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**"POST M&A PERFORMANCE EFFECTS ON LISTED COMPANIES:
A QUANTITATIVE EXAMINATION THROUGH PROGRAMMING"**

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Abstract

This thesis investigates the post-merger financial performance of four major corporate mergers: Fiat & Chrysler, Volkswagen & Porsche, eBay & PayPal, and Microsoft & Nokia. Through the utilization of Python for data analysis, an examination of various financial metrics both before and after the mergers was conducted. These metrics include revenues, EBIT margin, R&D margin, net income, EBITDA, ROE, ROA, EPS, and market capitalization. The analysis uncovered significant changes in these metrics, shedding light on the successes and challenges experienced by the companies involved. The findings suggest that mergers and acquisitions can result in substantial alterations in financial performance, with varying levels of success. Notably, the Fiat & Chrysler merger demonstrated improvements in revenue and market capitalization, while Microsoft & Nokia encountered difficulties in several key areas. The Volkswagen & Porsche merger exhibited resilience in the face of external challenges, whereas eBay & PayPal experienced significant growth in profitability and market value. This study contributes to the theoretical comprehension of M&A outcomes by offering a comprehensive empirical analysis of post-merger financial performance. From a practical standpoint, it provides valuable insights for businesses contemplating similar strategic decisions, underscoring the significance of thorough due diligence and post-merger integration planning. The research also acknowledges limitations related to sample size and advocates for further statistical validation, pointing towards avenues for future research to expand upon these findings and strengthen the reliability of conclusions drawn from M&A activities.

CHAPTER 1: FOUNDATION OF M&A

1.1 Introduction to Mergers and Acquisitions

All corporations are driven by the fundamental aspiration to grow and prosper, regardless of their size, whether they operate in the public or private sector. Within this framework, Merger and Acquisition (M&A) activities play a pivotal role in the corporate evolution of companies as they offer a reliable alternative for growth strategies. In academic and professional scope, this definition describes a layered and phased process in which two parties engage in a deal, with one assuming the position of an acquirer (the buyer of equity) and the other as the target (the vendor). As a tangible form of investment, the acquirer is required to make an initial outlay to secure ownership of the target, although without any guaranteed forecast of future profits. M&As can significantly support an organization's expansion and profitability, yet they also carry a substantial degree of risk throughout the extensive process, starting from the strategic decision-making to the ultimate amalgamation of the two entities. Additionally, the specific way firms start and finalize these transactions dictates the nature of the M&A. The subsequent sections in this chapter will outline the predominant forms of M&As, providing a broad and practical overview of this intricate field, with case studies interspersed to offer tangible insights and facilitate comprehension. Broadly speaking, M&A activities fall under the umbrella of corporate restructuring, which refers to alterations in a company's financial or operational structure aimed at steering it toward desired future objectives (this can include actions like Spin-offs, executive shifts, etc.). A company (the bidder/acquirer) might choose to acquire another (the target) for various reasons such as entering new markets, realizing synergies, or gaining control over strategic resources under the corporate level. Furthermore, a transaction intended to secure specific sought-after skills from the target is often linked to the concept of technology acquisition. In essence, M&As hold the potential to generate value for the acquiring entities in scenarios involving both similar and complementary assets of the target. The first scenario typically encourages gradual innovation, while the second could lead to groundbreaking changes.

Definition and types

The very first classification of deals comes from the name itself used to call these type of activities. Indeed, Merger and Acquisition is commonly cited as a single term using two apparent synonyms,

but actually a merger is slightly different from an acquisition. The crucial distinction is based on the fact that:

In a **merger**, two companies come together to form a single entity, with one of the original companies dissolving. Typically, the acquiring company will assimilate the assets and liabilities of the target company, resulting in one unified legal entity. This process is particularly evident in the case of public companies where, subsequent to the merger, only one of the company's stocks continues to be traded on the stock exchange. After the transaction, the acquirer has the discretion to either retain the target's brand, potentially creating a new corporate identity, or to completely dissolve it. Strategic use of the target's brand name can be advantageous for the acquiring company to capitalize on the established brand equity of the acquired firm. Furthermore, mergers are typically characterized by mutual agreement and cooperation between the merging entities, indicating a friendly transaction where both sides are agreeable to the merger. An illustrative instance of this was the Fiat and Chrysler merger in 2014¹, where the emergent entity chose to blend the names of both original companies into the new name Fiat Chrysler Automobiles (FCA).

There are different types of merger: A **horizontal merger** is a merger between companies that directly compete with each other. Horizontal mergers are done to increase market power (market share), further utilize economies of scale, and exploit merger synergies. A famous example of a horizontal merger was that between HP (Hewlett-Packard) and Compaq in 2011². The successful merger between these two companies created a global technology leader valued at over US \$87 billion.

A **vertical merger** is a merger between companies that operate along the same supply chain. A vertical merger is the combination of companies along the production and distribution process of a business. The rationale behind a vertical merger includes higher quality control, better flow of information along the supply chain, and merger synergies.

A notable vertical merger happened between America Online and Time Warner in 2000³. The merger was considered a vertical merger due to each company's different operations in the supply chain –

¹ Fiat Chrysler Automobiles N.V. (2014). The merger of Fiat S.p.A. with and into Fiat Investments N.V. [https://ec.europa.eu/competition/mergers/cases/decisions/m5518_20090529_2014_2635561_EN.pdf]. FCA Group Marketing.

² HP. (2011). HP and Compaq merger: Creating a global technology leader. [<https://www.mbaknol.com/management-case-studies/case-study-the-hewlett-packard-and-compaq-merger/>]

³ America Online and Time Warner. (2000). AOL-Time Warner merger: A vertical integration of content and distribution. [https://www.researchgate.net/publication/291711379_The_merger_of_AOL_and_Time_Warner_A_case_study]

Time Warner supplied information through CNN and Time Magazine while AOL distributed information through the internet.

A **product-extension merger** is a merger between companies that sell related products or services and that operate in the same market. By employing a product-extension merger, the merged company is able to group their products together and gain access to more consumers. It is important to note that the products and services of both companies are not the same, but they are related. The key is that they utilize similar distribution channels and common, or related, production processes or supply chains.

For example, the merger between Mobilink Telecom Inc. and Broadcom ⁴ is a product-extension merger. The two companies both operate in the electronics industry and the resulting merger allowed the companies to combine technologies. The merger enabled the combination of Mobilink's 2G and 2.5G technologies with Broadcom's 802.11, Bluetooth, and DSP products. Therefore, the two companies are able to sell products that complement each other.

A **conglomerate merger** is a merger between companies that are totally unrelated. There are two types of a conglomerate merger: pure and mixed.

- A **pure conglomerate merger** involves companies that are totally unrelated and that operate in distinct markets.
- A **mixed conglomerate merger** involves companies that are looking to expand product lines or target markets.

The biggest risk in a conglomerate merger is the immediate shift in business operations resulting from the merger, as the two companies operate in completely different markets and offer unrelated products/services.

For example, the merger between Walt Disney Company and the American Broadcasting Company (ABC) ⁵ was a conglomerate merger. Walt Disney Company is an entertainment company, while American Broadcasting company is a US commercial broadcast television network (media and news company).

⁴ Mobilink Telecom Inc. and Broadcom. (2002). Merger agreement between Mobilink Telecom Inc. and Broadcom: A product-extension merger in the electronics industry. [<https://www.eetimes.com/broadcom-to-acquire-mobilink-in-251-million-deal/>].

⁵ The Walt Disney Company. (Year). The Walt Disney Company and American Broadcasting Company (ABC) Merger Agreement. [<https://www.slideshare.net/avkoo7/walt-disney-abc-acquisition>].

An **acquisition** is essentially a corporate strategy whereby one company takes over another by buying a majority stake. This process can unfold with the consent of the target company or, in some cases, against it. When the acquisition is consensual, the agreement often includes a no-shop clause to prevent the target from seeking out other buyers.

While high-profile acquisitions of major corporations frequently make headlines, it's actually more common for smaller and medium-sized businesses to engage in such transactions. The primary aim of an acquisition is to take control over the target company's operations, assets, and various strategic resources. This includes production capabilities, market share, customer lists, and intellectual property, among others.

There are several motivations behind the acquisition of a corporation. They might be looking to achieve economies of scale, branch out into different market sectors for diversification, enhance their market share, foster synergies that improve efficiency, reduce operational costs, or expand their offerings into new niches. Sometimes, the driving force is as straightforward as eliminating a competitor from the market.

Typically, acquisitions are amicable agreements where the target company's board of directors gives a permission to the takeover, suggesting a mutually beneficial arrangement. In such friendly takeovers, detailed strategies are laid out to ensure that the acquirer selects the right assets, and thorough due diligence is conducted to scrutinize the financial health and potential liabilities associated with those assets.

Once the terms are settled and legal requirements are met, the acquisition goes forward. By securing more than a 50% stake in the target firm, the acquiring entity can unilaterally make decisions regarding the acquired assets, even without the approval of the remaining shareholders. This level of control is the ultimate objective of the acquisition process, authorizing the acquirer to steer the newly expanded business towards its strategic goals.

Historical Overview

The historical pattern of mergers and acquisitions over the last hundred years reveals a tendency to cluster, forming distinct periods of heightened activity known as waves, punctuated by quieter times of lesser activity. Economic scholars often identify five major merger waves beginning in the 1890s. The duration and onset of each wave vary, but typically, a wave concludes with either the outbreak of a significant war or the onset of a recession or economic crisis. Initially, the first two waves were predominantly confined to the United States market, whereas subsequent waves saw a broader

geographic reach. Notably, during the fifth wave, the M&A activity expanded beyond the US and UK to encompass continental Europe and Asia, which experienced a notable uptick in such transactions.

As of yet, there isn't a universally accepted theory explaining the occurrence of these M&A waves, though it appears that industry-specific dynamics play a role in initiating these periods of intense activity, as different sectors tend to see surges in M&A at varying times. The various theories explaining why M&A waves happen will be examined in the following section, while the present section aims to delineate the distinct features characterizing each wave.

First wave

The inaugural wave of mergers and acquisitions spanned from 1893 to 1904, emerging after a phase of economic growth. A key feature of this era was the consolidation within specific industries, leading to horizontal mergers that birthed some of the earliest industrial giants in sectors such as oil, mining, and steel. These mergers often resulted in monopolistic entities. Stigler (1950) suggested that mergers enabled the realization and distribution of anticipated monopoly profits through capitalization. Although the Sherman Antitrust Act was introduced in 1890 to curb monopolies and cartels, its initial enforcement was weak, allowing monopolies to flourish during this period.

Transactions in the first wave were predominantly amicable and funded with cash. Despite this, the initial trigger for the wave remains unclear. Contributing factors included the evolution and stricter enforcement of corporate laws towards the end of the 19th century, which introduced limited liability for entrepreneurs, reducing the risk associated with business expansion. Additionally, the growth and modernization of capital markets, exemplified by developments in the New York Stock Exchange, made the necessary capital for mergers and acquisitions more readily available.

The conclusion of this first wave was prompted by more stringent application of antitrust laws, notably the Sherman Act. The wave also diminished in the wake of a stock market downturn around 1905, leading to economic slowdown. The onset or threat of World War I is also cited as a contributing factor to the cessation of this period, often referred to as the 'Great Merger Wave'.

Second Wave

The second wave of mergers and acquisitions started in the 1910s and was centered primarily around the food, paper, printing, and iron sectors. However, it was notably less extensive than its predecessor, accounting for less than 10% of total US market assets, compared to the 15% impact of the first wave.

This period arose post-World War I during a phase of economic recuperation and heightened vigilance against monopolistic practices. Diverging from the trend of the first wave, the second wave was distinguished by the formation of oligopolies instead of monopolies. The marketplace was no longer controlled by singular, dominant corporations but by a few powerful entities. Particularly active in M&A were smaller firms that had suffered the initial wave. These companies sought to achieve economies of scale to better contend with the influence of former monopolists. The rise of oligopolies can be attributed to the limited resources of companies that had merged during the first wave, due to the economic downturn and the more rigorous enforcement of antitrust legislation, including the Sherman Act, as observed by Stigler (1950). The transactions during this time continued to be cooperative in nature, but there was a significant shift in the mode of financing from cash to stock. The end of this second wave was precipitated by the catastrophic stock market crash of 1929, which announced the onset of the 'Great Depression,' plunging economies worldwide into a prolonged downturn.

Third Wave

The period of calm in merger and acquisition (M&A) activity that marked the periods of the Great Depression and World War II ended as the 1950s approached, leading to a new wave of M&As. This post-war era was distinguished by legislative efforts to prevent anti-competitive corporate consolidations, contributing to the development of innovative business models. The third wave of M&As was defined by corporate diversification rather than the horizontal and vertical integrations seen in the earlier waves, with companies continuing to primarily use stocks as a means of financing.

The 1950s saw the ascension of conglomerates, with General Electric being a prime example. These were vast, multi-industry corporations that leveraged diversification as a defensive strategy against market fluctuations by spreading their risks across various unrelated sectors. This approach allowed them to mitigate the impact of downturns in any one industry with gains from others, explore growth opportunities more broadly, and rely on internal capital resources, especially when external capital was expensive.

Alfred Chandler's 1991 theory of the Multidivisional Enterprise proposed that a company's structure adapts according to its strategy, with the most complex structures resulting from a blend of multiple strategies. This move towards diversification, however, also created a larger gap between corporate headquarters and divisional management, potentially leading to inefficiencies and overburdened decision-making processes.

There's ongoing debate about what exactly prompted the rise of the third wave, whether it was the strict implementation of antitrust laws or other factors. Notably, the era saw a significant increase in Fortune 500 companies engaging in unrelated business operations, jumping from 9% to 21%, which underscores the significance of diversification during this period.

By the late 1970s, the pace of M&As started to slow and came to a sudden stop in 1981 due to an economic downturn caused by an oil crisis.

Fourth Wave

The fourth wave of mergers and acquisitions in the 1980s represented a distinct shift in strategy and scale from earlier waves. This period was predominantly defined by an aggressive form of takeover, where acquirers often bypassed the target company's management, executing what are known as hostile takeovers. The companies being targeted were of a significantly larger scale than those in prior waves, underscoring a change in the nature and ambition of M&A activity. Financing methods underwent a transformation as well, with a move away from using the company's equity as the main currency for acquisitions. Instead, there was an increased reliance on debt and cash to finance these deals, a reflection of the evolving financial landscape of the time. The motivations behind this wave might have included the strategic targeting of undervalued firms, a phenomenon suggested by Ravenscraft in 1987. This approach was facilitated by the divestiture movements initiated by conglomerates from the previous wave, which led to a unique environment where some firms were simultaneously expanding and shrinking. These divestitures accounted for a significant portion of M&A transactions, ranging from 20% to 40%. This era also saw the advent of 'bust-up' takeovers, a term introduced by Schleifer and Vishny in 1991, where acquiring firms would subsequently dismantle and sell portions of the newly acquired companies. This coincided with the increasing popularity of leveraged buyouts (LBOs), where acquisitions were made through substantial external debt, a method that often led to the sale of significant assets post-acquisition, mimicking 'bust-up' strategies. The wave was considered a period of adjustment, addressing previous inefficiencies from the conglomerate mergers of the third wave. Research by Morck, Schleifer, and Vishny from the 1980s indicated that the market responded positively to takeovers within the same industry but reacted negatively to those that sought unrelated diversification. The energy and intensity of M&A activities during this time began to fade as the decade closed, and the wave came to a definitive end with the stock market crash after 1989. This decline signaled a time of reassessment and revaluation of the M&A strategies that had dominated the business world throughout the 1980s.

Fifth wave

The fifth wave of mergers and acquisitions, spanning from 1993 to 2000, spread during a period of significant economic optimism. Financial markets were thriving, and a trend toward globalization was underway. This period saw a large increase in merger activity in continental Europe, reaching levels comparable to those in the US market. The rise of globalization spurred a substantial increase in cross-border acquisitions, as organizations ventured beyond their national boundaries in search of merger and acquisition opportunities, driven by the desire to partake in the globalizing economy. This climate gave rise to some unprecedented 'mega' mergers, including those between Citibank and Travelers, Chrysler and Daimler Benz, and Exxon and Mobil. The impetus for the fifth wave was technological innovation, particularly in information technology, and a corporate shift back towards core competencies as a means to secure a competitive edge. This resource-based perspective emphasized the strategic use of a company's resources and capabilities to establish and maintain a sustainable competitive advantage. Mergers during this time were predominantly amicable, and equity financing was the primary method used. An economic downturn once again brought this wave to a close. The onset of the new millennium was marked by the bursting of the internet bubble, which sent global stock markets into a tailspin, signaling the end of this phase of intense merger and acquisition activity.

Motivation and Strategic Objectives

1. Value creation

Two corporations may engage in a merger with the aim of enhancing shareholder wealth. Typically, the fusion of two companies generates combined benefits that augment the value of the emergent corporate entity. Fundamentally, synergy implies that the worth of the combined entity surpasses the aggregate worth of the two separate entities. It's important to recognize that synergies come in two forms:

Revenue Synergies: These are synergies that support the company's capacity to generate income. For instance, extending market reach, diversifying product offerings, and research and development initiatives are just a few ways through which revenue enhancements may materialize.

Cost Synergies: These synergies lead to a leaner cost framework for the company. Often, a well-executed merger can lead to economies of scale, the incorporation of novel technologies, and even the removal of redundant expenditures. Such developments can lead to a more efficient cost structure within the firm.

2. Diversification

Mergers are often pursued as a strategy for diversification. For instance, a corporation might merge with another to branch into novel markets or to expand its array of products or services. It's also not uncommon for company executives to seek mergers as a means to mitigate operational risks.

However, we should note that shareholders may not always welcome mergers driven primarily by risk diversification aims. Shareholders often have the option to spread their investment risks across various portfolios, which can be a more straightforward approach compared to a merger. After all, merging two companies can be a long and uncertain process. Mergers that serve the purpose of expanding market reach, product offerings, or forming conglomerates frequently aim to diversification.

3. Acquisition of assets

Mergers are often motivated by the strategic goal of acquiring specific assets that are otherwise difficult to obtain through alternative means. In M&A, it's quite typical for companies to pursue mergers as a way to secure access to unique assets or those that would require a significant amount of time to develop in-house. For instance, gaining access to cutting-edge technologies is a common aim behind many merger activities.

4. Increase in financial capacity

Every business has a limited ability to fund its operations through debt or equity financing. When a company reaches its financial limits and lacks the necessary resources, merging with another entity can be a strategic move. The outcome is a combined entity with enhanced financial capacity, which can then be leveraged for further development and growth initiatives.

5. Tax purposes

When a company with considerable taxable income merges with another company that has significant accumulated tax losses carried forward, the merged entity can benefit from a reduced total tax liability. This strategy allows the combined company to utilize the carry forward tax losses to offset its taxable income, resulting in a lower overall tax obligation compared to what each company would face individually.

6. Incentives for managers

At times, the driving forces behind mergers are the personal ambitions and objectives of a company's top management. A merger that results in the formation of a larger company often brings increased power and prestige for managers, aspects they might find highly appealing. This motive can be further fueled by managerial ego and the aspiration to create the largest entity within their industry by size, a tendency known as "empire building." This occurs when company leaders give priority to organizational scale over actual performance metrics. Moreover, there's an observed correlation between the size of a company and its managers' compensation, which might incline managers towards favoring mergers. While modern compensation packages are diversified, including base salary, performance-based bonuses, stock options, and shares, the base salary still constitutes a significant portion of the total compensation. Consequently, larger corporations have the capacity to offer more attractive salaries and bonuses to their executives. The choice to engage in mergers and acquisitions is complex, frequently driven by an amalgamation of factors. The main aim of M&A endeavors is to create a more robust entity, one that can lead to a sustained prosperity and the enhancement of shareholder wealth. Nonetheless, the attainment of these strategic targets is not assured. The triumph of M&A initiatives heavily depends on proficient post-merger integration and management.

1.2 The Mechanics of Mergers and Acquisitions

Expected Outcomes of Mergers and Acquisitions

The anticipated outcomes of mergers and acquisitions are the foundation upon which the strategic rationales for these transactions are built. When two companies decide to merge, they are guided by a number of goals and predictions about the future. At the heart of these expectations lies the fundamental objective of creating value—value that is meant to transcend the sum of what each company could achieve on its own. This value can take many shapes and forms, each intricately woven into the very fabric of the companies' futures.

One of the most immediate and quantifiable expectations is a bolstered market share. The rationale here is simple yet profound: by combining forces, the new, larger entity hopes to exert a greater influence over its market space. This increased force is not merely about dominance but about reshaping the competitive landscape itself. The enlarged market share comes with a promise of reduced competition, an expanded customer base, and, by extension, a more prominent brand presence that can command greater customer loyalty and open up new revenue streams.

Then there's the quest for revenue growth. Mergers and acquisitions can serve as catalysts for this growth, propelling the company into new territories and product lines. The synergy between the merging entities can unlock new opportunities for cross-selling and bundling, which might not have been possible for them as separate entities.

Another expected outcome revolves around cost efficiency. The philosophy here is one of 'unified strength'—where redundant processes are streamlined, operational redundancies are eliminated, and resources are deployed more efficiently. This operational amalgamation is supposed to translate into hard financial gains: lower costs mean higher margins.

Strategic advantages, too, rank high on the list of expected outcomes. These are the deep, often transformative benefits that come from acquiring new capabilities or assets that would otherwise be out of reach. Whether it's a groundbreaking technology, a patent portfolio, or a well-established brand, these strategic assets can redefine a company's trajectory, taking it into industry leadership.

Let's not overlook innovation, the essence of long-term success in today's fast-paced economy. By uniting R&D talents and resources, the newly formed entity sets its sights on becoming a powerhouse of innovation. The combined intellectual capital and research capabilities are expected to pave the way for breakthroughs that keep the company at the forefront of technological advancements.

When it comes to financial performance, the expectations extend well beyond the immediate horizon. The merger is seen as a pathway to not just financial gains but to long-term financial fortitude and growth. An improved financial profile can elevate a company's standing in the eyes of investors and creditors alike, potentially leading to more favorable borrowing terms and a stronger platform for future investment.

Diversification is another pillar of expected outcomes. For a company that may have been trading on the narrow ground of a single market or product, a merger can open up numerous new avenues. This strategic diversification is comparable to spreading one's bets across the table, mitigating the risks and smoothing out the volatility inherent in business operations.

Finally, there is the human aspect—the merging of cultures, knowledge, and expertise that can create a richer, more dynamic workforce. The pooling together of diverse talents intends to build a more innovative, resilient, and adaptable organization, one that is better equipped to tackle the challenges of a global and ever-evolving market landscape.

In painting this picture of post-merger success, one must remain aware that these outcomes are aspirational at best until they are realized. The path from merger agreement to actual value creation is full of challenges and risks, and success depends on a multitude of factors, not least of which is the

delicate art of integrating two distinct corporate entities into a seamless whole. The challenge is as complex as it is risky, and the final measure of success will always be how closely reality aligns with the high expectations set at the outset.

Financial and Operational Synergies

Financial Synergy arises when the financial outcomes of a unified company exceed what each company could achieve separately. Picture two businesses like individual puzzle pieces; alone, they are complete but limited. When they interlock, they suddenly form a more impressive, expansive picture. This synergy can particularly shine through in the financial environment. After merging, the new entity often finds itself exercising a stronger power at the negotiating table, able to command lower interest rates and better terms. It's similar to the amplified influence of a larger, more influential market player which creditors view as a more stable bet, thus offering capital at reduced costs. This advantage in refinancing is a classic case of Financial Synergy.

To encapsulate this idea, we might say:

The Combined Worth of Companies A and B > The Individual Worth of Company A + The Individual Worth of Company B

This formula suggests that there's an additional, almost intangible value that emerges when two companies blend, enhancing their collective worth beyond just their individual market values. It's about the enhanced power and potential that a merger or acquisition can unlock.

The classification of Synergy as either Financial or Operating is similar to the classification of a cash flow as either financing or operating. Synergy can arise in both operating activities and in financing activities. The main difference between the two is:

1. **Financial Synergy** arises from the improved efficiency of financing activities and is primarily linked to a **reduction in the Cost of Capital**.
2. **Operational Synergy** is achieved through the improvement of operating activities, such as **reduced costs** from Economies of Scale.

Financial synergy can be either positive or negative. When we talk about positive financial synergy, we're looking at a merger that brings a windfall of benefits—think savings on taxes, a surge in profitability, and a broader shoulder to carry debt. In contrast, negative synergy casts a shadow over the union, where the merged entity is worth less than the sum of its parts, a perplexing situation that's

far from the intended goal. To truly measure the value that a merger brings to the table, one must dive into the financials—combining and scrutinizing all income statements to see if the profits add up to more than they did when the companies stood apart. This is not just about figures; it's about revealing whether there is, indeed, a real improvement in profitability and thus a kind of alchemy that results in two revenue streams turning into one big river. However it does not stop there. A merger's mettle is tested through its balance sheets, showing whether or not the newly created company can have more debt. Can it shoulder greater risks and investments due to its stronger financial foundations? That's what counts for estimating debt capacity. Lastly, from examining cash flow statement we shall be able to tell if at all this fusion of firms has led to positive synergies or otherwise. It is also here that you come in to ascertain on whether combined movements of money show a better/stronger organism or merger took away some monetary strength. From here lies the ultimate test of whether this marriage between balance sheets, not only theoretically but monetarily as well, has produced an aggregate which is larger than any of its components.

Turning to debt, the confluence of two companies often stabilizes and fortifies cash flows and earnings. This newfound stability is attractive to lenders; it shows predictability and reduced risk, which can lead to an increased willingness on their part to extend credit. In the world of finance, size can indeed be might, as larger firms typically enjoy more attractive interest rates. When these corporate entities unite, they often benefit from improved loan terms, thanks to a more robust capital structure and solidified cash flows that secure their debt. In essence, banks are more willing to offer favorable rates to a business that showcases liquidity and leverage, attributes that tend to be enhanced in a merger.

But let's also consider the wider economic canvas. Through diversification—a blending of different markets, products, or customer bases—a merger can reduce the volatility associated with a single industry or sector. This can lead to a decreased cost of equity. Large companies might pursue smaller or private firms in distinct sectors to achieve this blend, weaving a tapestry of varied business strands that collectively reduce the firm's risk profile.

And there's the market perspective. By merging, companies extend their market footprint. This expansion isn't just about adding numbers; it's about building a more formidable market presence, which can translate into increased revenues, greater market share, and a flow of cash that runs both wider and deeper. These competitive gains, in turn, can diminish the cost of equity, as the market perceives the merged entity as a stronger, more reliable investment. Yet, it's crucial to note that the scale and sector of the businesses in question can greatly influence these financial dynamics.

In short, the financial symphony of a merger can be rich and complex, with each movement—from tax strategies to debt management to diversification—playing a critical part in determining the overall success and harmony of the corporation.

Risk factors and challenges

The environment of mergers and acquisitions is full of risks and challenges, each with the potential to undercut the anticipated benefits and synergies. As we pull the curtain back, we see that the mechanics of combining two distinct entities are as complex as the inner workings of a finely tuned timepiece, with each gear needing to align perfectly to achieve the desired outcome. While mergers and acquisitions can lead to tremendous growth opportunities, they can also come with substantial drawbacks. As a matter of fact, problems of mergers and acquisitions may begin even before a deal takes place: in this circumstance, there exist two main risks:

a. Lack of Due Diligence

Exercising thorough due diligence is essential in preparing for M&A activities. When acquiring existing assets, the seller naturally possesses more knowledge about the assets in question. It's imperative for your company to gain a comprehensive understanding of the seller's financial status, contractual obligations, clientele, insurance details, and other relevant facets to fully grasp the intricacies of the proposed deal. Neglecting this in-depth investigative phase can lead your company to unwittingly take on unforeseen responsibilities, such as unresolved legal disputes or complex tax issues.

b. Overpayment

Overpayment is a frequent mistake in mergers and acquisitions. Intense pressure can come from various directions during these crucial deals. Beyond the seller, encouragement to close the deal can come from brokers and even your own corporate teams. This pressure may lead to your company paying a premium just to conclude the transaction, foregoing the chance to negotiate terms that add value and avoid unnecessary expenses.

After mergers or acquisitions take place, there are two main risks arising:

c. Miscalculating Synergies

Misjudging the benefits of combining two companies, known as synergies, can lead to several issues post-merger. Companies often enter acquisitions with an inflated sense of potential advantages and a

lack of understanding of the time needed for benefits to materialize. The process of merging workforces and systems is time-consuming, and hastened integration efforts can inflate costs. Furthermore, overestimating synergies can result in paying more than the true value, as these anticipated benefits might be factored into the acquisition price before they can actually be realized.

d. Integration Issues

After a merger or acquisition, companies may encounter serious integration challenges, both in their operations and corporate cultures. Mergers and acquisitions are transformative events that can fundamentally change the operational procedures of the involved businesses.

The absence of a thorough integration plan at the time of the merger can lead to the organizations operating independently for an extended period, driving up costs. Cultural discrepancies are another significant hurdle; McKinsey research indicates that nearly all executives believe cultural compatibility is crucial to the success of an integration.

The merging entities might differ in their approach to business; one might prioritize innovation and entrepreneurial spirit, while the other focuses on tradition and concrete results. International mergers introduce additional complexity as employees must navigate and manage cross-cultural teams.

A strong integration strategy that considers the distinctive values, norms, and practices of each company is vital to prevent collaboration issues that can affect efficiency and prolong the integration. Diligent due diligence, careful planning, and skilled execution are essential for the success of a merger, making them indispensable elements of the strategic planning process for successful mergers and acquisitions.

1.3 Examining the evidence: Trends and Insights from M&A Literature

Previous studies on post-mergers and acquisitions performance

In the past, most studies on mergers and acquisitions have taken stock market reaction to the announcement as an indicator of the impact on financial health. However, there are a few studies that go beyond this immediate response of stock markets and consider how merger activity affects acquiring firm's financial position in long run. Such scholars as Langetieg (1978), Asquith (1983), Magenheimer and Mueller (1988) found out that these companies often suffer from a dip in abnormal returns for one to three years after merger, thus, challenging the efficiency of the market examined

by Jensen and Ruback (1983). Ruback, himself later identified the trend as something more than a mere peculiarity by 1988.

However, not all scholarly work concurs with this narrative of post-merger decline. Langetieg also reported instances where companies' post-merger performance was on par with industry standards, countering his own initial findings of negative returns. Additionally, Mandelker's work in 1974 and Malatesta's study in 1983 did not detect significant underperformance following acquisitions. Reanalyzing data from Magenheim and Mueller, Bradley and Jarrell in 1988 and then Franks, Harris, and Titman in 1991 also failed to find any substantial underperformance during the years succeeding mergers when using multifactor benchmarks.

Critiques of such studies often point out a lack of comprehensive long-term performance analysis and an oversight in adjusting for firm size, an adjustment that Dimson and Marsh in 1986 argued is vital, particularly when the acquiring companies are typically larger entities. A failure to account for fluctuations in beta month to month could also misrepresent the extended performance trends.

If underperformance post-merger is a consistent occurrence, this phenomenon would fundamentally challenge the efficient market hypothesis, a keystone of modern financial theory, and could undermine the validity of numerous studies that infer wealth effects of mergers solely from short-term stock returns. A sustained underperformance trend would also support evidence of poor accounting performance after mergers, a result found in some research, though this is not a universal finding.

In their 2020 study, "Impact of mergers and acquisitions on companies' financial performance," Borodin, Sayabek, Islyam, and Panaedova contribute to this debate by examining the financial aftermath of M&A activities among US and European firms. Analyzing 138 transactions from 2016 to 2018 through regression and Student's t-tests, they concluded that firms with solid financials pre-merger tended to sustain their performance post-merger. However, they observed a reduction in Return on Sales (ROS) after the transactions, indicating that while the overall financial health remained stable, profitability in relation to sales might be affected. The study also noted that acquisitions financed through cash payments achieved a higher ROS than those utilizing mixed or stock options, suggesting that the mode of financing plays a significant role in post-merger financial outcomes.

Methodological Trends and Gaps in Research

The event study methodology, favored for assessing the impact of mergers and acquisitions (M&As), analyzes stock price reactions to M&A announcements to gauge the market's valuation of the deal. A

review by Zollo and Degenhard of 87 papers from 1970 to 2006 found 41% used short-term event studies, focusing on immediate stock responses, providing insights into investor sentiment. Conversely, 29% employed long-term accounting measures to evaluate sustained corporate performance post-merger, and 16% analyzed effects over up to four years, offering a longitudinal view of strategic success.

Event studies measure shareholder value directly through stock prices, preferred for their wide accessibility and objective reporting, reflecting a comprehensive performance picture. MacKinlay's 1997 work refined the methodology, detailing how to calculate and summarize abnormal returns and make statistical inferences, thus informing the acceptance or modification of hypotheses. The process involves establishing 'normal returns' based on historical data during the estimation window and then identifying 'abnormal returns' around the M&A event. This rigorous method helps in understanding both immediate and long-term M&A impacts without biases or managerial accounting manipulations, capturing the true effect on shareholder wealth.

The heart of the event study is analyzing the "abnormal return," which is the actual return observed during the event period minus the expected normal return. It is in these abnormal returns that the impact of the M&A announcement is believed to manifest. To calculate these abnormal returns, analysts commonly apply the market model, which is a statistical method for predicting the normal return of a stock based on the return of the broader market. The formula looks something like this:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it} \quad E(\epsilon_{it}) = 0 \quad \text{Var}(\epsilon_{it}) = \sigma_{\epsilon_i}$$

Here, R_{it} is the return on stock i at time t , and R_{mt} is the return on the market portfolio at the same time. The symbol ϵ_{it} is the disturbance term which is assumed to have a mean of zero, implying that it's just as likely to be positive as negative—and a constant variance σ_{ϵ_i} . The parameters α_i and β_i are derived from the historical relationship between the stock and market returns. Once abnormal returns are calculated for the event period, they are summed or averaged to provide an overall assessment of the M&A's impact. This aggregate abnormal return can then be tested against the hypothesis that the merger or acquisition has improved (or worsened) the company's performance. If the abnormal returns are significantly different from zero, it suggests that the market perceives the M&A as having an impact—positive or negative—on the company's value.

Cumulative abnormal returns (CARs) are pivotal for analyzing the multifaceted impacts of mergers and acquisitions. These impacts include the acquisition's nature (horizontal or vertical), financing methods, international expansion effects, and the acquirer's transaction experience. Researchers prefer daily returns for their precision, avoiding the distortions of confounding events. However,

when it comes to the event study's timeframe, it varies; while the estimation period can stretch up to 200 days before the event, some studies extend to 800 days for a more comprehensive analysis. For capturing abnormal returns, the window may range from 49 days before to 100 days after the announcement to avoid market rumor influences. The preciseness of selecting these periods is crucial to the validity of the study's results on the acquisition's financial impact. Many researchers choose a narrower event window to isolate the merger's direct effects on stock prices. The event study methodology is sometimes paired with other analytical techniques, providing a broader understanding of M&A outcomes on firm performance, as seen in studies by Anand and Singh (1997), and Krishnan, Krishnan, and Lefanowicz (2009). This combination of methodologies allows for a richer, more nuanced investigation into the immediate and extended financial implications of M&As.

CHAPTER 2: METHODOLOGY AND DATA ANALYSIS

2.1 Quantitative research methods

2.1.1 Overview of Quantitative Analysis in M&A Research

Quantitative research methods provide a critical framework for investigating mergers and acquisitions (M&A) within the field of finance. This analytical approach is grounded in the objective measurement and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. In the context of M&A research, quantitative analysis is invaluable as it allows for the precise evaluation of transaction outcomes, market reactions, and long-term performance implications of M&A activities.

The adoption of Python as a preferred programming tool in this realm is attributable to its versatility and efficiency. With a number of specialized libraries such as pandas for data manipulation, NumPy for numerical computations, and matplotlib for data visualization, Python is exceptionally well-suited for handling the complexity of financial data sets. Moreover, Python's ability to process large volumes of data and perform sophisticated econometric modeling, machine learning, and time series analysis makes it an ideal choice for researchers aiming to derive deep insights from their investigations into M&A. The meticulous selection process of listed companies for inclusion in the analysis is pivotal. It involves establishing a representative sample that reflects the broader market and specific sectors of interest. Criteria for selection typically encompass market capitalization, reflecting the company's size and stability, and liquidity, ensuring that the stock is traded sufficiently to provide reliable data. The industry sector is also a critical factor, as the study aims to understand the effects of M&As within and across two different industrial landscapes. Moreover, temporal considerations, such as the timing of the M&A and the period under study, are crucial to capturing the full scope of the transaction's impact. In choosing companies for our quantitative analysis, we seek not only to understand the immediate financial implications of M&A transactions but also to uncover the strategic dimensions that drive their success or failure. This includes evaluating the efficiency of post-merger integration processes, synergy realization, and the broader economic and competitive influences at play. Ultimately, the companies selected for study will serve as a lens through which we can examine the intricate dynamics of M&A and contribute valuable knowledge to the field of corporate finance.

2.1.2 Selection of Programming Tools (Python)

The second point of this chapter focuses on the selection of programming tools, specifically Python, for conducting quantitative analysis in M&A research. Python stands out in the data science community due to its efficacy and the vast ecosystem of libraries designed for data analysis and scientific computing. This programming language provides a solid foundation for manipulating and analyzing complex datasets typically associated with M&A transactions.

Python's significance in M&A research stems from several of its characteristics:

a. Versatility

Python is incredibly adaptable, allowing researchers to work easily across various data types. This is particularly beneficial in M&A research, which often requires the fusion of quantitative financial data with qualitative information, such as textual analysis of press releases or market sentiment. Python's ability to interface with data in multiple formats and even direct web scraping, makes it a potent tool for researchers who must amalgamate disparate data sources to gain a comprehensive view of an M&A's landscape.

b. Accessibility

As an open-source language, Python lowers barriers to entry, enabling researchers from all backgrounds, whether in academia or industry, to engage in M&A analysis. This accessibility brings up a wider community of researchers contributing to the development of new tools and methodologies. The result is a dynamic and innovative research environment where cutting-edge analytical techniques are continually developed and shared.

c. Libraries and Frameworks

Python's libraries are essential, providing pre-built functions and tools that simplify many complex tasks involved in data analysis. For instance, pandas dramatically streamline the data cleaning and transformation process, which is often the most time-consuming part of the analysis. SciPy and Statsmodels extend these capabilities into more advanced statistical analysis and econometrics, essential for modeling the nuanced financial dynamics of M&A activities.

d. Integration with Databases

Python's ability to connect to a wide array of database systems is crucial for M&A research, which often relies on real-time data feeds and extensive historical datasets. Python scripts can automate data

extraction, transformation, and loading (ETL) processes, ensuring that researchers have access to the latest data with minimal manual intervention.

e. Reproducibility

Python's scripting nature makes research replicable. Researchers can document their data processing and analysis steps in code, creating a clear audit trail. This reproducibility is not only a tenet of rigorous scientific research but also allows for the scaling of analysis across multiple M&A scenarios, enhancing the robustness and credibility of the findings.

f. Visualization Tools

The ability to visualize data is critical, especially when conveying complex financial concepts and results. Python's visualization libraries, like matplotlib, provide a vast array of options for creating both simple and sophisticated visual representations of data. These tools help in clarifying trends and presenting findings in a format that is both informative and accessible to a broad audience, including those who may not be very knowledgeable about the technicalities of M&A transactions.

Given these advantages, Python is particularly well-suited for addressing the multidimensional aspects of M&A research, from pre-merger analysis and valuation to post-merger integration and performance assessment. It allows to construct reproducible and transparent models that can be shared and improved. The choice of Python as a programming tool reflects a commitment to methodological rigor and analytical depth in studying the complex phenomena of mergers and acquisitions.

2.1.3 Criteria for selecting listed companies for analysis

The process of selection is crucial, as it directly influences the relevance and applicability of the research findings. The companies chosen for study should not only represent a cross-section of the market but also provide a rich source of data for analysis. The criteria set forth for selecting these companies are methodical and tailored to ensure that the sample is both representative and significant.

a. Market Capitalization

One primary criterion is market capitalization, which serves as an indicator of company size and market influence. Selecting companies based on market cap ensures that the study reflects the impact of M&A on firms that have a substantial presence and can influence market dynamics.

b. Industry Representation

The analysis aims to cover two different industries to provide insights that are not confined to a single sector. By incorporating companies from different industries, the study can uncover industry-specific trends and draw comparisons across sectors.

c. Volume of Data

The availability of comprehensive data sets is essential for a detailed analysis. Companies with more extensive public records provide a wealth of financial data, which can lead to more robust and insightful conclusions.

d. Economic Significance

Companies that have economic significance, such as those that contribute notably to GDP or have substantial employment, can provide insights into the macroeconomic implications of M&A.

e. Performance Metrics

Financial health and performance metrics are important for understanding the pre- and post-M&A landscape. Companies are selected based on the availability of performance data like sales figures, profitability, and stock performance.

f. Data Accessibility

Ease of access to relevant data is a practical consideration. Companies that provide transparent disclosure of their operations, financials, and strategic decisions are preferable, as they allow for a more comprehensive analysis.

By adhering to these criteria, the research aims to construct a sample that is not only statistically valid but also rich in contextual detail, providing the depth necessary to understand the different effects of M&As. These criteria are crucial for filtering out the noise and focusing on the data that can yield the most significant and actionable insights into the world of corporate mergers and acquisitions.

2.2 Data collection and preparation

2.2.1 Sources of data

In the study of mergers and acquisitions (M&A), especially within the quantitative section, the sources of data are a foundation upon which the analysis is built. For this research, multiple sources were considered to ensure comprehensive coverage and data triangulation, thus enhancing the robustness of the findings. The following sources were selected:

a. Public Filings and Financial Statements: The most direct insights into a company's performance are often derived from its public filings. This includes annual reports, 10-K, and 10-Q forms for U.S.-

based companies, accessible via the Securities and Exchange Commission's EDGAR database. For European companies, similar documentation is available through their respective national registers and the European Securities and Markets Authority (ESMA).

b. Stock Exchanges and Market Data Providers: Information regarding market capitalization, share price history, and trading volumes can be obtained from stock exchanges like NYSE, NASDAQ, and others around the globe. Market data providers such as Bloomberg and Yahoo Finance also offer extensive historical data and analytics.

c. Academic and Subscription Databases: The research also relies on academic databases like JSTOR and SSRN for peer-reviewed articles on M&A. Subscription services such as Orbis M&A provide comprehensive financial data and metrics for a wide array of companies.

These sources of data are selected for their reliability, the frequency of updates, and the accessibility of their data. Together, they will provide a robust dataset for conducting quantitative analysis, enabling us to explore the financial dynamics of M&A with precision and depth. The integrity of our research hinges on the quality of these data sources, and their established track records ensure that we are building our analysis on a solid foundation.

2.2.2 Descriptive Analysis of M&A Operations

A descriptive analysis of M&A operations will utilize data from these sources to provide a comprehensive overview of the transactions. This includes the size and scope of the deals, two different industry contexts, financial health of the companies pre- and post-merger, stock market reactions, and the strategic rationale behind each merger or acquisition. The descriptive analysis will set the foundation for understanding the complex dynamics of each transaction and how it fits within the broader M&A landscape.

In fact, on one hand the assessment has focused on medium-long term levels of specific financial metrics, such as the Market Capitalization, Return On Equity (ROE), Return On Asset (ROA) and EBITDA/Total Asset. The selection of these particular metrics was guided by the benefits they offer in analyzing the outcomes of mergers and acquisitions. For instance:

a. Market Capitalization: This provides an insight into how the broader investing community and stakeholders perceive the value of a company's transaction, capturing their expectations of the deal's success, and presents a valuation of the firm based on its present and anticipated earnings.

b. Return on Equity: This metric is instrumental in gauging the earnings on investments for shareholders who have continued to support the company's strategy to engage in a merger or acquisition.

c. Return on Assets: With the consolidation of assets from both entities in a merger, this measure becomes a dependable indicator of the strategic efficacy of the acquisition.

d. EBITDA to Assets Ratio: Building on the asset-based analysis, this ratio correlates the EBITDA figure with assets, providing a lens through which to examine the economic effectiveness of a transaction. It also omits the effects of taxes, capital structures, and other non-operational factors, facilitating the comparison of deals across diverse sectors.

On the other hand, the study also explored various accounting measures of profitability, such as Revenue, EBIT Margin, R&D Margin, and Net Income. These were selected based on particular rationale:

a. Revenue: This offers a direct impression of the synergistic revenue benefits arising from a merger or acquisition. This is further supported by the Revenue Change metric, which reflects the actual growth differential in the periods before and after the merger.

b. EBIT Margin: When examined alongside revenue levels, it can reveal whether the transaction has yielded synergistic benefits in terms of both revenue and cost.

c. R&D Margin: While R&D spending is not a direct measure of a deal's potential success, firms with a competitive edge often depend on sustained investment to maintain innovation leadership. A successful merger or acquisition should therefore not undercut the R&D spending that a firm can sustain.

d. Net Income: Ultimately, a company's profitability is encapsulated in its net income, which accounts for all aspects of operations, such as business operations and interest expenses that may arise from debts incurred to finance the acquisition.

To compensate for the limited sample size and to support the credibility and robustness of the conclusions drawn, the analysis concentrated on two distinct sectors: the automotive and technology industries. The focus was primarily on the comparison of financial performance indicators before and after the execution of merger deals. Additionally, the study sought to identify initial patterns of correlation between the operations.

Automotive Sector

a. Fiat & Chrysler

The consolidation between Fiat and Chrysler is an amalgamation that will result in Fiat integrating into FCA (Fiat Chrysler Automobiles), a freshly established entity and fully-owned subsidiary of Fiat, constituted according to Dutch legal frameworks. Should this consolidation receive affirmative votes from Fiat's stakeholders and materialize, Fiat will dissolve, with FCA inheriting all the assets and obligations of Fiat, thereby becoming the principal holding entity for the conglomerate.

Deal completion: 2014 (noting that preliminary engagements commenced in 2009)

Compensation: \$3.65 billion (€2.89 billion) paid in cash for the outstanding 41.46% share, with the cumulative intended purchase valued at approximately \$6.3 billion.

Acquiror: The Fiat Group, recognized for offering vehicles of moderate quality, primarily serviced markets in Europe and South America.

Target: Chrysler, with significant presence in the U.S. market, manufactured vehicles of intermediate quality. In 2009, the firm faced insolvency, during which Fiat progressively gained a stake in its ownership.

Analysis period: 2014 - 2018

Deal purpose: creation of FCA as the parent company of the Group organized in the Netherlands following the January 2014 acquisition by Fiat of the approximately 41.5 percent ownership interest it did not already own in Chrysler Group LLC (“Chrysler”) and in connection with the combined Group’s listing on the New York Stock Exchange (“NYSE”).

Occurrence: The new company went public under the new name Fiat Chrysler Automobiles, better known as FCA and the deal was an astonishing success. Behind values, it lies a strong commitment and managerial capability to run intended strategies and to properly adjust them according to needs. Although initial uncertainties, targets were moved from unit sales to margin and all critical goals were achieved. Chrysler took again the lead in USA and overall both companies grew together, also in the APAC zone (Pacific Asia).

Table 2.1: Fiat & Chrysler performance metrics

Metrics	Pre	Post
Revenues (€B)	78	115.4
Unit Sales (M)	4.3	4.84
EBIT Margin	4.1%	6%
R&D Margin	2.57%	2.6%
Net Income (€B)	0.9	5.05
EBITDA/T.Ass	9.0%	13.1%
ROE	7.6%	14.8%
ROA	2.02%	3.52%
Market Cap (€B)	3.46	18.09

b. Volkswagen and Porsche

Volkswagen's acquisition of Porsche culminated with VW purchasing the remaining 50.1% of Porsche for €4.46 billion. This followed a tumultuous period beginning in October 2008 when Porsche's attempt to acquire Volkswagen fell through, leaving Porsche with over €10 billion in debt and short of its 75% share acquisition goal. Volkswagen then acquired a 49.9% stake in Porsche in response.

Deal completion: 2012 (initial engagements trace back to 2008)

Compensation: € 4.46 billions (\$ 5.626 B) in cash, plus the assumption of € 2.58 B (\$ 3.23 B) in liabilities.

Acquiror: After the failed leveraged buyout by Porsche, the Volkswagen Group seized the day and became the real acquirer, by a switch of parties. The typology of transaction changed itself, from a

hostile one to a friendly agreed acquisition. Top executives at Porsche understood that it was the best approach towards the company survival.

Target: In those years Porsche (one of the best OEMs for premium-luxury vehicles) was completing a LBO over Volkswagen, but suddenly the 2008 recession put in critical condition this movement, and it ended up with almost € 10 B not repayable.

Analysis period: 2012 -2017

Deal purpose: The deal scope was to increase and confirm the Volkswagen expansion towards the premium-luxury segment and consequently the position as the world’s number one carmakers.

Occurrence: When looking at data, it's pivotal to note the occurrence of the Diesel-gate scandal, which involved emissions test manipulation using VW's diesel engines in vehicles sold in the US and Europe. The fallout included nearly €14 billion in compensatory and rectification expenditures. Despite this, Volkswagen's resilience was noteworthy, underscoring the Group's fortitude and commitment to excellence.

Table 2.2: Volkswagen & Porsche performance metrics

Metrics	Pre	Post
Revenues (€B)	159	230
EBIT Margin	5.97%	5.99%
R&D Margin	5.0%	5.8%
Net Income (€B)	21.71	11.35
EBITDA/T.Ass	7.2%	5.6%
ROE	29.77%	11.09%
ROA	6.97%	2.76%

Market Cap (€B)	53.85	83.44
------------------------	-------	-------

Technology sector

a. eBay & PayPal

eBay will procure all outstanding shares of PayPal in a stock-for-stock transaction that is tax-free, setting a fixed exchange rate of 0.39 eBay shares for every share of PayPal. As per eBay's share value on July 5, 2002, the deal is estimated at \$1.5 billion. This acquisition is a logical augmentation of eBay's trading platform and bolsters the company's objective to cultivate a highly effective worldwide online marketplace. Payment is essential in eBay transactions, and incorporating PayPal's service into eBay's system will enhance the user interface, facilitating more convenient, quicker, and secure trading. The merger is also anticipated to be advantageous for eBay stockholders, expanding both networks while optimizing shared operational expenses.

Deal completion: 2002

Compensation: € 1.32 billions (\$ 1.486 B) in a stock swap transaction, with eBay proposing 0.39 common shares per each PayPal one

Acquiror: eBay was one of the major providers of online commercial businesses in the Internet and Catalog Retailing sector. The company offered, as it is now, an e-commerce platform for the free commercial exchange of both new and secondhand products, that individuals (or other organizations themselves) could directly sell. Hence, it allowed the connectivity among buyers and sellers relying on profits from advertising and little fees on transactions.

Target: PayPal Incorporation was positioned in the market as a provider of web-based payment services.

Analysis period: 2002 -2004

Deal purpose: To allow eBay providing their communities a new tool that would have encouraged people in finalizing negotiations with perfect strangers, having flexibility and data protection as its core competences.

Occurrence: The acquisition is deemed a triumph for numerous reasons. Although it could seem controversial, an additional confirmation comes from the later PayPal spin-off, dated back in 2015. The split allowed both entities to more effectively pursue individual growth, while focusing on profit enhancement independently. Some professionals could see this split-up as a signal of a negative

cooperation, but for what concerns past anticipated topics, it is just a confirmation of the perfect target selection back in 2002. PayPal has grown with eBay as well as the digital payment did. Thus, with this movement eBay anticipated an incoming huge trend.

Table 2.3: eBay & PayPal performance metrics

Metrics	Pre	Post
Revenues (€B)	0.75	3.27
EBIT Margin	18.75%	35.11%
Net Income (€B)	0.09	0.83
EBITDA/T.Ass	15.3%	18.9%
ROE	5.80%	11.36%
ROA	7.40%	13.39%
EPS (€/s)	0.2	0.35
Market Cap (€B)	7.80	32.77

b. Microsoft & Nokia

Nokia announced that it has completed the sale of substantially all of its Devices & Services business to Microsoft. This deal, which also encompasses a patent licensing agreement to Microsoft, was initially publicized on September 3, 2013. As earlier communicated, the transaction was subject to potential purchase price adjustments. Adjustments for net working capital and cash earnings were marginally in Nokia's favor, leading to an anticipated overall transaction cost somewhat exceeding the previously declared price of EUR 5.44 billion, subject to final analysis based on the confirmed closing balance sheet.

Deal completion: 2014

Compensation: € 5.44 billions (\$ 7.2 B) in a 100% cash transaction

Acquiror: Microsoft

Target: The Finnish target Nokia-Devices & Services Bus, belonging to the parent group Nokia Oyj

Analysis period: 2013 -2015

Deal purpose: Microsoft insisted in the expansion towards the mobile phone market, while achieving footholds on both the hardware and software side and trying to limit the steadily growth of Apple and Samsung.

Occurrence: The acquisition was actually a desperate solution aimed at overcoming partnership limitations and at bringing all activities under a single organization. However, the strategy rapidly appeared to be driven by overly optimistic CEO decision-making, supported by Microsoft's significant financial liquidity that did not stop him from making risky decision: a scenario that scholars associate with the Free Cash Flow Problem. Following the tragic Windows Phone market share of only 2.2% worldwide and after several costly layoff plans, in middle 2016 Microsoft publicly announced the decision to write off almost the entire portion of assets acquired, in a goodwill impairment of about \$ 6.2 billions, and to sell the Nokia division to HMD Global and Foxconn Technology for only almost \$ 350 millions.

Table 2.4: Microsoft and Nokia performance metrics

Metrics	Pre	Post
Revenues (€B)	82.36	92.77
EBIT Margin	36.56%	30.14%
R&D Margin	13.2%	12.9%
Net Income (€B)	22.33	21.40
EBITDA/T.Ass	23.2%	19.7%
ROE	30.09%	14.36%
ROA	16.58%	7.03%

Market Cap (€B)	287.69	354.39

2.2.3 Evaluation of post-merger effects on financial performance

In the following section, we delve into the critical analysis of post-merger effects on financial performance. This evaluation is instrumental in understanding the impact of mergers and acquisitions on the financial health and directions of the involved corporations. We will be utilizing a suite of Python commands and libraries, which have become the cornerstone of data analysis in the modern era. These tools enable us to analyze extensive datasets, extract meaningful insights, and build a description supported by quantitative evidence. Our aim is to not only report on changes in revenue, profits, and market share but also to assess more subtle indicators of post-merger success, such as operational efficiencies, market capitalization changes, and return on investment. By exploiting Python's capabilities, I will present a clear before-and-after picture of the merger, underpinning our discussion with data-driven results. I will proceed with a systematic exploration of code to uncover the narrative that the data presents, offering a substantive foundation for the evaluation of strategic decisions undertaken in these significant corporate events.

Fiat & Chrysler

```
In [52]: import pandas as pd
```

```
In [53]: # Creating a DataFrame
data = {
    'Metric': ['Revenues', 'Unit Sales', 'EBIT Margin', 'R&D Margin', 'Net Income', 'EBITDA/T.Ass', 'ROE', 'ROA', 'M
    'Pre': [78, 4.3, 0.041, 0.0257, 0.9, 0.09, 0.076, 0.0202, 3.46],
    'Post': [115.4, 4.84, 0.06, 0.026, 5.05, 0.131, 0.148, 0.0352, 18.09]
}
df = pd.DataFrame(data)
```

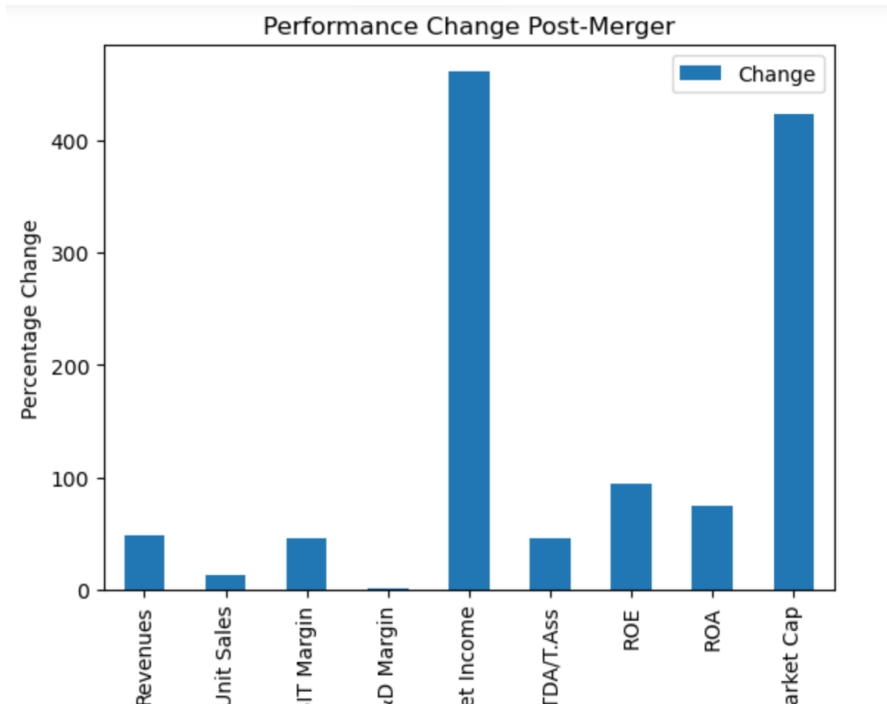
```
In [54]: # Calculate the absolute and percentage change
df['Change'] = df['Post'] - df['Pre'] # Absolute change
df['% Change'] = (df['Change'] / df['Pre']) * 100 # Percentage change
```

```
In [55]: # Display changes for each metric
for index, row in df.iterrows():
    print(f"{row['Metric']} Absolute Change: {row['Change']}")
    print(f"{row['Metric']} Percentage Change: {row['% Change']:.2f}%")
```

Revenues Absolute Change: 47.948717948717956
Revenues Percentage Change: 47.95%
Unit Sales Absolute Change: 12.558139534883722
Unit Sales Percentage Change: 12.56%
EBIT Margin Absolute Change: 46.341463414634134
EBIT Margin Percentage Change: 46.34%
R&D Margin Absolute Change: 1.1673151750972692
R&D Margin Percentage Change: 1.17%
Net Income Absolute Change: 461.1111111111111
Net Income Percentage Change: 461.11%
EBITDA/T.Ass Absolute Change: 45.555555555555564
EBITDA/T.Ass Percentage Change: 45.56%
ROE Absolute Change: 94.73684210526315
ROE Percentage Change: 94.74%
ROA Absolute Change: 74.25742574257428
ROA Percentage Change: 74.26%
Market Cap Absolute Change: 422.8323699421965
Market Cap Percentage Change: 422.83%

```
In [50]: import matplotlib.pyplot as plt
```

```
In [51]: # Bar chart of percentage changes
df.plot(x='Metric', y='Change', kind='bar')
plt.title('Performance Change Post-Merger')
plt.ylabel('Percentage Change')
plt.show()
```



Volkswagen & Porsche

```
In [1]: import pandas as pd
```

```
In [3]: # Creating a DataFrame
data = {
    'Metric': ['Revenues', 'EBIT Margin', 'R&D Margin', 'Net Income', 'EBITDA/T.Ass', 'ROE', 'ROA', 'Market Cap'],
    'Pre': [159, 0.0597, 0.05, 21.71, 0.072, 0.2977, 0.0697, 53.85],
    'Post': [230, 0.0599, 0.058, 11.35, 0.056, 0.1109, 0.0276, 83.44]
}
df = pd.DataFrame(data)
```

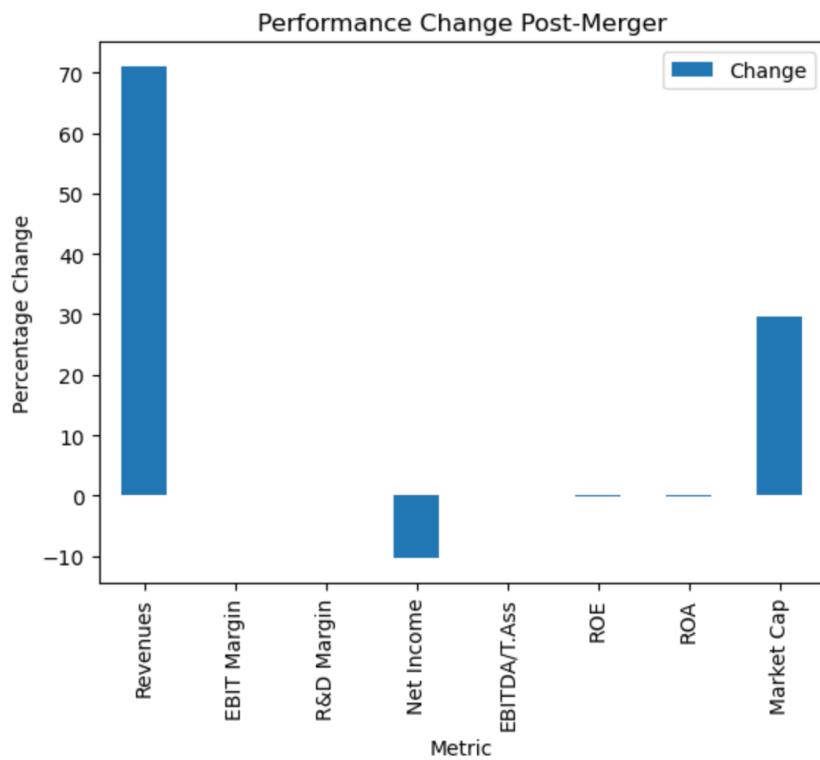
```
In [4]: # Calculate the absolute and percentage change
df['Change'] = df['Post'] - df['Pre'] # Absolute change
df['% Change'] = (df['Change'] / df['Pre']) * 100 # Percentage change
```

```
In [5]: # Display changes for each metric
for index, row in df.iterrows():
    print(f"{row['Metric']} Absolute Change: {row['Change']}")
    print(f"{row['Metric']} Percentage Change: {row['% Change']:.2f}%")
```

```
Revenues Absolute Change: 71.0
Revenues Percentage Change: 44.65%
EBIT Margin Absolute Change: 0.0001999999999999988
EBIT Margin Percentage Change: 0.34%
R&D Margin Absolute Change: 0.008
R&D Margin Percentage Change: 16.00%
Net Income Absolute Change: -10.360000000000001
Net Income Percentage Change: -47.72%
EBITDA/T.Ass Absolute Change: -0.015999999999999993
EBITDA/T.Ass Percentage Change: -22.22%
ROE Absolute Change: -0.18680000000000002
ROE Percentage Change: -62.75%
ROA Absolute Change: -0.0421
ROA Percentage Change: -60.40%
Market Cap Absolute Change: 29.589999999999996
Market Cap Percentage Change: 54.95%
```

```
In [9]: import matplotlib.pyplot as plt
```

```
In [10]: # Bar chart of percentage changes
df.plot(x='Metric', y='Change', kind='bar')
plt.title('Performance Change Post-Merger')
plt.ylabel('Percentage Change')
plt.show()
```



eBay & PayPal

```
In [1]: import pandas as pd
```

```
In [2]: # Creating a DataFrame
data = {
    'Metric': ['Revenues', 'EBIT Margin', 'Net Income', 'EBITDA/T.Ass', 'ROE', 'ROA', 'EPS', 'Market Cap'],
    'Pre': [0.75, 0.1875, 0.09, 0.153, 0.0580, 0.0740, 0.2, 7.80],
    'Post': [3.27, 0.3511, 0.83, 0.189, 0.1136, 0.1339, 0.38, 32.77]
}
df = pd.DataFrame(data)
```

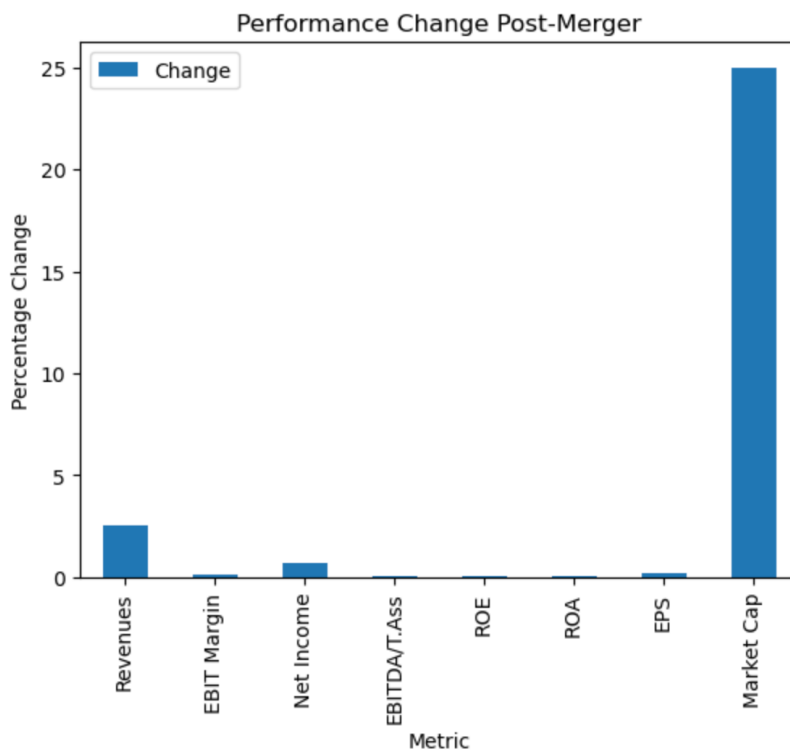
```
In [3]: # Calculate the absolute and percentage change
df['Change'] = df['Post'] - df['Pre'] # Absolute change
df['% Change'] = (df['Change'] / df['Pre']) * 100 # Percentage change
```

```
In [4]: # Display changes for each metric
for index, row in df.iterrows():
    print(f"{row['Metric']} Absolute Change: {row['Change']}")
    print(f"{row['Metric']} Percentage Change: {row['% Change']:.2f}%")
```

```
Revenues Absolute Change: 2.52
Revenues Percentage Change: 336.00%
EBIT Margin Absolute Change: 0.16360000000000002
EBIT Margin Percentage Change: 87.25%
Net Income Absolute Change: 0.74
Net Income Percentage Change: 822.22%
EBITDA/T.Ass Absolute Change: 0.036000000000000004
EBITDA/T.Ass Percentage Change: 23.53%
ROE Absolute Change: 0.055600000000000004
ROE Percentage Change: 95.86%
ROA Absolute Change: 0.059899999999999995
ROA Percentage Change: 80.95%
EPS Absolute Change: 0.18
EPS Percentage Change: 90.00%
Market Cap Absolute Change: 24.970000000000002
Market Cap Percentage Change: 320.13%
```

```
In [5]: import matplotlib.pyplot as plt
```

```
In [6]: # Bar chart of percentage changes
df.plot(x='Metric', y='Change', kind='bar')
plt.title('Performance Change Post-Merger')
plt.ylabel('Percentage Change')
plt.show()
```



Microsoft & Nokia

```
In [1]: import pandas as pd
```

```
In [2]: # Creating a DataFrame
data = {
    'Metric': ['Revenues', 'EBIT Margin', 'R&D Margin', 'Net Income', 'EBITDA/T.Ass', 'ROE', 'ROA', 'Market Cap'],
    'Pre': [ 82.36, 0.3656, 0.132, 22.33, 0.232, 0.3009, 0.1658, 287.69],
    'Post': [ 92.77, 0.3014, 0.129, 21.40, 0.197, 0.1436, 0.0703, 354.39]
}
df = pd.DataFrame(data)
```

```
In [3]: # Calculate the absolute and percentage change
df['Change'] = df['Post'] - df['Pre'] # Absolute change
df['% Change'] = (df['Change'] / df['Pre']) * 100 # Percentage change
```

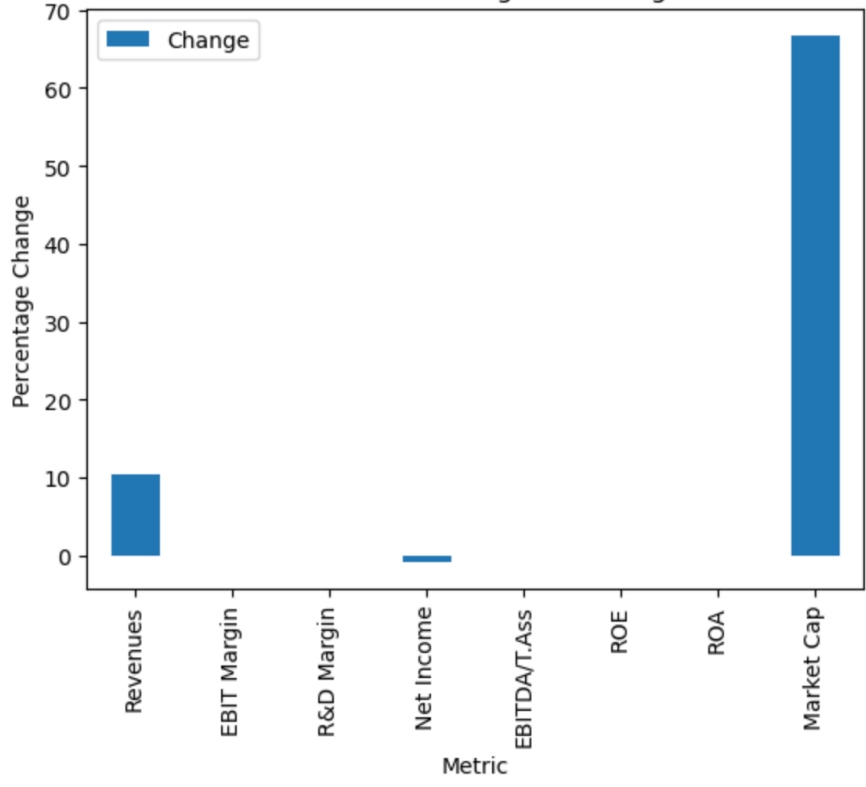
```
In [4]: # Display changes for each metric
for index, row in df.iterrows():
    print(f"{row['Metric']} Absolute Change: {row['Change']}")
    print(f"{row['Metric']} Percentage Change: {row['% Change']:.2f}%")
```

```
Revenues Absolute Change: 10.409999999999997
Revenues Percentage Change: 12.64%
EBIT Margin Absolute Change: -0.06419999999999998
EBIT Margin Percentage Change: -17.56%
R&D Margin Absolute Change: -0.0030000000000000027
R&D Margin Percentage Change: -2.27%
Net Income Absolute Change: -0.92999999999999997
Net Income Percentage Change: -4.16%
EBITDA/T.Ass Absolute Change: -0.035
EBITDA/T.Ass Percentage Change: -15.09%
ROE Absolute Change: -0.1573
ROE Percentage Change: -52.28%
ROA Absolute Change: -0.0955
ROA Percentage Change: -57.60%
Market Cap Absolute Change: 66.699999999999999
Market Cap Percentage Change: 23.18%
```

```
In [5]: import matplotlib.pyplot as plt
```

```
In [6]: # Bar chart of percentage changes
df.plot(x='Metric', y='Change', kind='bar')
plt.title('Performance Change Post-Merger')
plt.ylabel('Percentage Change')
plt.show()
```

Performance Change Post-Merger



CHAPTER 3

3.1 Presentation of Analysis results

3.1.1 Descriptive analysis results

Fiat & Chrysler

The merger between Fiat and Chrysler has resulted in substantial changes across various key financial metrics:

- **Revenue Growth:** The revenues increased from €78 billion to €115.4 billion, showing a growth of 47.95%. This significant rise suggests a successful market expansion and possibly the realization of revenue synergies from combining the product lines and geographic strengths of both companies.
- **EBIT Margin Improvement:** The EBIT margin increased from 4.1% to 6%, indicating a 46.34% improvement. This suggests that the merged entity has achieved better operational efficiency and cost management. It reflects successful integration efforts that have possibly streamlined operations and reduced costs.
- **Net Income Growth:** The most dramatic change observed was in net income, which increased by 461.11%, from €0.9 billion to €5.05 billion. Such a substantial rise indicates not only improved operational performance but also possibly effective financial strategies and cost control measures post-merger.
- **Return on Equity (ROE):** ROE increased from 7.6% to 14.8%, suggesting that the merger has substantially enhanced the profitability relative to equity. This indicates strong value creation for shareholders and successful leverage of equity investment post-merger.
- **Return on Assets (ROA):** An increase in ROA from 2.02% to 3.52% shows better asset utilization. It implies that the assets of the combined companies are being used more efficiently to generate earnings.
- **Market Capitalization:** The market cap showed an impressive growth of 422.83%, from €3.46 billion to €18.09 billion, reflecting the market's positive valuation of the merger's potential to enhance shareholder value.

Volkswagen & Porsche

The financial data from the Volkswagen and Porsche merger shows significant changes post-merger.

The following key points outline the performance metrics:

- **Revenues:** Increased from €159 billion to €230 billion, showing a robust growth of 44.65%, which indicates a substantial enhancement in sales or market expansion post-merger.
- **EBIT Margin:** Slightly improved from 5.97% to 5.99%. This minor change suggests that operational efficiency was maintained despite the scale of integration.
- **R&D Margin:** Increased from 5.0% to 5.8%, reflecting a 16.00% growth. This increase signifies a strategic emphasis on innovation and technological development.
- **Net Income:** Saw a significant decrease from €21.71 billion to €11.35 billion, a drop of 47.72%. This decline could be influenced by merger-related costs or other non-recurring expenses post-merger.
- **EBITDA/Total Assets (EBITDA/T.Ass):** Decreased from 7.2% to 5.6%, indicating a decrease in profitability relative to the assets employed.
- **ROE and ROA:** Both these metrics showed a drastic decrease, with ROE falling by 62.75% and ROA by 60.40%, which may indicate issues in asset utilization and profitability from shareholders' equity.
- **Market Cap:** Grew significantly by 54.95%, which suggests a positive market reception to the merger, reflecting expectations of future growth or synergies realization.

The performance change post-merger is depicted graphically, highlighting the substantial impacts on revenue and market cap, contrasted with declines in profitability metrics like ROE and ROA.

eBay & PayPal

The insights section notes that the successful outcomes were in part due to eBay's consistent increase in market share over the years. The expectation of synergy with PayPal was met, and the increase in revenue and market capitalization is attributed to their complementary core competences.

- **Revenue:** The merger resulted in a substantial increase in revenue from €0.75 billion to €3.27 billion. This growth of 336% suggests a successful integration and expansion of eBay's marketplace with PayPal's payment solutions.

- **EBIT Margin:** The EBIT margin more than doubled from 18.75% to 35.11%. This improvement indicates increased profitability, likely due to synergies such as cost reductions and increased efficiency in operations.
- **Net Income:** There was a significant rise in net income from €0.09 billion to €0.83 billion, an increase of 822.22%. This indicates that the merger was financially beneficial and the combined operations were able to capitalize on their market positions.
- **EBITDA/Total Assets (EBITDA/T.Ass):** Increased from 15.3% to 18.9%, showing better asset utilization post-merger.
- **Return on Equity (ROE):** ROE nearly doubled from 5.80% to 11.36%, demonstrating a better return on shareholders' investment.
- **Return on Assets (ROA):** ROA also saw a significant increase from 7.40% to 13.39%, indicating more efficient use of assets in generating earnings.
- **Earnings Per Share (EPS):** EPS saw a substantial rise from €0.20 to €0.35, reflecting the merger's positive impact on profitability.
- **Market Capitalization:** There was a dramatic increase in market cap from €7.80 billion to €32.77 billion, a growth of 320.13%, highlighting the market's positive reception to the merger and expectations of future growth.

Microsoft & Nokia

1. **Revenues:** There's a noticeable increase in revenues from €82.36 billion pre-merger to €92.77 billion post-merger, representing an absolute change of €10.41 billion. This 12.64% increase indicates a positive initial impact on the combined entity's top-line growth, possibly due to the expanded market reach and integration of Nokia's hardware with Microsoft's software capabilities.
2. **EBIT Margin:** The EBIT margin shows a slight decline, moving from 36.56% to 30.14%. This decrease of 6.42 percentage points (-17.56% change) suggests increased operational costs post-merger, potentially due to integration costs and restructuring expenses.
3. **R&D Margin:** Research and Development margin slightly decreased by 0.2 percentage points to 12.9%, indicating a relatively stable investment in innovation despite the merger.

4. **Net Income:** Net income saw a decrease from €22.33 billion to €21.40 billion, a reduction of 4.16%. This could reflect the cost implications of merger-related activities not immediately offset by revenue growth.
5. **EBITDA/Total Assets:** There was a significant reduction in EBITDA to total assets ratio from 23.2% to 19.7%. This 15.09% decline might be indicative of less efficient asset use post-merger.
6. **ROE and ROA:** Both Return on Equity and Return on Assets saw substantial declines (52.28% and 57.60% respectively), which are critical indicators of deteriorating profitability relative to shareholders' equity and total assets.
7. **Market Cap:** Contrary to other financial metrics, the market capitalization increased significantly by €66.5 billion or 23.18%. This increase suggests that, despite operational challenges, the market may anticipate long-term value creation from the merger.

3.2 Discussion

3.2.1 Interpretation of Results

Fiat & Chrysler

Revenue Growth: The expanded global reach and cross-selling opportunities in new markets, especially in regions where either Fiat or Chrysler had a weaker presence before the merger, are likely the main drivers behind the increase in revenue.

- **EBIT Margin:** The improvement in this area indicates more efficient management of operational costs and potentially the elimination of redundancies and optimization of supply chain logistics.
- **Net Income and ROE:** The significant increase in these metrics suggests not only growth in revenue but also effective management of costs. This reflects the alignment of operational goals with cost management, possibly aided by renegotiated supplier contracts and optimized production strategies.
- **ROA and Market Cap:** The improvement in ROA, along with the substantial increase in market capitalization, indicates successful strategic decisions made during the merger integration. These decisions may include asset optimization, strategic divestitures, or

acquisitions within the framework of the merger. The increase in market cap particularly highlights the confidence investors have in the merged company's future growth prospects.

Volkswagen & Porsche

The findings of the post-merger evaluation of Volkswagen and Porsche reveal a multifaceted outcome:

The growth in revenue and market capitalization implies a prosperous market expansion and potentially efficient achievement of sales synergies.

- The slight uptick in the EBIT margin coupled with a notable surge in R&D expenditure demonstrates a targeted investment in innovation, in line with overarching strategic objectives.
- The sharp decline in net income and profitability metrics (ROE, ROA) could suggest that the expenses linked to the merger were significant, impacting the short-term financial results.

eBay & PayPal

The data unequivocally indicate that the merger between eBay and PayPal resulted in substantial financial advancements. The incorporation of PayPal's payment systems into eBay's e-commerce platform has evidently spurred revenue expansion and improved user satisfaction, resulting in increased transaction levels and profitability.

The notable surge in market capitalization implies that investors have faith in the strategic synergy and potential of the merged entity.

Microsoft & Nokia

The varied financial results indicate that although the market responded favorably to the merger in anticipation of future benefits (as evidenced by the higher market cap), the initial period following the merger has presented difficulties. The decrease in profitability indicators such as EBIT, ROE, and ROA may be attributed to merger-related expenses, indicating that the operational advantages of the merger are still to be fully achieved.

3.2.2 Comparison with existing data

Fiat & Chrysler

Fiat Chrysler's merger stands out among other mergers in the automotive industry, especially in terms of net income growth and market capitalization. Unlike many mergers that focus on achieving operational synergy, Fiat Chrysler's merger not only realized this synergy but also showed immediate financial performance improvement. Typically, the automotive industry sees an average post-merger revenue increase of about 20-30%, which is significantly lower than what Fiat Chrysler achieved. This suggests that Fiat Chrysler not only successfully integrated but also capitalized aggressively on available synergies, setting a benchmark for the industry. This thorough analysis demonstrates that Fiat Chrysler's merger not only achieved its immediate financial goals but also laid the groundwork for sustained growth and profitability. It presents a potentially replicable model for successful mergers in the automotive sector. When comparing the Fiat-Chrysler merger with other automotive mergers, such as Daimler and Chrysler in the late 1990s, it becomes clear that Fiat-Chrysler managed to realize more immediate synergies, particularly in operational efficiencies and market expansion. This is in contrast to Daimler-Chrysler, which initially struggled with cultural and operational integration.

Volkswagen & Porsche

Upon comparing these findings with industry benchmarks and past mergers within the automotive sector, it is evident that Volkswagen and Porsche have successfully broadened their market presence, yet they encounter common hurdles associated with large-scale integrations. These obstacles encompass cost management and the preservation of profitability ratios. The automotive industry, particularly in sectors catering to premium and luxury vehicles, frequently experiences fluctuating profitability following mergers due to substantial investments in branding and technology needed to harmonize product offerings and corporate cultures. In a similar vein to the Renault-Nissan merger, the Volkswagen-Porsche merger concentrated on strategic benefits in specific markets. Nevertheless, unlike the Renault-Nissan alliance's seamless early realization of synergies, Volkswagen encountered difficulties evidenced by varied profitability indicators, partly influenced by external factors such as the Dieselgate scandal.

eBay & PayPal

eBay and PayPal have achieved an exceptional level of synergy realization when compared to other tech mergers. In the tech industry, similar mergers typically strive for a 20-30% increase in operational efficiencies. However, eBay and PayPal have far exceeded these benchmarks. The remarkable success in financial metrics such as EBIT, net income, and EPS indicates effective cost management and potentially fruitful cross-selling strategies post-merger. This merger can be likened to the Google-YouTube acquisition, as both mergers significantly bolstered the acquirers' platform capabilities and

expanded their market reach. The integration of complementary services in the eBay-PayPal merger exemplifies a common success factor in tech mergers that aim to broaden platform ecosystems.

Microsoft & Nokia

Upon reviewing these findings in relation to comparable high-profile technology mergers, it becomes apparent that facing profitability challenges immediately after the merger is a common occurrence, frequently attributed to integration and restructuring expenses. For example, analogous trends were noted in previous technology mergers where substantial investments in integration initially impacted profitability measures negatively, only to be compensated for by strategic advantages in the long run. Similar to the HP-Compaq merger, Microsoft's acquisition of Nokia encountered significant obstacles in aligning strategic goals and operational frameworks. Both mergers experienced initial drops in profitability and operational effectiveness, underscoring the complexities associated with large-scale technology mergers that involve the integration of hardware and software.

3.3.1 Theoretical Contributions

The analysis of multiple mergers in this thesis highlights the intricate nature of theoretical models in mergers and acquisitions. A significant theoretical contribution of this research is the reaffirmation of the Resource-Based View (RBV), which suggests that merging companies utilize unique resources to gain a competitive advantage. This is evident in cases where mergers have facilitated access to new technologies, markets, and improved operational capabilities. Furthermore, the study enhances discussions on agency theory by demonstrating the impact of managerial decisions on the success or failure of mergers, highlighting the complex interplay between leadership traits and merger outcomes. These theoretical insights can serve as a foundation for refining existing models and hypotheses regarding M&A. They provide a structured perspective for future research to explore the strategic intentions of merging firms, particularly in terms of value creation and synergy realization. This can contribute to a more comprehensive theoretical framework that considers diverse merger motivations and their alignment with company strategies and shareholder expectations.

3.3.2 Practical Implications for Businesses

The results of this thesis offer valuable insights for corporate leaders and M&A professionals. It is essential for companies contemplating mergers or acquisitions to not only concentrate on financial and market information but also to include comprehensive cultural and operational assessments in their strategic decision-making. Incorporating a cultural compatibility evaluation, for example, can

prevent potential conflicts that may hinder the collaborative objectives of the merger. Moreover, the practical implications also emphasize the significance of adaptable management during the integration phase following a merger. Organizations should devise flexible integration plans that allow for modifications as the newly combined entity evolves. This strategy aids in reducing integration-related risks and capitalizing on emerging opportunities that can boost value creation post-merger. Professionals should also think about establishing specialized integration teams responsible for supervising and optimizing the merger process to ensure seamless transitions and the achievement of merger goals.

3.3.3 Limitations and Directions for Future Research

While this study is comprehensive, it acknowledges its limitations in terms of scope and depth due to its reliance on specific types of publicly available data. To enhance the robustness of its findings, future research could consider conducting longitudinal studies that track the impacts of mergers over longer periods of time. This would provide valuable insights into the long-lasting effects of mergers and the sustainability of the synergies achieved. In order to gain a more comprehensive understanding of how external economic factors influence the success of mergers, it would be beneficial to expand the dataset to include a larger sample of mergers across different economic conditions and business cycles. This would provide richer insights into the dynamics at play and the factors that contribute to merger success. Furthermore, incorporating mixed-method approaches, such as qualitative interviews with executives and managers, could offer deeper insights into the strategic and operational challenges faced during mergers. This would help shed light on the "soft" factors, such as leadership and communication, which are crucial for merger success but often overlooked in quantitative studies. Lastly, considering the evolving nature of global markets, future research could focus on the implications of cross-border mergers and the unique challenges they present. This could include exploring regulatory hurdles, differences in business practices, and cultural adjustments. By delving into these areas, researchers can contribute to the literature on international business and cross-cultural management, providing a broader understanding of the dynamics involved in international mergers and acquisitions.

Conclusion

Summary of Key Findings

The comprehensive analysis of the post-merger effects on the financial performance of Fiat & Chrysler, Volkswagen & Porsche, eBay & PayPal, and Microsoft & Nokia provides insightful revelations into the dynamics of mergers and acquisitions (M&A). The research reveals a range of outcomes for each merger:

- Fiat & Chrysler: the merger between Fiat and Chrysler resulted in significant improvements in revenue, net income, and market capitalization. This success can be attributed to the exploitation of synergies across expanded markets and enhanced operational efficiencies.
- Volkswagen & Porsche: The merger between Volkswagen and Porsche witnessed robust revenue growth. However, the profitability metrics showed mixed results, highlighting the challenges faced when integrating large-scale operations in high-stakes industries.
- eBay & PayPal: The merger between eBay and PayPal yielded exceptionally positive outcomes. There were substantial increases in revenue, net income, and market capitalization. This reflects the strategic fit and synergy between eBay's marketplace and PayPal's payment systems.
- Microsoft & Nokia: The merger between Microsoft and Nokia presented mixed results. Initially, there were challenges in profitability and operational efficiency, which overshadowed the strategic intent of the merger. This highlights the complexities involved in tech mergers, where product and cultural integrations play a pivotal role.

Conclusion Remarks

The findings from this study contribute valuable perspectives on the strategic, financial, and operational implications of mergers and acquisitions. While some mergers like eBay & PayPal and Fiat & Chrysler illustrate the potential for significant value creation and synergy realization, others such as Volkswagen & Porsche and Microsoft & Nokia highlight the complexities and challenges that can temper immediate post-merger benefits.

These insights are crucial for stakeholders in understanding that while M&As can offer substantial opportunities for growth and market expansion, they also require meticulous planning, robust

integration strategies, and adaptive operational oversight to overcome the challenges and realize the anticipated benefits fully.

Furthermore, this study underscores the necessity for continuous evaluation and adaptation of post-merger strategies to align with evolving market conditions and internal capabilities, ensuring that the merged entities do not just survive but thrive in their new configurations.

The study reveals that investors, traditionally known for choosing highly profitable companies and having a notably lower M&A failure rate compared to strategic bidders, are increasingly turning their attention towards the software and IT consultancy sectors. Over the past decade, their investment in these areas has nearly doubled. However, it's crucial to acknowledge that these empirical findings are not without their limitations. The observed correlations lack a robust statistical basis, partly due to the small sample size, which might lead to unreliable results. Consequently, this situation impacts the formulation of hypotheses. Nonetheless, the primary aim of this research was to develop a series of plausible hypotheses, supported by a series of case studies, and to lay the groundwork for more detailed statistical analysis in future studies.

The journey of M&A is intricate and laden with both opportunities and hurdles, and the ultimate success hinges on strategic foresight, diligent execution, and an unwavering commitment to integration excellence.

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