author has selected five popular M&A transactions from different cultures and management styles so that study should be the true representative of M&A transactions happening around the globe. Besides, the companies were also selected for different periods to measure the impact of M&A in different periods.

The authors have used financial information of all these companies from their official websites and scientific generals so that the validity of data can be confirmed and he can confidentially draw conclusions based on results. While discussing recommendations and conclusions, the author was satisfied with the data therefore, he provided his true findings on M&A transactions.

Being a business graduate student, the authors have studied business research methods before this study. The authors have sound knowledge of business methods, research ethics, research topic, and structure of research work so it can be said that work done by the author should be treated as valid work. The authors have also got assistance from his supervisor so that he can add accurate factors in his research work and findings.
4. Theoretical Framework

*In this chapter theoretical framework will be discussed. This chapter will help in building theoretical foundations for the selected topic. First, a basic overview of financial information will be discussed and in later part will discuss basic assumptions, theories, and other related material supporting mergers and acquisition.*

4.1 Financial Information

Many previous studies have explored the issue and importance of financial information. Some of these studies were focused on its impact on overall business operations while others were more towards its impact on specific business activity. In a study made by CIMA (1993, cited in Bhimani & Langfield, 2007, p.4) it was shown that many of the studies conducted were focused on the performance measurement aspect. Kershaw (2001, cited in Bhimani & Langfield, 2007, p.4) made a point that financial information takes many forms and it can significantly influence the formulation of strategy in an organization. Simons (1995, cited in Bhimani & Langfield, 2007, p.4) concluded that both financial and non-financial information is crucial for the processes in an organization. It is of utmost importance to continuously monitor the right information for making and implementing broader strategies (Bhimani & Langfield, 2007, p.4). Another important factor is the sources of financial information. Goold & Quinn (1990, cited in Bhimani & Langfield, 2007, p.7) thought that sources of financial information are diverse and they may not be coming from a formal source. This led them to believe that information can be in a highly unstructured form.

4.2 Mergers and Acquisition

Researchers have different views regarding how one can define M&A transactions based on changing nature of the subject. It is generally accepted that mergers happen when companies are of the same size. Rather, acquisitions transactions occur when a big company tries to acquire a smaller innovative company (DePamphilis, 2019, p.14). According to Reed et al. However, mergers only exist when one “company merges and disappears into another” (Reed et al., 2007,
Mishra (2018, p.277) pointed out that a transaction called acquisition happens when the firm purchases as a whole by its internal stockholders and external investors. When another company makes an offer for a weak and small firm, the transaction form can be categorized into 4 different kinds where one is a merger, the second is consolidation, the third is a takeover bid, and the fourth one is asset acquisition. If the object firm is part of the company and requires the endorsement of the shareholders of both parties, the contract would be termed as a merger activity. Whereas acquisition happens when the merged and the merging firm collectively make a completely novel entity that also involves the consent of both sides’ shareholders. Hence, an ineffective takeover bid eventually turns into a merger if the target company persists and dissenting shareholders resist. If the target company remains as it was before but its financial assets are shifted to the registrar, an asset acquisition occurs resulting in the liquidation of the target company.

According to researchers, mergers are of a kind due to their volatile nature, where the "equals" merger (for example, Ciba and Sandoz, which form Novartis) and the "Unequal" merger (Chase and JP Morgan, which form JP Morgan-Chase). There are also different kinds and shapes of acquisitions, those that include an "integration" (as in the case of Cisco Systems), and those that include a "separation" (as in the case of Unilever and Bestfoods) (Budhwar et al., 2009, p.127).

Authors such as Bower (2004, p.244), and Aguilera, Dencker, and Yalabik (2004, p.155) also provide other-type of metaphors of mergers and acquisitions, such as (i) Mergers and acquisitions of excess capacity, in which the receiving firm tries to eradicate additional power by creating a more prominent company look for cost savings. (ii) Global geographic mergers and acquisitions in which companies seek geographic expansion to achieve savings in size and scope; (iii) Mergers and acquisitions in product or market expansions that relate to the expansion of product lines or cross-border expansion to accomplish economies of scale, most importantly, (iv) mergers and acquisitions to replace R&D when a company wants access to novel information of research and development by gaining companies with high-tech modernization capabilities instead of developing their internal research and development part of a company, and lastly in this context (v) industrial conjunction called mergers and acquisitions, the objective of which is to
generatenumber 1 innovative industry resulted from prevailing businesses whose boundaries are wearing down with time.

Regarding the archetypes of mergers and acquisitions, Budhwar et al. (2009, p.126) suggested these four terminologies where 1st one is a takeover, which implies enchanting control of the procedures and the identity of the company acquired by the taking-over, hence expunging the individuality of the merged firm; 2nd one is redesigning whether the buyer's approach is based on the fundamentals of the acquired business; 3rd one is re-strategy, which combines the competitive approaches of each firm to develop a winning company of its image; and lastly, 4th one is a confederation, in this type every firm is allowed to have its own operating and culture without any acquiring firm influencing the acquired organization.

4.3 M&A Process
There are three stages of M&A based on those stages M&A is carried throughout the world, especially in Western culture and management style. The researchers recommended based on their research work (Habeck, Kroger & Tram, 1999, p.133; Schuler & Jackson, 2001, p.239) that M&A transaction encompasses three diverse phases, which start with the first phase called pre-combination, the second one is a combination (integration of partners), and the final one is the consolidation, and further development of the new business organizations.

4.4 Why M&A in the pharma sector is discouraged?
According to recent research work, a notable number of M&A transactions fail, and contingent on the sector, the described failure rate varies between 50 and 80% (Hess & Rathaermel, 2011, p. 897; Lodorfos & Boateng, 2006, p.1406). The history of M&A activities shows that mergers and acquisitions are well below expectations (Tetenbaum, 1999, p.22). A third summit was called for M&A in China where it was found that a minimum of 50 percent of M&A failed to accomplish their inherited objectives and more than 80 percent of merging transactions failed within not more than their 1st year of successful transaction (Hitt, Harrison, Ireland, 2001, p.55).

4.5 Why does M&A fail in the pharma industry?
One of the major reasons behind failure is that the companies are unable to manage strategic fit for which are have opted to merge and form a new entity. Besides, poor management has added fuel to fire, hence known as a major reason in most cases of mergers and acquisitions (Chatterjee
et al., 1992, p.320; Lodorfos & Boateng, 2006, p.320). Additionally, many authors claim that mismatched cultures of organizations and society, shortfall of key skills, weak and inappropriatetwo-way-communication, and reducedcontributionof workforce during the M&A transaction, are some of the most important explanations for failed M&A activity (Denison, Adkins & Guidroz, 2011, p.97).

Both HR roles (strategic partner and change agent) are premeditatedby nature and should have a momentousinfluence on the accomplishment or disappointment of mergers and acquisitions by supportingresulting firms to successfully integrate their cultures and employees (Ulrich, 1997, p.2; Bjorkman & Soderberg, 2006, p.654). For instance, if the M&A activitytakes the approach of pooling inequalities, this can lead to an ethnocentric human resource management strategy that leads to an uneven distribution of effects on staff (Kay & Shelton, 2000, p.26). If the taking-over firmtakes the recovery strategy and imposes the guidelines and does, own culture and morals of the overridingfirm on the acquirer, this may direct the acquirer to return to the approach called the ethnocentric approach of the resource department. Unfortunately, many organizations only include HR in the onboarding phase, which often leads to poor partner selection, leading to several persistent differences, such as cultural issues (Lindquist, 2007, p.3).

4.6 What leads to the success of M&A in the pharma industry?

A crucial determinant of the success or failure of M&A transactions throughout history is the management of people and people-related processes in mergers and acquisitions (Budhwar et al., 2009, p.90). Experience with successful mergers and acquisitions proposes that, in an ideal world, human resource managementwould be allowed to take part from the opening (that is, from the due diligence phase) to the completion of the transaction. In addition, the HR teams of the two companies involved have to deal with three critical issues, namely, mixing the culture, safeguarding the free-flow of two-way communication, and connectingworkforces in the actual process of change to achieve the expected synergies in mergers and acquisitions (Budhwar et al., 2009, p.93). When integrating the two cultures, both national culture and distinctive organizational culture must be taken into account (Schuler & Rogovsky, 1998, p.159).
4.7 M&A Risk Management Model

Merger and AcquisitionRM Model has been brought into work to recognize and make control over the risks of M&A transactions to make the most of the opportunities for M&A success by monitoring and eliminating the risks linked with mergers and acquisitions transactions (Chui, 2011, p.11). The popular mode of risks approach is divided into two phases: risk identification and risk quantification. Because this research is qualitative, the risk identification model will only be discussed in the context of mergers and acquisitions.

4.7.1 Risk identification with the fish bone method

According to research, identification of risk involves identifying the risk aspects that are present in M&A initiatives undertook by companies. When identifying risks in the given model, the fishbone technique is brought into used to detectprobable risks (Chui, 2011, p.11). The fishbone diagram can recognize many upcoming causes of a consequence or delinquent and it also made in use to make a brainstorming structure and promptlysplitconcepts into valuablegroupings (Luo, Wu & Duan, 2018, p.296).

The main objective of the herringbone diagram is to graph the relationship between a given result and all the factors that influence that result (Loredana, 2017, p.99). The steps to create and analyze a cause and effect diagram are described below:

Step 1 - Recognize and clearly outline the result or conclusion to be scrutinized.
Step 2 - Using a graphics pack, position it so everyone can see it, draw the spine, and create the effect box.
Step 3 - Identify the main causes that contribute to the effect being studied. These are the names of the main branches of the diagram and become categories under which the many causes associated with those categories are listed.
Step 4 - For each main division, recognize other precise aspects that may be causing the effect.
Step 5 - Recognize progressively comprehensive cause levels and endure to shape them by linked causes or groupings.
Step 6 - Scrutinize the diagram to detectgrounds that demand further inquiry.
4.8 Ansoff Model

This model will be used to discuss reasons behind M&A activities triggered by firms, especially in the pharmaceutical industry. Figure 3 shows the model used in the study, the dimensions of the Ansoff model, which is the independent variable, and Marketing Performance, which is the dependent variable.

![Ansoff Model Diagram](image)

**Figure 1.** The general structure of a fishbone diagram (Chui, 2011, p.11)

**Ansoff Model Dimension**
- Market Penetration
- Market Development
- Product Development
- Diversification

**Figure 2.** Ansoff Model for M&A activity

The following part discusses the four major strategies of the Ansoff model used in management studies.

4.8.1 Market Penetration Strategy (MPS):

The organization strives to increase the sales of the current product to the same consumers without changing the image of the product in a new way or making changes. This can be
achieved by reducing product prices and increasing product advertising and distribution at existing outlets. The penetration strategy aims to achieve four main objectives:

- Maintaining or increasing the market share of current products can only be achieved through a combination of competitive pricing, advertising, and promotion strategies and may require more resources for personal selling.
- To deliver market progress safeguards domination and control.
- Restructure the mature market by eliminating competitors. This requires an intensive advertising campaign and a pricing strategy that makes the market unattractive to competitors.
- Increase the use of products by current customers by offering a variety of programs, such as customer loyalty programs (Al-Bostanji, 2015, p. 73).

Using the penetration strategy is to focus on the markets and products with which the company is familiar. You probably have good information about your competition and customer needs. This means that the company adopts this strategy that does not require large investments in new market studies (Al-Bostanji, 2015, p.73).

### 4.8.2 Market Development Strategy (MDS):

As part of this strategy, the organization tries to enter new markets in the same current product without modifications or changes. It does this by entering segments or new markets so that the company can target new segments where the company can achieve the required growth. The new target segment can be a new group of consumers or new geographic markets (Jain, 1997, p.36).

The researcher believes that market development operations may involve various risks, such as: For example, non-acceptance of the product of a new market or a new market segment. Therefore, companies need a market to know the viability of such development for the respective market (Chakrabarti), Vidal & Mitchell, 2011, p.7). And market development processes are often financially costly, and applying these strategies to products often involves studying the product life cycle so that the company avoids reaching its mature products in a state of decline. Newberry (2015, p.102) stated that there are many ways to activate this strategy, namely:

- Open new geographic markets, for example by exporting the product to a new country.
- Find new sales channels (e.g. transition from retail to e-commerce and mail order).
Adopt a multi-pricing policy to attract new customers or find new market segments. While Porter (1996, cited in Al-Bostanji, 2015, p.74) reported that the application of this strategy requires:

- Identify potential customers in the new market (their characteristics, needs, and attitudes).
- Research and monitoring of market developments (income level, emergence of new professions).
- Research and study new distribution points.
- Study the characteristics of the market: local or international.

**4.8.3 Product Development Strategy (PDS):**

In this strategy, the organization tries to change the product for the same current market. For example, companies may try to change package sizes or new combinations of the same product in today's market. Product development is considered one of the types of growth strategies, as companies aim to introduce new products in existing markets. This strategy may require the development of new skills and the development of modified products that can be introduced into existing markets (Al-Bostanji, 2015, p.74).

One of the prerequisites for the development of a successful strategic product is the availability of different products to remain competitive. Business organizations develop a new marketing concept that considers the preferences, wants, and needs of customers, identification and ownership as the focus to manufacture products that meet these needs and wants, taking into account the perception of the marketing department based on these needs and preferences not yet finished. When changing status, successful companies not only need to keep up with that change, they must also try to anticipate those changes to develop different products that will be covered first. Different needs and desires and, on the other hand, follow the constant evolution of those needs, desires, and preferences (Banerjee & Soberman, 2013, p.276) and therefore the researcher believes that adopting this strategy requires:

- Research, development, and innovation of products and their manufacturing processes.
- Detailed view of customers, wants and needs, and follow-up of developments, in the same way, using continuous market research relevant to customers.
4.8.4 Diversification Strategy (DS):

With this strategy, the company seeks to increase sales by entering new markets with new products that may or may not be related to old products. This strategy is the most dangerous compared to the three previous strategies because the company wants to enter new markets with new products without having extensive experience and knowledge of these new markets and products. Therefore, companies need to have a clear idea based on studies and research in new markets and new products, and to conduct an honest risk assessment with concern for a balance between risk and reward, and because it is the most dangerous, it can be very rewarding and is consistent with the rule that the higher is the level of risk, the higher the expected turnover (Murray, 1996, as cited in Al-Bostanji, 2015, p. 74).

Miceski and Stojovska (2013, p. 252) believe that the diversification strategy is used when a company has profitable opportunities for profit and sales outside of its current business; second, the company wants to add a new line of products to treat or increase the depth of mix by increasing the number of products in a single line. In this context, Hutzschenreuter and Horstkotte (2013, p. 705) reported that the organization gains additional strength in product diversification, which increases the number of its customers and reduces the probability of a marketing risk, and that there are prospects for an increase in marketing costs due to the number of products, delivery resources, your advertising costs.

The main objective of the adoption of a diversification strategy by the economic institution is to enter areas of activity different from the type of products it currently owns. They allow the organization to expand its work and products when that new area that the organization is introducing is in place, linked to the current areas of activity. This diversification is known as tied diversification. However, when this area is not linked to the current areas of the organization, it follows an unrelated diversification strategy.
4.9 Research Model

Below is the theoretical model for this research work based on theoretical framework:

![Theoretical Model](image)

Figure 3. Theoretical Model
5. Literature Review

_In this chapter, the first common reasons leading to mergers and acquisitions are discussed. Later, brief literature in the context of the pharmaceutical industry and major reasons behind M&A activities of the pharma industry are given. Finally, an analysis of the most popular M&A is discussed to identify whether the M&A was successful or not._

5.1 Mergers and Acquisition Reasons

An important question that arises is why do companies carry out Mergers & Acquisitions (M&A)? The most common neo-classical view states that this is the method for an acquirer to increase the value of his company (Nakamura, 2004, p.5). Another reason that is termed as a motive in the neo-classical view of M&A is due diligence. Under this motive, the acquirer firm intends to procure the future cash flows of the acquired firm (Nakamura, 2004, p.5). But the question arises about the motive of the acquired company. Why does the acquired firm engage itself in the M&A process? The neo-classical view tells the motive as a way to get out of the financially difficult position (Nakamura, 2004, p.5). But broader factors like macroeconomic variables and the overall condition of the market also plays a critical role in the entire process of M&A (Nakamura, 2004, p.5). During a merger, the process is usually completed through the exchanging of shares or through creating new and different legal entities (Nakamura, 2004, p.9).

Acquisition on the other hand asks for a different set of rules once the process is finalized. In acquisitions, cash is the main player and most of the acquisitions are completed through cash deals (Nakamura, 2004, p.9). The share swapping pattern is favorable when the stock market is active and is performing well. But when the stock market is not performing well, an attractive Take-over-Bid (TOB) becomes less attractive (Nakamura, 2004, p.9). When the stock market is not performing well, the mode shifts towards cash deals. Cash deals are straightforward and less complicated (Nakamura, 2004, p.9). The cash deals to acquire companies are very common during times when the economy is in recession. During these times, companies with extra cash and with numerous funding options turn towards the companies which are in a financially distressed condition and acquire them (Nakamura, 2004, p.9).
The motives for the buyer in both mergers and acquisitions are clear in terms of expansion and reducing competition in the market. But there are motives for the seller also as to why they engage in the M&A activity. When the deals are in stock form, the motive of the seller is to get a hold of securities in the entity that comes into existence as a result of the merger (Nakamura, 2004, p.10). For the cash sales, the seller’s motive is usually to get out of the business with whatever is offered in recession times before it is too late (Nakamura, 2004, p.10).

Mergers and Acquisitions are an important activity that takes place during the expansion phase of an organization. Giacommazi et al., (1997, p.1) say that organizations grow more through mergers and acquisitions than through normal business operations. Financial information plays a critical role in this important M&A activity. Information before and after a merger can have consequences of varying degrees and this must be considered very carefully both before and after a merger (Giacommazi et al., 1997, p.2). M&A are decisions of strategic nature that comprise several transactions and considerable risk (Wu et al., 2020, p.1). A very significant risk comes in the form of information asymmetry that exists between acquirers and the acquired company (Wu et al., 2020, p.1). Although M&A is used as a strategy to expand and grow, this might not be the case for all. In some instances, M&A can lead to value creation for some acquirers but can result in value destruction for others (Wu et al., 2020, p.1). According to Long and Young (2007, cited in Wu et al., 2020, p.1), M&A performance has been improved when the process is conducted by peer firms.

Peer firms play a critical role in terms of information for the acquirer firm. The acquirer firm can make more informed decisions based on the information of peer firms that has M&A experience (Wu et al., 2020, p.1). Apart from peer firms, another factor that can play a major role during the M&A process is the size of the firm. Larger firms typically have an information advantage over smaller firms (Wu et al., 2020, p.4). This has guided the conclusion that smaller firms are more likely to learn from their peer firms when it comes to M&A (Wu et al., 2020, p.4). Financial information and its use are dependent on the characteristics of the acquirer firm also. Analysts of the acquirer firm along with their ability to interpret the available are very important in the M&A process. The learning process of the analysts depends upon the characteristics of the acquiring firm and the peer firms (Wu et al., 2020, p.17).
Mergers are a way to expand the reach of the business and also to reduce competition. These goals are very broad and a merger may not necessarily provide the necessary results. Not ignoring the importance of mergers, but there is no solid evidence that mergers always lead to results that were intended in the first place (Duso et al., 2011, p. 2). There are many reasons which are cited for the above scenario. One of the reasons is the opening up of new areas where rivals can also make a profit that was previously unknown (Duso et al., 2011, p.4). Also, this leads to a situation where the competition increases after the merger rather than decreases. This scenario is termed anti-competitive, Duso et al., (2007, cited in Duso et al., 2011, p.4).

Mergers and acquisitions bring many effects on the market. These effects are a crucial factor in how the overall market and specifically the rival perform after a merger and acquisition transaction is completed. Stigler (1950, cited in Duso et al., 2011, p.6) specifies that there are two major types of externalities. One is the positive externality that arises due to the mergers market power effect. The other externality is negative and it is because of the potential efficiency which comes out as a result of the merger. The positive externality is the result of one less firm in the market which leads to greater control for the acquiring firm on overall price-setting situations. This positive externality leads to higher prices and higher profits for the acquiring firm (Duso et al., 2011, p.6). The negative externality arises when the rival firm takes better advantage of one less firm in the firm and this leads to lower prices as the acquiring firm does not have better control over the price-setting situations (Duso et al., 2011, p.6). Both of these externalities are simultaneously present in most mergers.

Innovation is one area where a lot of studies have been made concerning mergers and acquisitions. The relationship between innovation and mergers is mostly described as active (Szucs, 2014, p.2). The reason provided by Szucs (2014, p.2) is the combination of the innovation process of the two firms. But there are some mergers where the resultant combination of the processes may not result in a greater output of innovation. As explained by Ahuja & Katila (2001, cited in Szucs, 2014, p.2) that there are technological and non-technological mergers. Their study showed that the mergers of the non-technological kind may not always significantly improve the innovative output of the combined firm. Innovation is directly linked with the amount of money that has been spent in Research & Development (R&D). Mergers and acquisitions have shown a negative relation with R&D (Szucs, 2014, p.3).
Mergers & Acquisitions are dependent on the characteristics of the acquiring firm market also. Numerous studies have explored this area and the relation between these characteristics and the process of acquiring is interesting. These characteristics affect the merging decisions in the emerging markets the most (Rahahleh & Wei, 2012, p.2). One of the most important characteristics is the operation model of how the market performs in the country. Many emerging countries have moved toward the liberalization of their markets (Rahahleh & Wei, 2012, p.2). This has become one of the reasons that many acquirers are active in these countries (Rahahleh & Wei, 2012, p.2).

Mergers and Acquisitions happen not only in the same country but they often happen involving companies from two different countries and these mergers are termed international mergers. These international mergers usually happen in the form of waves (Makaew, 2009, p.3). These international mergers are commonly aligned with the business cycles. These merger waves come when the business cycle is booming (Makaew, 2009, p.3). Existing literature on domestic mergers and acquisitions suggests that local mergers are pro-cyclic but international mergers are also found to be pro-business cyclic (Makaew, 2009, p.3). Mergers and acquisitions result in a significant beneficial outcome for the aggregate outcome (David, 2017, p.1).

Mergers and Acquisitions are occurring around the world but currently, the biggest market for M&A is Europe. The M&A activities in Europe are different from the rest of the world because of their size and geographic characteristics (Moschieri & Campa, 2014, p.1). Due to its size and geographic characteristics, Europe is now at par with the United States in terms of M&A (Moschieri & Campa, 2014, p.1). One of the other features that differentiate European mergers from the rest of the world is nature. European M&A are considered friendly and are mostly completed in private transactions (Moschieri & Campa, 2014, p.1). Another factor that is often cited for the increase in M&A in Europe is the use of a single currency, the Euro. This single-use of currency is an effective tool to broaden the political and economic agenda of the European Union (EU) and it also lowers the cross-border transaction costs (Moschieri & Campa, 2014, p.2). Deregulation and integration of economies in Europe have also been a crucial factor in the increase in M&A (Moschieri & Campa, 2014, p.3). Availability of funding is necessary for any kind of M&A activity. In Europe particularly, firms can obtain sizable funding and many new forms of funding are available to them for M&A (Moschieri & Campa, 2014, p.3).
Mergers and Acquisitions are known to increase the sales of the firms. The combined merged firm saw an increase in their profits (Gugler et al., 2003, p.1). But interestingly, these companies see their overall sales decreased. This is an inverted relation that does not always hold but it stands correct most of the time. Horizontal mergers are the type that most often than not result in increased market power (Gugler et al., 2003, p.3). Conglomerate mergers result in increased multimarket contact between the firms which are merging and their rivals (Gugler et al., 2003, p.3). This increased multimarket contact increases the cost of cutting the price in any given market (Gugler et al., 2003, p.3). This scenario results in the increased market power of the merging firms. The vertical merger of firms is also beneficial in terms of multimarket contact. But in case of vertical mergers, both the merging firms and rival firm needs to be vertically integrated (Gugler et al., 2003, p.3). The resultant vertical merger results in increased market power by increasing the entry barriers and reducing the merging firm elasticity of demand (Gugler et al., 2003, p.3). Overall, all three types of mergers, horizontal, vertical, and conglomerate, resulting in increased market power (Gugler et al., 2003, p.3). On the flip side, it is most often the case that the profits will increase but a reduction in sales (Gugler et al., 2003, p.3).

5.2 Pharmaceutical industry overview

Global pharmaceutical companies operate in an industry that is often described as large, diverse, and highly competitive (Shaw & Whitney, 2016, p.199). The industry has an annual growth rate of 4-6% and global economic output is expected to increase from $1 trillion in 2015 to $1.3 trillion in 2020 (Abb & Bartkewitz, 2020, p.14). Global demographic and economic developments will continue to support sales growth going forward.

Factors such as the rapid aging of the world population, the associated increase in chronic diseases, and the increasing demand for more effective treatments are responsible for the future growth of drug use. Therefore, the US pharmaceutical industry is the largest market for biopharmaceuticals, accounting for about one-third of the world market. As a world leader in biopharmaceutical research and development (R&D), US companies spend 15-20% of their total revenue on R&D activities and invest more than $50 billion annually in R&D (Abb & Bartkewitz, 2020, p.14).
Generally, according to researchers, the pharmaceutical sector of the economy can be represented by the following 3 major principles:

1) Manufacturing: products of biological origin or products of chemical origin.
2) Intellectual protection: innovative versus generic products.
3) Accessibility: prescription or over-the-counter products.

Production: Medicines can be obtained through chemical or biological processes. Medicines of biological origin encompass a wide range of products obtained from living materials such as humans, animals, microorganisms, or plants (Biotechnology Innovation Organization, 2020, cited in Abb & Bartkewitz, 2020, p.15). Unlike biologics, chemically derived pharmaceuticals are manufactured by chemical synthesis by combining certain chemical ingredients into a precisely defined structure. The distinction between these two types of products also classifies companies as pharmaceutical or biotech companies based on how the drugs are obtained for their manufacture. When a combination of the two processes is used, these companies are defined as biopharmaceutical companies such as Celgene and BMS. For the treatment of cancer and autoimmune diseases, in particular, biologics are considered indispensable for the industry, which will become increasingly important in the future (Mahipal & Grothey, 2016, p.1219).

Intellectual protection: Innovative medicines are developed through extensive R&D and clinical studies in humans and animals. Due to the large investment required to bring medicines to market, innovative companies depend on a strong regulatory system that protects intellectual property rights (Mossinghoff & Bombelles, 1996, p.42). Therefore, the price of drugs is designed to cover past and future R&D expenses. Once the patent expires, generic manufacturers can copy innovative pharmaceuticals. In principle, these products must contain the same active ingredients in the same concentration and dosage form.

Accessibility: OTC (over-the-counter) products do not require a prescription to purchase the drugs. Since these drugs are considered safe for self-diagnosis and self-medications, they are freely marketed (Abb & Bartkewitz, 2020, p.15). In contrast, prescription drugs cannot be evaluated without the written consent of a physician.
5.3 Mergers and Acquisitions in the Pharmaceutical sector

The pharmaceutical industry sees most possibly the highest number of mergers and acquisitions than any of the other industries, both in terms of the number of deals and the amount spent on these deals (Lindström & Kekkonen, 2018, p.8). The single most significant factor that is provided for the high number of mergers and acquisitions is the cost of developing new drugs, as many of the companies are not able to sustain the cost from idea to making and commercializing that product (Lindström & Kekkonen, 2018, p.8). The reason for the high cost of developing a new drug is that the new drug should provide a solution for a previously uncured disease or be much better than what already exists in the market (Sarewitz, 2016, p.7). Another reason which is provided for a high number of mergers and acquisitions in the pharma industry is the allocation of capital which is mostly related to two core areas of the pharma industry, R&D and manufacturing. In short, M&A is an important tool for the implementation of strategy in the pharmaceutical industry which is used to make game-changing deals (Almor, Tarba & Benjamini, 2009, p.32).

Mergers and Acquisitions in the pharmaceutical industry are an occurrence with some very broad implications for the buyer and the acquirer and the general public also. These implications are of both positive and negative nature. Now, the Federal Trade Commission (FTC) in America has decided to mobilize a working group with both national and foreign partners to have a new look towards their approach to analyzing these implications resulting from mergers and acquisitions in the pharmaceutical sector (Galata et al., 2021, p.105). The newly formed working group will be finding answers about how the current theories of harm should be updated along with innovations problems that occur due to pharma mergers (pharmaceutical-technology, 2021). Thus, the making of this group will ensure that the mergers and acquisitions in the pharmaceutical sector are consumer-friendly. Another reason for the formation of the FTC is to take into view the public health implications resulting from mergers and acquisitions in the pharmaceutical industry (Garnier et al., 2021, p.2). The FTC also intends to monitor the global pricing of the drugs along with monitoring the deals for any antitrust issues.
5.4 Reasons behind mergers and acquisitions in the pharmaceutical industry

It is found that the pharmaceutical industry is not at much different when it comes to opting for mergers and acquisitions. The basic reasons behind M&A remain the same, however, some important points may differentiate between the two.

5.4.1 M&A as a source of innovation

M&A in the pharmaceutical industry is used for a long time to increase innovation and this trend is likely to continue shortly (Richman, Mitchell, Vidal & Schulman, 2016, p. 787). In the pharmaceutical industry, small companies typically come up with innovations and once their research is up to a very advanced level, big pharmaceutical companies enter the picture and acquire the smaller companies (Ma & Liu, 2017, p.960). The reason for these typical mergers is small firms lack the funding which is required to make the product commercial because the cost involved in this process is very significant. Here the big companies enter the picture. These are the companies that have funding with them and they look for the next new thing to give to the market (Richman et al., 2016, p.787). The competition in the pharmaceutical industry for the best and most innovative assets is likely to remain high in the coming future and this is one of the motives of mergers and acquisitions in the industry (Saha, Grabowski, Birnbaum, Greenberg & Bizan, 2006, p.15).

Previous research by McKinsey has shown that the revenue share from innovations outside of Big Pharma increased from around 25% in 2001 to around 50% in 2016 (Fernald et al., 2017, p.23). The development of a new drug requires a high initial investment with an often low probability of success (Daudt et al., 2014, p.425). At the same time, advanced stage studies require a large investment and the ability to manage the complex regulatory capabilities that large pharmaceutical companies often have (Bauer, Matzler & Wolf, 2016, p.76). The condition resulted from fear of the unknown, forces small creative businesses to ask for funding to carry on the process of innovation. As their research progresses, big drug companies step in, investigate the next "new" and raise the resources to fund expensive late-breaking studies and large commercial marketing campaigns (Richman, Mitchell, Vidal, & Schulman, 2019, p.787).
5.4.2 M&A to realign portfolios

Another reason, Big Pharma is involved in these M&A, is because they are realigning their portfolios. Mergers and acquisitions are relatively common in the pharmaceutical industry, as large companies attempt to expand and reposition their product portfolios and offset losses arising from the expiration of successful drug patents by acquiring innovative small companies (Petrova, 2014, p.58). This reason is supported by the point that large pharmaceutical companies face a change in their strategies or have to release the assets they no longer own (Bansal et al., McKinsey, 2018, p.139). The most cited study on drug development costs shows that the development of a new drug, a new active pharmaceutical ingredient (API), costs an average of around $ 1.4 billion when the pipeline failure is taken into account (Abb & Bartkewitz, 2020, p.16). Generally, it takes around ten years’ time-frame between synthesis and approval (Avorn, 2015, p.69). Therefore, a capital cost of$1.2 billion, resulting in an average total cost of $ 2.6 billion to develop a new drug (Avorn, 2015, p.45).

5.4.3 M&A to unlock synergies

Another motivation for mergers and acquisitions is to obtain synergies through expansion. For example, Takeda acquired the Shire and expects annual cost synergies of at least $ 1.4 billion from complementary product portfolios and organizational structures three years after the deal closes(Lien, 2020). Given the significant financial and operational gains that M&A can bring, the motivation for completing such transactions is unlikely to change (Bergodi, 2017). To assess future opportunities, the researchers ranked medium and large pharmaceutical and biotech companies according to margins and analyzed them (Ledley, McCoy, Vaughan & Cleary, 2020). As a result, they found a large gap between two divisions, where pharmaceutical companies with annual sales of more than $ 1 billion have EBITDA margins between less than 20% and more than 50%, and biotech companies with annual sales of more than $ 1 billion have EBITDA margins ranging from about 30% to more than 50%. (Ledley et al., 2020). The results suggest that high-margin companies have an excellent opportunity to take advantage of synergies by acquiring subscale portfolios.

Mergers and acquisitions often create synergies between scale and operation. In a global context, look at the story of Teva, the Israel-based generic market leader, which doubled its sales to $2 billion, of which 42% came from acquisitions (Tarba, Almor & Benyamini, 2012, p.121). Mega-
mergers emerged in the late 1980s and early 1990s. The 1996 merger of Ciba and Sandoz, from which agribusiness giant Novartis emerged, resulted in huge cost savings of 1.5 billion Swiss francs only in the first year of the merger (Aerni, 2021, p.167). The merger of Glaxo and Wellcome also resulted in significant merger synergies in terms of 10.8% cost savings and a 16.8% reduction in combined costs (Baillieu, 2021, p.117).

5.4.4 M&A to meet R&D Pipeline

One of the most obvious reasons for a merger or acquisition is a shortfall in the R&D pipeline. This was the situation Glaxo faced in 1995 when Zantac, the best-selling drug in the world at the time, was nearing the end of its useful life (Kumar, 2012, p.47). After acquiring Wellcome promptly, the company revamped its product portfolio overnight to create a substantial and innovative asset that included drugs such as Seroxat (Saraswathy, 2016, p.134). Astra and Zeneca achieved geographic expansion and critical mass through their merger in 2000 (LaMattina, 2011, p.33). Another reason that called for M&A is the company’s need to acquire specific assets such as patents to survive and earn more profits.

5.4.5 M&A for achieving economies of scale

A lot of pharma companies went to M&A so that they can achieve economies of scale by reducing the cost of manufacturing and supplying drugs at a much lower price than competitors. Mergers and acquisitions in the pharmaceutical sector are often considered a business decision to increase efficiency in terms of operations and profits.
6. Research Method

In this chapter, the population and sample of the study are given in the first part and later data collection method is discussed.

6.1 Research Approach

This study provides a comprehensive analysis of the performance of pharmaceuticals companies before M&A and post-M&A transactions based on available data. Further, to explore the impacts of mergers and acquisition transactions on key performance indicators of pharma companies that are passed through M&A, authors have collected data of selected cases of five major pharma companies from different cultures based on a survey approach. These five companies include; GSk, Astellas Pharma, Ganga Pharmaceuticals, Pfizer, and BSM. The purpose is to determine whether M&A transactions have positive or negative impacts on the overall performance of firms after an M&A transaction. During data collection, data of all those companies were collected which have passed through M&A in the last 2decades. Table 6.1 provides the details of these five M&A cases including target and acquirer firms, effective dates, and transaction net worth.

Table 2. Details of selected M&A cases

<table>
<thead>
<tr>
<th>S/N</th>
<th>Acquirer</th>
<th>Target</th>
<th>New Firm</th>
<th>Year</th>
<th>Transaction Value (bn)</th>
<th>Deal attitude</th>
<th>Acquisition technique</th>
<th>Cross border</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fujisawa Pharma</td>
<td>Yamanouchi Pharma</td>
<td>Astellas Pharma</td>
<td>2005</td>
<td>US $7.7</td>
<td>Friendly</td>
<td>Mergers of equal</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>Glaxo SmithKline Beecham</td>
<td>SmithKline Beecham</td>
<td>GSK</td>
<td>2000</td>
<td>US $76</td>
<td>Friendly</td>
<td>Stock Swap / Mergers of equal</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Ganga Pharma</td>
<td>C-Pharma</td>
<td>Ganga Pharma</td>
<td>2003</td>
<td>US $1.6</td>
<td>Friendly</td>
<td>Takeover</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>BMS</td>
<td>Celgene</td>
<td>BMS</td>
<td>2019</td>
<td>US $74</td>
<td>Hostile</td>
<td>Takeover</td>
<td>No</td>
</tr>
<tr>
<td>5</td>
<td>Pfizer</td>
<td>Warner-Lambert Co</td>
<td>Pfizer</td>
<td>2000</td>
<td>US $89.2</td>
<td>Hostile</td>
<td>Stock Swap / Pooling of interests</td>
<td>No</td>
</tr>
</tbody>
</table>
As already discussed, in this research authors have used the survey research method to elaborate selected cases of M&A in the pharmaceutical industry. There are certain advantages and disadvantages of this research approach that are discussed below;

6.1.1 Advantages of survey research approach

- The survey research method was used to get an in-depth and comprehensive overview of pharma firms that are passed through the M&A process.
- It is commonly understood that survey research provides true findings as compared to others, hence it can be said that survey research is offering true results of M&A in this study.
- The survey research method also helps in knowing the key factors, the process involved, and the relationship between variables used in the study.
- Another reason for choosing survey research is that only a few M&A companies have publically declared their complete details for public usage therefore, a limited number allowed authors to go for this research method.
- It also provides insight for further research in the future.
- It is an inexpensive and practical solution for data collection.
- It allows gathering data from multiple sources simultaneously.
- It is a fast and convenient method of data collection.

6.1.2 Disadvantages of survey research approach

- It is difficult to find cause and effect relationships by using a survey research approach.
- Another issue with this research method is that it cannot verify the research problem by using statistical data.
- There are more chances of bias in this research method due to the absence of the statistical test and the use of secondary data analysis.
- Such a method cannot also repeat the results due to its observational nature.
- This type of method can answer what is happening but it cannot answer how and why such things are happening.
6.2 Measurement of data
Authors have used some key performance indicators such as an increase in sales, market expansion, improvements in R&D, operational efficiency, organizational strategies, and net earning to measure the performance of pharma companies pre-M&A and post-M&A transactions in the last two decades. The data were collected from different cases studies available for public use and results are drawn based on the overall findings.

6.3 The population of the study
The population of this study is pharmaceutical companies, which have passed through the M&A process around the globe. This study is aimed at knowing the impact of mergers and acquisitions on key performance indicators such as growth in sales, advancement in R&D, positive relationship between revenues, market expansion, expenses, and net earnings growth of companies resulting from M&A transactions. Therefore, in this study extensive study of companies that have gone through M&A has been discussed to know the benefits and costs of M&A transactions in the pharmaceutical industry. Initially, authors have selected around 10 best-known M&A cases but after identifying similarities in their cases, authors have stratified M&A cases into five wide groups. The population of the study is shown in the following table;

Table 3. Research Population

<table>
<thead>
<tr>
<th>S/N</th>
<th>M&amp;A companies</th>
<th>S/N</th>
<th>M&amp;A companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GlaxoSmithKline</td>
<td>6</td>
<td>BMS</td>
</tr>
<tr>
<td>2</td>
<td>Pfizer</td>
<td>7</td>
<td>Novartis</td>
</tr>
<tr>
<td>3</td>
<td>AstraZeneca</td>
<td>8</td>
<td>Wyeth</td>
</tr>
<tr>
<td>4</td>
<td>Ganga Pharmaceutical</td>
<td>9</td>
<td>Bayer</td>
</tr>
<tr>
<td>5</td>
<td>Roche</td>
<td>10</td>
<td>Astellas Pharma</td>
</tr>
</tbody>
</table>

6.4 Sample of the study
The sample was taken from five big companies whose data was easily available on the internet and other available resources, and they have a different organizational culture so that analysis can be done on a timely basis and diversity can also be achieved. Further, the five companies whose data was used for analysis. The sample M&A cases are shown in the following table;
Table 4. Research Sample

<table>
<thead>
<tr>
<th>S/N</th>
<th>M&amp;A companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GlaxoSmithKline</td>
</tr>
<tr>
<td>2</td>
<td>Astellas Pharm</td>
</tr>
<tr>
<td>3</td>
<td>Ganga Pharmaceutical</td>
</tr>
<tr>
<td>4</td>
<td>BMS</td>
</tr>
<tr>
<td>5</td>
<td>Pfizer</td>
</tr>
</tbody>
</table>

6.5 Unit of analysis
The unit of analysis in this research work is an individual pharmaceutical firm that has passed through the M&A process. The data from each company will be treated as a separate entity and based on that results will be drawn.

6.6 Data Collection
In this research work, authors have analyzed data from secondary sources based on the nature of the study. It was proposed that the authors will collect data from all those companies which have passed through M&A in recent years. But after doing a lot of research about companies having faced M&A transactions, it was found that most of the companies have kept information related to mergers and acquisitions secret and they are not willing to share information. Therefore, based on the literature review, only a small number of companies were decided to be selected from a wide range of companies that meet M&A since the 1990s to now. In this connection, initially, the authors have selected 10 big companies for data collection, these companies were from different backgrounds and cultures with their management styles. These companies were; GlaxoSmithKline, Pfizer, AstraZeneca, Ganga Pharmaceutical, Roche, BMS, Novartis, Wyeth, Bayer, and Astellas Pharma.

When authors further analyzed the secondary data of these companies, they found that all these companies can be grouped into five different management styles and cultures, therefore based on similarity, authors have reduced the companies from 10 to 5 only, and these five companies are; GlaxoSmithKline, Astellas Pharm, Ganga Pharmaceutical, Pfizer, and BMS. Another reason for selecting only five companies was that all these companies are from different cultures and management styles, therefore it should be good to go with these five companies because these companies can be treated as good samples covering four major parts of
the world. Another reason for selecting these five companies is that they are covering all the major objectives of M&A in the pharmaceutical industry, hence the authors decided to go with five companies instead of 10 companies to save time and energy. Besides, another reason behind selecting these five companies was that their data was easily accessible than other companies. Furthermore, the data was gathered from the official websites of the companies, other scientific articles, and online books, so that based on the data author can draw recommendations and conclusions at the end of this thesis work.
7. Empirical Findings

In this chapter empirical findings of the research are discussed by using M&A cases of successful pharma firms from different backgrounds.

7.1 Performance of pharma firms before and after Merger and Acquisition

Many companies view mergers and acquisitions (M&A) as an essential strategic move, and the volume of mergers and acquisitions has increased in recent decades. The effects of mergers and acquisitions on future performance have been extensively studied, and many studies have identified the adverse effects of mergers and acquisitions (Berkovitch & Narayanan, 1993). While knowledge or intellectual capital has been considered a major driver of competitive advantage in recent corporate governance (Kogut & Zander, 1996), complicated consolidation processes after M&A often hamper this source. Basic entrepreneurship (Jemison & Sitkin, 1986). Through the streamlining process, in which employees are laid off to increase efficiency, mergers and acquisitions can reduce employee motivation, lead to the departure of important employees, and so on. (Ernst & Vitt, 2000; Paruchuri et al., 2006). The central question in M&A management is how employees can be involved and motivated during the M&A process and how their knowledge can be maintained.

The pharmaceutical industry is known as one of the most knowledge-intensive and M&A industries (Mergerstat, 2007). The Japanese pharmaceutical industry has experienced few mergers and acquisitions until recently. This is partly explained by the domestic industry environment (i.e. the protection of domestic industrial policy), but more importantly, conventional Japanese corporate governance has been deemed unsuitable for successful mergers and acquisitions. Furthermore, the lifetime employment system has prevented effective rationalization after mergers and acquisitions. Together, these factors have created the perception that mergers and acquisitions may not add value to a company in the Japanese context (Hattori, 2004).
7.1.1 Case of Astellas Pharma

Before the merger, there were two separate pharma companies both have origins from Japan and their core competence, where one was best known for two blockbuster products and the second have core competitiveness in antibiotics (Shibayama, Tanikawa & Kimura, 2011). Here, the authors have first provided a brief introduction of each firm and later after the merger scenario is given.

One of the previously merged companies, Yamanouchi Pharma, employed 7,200 people and had annual sales of 450 billion yen ($ 4.2 billion in fiscal 2004). The company was famous for its two flagship products for high blood pressure and gastritis (Shibayama et al., 2011, p.79). This means that Yamanouchi was unable to carry its business with just two products so it decided to go for the merger to avoid the risk of losing overall business. It is also found that the company was unable to invest more in R&D as there was almost nothing in the product pipeline of the company, so it was difficult for the company to hold the full burden of the company on just two products. Further, due to a lack of investment for R&D, Yamanouchi was unable to properly utilize the services of its employees. Therefore, based on the suggestion of the fishbone risk method, Yamanouchi Pharma was forced to opt for the merger to reduce the risk of bankruptcy and achieve the objective of more growth at the cost of the merger.

The other company, Fujisawa Pharma, had 7,800 employees and annual sales of 420 billion yen ($ 3.9 billion in fiscal 2004). The company was famous for its antibiotics. The world's first project with the development of an immunosuppressant began in the 1990s (Shibayama et al., 2011, p.79). The findings suggest that Fujisawa has enough resources to carried out R&D work and expand itself in different markets locally and globally. The revenue stream and product pipeline of the company indicate that Fujisawa has on the way to become a global pharma entity. Based on the Ansoff model, Fujisawa has planned to expand its market as well as its product line. The company can achieve those objectives by going for M&A instead of a long process of natural growth.

The objectives of the merger include Fujisawa wanted to set out to transform itself into a global pharmaceutical company by targeting general practitioners (PSPs) as well as hospital specialists. However, achieving this through organic growth would be a very long process. Therefore, they concluded that a merger and acquisition with a large Japanese company would be the most
effective way to achieve rapid and sustainable growth. Fujisawa proposed to the CEOs of most Japanese pharmaceuticals to create a new pharmaceutical company among the Japanese companies (Shibayama et al., 2011, p.80).

**Key Performance Indicators**

7.1.1.1 **New Name**

A new name “Astellas Pharma” was shaped resulting in a merger between Fujisawa Pharma and Yamanouchi Pharma in the year, 2005. The merger was the ‘merger of equality’, where both the firms are seen as mergers. In the new entity, there were around 15,000 employees and later most of the employees of Yamanouchi were expelled out based on the new policies and appraisal structure of the company. To follow desired penetration strategy, Astellas mobilized the human resources of both the companies so that maximum market control can be gained locally and globally. The merger was one of the largest mergers and acquisitions in Japanese history and was seen as a successful Japanese M&A case. Based on basic principles like "starting a brand-new company" and "integrating fairly", the process was successful as the new name came after the merger and acquisition were also fair (Shibayama et al., 2011).

After a successful merger, the new company had annual sales of 880 billion yen (the US $ 7.7 billion), ranking second in Japan and seventeenth worldwide (fiscal 2005). The results indicate that the company has achieved manyfold objectives of market penetration through new product and market development. The above sales volume is greater than the sum of individual sales of both the companies, hence, it can be said that the merger between Yamanouchi and Fujisawa was a successful one and it was a good decision for both firms.

7.1.1.2 **Sales Growth**

Three years after the completion of the merger, the company has achieved the key financial goals set in the planning phase. Internal R&D continued to be the company's core business (Shibayama et al., 2011, p. 85). Astellas has reorganized its R&D organization based on therapeutic areas. Because before the merger, the two practices aimed partly at different therapeutic areas and partly at the same (Shibayama, Tanikawa, Fujimoto & Kimura, 2008, p. 90). In the three years since the merger, Astellas has received eight drug approvals. As a result, the newly founded
company has reached the main financial targets foreseen in the planning phase until 2007. In addition, the company has set a financial target of 1 trillion yen in sales and an operating profit of 25% and reached 0.97 trillion yen (8.5 billion dollars). Sales and 28% of operating profit for the fiscal year 2007 (Shibayama et al., 2011, p.88).

7.1.1.3  **Research & Development**

The average R&D productivity of Astellas Pharma observed during post-merger windows is 23.63 times the average R&D productivity observed in the comparison non-merger years. The above results are from before the merger to the year 2015 (Ringel & Choy, 2017, p.4). Further, before the merger, both companies had annual spend on R&D around $1.94B and right after the merger, it has decreased to $1.72B. This shows that initially the company has reduced investment in R&D to maintain its working properly. But after 4 years of merger, investment in research and development has increased from 1.72B to $2,01B. This indicates that after the complete functioning of all departments, the company decided to reinvest more in R&D to reach new heights of growth in the pharmaceutical industry (Ringel & Choy, 2017, p.4). The result of R&D suggests that the company was successful in achieving its said target of being a champion in innovating new pharma products in the market.

7.1.1.4  **Relationship between Operating Expenses & Revenue**

The has also found that human resources and other business facilities which were not used properly by Yamanouchi Pharma due to lack of investment and management efficiency, put into work by a new company (Astellas; Ringel & Choy, 2017, p.5). It should be noted here that as ideal resources of the companies are brought into use so we can say that the operational expenses of the company remained the same but the revenue of the company has increased many folds. Further, Astellas has increased its revenues by focusing on growth targets of the market and product expansion locally and globally.

It should be noted that Astellas Pharma is one of the companies which are selected as a sample for this study. Astellas Pharma is one of the most popular pharmaceuticals companies resulted from M&A transactions in Japan. Based on research requirements, data available for this company is reliable so one can easily go for analysis of this company as sample one.
7.1.2 Case of GlaxoSmithKline

December 2000 saw a major merger between Glaxo Wellcome and SmithKline Beecham, where Glaxo Wellcome paid $76B to SmithKline Beecham shareholders. After this merger, GlaxoSmithKline has become the world leader in R&D with a combined expenditure of $3.7 billion to reach and discover new medicine. Further, the merger has also given leadership to the company in these four therapeutic areas such as anti-infective, central nervous system, respiratory, and alimentary & metabolic.

According to researchers, one of the first objectives of GSK from the merger of both companies was to increase product portfolio and it was achieved as the overall portfolio of the company has increased after the merger. The second objective of both companies was to get benefits from each other’s patents regarding certain medicines. For example, Zantac Flovent, Flonase, and Cutivate of GW were about to expire in the US in 2003, and patent of Augmentin, Amoxil, and Tementin medicines of SKB was also in the phase of expiry in 2002-3 in the US and European market. Therefore, after the merger, the object of using each other’s patent for the above medicines was also achieved. The third objective in terms of synergies and cost-saving was also achieved after the merger of the two companies. As GSK was able to save millions of pounds in terms of R&D infrastructure, sales and marketing activities overlap tax return saving and reduction in overlap on administration and manufacturing facilities. After the merger, the company had around 2.3B pounds to invest in the research and development of new products. Hence, achieved its objective of being the market leader in terms of R&D initiative. Further, the company has also met its target of the most powerful company with the highest competitive edge resulted from around 40,000 representatives around the world and 7,200 workforces in the United States only.

Key Performance Indicator

Based on some key performance indicators, the author is going to analyze the pre-merger and post-merger business journey of GlaxoSmithKline from 1997 to 2009 for 10 years so that a clear view can be achieved.

7.1.2.1 Sales Growth

As determined by GW and SKB for their combined business performance for the year 2000, which will be approximately £16 billion, it is necessary to review the consistency of GSK's
business performance for subsequent years 2000-09. Since consideration of business performance for a single year does not provide a clear picture, GSK conducted a 10-year performance analysis, of which the first three years are compared to GW and SKB exercises. 1997-99.

![Comparison of Sales - Pre & Post Merger](image)

**Figure 4.** Comparison of sales Pre and Post Merger

As shown in the graph above, a sales trend analysis was carried out. GSK's sales continue to show an upward trend after the merger. In 2001 sales increased by 13.33%, in 2002 by 3.53%, 2003 by 1.08%, 2004 by -5.05%, 2005 by 6.39%, 2006 by 7.23%, 2007 by 2, 19%, in 2008 7.20% and in 2009 16.49% compared to previous years. From 2001 to 2004, the trend towards improving sales due to the first years of the merger was insufficient. According to the market expert, the result of the merger will not be seen for three or four years.

From 2005 to 2009, GSK's performance shows significant progress and is evolving into a position where it can deliver long-term, sustainable financial performance for shareholders. GSK has also received more approval for new drugs and vaccines than any other company in the last three years. Therefore, GSK's sales have grown sustainably and significantly over the past four years, showing the best use of resources. The key idea is that the combined companies will generate more revenue than the two companies working as individuals. Post-merger sales growth is one of the success indicators for creating shareholder value. The results also suggest that the company has achieved its objectives of product and market development based on the Ansoff model.
7.1.2.2 Net Earnings Growth

The comparison of the net profit before and after the merger was carried out to also know the growth trend of the net profit since the trend of increasing sales does not mean that the organization will make a profit.

![Comparison of Net Earnings - Pre & Post Merger](image)

**Figure 5.** Pre and Post Merger comparison of Net Earnings

The net profit growth rate was insufficient for GW as the net profit growth decreased by -0.76% and -1.36% in 1998 and 1999, respectively. SKB's net profit growth rate fell to -43.84 in 1998, which was a wake-up call for stakeholders. The large decrease was due to the provision. SKB referred to the projected loss of £ 629 related to the provision for losses from discontinued operations34. The growth rate in 1999 increased by 73.76% due to numerous provisions in 1998. The post-merger growth trend of GSK shows constant stability except in 2001 and 2009. Comparison of revenues with the Net profit shows a favorable trend, as net profit in 2000 was 4,154 million and at the end of 2009 net profit was 5,531 million pounds sterling, an increase of 33.15%, while sales increased 56.91% during the same period. The findings of this research also indicate that the major objective of the company to achieve penetration in the pharma market is also achieved. Hence, it can be said that the Ansoff model of growth strategies is followed by GSK.

GSK is one of the most popular and biggest companies in the pharmaceutical industry whose shares are on trading. Hence, this company can be a good sample for this study, so we can say that M&A is not easy once the company enters into it then it becomes challenging to control change.
7.1.2.3 Research & Development

Analysis Cost reduction is one of the important indicators that should not be ignored. For this, the relationship between sales and operating costs was carried out, as well as the R&D analysis.

**Figure 6.** Pre and Post Merger comparison of R&D analysis

The goal of GW's R&D spending was to discover new components and develop them for commercialization to advance the existing treatment. From 1997 to 1998 there was an upward trend in investment in R&D spending. GW's R&D spending was £1,148 million in 1997, £1,163 million in 1998, and £1,269 million in 1999, a 1.31% increase in growth in 1998 over 1998 the previous year and 9.11% in 1999. GW hired almost 9,000 people by 1999, working in different parts of the world. Thanks to the successful implementation of technology and processes, 1999 saw a significant improvement in R&D productivity. This was due to an investment of £1.3 billion in research and development and an additional 1,000 appointments for qualified staff from Investigation and development. In 1999, GW also launched several important new products.

The same trend was observed in SKB. The company's research and development activities continue to focus on improving technology and developing new products in the field of human health. R&D spending on pharmaceuticals was £841 million, an increase of 10% from 1997.38 SKB's R&D spending was £841 million in 1997, £910 million in 1998, and £1,018 in 1999 in British pounds, representing a growth of 8.20%. in 1998 compared to the previous year and also £11.87. The growth rate of GW (1.31% to 9.11% = 7.8%) is better than that of SKB (8.20% to 11.87% = 3.67%). The growth in absolute variation was 4.22% and 10.32%. We saw that the two
companies spent a lot on research and development before merging. Therefore; it was also the main reason for the merger. As the R&D chart shows, GSK’s investment in R&D continues to trend upward after the merger. Investments in R&D were 4.95% in 2001, 9.39% in 2002, -3.76% in 2003, 1.72% in 2004, 10.46% in 2004, 10.24% in 2006, 3.76% in 2007, 10 in 2008, 64% and in 2009 11.55% compared to previous years.

Numerous investments were made in 2002, 2005, 2006, 2008 and 2009 by opening research facilities in different parts of the world, particularly in the USA, where sales accounted for almost 45% of total sales. Much of the growth occurred in the years after the new product merger, which was not possible without large investments in sales, general, and research and development. Sir Richard Sykes, director of GW and long-awaited president of GSK, expressed the determination of the new company to close a deal. “This is where two large and successful organizations come together not to protect future earnings growth, but to increase critical mass, to outperform the industry - the more effort it takes, the more it takes. The more money and the more I can investigate, the more ’(39). The largest merger (Glaxo Wellcome + SmithKlineBeecham) is one of the few that has a positive correlation with R&D productivity (Ringel & Choy, 2017, p.4). This demonstrates that GSK's goal of becoming known as a global innovator in the pharmaceutical industry has been achieved.

7.1.2.4 Relationship between Operating Expenses & Revenue

To determine the proportion of expenses incurred to achieve a unit of income, a relationship between operating expenses and income was made below. Since R&D expenses are included in operating costs without looking at the relationship between the total cost of ownership and revenue, it is difficult to see the positive or negative trend.
Operating expenses (R&D + sales expenses and general expenses) incurred as a percentage of total sales indicate that sales grew faster than the increase in operating expenses after the merger. This shows the best possible use of R&D spending resources, the skills of sales and marketing staff, and the introduction of advanced technology with new health care products at different stages. In conclusion, it should be noted that GSK aimed to reduce the company's operating costs by utilizing the various resources of the merged company at no cost and achieving the goal of an efficient company within the scope of the operating plan.

7.1.3 Case of Ganga Pharmaceuticals

Ganga Pharmaceuticals is an Indian multinational company engaged in pharmaceutical manufacturing and related research and development. With an estimated market capitalization of more than $1 billion, Ganga has annual sales of around $285 million. The company has an independent hospital department and owns one of the largest biotech parks in India. Ganga has acquired companies in the United States, Ireland, France, and Great Britain and employs some 7,000 people around the world. The company has invested significant amounts of money in research and development, resulting in several revolutionary biotech products, more than 250 patent applications, and a portfolio of promising new molecules. It acquired five companies in Europe, including C-Pharma, which was acquired for around £11 million in 2003 (Budhwar et al., 2009, p.94).

Key Performance Indicators

Like GlaxoSmithKline, the authors will use different KPIs to check whether the Ganga pharma merger was successful in achieving its targets or not.

7.1.3.1 Market Expansion

C-Pharma had 225 marketing authorizations in the UK and 258 marketing authorizations abroad, which could greatly facilitate Ganga's entry into these markets. The top three issues Ganga identified at C-Pharma that were the reason for the sale of C-Pharma are extremely high operating costs, inability to keep up with competitors, and ineffective management team (Budhwar et al., 2009), p. 95). By looking at its strengths and capabilities, Ganga management found that they can easily cope with those issues and make the company profitable so decided to
acquire C-Pharma with two objectives in mind. First, Ganga with its current resources can bring C-Pharma back to a profitable business, and second, Ganga will use all facilities of C-Pharma to expand itself globally. After a successful merger, Ganga achieved its target of market expansion to different countries of Europe. By following the fishbone risk method, Ganga has already fully analyzed risks arising from this merger and finally decided to merge C-Pharma into Ganga.

7.1.3.2 Research & Development
Ganga offers a combination of three types of mergers and acquisitions, namely geographic accumulation, product or market expansion and as a replacement for R&D. Ganga is pursuing the strategy of acquiring C-Pharma, a losing entity, to achieve economies of scale, through mass production of drugs in India and drugs requiring intensive research and development and high technology in the UK factory (Budhwar et al., 2009, p. 95). The results suggest that based on the Ansoff model, Ganda has been successful in achieving the target of product growth through innovation and diversification. Further, Ganga’s objective of expansion in R&D was also achieved through this merger because C-Pharma had big research and development facility.

7.1.3.3 Need for own culture expansion
Ganga implemented the “takeover” approach by entirely captivating C-Pharma’s operations and obliterating its values for the greatest part. The task of Ganga was to “create value by combining the needs of the customer with an uncompromising drive for excellence” (Budhwar et al., 2009, p.95). After the acquisition C-Pharma, there was an eruption of the “merger syndrome” amongst the C-Pharma employees. Sudden retrenchment of C-Pharma’s 300 workforces by acquiring firm, Ganga. This leads to damage of confidence and assurance among the employees at C-Pharma. Employees at C-Pharma started assuming that Indians are tremendously dictating and bureaucratic and viewed Ganga as being against workforce welfare (Budhwar et al., 2009, p.97). Ganga along with its expanding market has also achieved its target of its own is best management style. According to this management style, the company says that only its culture and people are efficient therefore, where ever the company is operating should have its people on top management. For example, after acquiring C-Pharma, Ganga has posted Indians on all major positions of the company and eliminated its old name.
The third important sample used for this study is the case of Ganga Pharmaceutical headquarter in India. Ganga is one of the leading pharma firms from India and it has absorbed so far more than 7 small and medium-sized companies in different parts of the world.

7.1.4 Case of BMS
Bristol-Myers Squibb (BMS) proclaimed the acquisition of Celgene on January 3, 2019. The transaction was valued at around $ 74 billion and is one of the largest acquisitions in the history of the pharmaceutical industry (Abb & Bartkewitz, 2020, p. 12). Since BMS offered to buy Celgene at a 53.7% premium over its previous closing price, Celgene's share price has risen 24.0%, while Bristol-Myers Squibb shares have risen 13, 0% has fallen (Erman / Banerjee, 2019).

Since implementing the strategy in 2007, BMS has taken over a total of 14 companies. BMS acquisitions over the past 12 years have proven successful as they have increased productivity and pipeline innovation. BMS also plans to further strengthen its market position with the acquisition of Celgene, particularly in the area of immuno-oncology and cancer treatment.

Key Performance Indicators
7.1.4.1 Company Growth and expansion
The results show that due to competitive pressures in the pharmaceutical industry, the Celgene acquisition was necessary for BMS to keep pace with its competitors. This acquisition strengthens BMS's existing product portfolio and products under development. In summary, BMS appears to be an innovative biopharmaceutical market leader in the future capable of displacing a wide range of its competitors. Following the announcement of the BMS agreement in January 2019, “with complementary areas of focus, the combined company will operate with global reach and scale, maintaining the speed and agility that is core to each company’s strategic approach” (Bristol-Myers Squibb, 2019b). The fishbone risk model suggests that GMS has successfully eliminated strong competitive risk by acquiring Celgene. Further, the results indicate that BMS was successful in terms of achieving its targets of market and product expansion as suggested by the Ansoff model.
7.1.4.2 Net Earnings Growth

Figure 4 shows the evolution of the BMS share price between December 3, 2018, and January 22, 2020. On the day of the announcement (January 3, 2019), the figure shows a sharp drop, indicating dissatisfied shareholders.

Figure 8. BMS performance between December 3, 2018, and January 22, 2019. Own figures (source: Thomson ONE)

After the transaction closed on November 20, 2019, the stock price rose relatively steadily and steadily, with the highest reading at $67.43 on January 22, 2020, and the lowest at $56.17 on January 25. November 2019, surge inactivity. The price after the completion of the acquisition is an indicator of positive market perception of the combined company. Based on the factors that indicate success or failure in the future, this thesis assumes that the acquisition will continue to be received positively by the market.

7.1.4.3 Research and development

Before the Celgene acquisition, BMS had a weak portfolio of drug manufacturers in the areas of hematology/blood diseases, oncology, and inflammation and immune diseases (Abb & Bartkewitz, 2020, p. 20). Shortly after acquiring Celgene, BMS gained a competitive advantage in developing therapies for cancer (particularly blood cancer) and inflammatory diseases (Celgene, 2019a, p. 78). Currently, the combined company of Celgene and BMS represents the world's largest oncology company (Liu, 2020). As already described above, the agreement helped BMS strategically expand its broader research area (Abb & Bartkewitz, 2020, p.85). In addition, the combined company, together with Celgene's Revlimid and Pomalyst drugs, will be
able to offer a full range of products in combination with BMS 'Empliciti cancer drug for the
treatment of cancer. Based on the Ansoff model it can be suggested that BMS was successful in
achieving product growth by this merger.

7.1.4.4 Relationship between operating expenses and revenues
Celgene was operating successfully before the actual merger but was facing the issue of more
investment for the R&D pipeline (Celgene, 2019a, p.73). Celgene has passed through a sudden
decrease in share price due to some issues at management side and due to that the company was
losing its strength day by day. Therefore, the management decided to find some merger options
against some benefits for shareholders and protection for risk of loss that was hanging in them
(Abb & Bartkewitz, 2020, p.88). At the same time, BMS was looking for some good options to
meet its apatite of more mergers to expand the company. Therefore, by using different resources
by Celgene, BMS successfully reduced the operating cost of the company and increased revenue
streams for future growth.

7.1.4.5 Market expansion
With BMS operating in more markets than Celgene, the company seized this opportunity and
allowed Celgene products to expand into new, untapped markets. This gives the combined
society more opportunities to generate income (Abb & Bartkewitz, 2020, p.89). Furthermore, the
two companies already had separate sales channels at home and abroad. As part of the combined
business, these channels are combined to ensure a broader base of points of sale and a broader
reach for patients (Rennison / Kuchler, 2019, p. 27). As a result, the earning potential has
improved. Therefore, we see expansion into new markets and the coupling of sales channels as
the driving forces behind the acquisition of Celgene by BMS.

The fourth company used as a sample for this study is the case of BMS. This company has
recently completed one of the biggest M&A transactions in the history of M&A in the
pharmaceutical industry so that data available about this company is good and also easily
available there for new orders to be given.

7.1.5 Case of Pfizer
It was 1999 when Pfizer took the hostile takeover of Warner-Lambert Co. and completed one of
the largest M&A deals in June 2000 in the Pharmaceuticals industry (Koenig & Mezick, 2004,
The deal, valued at about $89.2 billion, was one of the largest transactions of its time in the pharma sector. The acquisition of Warner-Lambert by Pfizer (two of the largest pharmaceutical companies) had a lasting impact on the pharmaceutical and biotech market and secured Pfizer a leadership position in the market in different countries around the world (Condrat & Boboia, 2012, p.20). After this deal, Pfizer found itself a leader in terms of market coverage, innovation, and a wide range of medicines for human beings as well as for animals.

However, this was not the first M&A phenomenon in Pfizer's history. Since 1862, Pfizer, founded in 1849 by cousins Charles Pfizer and Charles Erhart, has experienced accelerated organic development, encouraged by outside market participants who provided favorable circumstances (Koenig & Mezick, 2004, p.167). With the start of the civil war, there was a constant state demand for painkillers, preservatives, and disinfectants. Therefore, the company was driven to expand its range of drugs and open mass production with the marketing of iodine, morphine, chloroform, and camphor.

Besides, it was found that Pfizer in 2005 has placed found for the acquisition of well-known pharma of that time known as Vicuron Pharmaceuticals and the funds were around $1.9 billion (Demirbag, Ng & Tatoglu, 2007, p.48). The pharma was known for its skills and expertise in the discovery, development, and manufacture of next-generation drugs, particularly anti-infectives. Additionally, $298 billion in cash was placed for Idun Pharmaceuticals, a biopharmaceutical company focused on the discovery and development of therapies to control apoptosis in human beings and other species. Due to an agreement between Pfizer and the above two companies, a lot of new life-saving drugs came into the market (LaMattina, 2011, p.43).

The diplomatic acquisition was aimed at expanding the drug portfolio and opening new therapeutic markets with untapped profit potential. Additional acquisitions were made over the next period: $283 million to add a new antidiabetic and protein drug company (BioRexis) and a concentric merger with an animal health company (Embex). Additionally, in 2008 Pfizer and Wyeth entered into merger agreements that will result in a $68 billion merger-take-over-consolidation in 2009, the second largest investment after the $89.2 billion acquisition when Warner-Lambert was acquired by Pfizer in 2000.
Key Performance Indicators

7.1.5.1 Research & Development

With Warner-Lambert, Pfizer acquired full ownership of Lipitor and diversified its product lines from Parke-Davis brand pharmaceuticals to Listerine mouthwashes, including Schick and Wilkinson Sword wet shaving products (Condrat & Boboia, 2012, p.21). As stated in the 2006 Financial Report, this transaction builds on Pfizer's extensive anti-infective experience and its proven commitment to strengthening and growing its pharmaceutical business through strategic product acquisitions (Pfizer, 2008, p.17). Further, the company acquired Vicuron Pharmaceuticals, Idun Pharmaceuticals, Embex, and BioRexis to expand its research and development horizon for the development of life-saving drugs for human beings as well as animals.

7.1.5.2 Expansion of drug portfolio

Another important reason for Pfizer to acquire a list of pharma companies was that the company wanted to increase its drugs portfolio. The company acquired Vicuron Pharmaceuticals to increase its portfolio of life-saving new generation drugs such as anti-infectives (Koenig & Mezick, 2004, p.161). Further, when Pfizer found the demand for therapies to control apoptosis then the company decided to acquire another firm (Idun Pharmaceuticals) which was popular in such therapies (Kumar, 2019, p.36). In addition, the rising demand for many drugs such as antidiabetic and protein drugs, the company decided to acquire another firm known as BioRexis, and Embex was acquired to meet the extended demand for drugs for saving lives of animals particularly dogs.

7.1.5.3 Market Expansion

Pfizer not only expanded its product portfolio, but also expanded its market area with the addition of the Werner-Lambert custom market (Demirbag et al., 2007, p.52), BioRexis for aminal market, BioRexis for antidiabetic and protein drugs, and Idun Pharmaceuticals for therapies. Entering the anti-infectives market was a strategic decision, as infectious diseases are widespread today and antibiotic resistance has become a problem that requires consideration of new drug designs and also good patient counseling (Kumar, 2012, p.13). With the equation of four companies from 2000 to 2009, Pfizer has extended its market coverage from North America to almost all countries of the world.
7.1.5.4 Cost reduction
Another benefit was the company's actual cost reduction by approximately $6 billion (as reported in the 2005 annual financial report). Although Pfizer invested significant capital in the acquisition, the results made no difference as Pfizer's earnings tripled over the next 6 years to total sales of $51.3 billion in 2005, a 2% decrease from $11.4 billion in 2004. The 2% decrease is the main consequence of the continued expansion of the business based on the same M&A strategy (Condrat & Boboia, 2012, p.23).

7.1.5.5 Sales Growth

Table 3. Sales growth of Pfizer from 2007 to 2011

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<th></th>
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<tbody>
<tr>
<td>Acquisition-related charges</td>
<td>-</td>
<td>125</td>
<td>68</td>
<td>633</td>
<td>283</td>
</tr>
<tr>
<td>Net income</td>
<td>10.009</td>
<td>8.257</td>
<td>8.635</td>
<td>8.104</td>
<td>8.144</td>
</tr>
</tbody>
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It can be seen from the above figure that for the past 4 years, Pfizer has continuously expanded its product portfolio by merging the acquisition of biopharmaceutical companies specializing in drug discovery and manufacturing with new vaccines, nutritional supplements and lifestyle products, vitamins, generics, etc. (Demirbag et al., 2007, p.52). Pfizer also strengthened its industrial pharmaceutical technology business by negotiating the control center of companies specializing in the desired technologies.

7.2 Overall Analysis of M&A from 1995 to 2019
According to the researchers, the combined companies increased their earnings before interest, taxes, depreciation, and amortization (EBITDA) by four percentage points two years after announcing a deal, while their return on investment (ROIC) increased 14%. These mergers resulted in the acquisition of companies with a broader revenue base and a smaller cost structure, increasing economic profit by an average of more than 50% in the two years after the transaction (Cha & Lorriman, 2014, p.2).

Some researchers have also divided mega-mergers into two broad types: those that consolidate existing players with significant overlap, and growth-oriented deals that create new businesses or expand into new markets. Consolidation operations have historically generated the highest economic return for acquirers (more than 60% growth), while growth platform operations have
generated, on average, negative economic growth with minor improvements in ROIC. Consolidation transactions were more common in the mid-to-late 1990s, and these transactions generated significant economic returns for buyers through cost synergies and accelerated revenue growth (Cha & Lorriman, 2014, p.3).
8. Discussion

In this chapter, the authors have first discussed the findings of this research and in the later part, recommendations are offered. Besides, research limitations, future direction, and finally the topic is concluded.

8.1 Research Findings

Among other industries, the pharmaceutical industry has been on top of M&A activities due to the high cost involved in R&D continuously. Further, the finds of this thesis work suggest that M&A activities in the pharmaceutical industry have seen a successful journey. The analysis of cases of five big firms, two from Asia and three from western culture, highlight that irrespective of the company’s origin, M&A initiatives have been being successful since the early 1990s.

The M&A case of Astellas Pharma from Japan indicates that the company was successful in achieving its four major objectives of mergers and acquisitions after a short period. These objectives were; new name of the company, high growth in sales of the company, major actor in innovation and research of new drugs, and reduction in operating expenses. The fishbone risk model proposes that the company is successful in triggering out all risks associated with new merger activities. Besides, by following the Ansoff model, Astellas pharma has managed and successfully achieved targets of new market expansion and development of new products after passing through merger activity.

The authorshave also explored the case of GlaxoSmithKline, which resulted from the merger of two big companies. The analysis suggests that merger activity between m and b was successful in achieving its desired objectives. While imitating M&A activity, GSK has decided to achieve four major objectives including sales growth, new earnings, research & development, and reduction in operating expenses. The results suggest that the company has been lucky to meet its desired objectives. Ansoff's model also predicts that GSK has reached its new market and new product development tasks by initiating M&A transactions with merging firms. The company has also overcome risks that were emerging from merging activity with time.
The case of Ganga, an Indian firm, was also analyzed by the authors of this research. The findings of this research suggest that Ganga was also successful in achieving its major objectives of the merger. However, Ganga’s merger was a complete takeover with some different targets such as expansion in the European market, propagation of Indian management style and culture, and search and development of new drugs yet the company was rightly meet its targets within the desired period. Finally, BMS has also been lucky to meet its objectives of M&A transaction soon after the actual merger event. BMS objectives were similar to GSK with the addition of one more objective of overall market expansion globally. Based on guidelines of the fishbone risk model, both companies have completely managed risks that emerged from M&A. Further, expansion of product line and new markets were also in line with the Ansoff model.

8.2 Theoretical implications

Like every other research, this research work also has some important theoretical implications for researchers. It has been found that there were only a few studies that have completed a descriptive analysis of M&A transactions in recent years. Another contribution is that relative comparison for five or more pharmaceutical firms before and after M&A transaction is not carried by any other researcher with a theoretical framework like this research work. The link between the need for M&A transactions from different organizational cultures and overall outcomes of M&A activities from Europe, America to Asia was also missing from the literature, hence another important contribution in this research. This research has found the impacts of five popular and most known M&A transactions in pharmaceutical history on overall outcomes of either new names firms or giant pharma firms. Furthermore, research has found that all five sampled pharma firms such as BMS, Ganga Pharma, GSK, and Astellas Pharma have almost achieved their desired outcomes which were planned before the actual M&A transaction.

Another valuable contribution to theory is that there was yet a gap that shows the connection between the Ansoff model and M&A transaction in the pharma industry, particularly from five different cultures. For example, in this research authors have explored in-depth M&A cases from Indian society, Japanese society, and USA culture. Hence, such a diversified study was almost missing from literature work and the Ansoff model was related to pharma in this study. The authors have also found a link that connects the need for M&A with the Ansoff model in terms
of the need for penetration, need for new product development, for new market exposure, and diversification through the M&A process within a limited time frame.

This research has also identified reasons behind the failure of M&A transactions from different management styles and geographic locations, which are there from either one or two cultures only. Hence this research offered clear guidance to researchers that there are some common reasons which have been affecting M&A transactions in the pharma industry. Although, there are a lot of successful cases of M&A transactions due to the higher need for innovation in the pharma industry but yet there are some other cases that have seen failure after M&A activity. Therefore, researchers can use this study to identify reasons behind the failure of M&A in the pharma industry and offer suggestions to other researchers and managers to avoid few important mistakes which are causing the failure of M&A transactions.

8.3 Practical implications

Based on the finding of this research, the authorshave offered some recommendations for firms willing to opt for M&A transactions. It is suggested that if the company is facing issues like low investment, weak R&D, low sales growth, high production cost, expire of license for major drugs, no drug in the product pipeline, and high rivalry force then it should opt for merger with some stable company. Further, if the company has some big objectives in mind such as market expansion, global coverage, innovation champion, expansion of own culture, fast growth, new drugs license within a short time, and market penetration then it should adopt a small innovative firm.

Success trends of the above pharmaceutical firms encourage the M&A in this industry, so even new firms can become part of this initiative to grow themselves in a short period without waiting for the last organic growth. It must be kept in mind that before an M&A transaction, the company must be clear about its M&A decision and should screen out the major risks associated with M&A transactions. As we know that hostile acquisition is very common in this industry, therefore, the companies must evaluate the market continuously so that any kind of hostile action can be avoided.
8.4 Research Limitations
Like other researches, this research has also met some limitations. A major limitation of the work is the use of only publicly available information. Therefore, additional data with restricted access may be missing from this job, which could be a valuable addition. First of all, the authors faced major issues in gathering information about big M&A transactions in scientific generals. Further, in some case studies, the related material was available but found little information on before and after merger transactions of the companies. Second, information about M&A activities that happened in the early 1990s are available but there is no complete information about the latest mergers in scientific articles available online or offline. Third, there was no similar information about each merger, therefore, the author has managed information from different parts and elements of articles to make complete information set where one can easily compare before and after M&A results. Fourth, due to a lack of data on major mergers, the author has used only five M&A transactions from different cultures and periods. Finally, based on limited available information related to M&A transactions in the pharmaceutical industry author has offered his observation to make a case stronger and more reliable.

8.5 Implications for Future Research
Based on limitation of this study author have some suggestions for future research work. It is suggested that researchers in future research should select more than five companies to evaluate the performance of the pharma companies before and after the merger. The authors should do extensive research to gather more information and find whether the companies were successful in achieving their targets or not? It is also suggested that future research should take companies from different cultures and compare them with each other. Also, future research can compare successful of pharma companies with companies from some other industries like telecommunication.

8.6 Conclusion
Mergers and acquisitions in the biopharmaceutical industry are inherently risky. The business value of companies in this sector depends not only on their ability to successfully develop, manufacture, and sell innovative medical treatments for serious unmet medical needs but also on being the first or the best to do so. Although the pharmaceutical company is characterized by a high level of M&A activity due to its fierce competition, the overall failure rate is 40-60%. 
The objective of this work was, therefore, to evaluate the commercial course of pharmaceutical companies after a real merger and acquisition process. To guide this discussion, two research questions have been asked and their responses are summarized below.

- **What encourages M&A transactions in the pharma industry?**
  The successful M&A activities in the pharma industry show that there are many reasons which encouraged firms to take part in M&A transudations. According to the findings of this research each pharma firm has its reasons behind moving ahead with M&A transaction, however, some reasons are publicly announced and others are kept secret. Hence, there are some common reasons behind M&A transactions in the case of our five pharma firms used in this study and these reasons include, increasing sales volume, improving R&D, reaching out to more markets and getting more market share, improvements in revenues concerning operating expense, and need for own culture expansion in other countries (Ganga Pharma).

- **What are the outcomes of M&A transactions in the pharmaceutical industry?**
  According to the findings of this research, M&A transaction resulted from different cultures has been successful. The authors have studied and explored data of five big pharma firms, which have seen M&A many times. Further, authors have analyzed activities of those firms before and after actual M&A transactions and have found that all five firms were successful in achieving major targets of each merger and acquisition event that they have taken for the future of their companies. The pharma sector M&A has achieved desired outcomes such as overall market expansion, parent company’s culture expansion in case of Ganga Pharma, increase in sales volume, improvement in research and development, and becoming a global firm like GSK and Astellas Pharma.

- **Whether M&A transaction resulted in desired outcomes or not?**
  According to the results of this study, it is found that in most cases pharma firms have been successful in achieving desired outcomes from transactions. For example, Yamanouchi Pharma was unable to meet its thirst for more innovation in R&D and Fujisawa wanted to become a global pharma company but both were unable to meet their desired goals due to shortage of funds, therefore they performed M&A transactions, and both companies under new name Astellas Pharma achieved their desired targets of M&A. Similarly, GSK, Pfizer, Ganga Pharma, and BMS have achieved their desired outcomes.
Overall, M&A factors have overcome hurdles and a low probability of future failures can be indicated for acquisitions and mergers based on comparisons of past transactions. It is recommended to invest in the combined company based on the in-depth analysis before the transaction and the positive outlook. Given continued favorable market conditions and the company's current research efforts, this investment is expected to pay off in the years to come.
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