M&A as Strategic Option in Digital Payments Sector – Empirical Analysis of Value Creation

INDEX

Abstract

The recourse to M&A constitutes a key strategic lever for companies in their growth path, and therefore this topic has been extensively explored in academic literature with the aim to understand how these transactions translate into value for the companies involved. Against this background, the thesis expands the existing strand of research with the investigation of the value creation dynamics affecting the M&A in the digital payment (or PayTech) industry, an evolving sector witnessing a sustained growth over the recent years. After discussing the main aspects of M&A transactions and the key trend relating to the PayTech, the study provides empirical evidence both through case studies and regression models on the rationales leading to combinations and the modalities through which acquiring companies seek and realize value. In particular, short-term value creation is identified for a sample of transactions conducted between 2018 and 2023 and a set of variables characterizing the M&A transactions are found to explain from a statistical viewpoint on the value creation dimension. The study represents a starting point for further research in the field.

1. Introduction

1.1 Overview of the Thesis

Among development opportunities, Merger & Acquisition (M&A) represent a key strategic tool in the pursuit of company development and the maximization of corporate shareholders' value. The implementation of this lever appears increasingly used for consolidation in the same industry and along the value chain. As will be discussed in the study, the recourse to options relying on external expansion through M&A activities is seen as a straightforward alternative to expand the company's footprint and reach the related benefits (i.e. cost savings, revenue enhancement, lower cost of financing), as opposed to internal growth strategies. Also, students and practitioners point out on the several rationales supporting the recourse to M&A and focus, among the others, to integration, diversification and improvement of operations. All these aspects contribute today to the research strand in corporate finance and strategy leading to the investigations of premises and the effects of M&A for companies pursuing such strategy (Gaughan, 2018[1]).

Throughout the life cycle, encounter multiple competitive pressures and then they express the need to grow in order to respond to changes arising from both internal and external environment. These may refer to all those motivations that fall within the psychological sphere and that condition the decisions of managers and entrepreneurs. Objective motivations, on the other hand, concern all the pressures that come from the outside world, such as markets, competing companies or new regulations, and that justify the need for growth through strategic assessments. All these aspects will be addressed more in detail in the study, noting that each transaction is subject to peculiar considerations deriving from the nature of the deal itself, the business environment and clearly, the characteristics of the entities involved.

The convergence of different macro trends such as adoption of digital solutions in everyday needs, increasing disintermediation in financial sector and growing scalability of new and innovative services, has paved the way over the last decade in emergence of the broader phenomenon of FinTech (literally the convergence between finance and technology). Within Fintech, the areas mostly affected is related to PayTech, which witnessed the skyrocketing growth of new players challenging the role of incumbent financial institutions. In the wake of the ongoing disruptive technological innovation, payment sector is witnessing breakthrough developments, with digital payment solutions setting the stage for new frontiers in the transfer of funds. The evolving landscape in the digital payment environment poses distinctive pressures on the growth path for

[1] Gaughan, P. A. (2018). Mergers, acquisitions, and corporate restructurings. John Wiley & Sons.

players seeking to gain market share or enter into new segments, re-defining the fundamental in payments vertical. In support of this view, the choice of external growth options, that is M&A has proven to be effective for multiple reasons, including expansion of customers base, access to new resources and competencies and foray into new markets. To date, empirical evidences on the relationship between M&A and PayTech are still limited, with the main players proving that aggregation is fundamental to gain scale and consolidate competitive advantage. This thesis will discuss the main characteristics, trends and perspectives of the PayTech with a particular focus on the M&A options, the main rationales driving such transactions and the results of combinations. Accordingly, a theoretical approach is combined with the investigation of empirical evidences, based on multiple cases study, and regression analysis.

Against this backdrop, the study investigates the dynamics of value creation in the digital payments sector under the lens of M&A transactions conducted over the recent years. To this end the thesis is elaborated as follow. Chapter 2 provides a comprehensive perspective on the M&A delving into key definitions, rationales process and market trends. In Chapter 3, the analysis of digital payment sector is rolled out, with a particular focus on the key dynamics of the market, including the most recent and the perspectives for the near future, the discussion of the opportunities of M&A as a growth driver and the description of some key studies encompassing the main features of why M&A can add value for companies operating in the sector. Chapter 4 is dedicated to the empirical analysis based on a sample of M&A transactions in the sector over the recent years, with a twofold objective: demonstrating the stock market reaction following the deal announcement, based on analysis of abnormal returns, and determining statistically significant evidence on which deal variables have an impact on the post-announcement market reaction.

1.2 Research Questions

The main goal of the study will be to investigate the dynamics of post-M&A value creation in digital payments deals with the analysis of case studies and market data, through the event study methodology. The research hypothesis which will be sought after are:

- Do M&A announcements lead to significant buyer share price reaction in digital payment sector?
- Do the characteristics of M&A transactions (including but not limited to deal value, cross-border, diversification and premium) resulting into a significant effect on the buyer's short-term market reaction ?

- Is there any difference in M&A announcement market reaction between the U.S. and the European markets?

This study is aimed at providing a threefold contribution to the existing literature. First, an important goal refers to the fulfilment of an organic analysis of the digital payment sector, which is evolving over recent years and does not present a consolidated strand of literature addressing its key dynamics. A second key aim is to realize an empirical analysis to assess whether M&A transactions in digital payments are ultimately value accretive for the buyer. A third contribution covers the strategic content of the M&A transaction, providing insights of which variables tend to influence the market reaction post-announcement.

2. Growth and M&A Transactions

A company's strategy cannot be separated from growth considerations and development through M&A has become a key aspect as a way to develop the company and remains an important tool addressing company goals and reshaping industry boundaries. At the centre of these transactions there is the idea of being able to generate, through the integration of two companies, better economic value than the sum of the operations of the two separated entities. Furthermore, M&A is a phenomenon continuously defining (and re-defining) the dynamics of single industries and is related to the cyclicality of the global economy and the country in which companies operate (Komlenovic et *al.* 2011[2]). The interest from academic literature on the topic has been sustained over the decades, aiming to identify both antecedents and results deriving from business combinations, however, to date the debate is still active on determining whether M&A is really conducive to value creation for both acquiring and target company.

The M&A transaction has a 360-degree impact on the company. Factors such as capitalization, financial structure, method of payment, share value, human capital and corporate image are all aspects that affect the transaction. The key principle behind the integration of another company is increasing the value of the business. There are many ways to achieve growth. Each case of M&A needs to be contextualized. Through M&A, companies are looking for long-term growth strategies to gain a sustainable competitive advantage (Doytch and Cakan, 2011[3]). Size generates benefits in terms of identifying and accessing the resources needed to compete in global markets, to control new technologies and distribution channels, to achieve scale and scope economies, to improve bargaining power towards customers and costs or to acquire bargaining power and greater control over different levels of the value chain. On the other hand, a company can develop a new business internally to implement a diversification process which will be better addressed in the forthcoming paragraphs. Below it is proposed a conceptualization of the key alternatives for corporate growth.

Internal (or Organic) Growth

Among the advantages of organic growth strategies can be included the access to intangible strategic resources, such as specialized know-how, which is planned to be integrated within the human capital of the organization itself. Another advantage to consider is the fact that internal growth is characterized by phased investments enabling the company to have full control of the

[2] Komlenovic, S., Mamun, A., Mishra, D. (2011). Business cycle and aggregate industry mergers. Journal of Economics and Finance, 35, 239-259.

[3] Doytch, N., Cakan, E. (2011). Growth effects of mergers and acquisitions: a sector-level study of OECD countries. Journal of Applied Economics and Business Research, 1(3), 120-129.

entire value creation process. Among the disadvantages, however, the most obvious is certainly related to the time factor. In fact, the implementation of such strategies comes at the cost of longer time required to develop the skills and competencies to be competitive (Kreutzer, 2011)[4]. This is a clearly unfavourable element considering that in modern industry environments, any delay in investment can result in the loss of business opportunities. Another disadvantage is certainly given by the possibility that the company finds strong deficiencies in terms of available technological resources, managerial skills, or in any case critical resources for the success of the new business.

External Growth

On the other hand, to overcome the limitations of organic growth, companies pursue growth through external lines. External growth consists in looking for strategic assets outside the current boundaries of the organization, aiming to create synergistic value. In a global market where companies are increasingly interconnected and interdependent, for example with regard to the ownership of technologies, the hierarchical model of vertical integration seems to be less and less adopted in favour of continuous access to external sources of supply which, through collaborative strategies with other partners, allow companies to share resources and knowledge, promote innovative processes and aim to achieve a sustainable competitive advantage and the creation of shared value. Accordingly, if on the one hand, internal development allows companies to better control and understand the use of a dominant technology, on the other hand these companies risk cutting themselves off from the technological flow present outside their organization (Fontana and Caroli, 2017[5]). There are several reasons for choosing external growth:

- Economies of scale, scope and specialization: through collaborations with external partners, companies more easily reach those minimum thresholds for investment in resources, functional to improving performance and establishing themselves in highly competitive markets. In addition, access to complementary resources and knowledge allows the creation of new distinctive skills, capable of supporting product or market diversification strategies.
- Broadening the base of resources and skills: through partnerships for instance, companies can have access to new sources of technological base to develop new skills and integrate them with those already present internally.

[4] Kreutzer, M. (2011). Selecting the right growth mechanism: The choice between internal development, strategic alliances, and mergers & acquisitions. In Balanced growth: Finding strategies for sustainable development (pp. 77-94). Berlin, Heidelberg: Springer Berlin Heidelberg.

[5] Fontana, F., Caroli, M. (2017). Economia e gestione delle imprese. V edizione. McGrawHill Education.

- Sharing of costs and risks: by activating collaboration strategies, the company reduces the costs of the investment, and the risks associated with the benefit of sharing the commitment made with the partner.

In addition to these three important rationales, what drives a company to turn to external growth options to implement growth strategies is certainly related to the time within which it can be deemed as shorter than internal growth. In fact, while organic growth involves gradual investments that will bear fruit over time and with a degree of uncertainty of the result that should not be underestimated, external growth significantly reduces the time in which the company is able to improve its performance and, moreover, provides a better defined line of sight on delivery of expected results, as it is based on the acquisition of resources and technologies already tested on the market (Ortiz et *al*., 2014)[6]. Also, external growth options can target a dedicated area or result, such as partnerships covering a specific scope (for examples R&D, marketing or production) and involving only the required functions from an external company: suppliers or customers (vertical partnerships), competing companies (horizontal partnerships) or companies that offer complementary resources to those already owned internally, the so-called complementor companies. With regard to the types of partnerships that a company can consider in implementing an inorganic growth strategy, the main models of strategic collaboration are highlighted, starting from those closest to the market and ending up describing the most hierarchical models (Gaughan, 2018[7]):

- Contractual agreements: these are contractual arrangement through which a company can access the assets of other companies while minimizing time and risks. The contracting parties shall remain legally independent. The most common types are:
    - Franchising: a form of commercial collaboration according to which a subject, called franchisor, grants a third party, franchisee, the right to use (in exchange of a fee) its company name and/or its trademark for the marketing of products or services. The franchisor supervises the franchisee's activities, providing, if necessary, technical assistance and advice, to ensure that the franchisee complies with the quality standards and production and management models defined by the franchisor.
    - Licensing: a contractual arrangement whereby a party (licensor) grants another party (licensee) the right to exploit, in a determined territorial context, certain products or

[6] Ortiz-de-Urbina-Criado, M., Angel Guerras-Martin, L., Montoro-Sánchez, Á. (2014). The choice of growth method: strategies and resources. Academia Revista Latinoamericana de Administración, 27(1), 30-45.

[7] Gaughan, P. A. (2018). Mergers, acquisitions, and corporate restructurings. John Wiley & Sons.

assets (tangible or intangible) owned by it. Also in this case, in return for this right, the licensee undertakes to pay the licensor royalties related to the results achieved.

- Strategic alliances: hybrid organizational forms because they are located at the centre between the two alternative solutions, the market and the hierarchy. The partner companies remain legally distinct but work together to achieve medium- to long-term objectives. Among these forms of collaboration it is possible to identify equity agreements. Such arrangements provide for the joint involvement of the partners in the creation of a new company with legal autonomy, in which they hold capital shares. These initiatives, if they involve more than two entrepreneurs, are more commonly referred to as consortia of companies. A consortium is a contractual agreement that provides for the establishment of a consortium company, which profits are not taxed and whose benefits are shared among the constituent operators. The new legal entity that has been created by the transaction has as its objective the very reason for which the contract was stipulated, which can therefore be the realization of a project, the development of a product or a particular technology (Masrurul, 2012)[8]. Joint ventures are the most common and challenging category of alliances taking into account the financial, strategic and organisational points of view. They are, in fact, corporate agreements in which companies are more involved than they are in a simple contract, and less than in partnerships such as mergers and acquisitions. Again, the parties form a new company with legal autonomy, bringing their knowledge and resources to pursue a common goal. Historically, joint ventures cease to exist when the objective has been achieved or when one of the parties acquires the shares that the counterparty owns in the joint venture.
- M&A: This option relates to the most transformative external growth option, through which two entities combine their operations to become a single entity. They are classified as extraordinary financial transactions as they provide for the amendment of the company's bylaws. The next paragraph describes in details the key characteristics of M&A.

2.1 Definitions and Characteristics

M&A is a definition applicable to a spectrum of different combinations. In particular, it embeds a wide range of extraordinary corporate finance activities involving the transfer of ownership of the entire target company or just dedicated assets. These transactions are risky and complex as they

[8] Masrurul, M. (2012). An overview of strategic alliance: competitive advantages in alliance constellations. Advances in management, 5, 12.

involve intrinsic difficulties in the integration processes between the different company structures and also in the evaluation processes, which can prevent or make more problematic the full achievement of the set objectives. In addition, M&A transactions can also include other types of transactions in addition to M&A, such as takeover bids and asset purchases, with each case presenting peculiar aspects. M&A deals, although often discussed together, differ from each other in some characteristic aspects concerning legal form, methods of implementation, strategic purposes and objectives. In this part of the study these two cases will be described in details in order to bring more clarity on their peculiarities.

Mergers

Mergers are company transactions through which two or more corporate entities combine under a new single company. This is an important aspect as generally, in this aspect it is possible to identify the legal forms by which this operation can be carried out, that is, through the formation of a new company or through the incorporation into a company of one or more others (Iannotta, 2010[9]). These are respectively the two main types through which this operation can be carried out: the merger in the proper sense (or pure or by union), and the companies involved cease to be a separate entity and merge into a newly established company, becoming extinct; and merger by incorporation, where one company is incorporated into the other and only the first loses its legal identity and becomes extinct. In the first case, the shareholders obtain, in exchange for the extinguished shares, the newly issued shares in the new company on a pro-rata basis determined upon an exchange ratio with the previously held securities. In the second case, on the other hand, the absorbing company proceeds with an equity capital increase and assigns the newly issued shares to the shareholders of the incorporated entity. The choice of the shape and process is influenced by multiple and heterogeneous considerations (Gaughan, 2018)[10].

Corporate mergers can be carried out with the two entities coming up into a new company or through the incorporation of several companies into a single company. These operations can be divided into two different types:

- Merger of equals: this type of merger is usually carried out by partnerships that intend to become corporations, since they merge into a single entity and the starting companies cease to exist. With reference to a defined exchange ratio, shares issued by the new company in exchange for their old securities will be allocated to the starting shareholders. This type of

[9] Iannotta, G. (2010). Investment Banking A guide to underwriting and Advisory services. Springer.

[10] Gaughan, P. A. (2018). Mergers, acquisitions, and corporate restructurings. John Wiley & Sons.

merger is seldom implemented as it is mainly used when the companies involved have an equal weight in term of economic value;

- Merger by incorporation: in this type of merger, the target company (or in some cases, more companies) are absorbed into the absorbing entity. As a result, the starting companies do not all cease to exist, but only the incorporated ones with the acquiring company retaining its own name and identity. The shares issued by the absorbing company will be allocated to the shareholders of the absorbing companies, on the basis of a defined exchange ratio, and this will increase the share capital. This second approach is the most widespread in practice and is mainly used when there is one dominant company over the others.

Acquisitions

Acquisitions consist of transactions that reflect, in a simple way, the purchase for consideration (usually money, but may also include the exchange of other financial instruments), of shares in the equity capital of a company by another company that guarantees control, a business complex or a business unit, or specific activities. Depending on the shareholdings acquired, therefore, the following aspects are outlined: total shareholdings (which provide for the acquisition of all the company's assets – acquisition of a business), majority shareholdings (if the shareholdings acquired are greater than 50% per cent of the share capital of the target company), or, in the case of large companies with widespread shareholding, shareholdings that are not majority, but which are sufficient to exercise control over the target. Acquisitions therefore represent a way to pursue strategic and dimensional objectives, much faster compared to internal growth processes, but also compared to mergers seen previously (Gaughan, 2018[11]). This appears as one of the key rationales in support of the increase in the recourse to such deals. Also, beyond the characteristic of higher pace, acquisitions are motivated by the concurrence of other reasons, such as the business environment to which the companies operate (for example, when the sector features low or no growth, companies may look for new opportunities via the combination of activities with other players), corporate strategic plan, or windows of opportunities deriving from the contingent market conditions. The ultimate goal of acquisitions is in any case to value creation via the incorporation of synergies generated or likely to be generated by the union of the companies taking part in the operation (DePamphilis, 2013[12]).

However, the achievement of this result is not a straightforward conclusion. In fact, the acquisition strategy must have a rationale for being that is justified and coherent, otherwise it risks turning into

[11] Gaughan, P. A. (2018). Mergers, acquisitions, and corporate restructurings. John Wiley & Sons.

[12] DePamphilis D. (2013). Mergers, Acquisitions, and Other Restructuring Activities. Academic Press.

a risky process that, instead of accelerating the creation of value, leads to the destruction of the latter without any benefit for any of the parties involved in the operation. It is therefore clear that acquisitions, despite their apparent simplicity, imposing string control both in the planning phase of the operation and in the execution and subsequent phase of integration between companies and development of synergies (Steigenberger, 2017[13]). To ensure that the transaction is a source of success, a long-term strategic vision is therefore essential, to be implemented through the planning of both ex-ante and ex-post transaction activities, as well as the forecasting and analysis of all external factors that may influence and direct the success of the acquisition.

Further distinctions between different types of M&A transactions can be made by specifically considering the methods of implementation, the size of the corporate assets of the companies involved and the difference in the countries to which they belong. Going through each aspect, and specifically analysing the acquisition transactions that include listed companies, a key distinction refers to friendly as opposed to hostile acquisitions (Gaughan, 2018[14]). In practical terms, the distinction concerns the perception that the target company has of the transaction and consequently the behaviour that it adopts towards it, which influences the acquisition strategy. The acquisition is defined as friendly in such cases, considering the offer beneficial for company's shareholders, the target company's management endorses the transaction by participating in negotiations with the buyers to find an agreement on the price that will eventually be submitted to the vote of the shareholders. The cooperation of the two companies in the drafting of the agreement is therefore characteristic of this type of operation. Hostile takeovers, on the other hand, are those transactions in which the target company's management opposed the deal or is not informed in advance. Such transactions are therefore characterised by a lack of cooperation and agreement between the companies involved, often due to the failure of a previous negotiation to carry out the transaction amicably (DePamphilis, 2013[15]). The hostile takeover consists of the acquisition of a certain level of control via shares in the target company with the aim of obtaining a sufficient number of votes at the company shareholders' meeting to make proposals (including in the most extreme cases the replacement of the board of directors and the CEO of the target company). The strategy of the buyer (also known as a raider) is therefore to bypass the board of managers of the target to address the

[13] Steigenberger, N. (2017). The challenge of integration: A review of the M&A integration literature. International Journal of Management Reviews, 19(4), 408-431.

[14] Gaughan, P. A. (2018). Mergers, acquisitions, and corporate restructurings. John Wiley & Sons.

[15] DePamphilis D. (2013). Mergers, Acquisitions, and Other Restructuring Activities. Academic Press.

offer directly to shareholders. In these circumstances, managers of the target firm may implement certain defence strategies (Brealey et *al*., 2015[16]) to try to prevent or slow down the buyer:

- Poison pills are defence strategies against external unsolicited offers. Usually poison pills are enacted through preferred shares allowing shareholders to enact adequate defensive measures at the time of the takeover. There are also options allowing existing shareholders or target company's management to buy a certain amount of shares at a favourable price making the take-over so expensive for the buyer that he chooses to abandon the acquisition project. Also in this case, the objective is the same as the previous one, that is to increase the number of outstanding shares (capital increase) in order to make the take-over more expensive. In some countries (such as Italy) there could be specific provisions favouring the retention of control from public entities (i.e. Golden Share) de facto discouraging any unwelcome attempt to gain control of strategic companies. This makes it difficult for third parties to take control as a bidding candidate would have to win the proxy battle for two years in a row to gain a majority on the board;
- The white knight is a defence technique that consists of looking for a friendly company to be acquired by, or to sell a substantial package of shares, in order to make it more difficult and therefore discourage the buyer's hostile takeover attempt. A variant of this option refers to the so-called white squire, in which a large company (not at risk of escalation) or a major investor agrees to buy a significant stake in shares with special voting rights;
- Recapitalization, on the other hand, consists of the change in the financial structure implemented by the target company to make itself less attractive in the eyes of the buyer. It can be carried out in different ways, such as the issuance of debt securities to finance the distribution of dividends or the buyback of treasury shares.
- Finally, the target company and its management may pursue other strategies to defend against hostile takeover attempts, such as requiring a qualified majority of votes to approve a merger, limiting voting rights to those who own a large amount of shares, or requiring that a fair price be paid. The choice is ultimately made by the board or at senior management level. Finally, it should be noted that all the M&A transactions seen so far must be approved by the supervisory and control bodies.

2.2 The Global Volumes and Market Trends

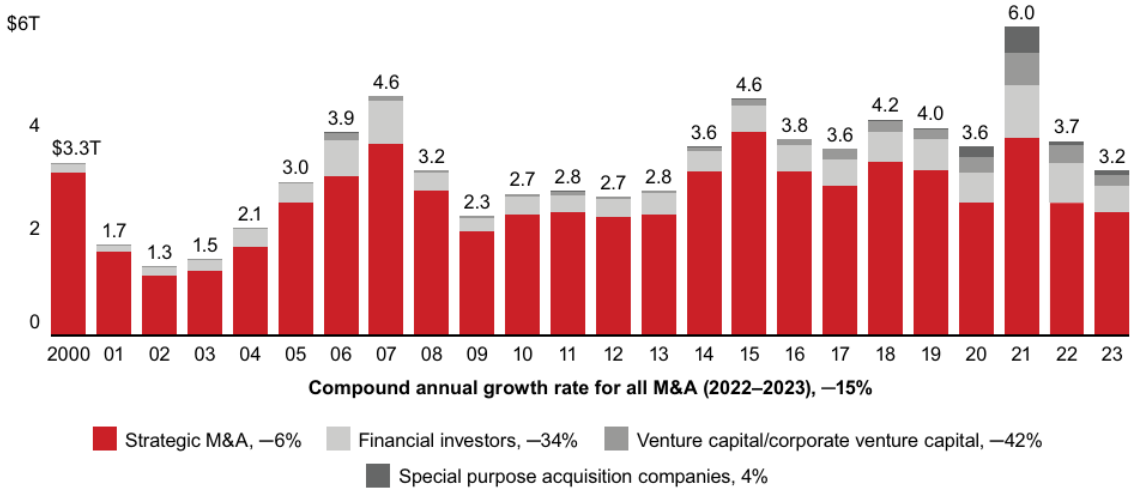
[16] Brealey, R., Myers, S., Allen, F. (2015). Principles of corporate finance. 13th Ed. McGraw-Hill Education, London.

The global M&A market underwent a year of profound turmoil in 2022. Despite the post-Covid-19 recovery through 2021 (Figure 1), 2022 brought a new period of great uncertainty, due to the war developments in Ukraine and the sudden change in macroeconomic conditions on a global scale. With reference to the most recent developments in the M&A sector, it is possible to get an insight on the M&A trends in terms of volumes, with the full year emerging as a period of conflicting evidence. After a 2021 in which the M&A market witnessed a sustained momentum, the first months of 2022 show a still active *dealmaking* activity. As expected, the turning point came in June 2022, when the US *Federal Reserve Bank* decided to enact a change in monetary policy aimed at raising interest rates. This decision, combined with growing macroeconomic uncertainty related to Russia's invasion of Ukraine, have put substantial hurdles to the M&A market. With regard to the value of the transactions carried out, the so-called *megadeals* (i.e. deals over $10 billion) showed a marked decline. At the same time, transactions for lower values also presented a negative trend compared to what was discussed in during the first half of the year. Overall, following the slowdown at the end of the first half of the year, it is estimated an overall drop of about 36% in the turnover of M&A transactions during 2022, bringing the total to $3,700 billion, slightly higher than the total recorded in 2020, a year characterized by the uncertainties related to the Covid-19 pandemic.

This trend has continued in 2023 as well, with an overall deal value of $3,200 billion, a further 15% year over year reduction against 2022 (nearly half of the 2021 value). Nevertheless, the degree of change varied markedly across sectors, as while Strategic M&A deals remained relatively stable (-6%), transactions conducted by Financial Investors (private equity funds) and Venture Capital/Corporate Venture Capital recorded a substantial contraction (-34% and -42% respectively). The Special Purpose Acquisition sector on the contrary showed an increase (+4%). The reasons for such retreat in dealmaking activity is to be related to the uncertain market conditions reflecting into a valuation gap between potential buyers and sellers, putting several deals on hold. Macroeconomic headwinds were caused by high interest rates, increasing political scrutiny and new international tensions.

Figure 1 - Global M&A Market Value in 2000-2023 - trillion of $ (Bain, 2024)[17]

[17] Bain (2024). Global M&A Report 2024. Gaining an edge in a market reset.

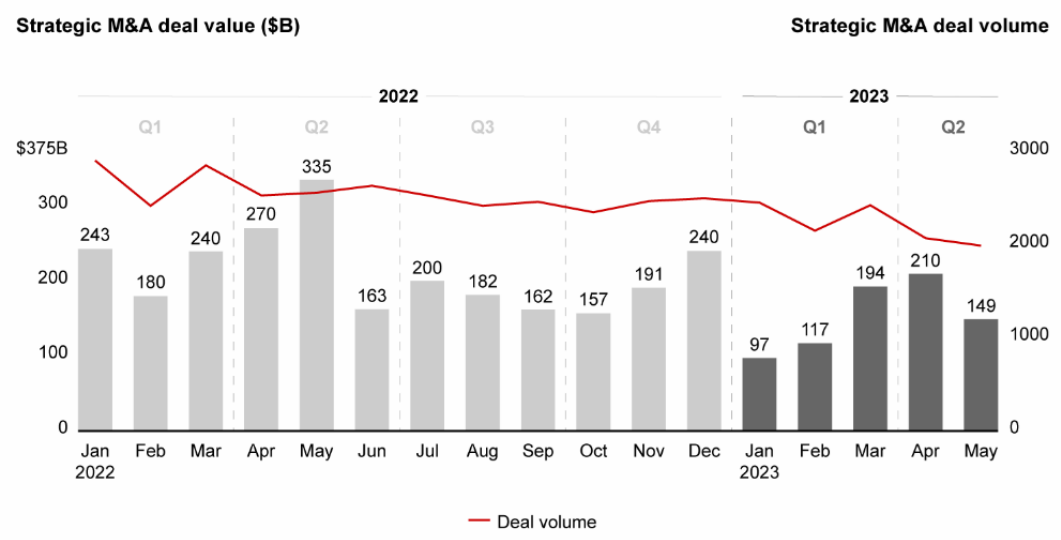


In the face of a sharp decline in terms of overall deal value, the strategic deal count was 27,000, a number suggesting a fair level of resilience in terms of overall worldwide M&A activity. A few considerations can therefore summarize the picture described so far. First, the sharp decline in megadeals and deal multiples represents the direct result of the impact of structural uncertainty on M&A deals. Second, M&A transactions have remained central for companies' growth strategies. A number of factors have impacted the performance of the M&A market, in particular: inflation trends, sharp interest rate hikes by central banks to counter mounting inflationary pressure, restricted availability of capital in the financial system, focus on national security issues, increased geopolitical tensions and disruption in the global supply chain.

Regardless of the reference sector, in 2022 companies witnessed a new level of volatility, relating to new risks and variables being hidden until the first part of the year (Figure 2). For example, the rise in interest rates marked a drastic turning point that ended a decade of easy liquidity guaranteed in the system. In the face of rising inflation, the FED in the U.S., and then almost all central banks, have been taking action to raise rates faster and more decisively than expected. The ramifications of this strategic turn have spread immediately, and regardless of geographical areas, M&A activity has shown a negative reaction on the one hand to the increase of the cost of capital and, on the other hand to the material uncertainties emerging in the global economic and financial environment.

Figure 2 - Global Strategic M&A Deal Count and Market Value in 2022-23 – bil. $ (Bain, 2024)[18]

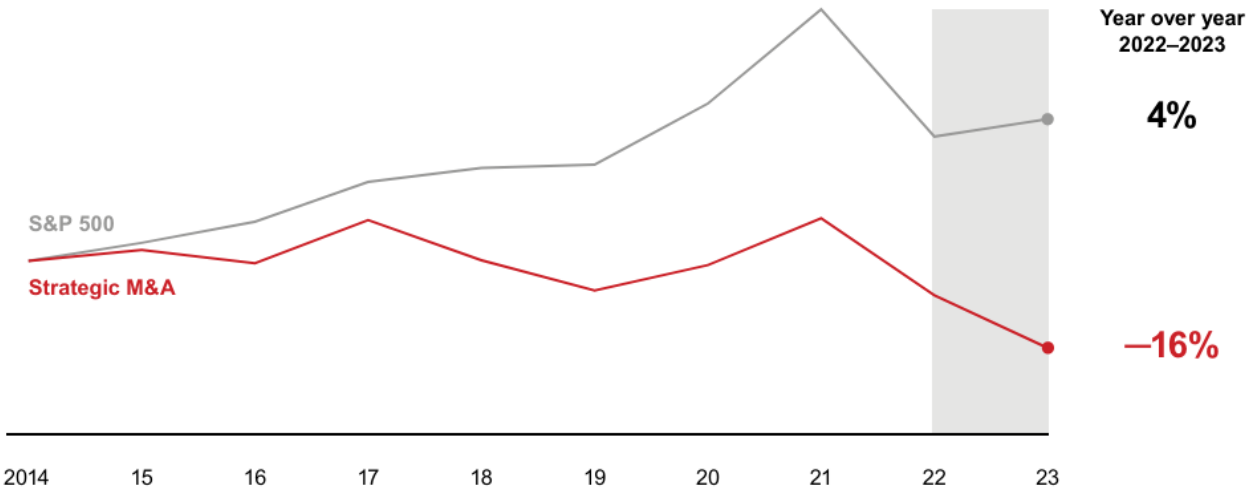
[18] Bain (2023). M&A Midyear Report 2023: It Takes Two to Make a Market



Against this background, the first months of 2023 had the lowest deal value in record over the previous 20 years. Although volumes are down, they have remained relatively stable, down 16% year over year through May, indicating a trend in the market towards smaller and less risky transactions.

Dealmaking recorded a further slow down with dropping strategic deal valuation, continuing the trend seen already in 2022 (Figure 3). This resulted in the total transaction multiples being at their lowest point in 15 years, (or 10.1x, with most of the transactions landing between 9 and 10 times). In such context buyers approached market with an extremely coutious approach amid sliding values, while sellers had little incentive to give valuable assets away.

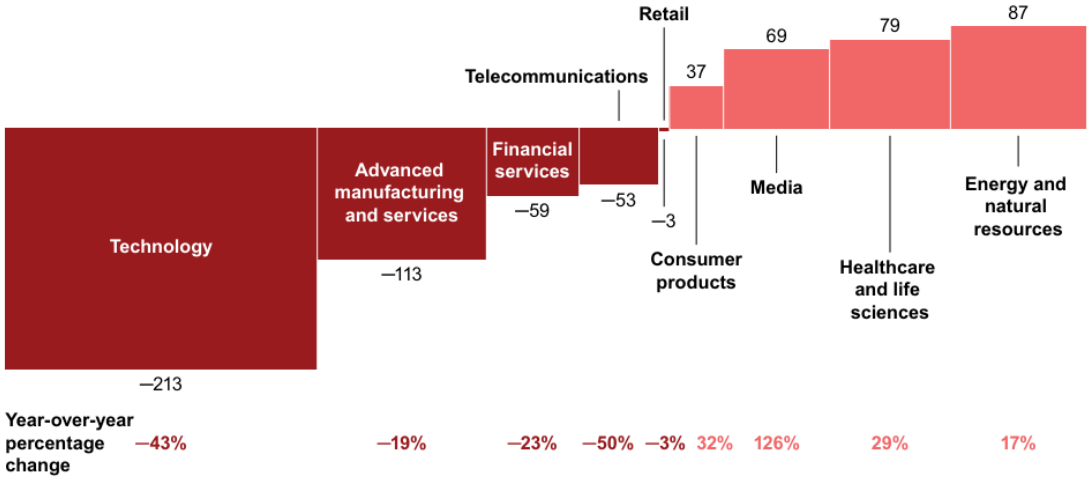
Figure 3 - Global M&A Median Enterprise Value to EBITDA Multiple (Bain, 2024)[19]



[19] Bain (2024). Global M&A Report 2024. Gaining an edge in a market reset.

The catalyst in strategic M&A in 2023 across all industries was the collapse of tech M&A (Figure 4). The ratio representive the EV (enterprise value) / EBITDA multiple used to determine median valuations for IT deals fell by over 45% last year, from a high of 25x in 2021 to only 13x. However, as has been discussed elsewhere, the strategic considerations behind most tech purchases that prioritise growth above profitability is altered in an environment where interest rates are higher for longer. Contrary to this trend, a robust M&A year in the energy and healthcare sectors was bolstered by deployment of large-scale transactions, driven by distinct industry dynamics. Scale acquisitions in energy and natural resources dominated the group due to increased commodity prices. Two megadeals in oil and gas and three more significant tie-ups totalling approximately $175 billion in deal value bolstered the the market activity.

Figure 4 – Relative change in strategic value – Enterprise Value-EBITDA (Bain, 2024)[20]



In summary, the main takeaways from 2022 and 2023 relate to a substantial change in M&A market fundamentals leading to the selective research of growth opportunities at a discounted price. Figure 6 shows the actual values recorded in the period January-May 2023 with an extrapolation of the expected activity through the end of the year. Data show how M&A market has slowed down over

[20] Bain (2024). Global M&A Report 2024. Gaining an edge in a market reset.

the last two years, with deal prices and volume far below their pre-pandemic levels. A key reason for this relates to inflation which although slowed, is still in place in all major economies, guiding the playbook of central banks. Although the much-awaited recession has not materialised to date, companies seem still postponing M&A options with a renewed emphasis on cost control.

Although is premature to account for data referred to 2024, it is possible to single out some of the main trends featuring the market:

- Both buyers and sellers have continued to be prudent as a result of macroeconomic and interest rate uncertainty, which makes dealmaking more difficult. Some optimistic signals have emerged during the last the last part of 2023, with central banks opening to interest rates cuts around mid-2024.
- In spite of the overall market situation, toward the end of 2023, some signs of recovery have been identified with the resurgence of megadeals in some specific sectors, such as energy.
- While most other industries have seen flat or somewhat higher values, the value of major technology mergers is still lagging behind other sectors.

Dealmaking activity is poised to make a turn in 2024, with a stabilization in market conditions and a gradual reduction in interest rates. Nevertheless, it is difficult to predict how such recovery will materialize across sectors and M&A segments.

2.3 The M&A Motivations

As M&A has gathered an extensive degree of interest from researchers and professionals over the last decades, so did the research on the key rationales leading to M&A. This section is therefore aimed to summarized the main aspects analysed in the academic literature, providing a comprehensive perspective o the motivations underpinning M&A.

So far, a large focus has been devoted to the reasons that push a company to M&A related to the possibility of creating greater value through the combination of the acquiring company and the target into a unique entity. The sources of such value are defined as the synergies resulting from acquisitions, which can be classified into several classifications: operating synergies, financial synergies and tax synergies (Gaughan, 2018[21]). In this section, the discussion will address in more detail the nature of the synergies that lead companies to undertake external development paths through M&A, trying to analyse and clarify all the possible sources of synergies that reasonably justify such choices.

[21] Gaughan, P. A. (2018). Mergers, acquisitions, and corporate restructurings. John Wiley & Sons.

Operating Synergies

Among the operating synergies that a company can benefit from after a M&A process, those relating to scale and scope economies are largely investigated. On the one side, the economies of scale materialize when a larger company can achieve cost savings by producing high volumes, which allow to spread fixed costs over a larger number of units and to reduce at the same time some variable costs (i.e. thanks to better trade agreements with suppliers). Economies of scope, on the other side, consist of the optimization of total costs resulting from the joint production of two or more products compared to the costs that associated with the two productions operating separately. Furthermore, other cases of operating synergies include the economies of vertical integration that are achieved by vertical acquisitions by acquiring target companies along the value chain. In this case, the goal of the companies is to obtain the control over the production process through an upstream and/or downstream integration path, and to considerably reduce transaction costs. However, it must be taken into account that, in all the cases analysed so far, the increase in company size comes with some costs related to the increased difficulty of coordination that should not be underestimated.

Fiscal and Financial Synergies

Financial savings are achieved when, for example, as a result of a combination, the debt capacity of the acquiring company, or the merger company, increases while financing costs decrease. In fact, through a merger with a less indebted company, the new company can increase its leverage and reduce the cost of capital, consequently leading to financial synergies. With regard to tax benefits, the acquiring company may deploy the target company's accrued losses as a mean to reduce its tax burden. Therefore, to justify an M&A transaction in terms of operating losses, management would have to demonstrate that the achievable tax savings are greater than those achievable through loss carry-forwards. The treatment of tax benefits however is not straightforward and it should be noted that the legislations in the majority of tax systems place substantial hurdles on the pursuit of M&A deals having as their sole rationale the use of the target company’s accrued losses.

Integration

Since the heyday of M&A between the end of Nineteenth and the beginning of the Twentieth century, a key motivation leading the various merger waves has been identified in the integration. Commonly, integration can be referred to as: vertical integration, horizontal integration and conglomeration. Vertical integration in the supply chain (either forward or backwards) is a defining feature of vertical integration. The process of one firm gaining control of another company

operating in the same sectors is referred to as horizontal integration. The purchase of unrelated businesses conducting activities in an unrelated sector is what defines a conglomerate. These three fundamental merging kinds are presented in brief in this section:

- Vertical Integration: the aim of vertical integration is to extend company boundaries to combine with suppliers or retailers. Large manufacturing firms source their goods and raw materials from a variety of vendors. In brief, vertical integration is an effort to lower the risk borne by suppliers in getting access to key inputs or gaining access to end market and reaching customers directly.
- Horizontal Integration: M&A transactions may also be adopted to accomplish horizontal integration, whereby two businesses active in the same end market, combined to increase their total value and market share. Evidence shows that horizontal integration has been increasingly prevalent in several key industries as it represents an easier access to growth (Jiang, 2019[22]).
- Conglomeration: conglomerate M&A transactions take place when the combination occurs between businesses operating in distinct markets and industries. As will be discussed for diversification deals, conglomeration is a helpful strategy for distributing company risk over multiple markets. However, as shown in practice, such advantage tends to be eroded by time, by possible risks relating to the possible loss of focus as the company develops and expands.

In spite of the discussed advantages following integration-led M&A transactions, it has to be noted that over the recent years, antitrust authorities are increasing scrutiny on the consequences of combinations on the level of competition in relevant markets. This has reflected into an increasing number of M&A cancelled or approved subject to specific actions, such as disposal of certain assets of the combined entity after integration, to reduce market concentration.

Diversification

Businesses engage in M&A transactions because of the need to diversify their sources of raw materials and other input, or their end market. Indeed, a company can expand its foothold into a new market thanks to diversification without having to sustain upfront investments and other additional costs for sales and marketing. This approach is often considered the easiest way to diversify acquiring company's activities, since it allows the company to immediately obtain the set of resources necessary to achieve a competitive advantage within a new industry. Also,

[22] Jiang, J. (2019). An empirical study on M&A performance: Evidence from horizontal mergers and acquisitions in the United States. Open Journal of Business and Management, 7(02), 976.

diversification brings about a series of additional opportunities such as reducing the cyclical exposure of cash flows or accessing better financial terms (DePamphilis, 2013[23]). However, as with any expansion approach, M&A deals oriented to diversification present both advantages and disadvantages, so the fit of this solution needs to be evaluated on a case-by-case basis depending on the circumstances. Among the key advantages of diversification, it is possible to mention:

- Quick entry into a new sector by buying a company that is already in operation, in fact, it is not necessary to invest financial resources and spend time to gain a competitive position within the market and develop in-house the critical resources to succeed. This can be a significant advantage when the necessary resources are difficult to re-produce or accumulate.
- The acquisition of an existing company also eliminates a potential competitor from the market. The degree of internal development that a company needs to achieve in order to achieve the minimum efficient scale could increase the level of potential competitiveness in the sector, while acquiring a competitor that already has the necessary capacity can prevent increasing competitiveness in the sector.
- As anticipated diversification can reduce the company risks by reducing the volatility of cash flows along the time, then improving the level of resilience against market downturns and maintaining a steady cash generation.

At the same time, diversification carries a series of potential disadvantages to be accounted:

- The first, and perhaps the most important, is that acquisitions can be a very expensive way to enter a new market. To complete deals involving diversification of business in many cases there could be the recourse to the payment of premium over the market price of the target. The potential lack of knowledge in the target's business may lead the acquiring company to recognize a consideration too high compared to the actual potential for synergies.
- Another issue relates to the integration phase, as diversified companies could take a longer period to fully integrate their activities and operate as a single combined entity.
- In most cases, the potential acquisition has a number of assets and capabilities, but only some might be of interest to the acquirer. Managing redundant assets and maintaining them within the asset portfolio is often a source of high costs, both in terms of funds and time.

Excess of cash and Agency Theory

[23] DePamphilis D. (2013). Mergers, Acquisitions, and Other Restructuring Activities. Academic Press.

Finally, another case to analyse is the case in which a company has a considerable amount of liquidity. In this situation, although the best alternative would be to distribute such excess cash to shareholders (as dividends or share buybacks), managers could pursue a strategy centred around the investment of such cash for the acquisitions of new companies, even though this choice is not the better off in terms of shareholders returns. In such circumstances, it may happen that managers' decisions to acquire are due to the possibility that growth in size leads to greater prestige or the possibility of higher compensation and security of the role, all reasons which ascertain to the personal interest. As presented by (Jensen and Meckling, 1976[24]) such cases, which have no reasonable motivations at their base other than the selfish ends of the managers, come to outline what in economic theory is called the agency problem. This can also happen because managers, unlike shareholders who are able to reduce their risk by independently diversifying their portfolios, cannot diversify the risk of losing their jobs, therefore, M&A are a tool to make the performance of the companies they manage less variable and consequently decrease the probability of being replaced. All the cases discussed have led shareholders to adopt innovative and increasingly articulated control mechanisms (i.e. linking the remuneration of managers to the long-term performance of the company or to sustainability-related targets), to ensure that the incentives of managers and shareholders are aligned, preventing possible diversions.

Figure 5 summarizes the considerations discussed in the paragraph.

Figure 5 – Summary of M&A Motivations (author's adaptation)[25]

Motivation	Explanation	Authors
Synergies (operating and financial)	Reaching economic and financial benefits through the combination of the two entities	Gaughan (2018)
Integration (vertical and horizontal)	Expansion of company's scope along the value chain and within the market	Gaghan (2018) Jiang (2019)
Diversification	Expansion of company's scope with the entry into a new business	DePamphilis (2013)
Excess of Cash and Agency Theory	Use of company's resources for the benefit of managers	Jensen and Meckling (1976)

[24] Jensen, M. C., Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure", Journal of Financial Economics, 3(4), 305-360.

[25] Author's adaptation.

2.4 The Transaction Process

Despite each M&A transaction encompasses peculiar features, the stages of an M&A process are one of the few aspects recurring in a similar way across different transactions. From the analysis of various models developed by scholars and practitioners, the M&A process can be summarized with the following key phases: 1) research, 2) planning, 3) due diligence, 4) negotiation and 5) integration. In this section, the discussion is aimed to describe the key activities carried out within each phase. As preliminary consideration, the M&A process is motivated by the choices and priorities of the acquiring company, which has greater bargaining power, especially in those cases where the target company is not in good financial condition. For this reason, it will be taken into account more in the process phases, without neglecting the target company's perspective. The paragraphs below describe the process for M&A transactions according to the DePamphilis (2013)[26].

Phase 1: Research

Acquiring company. The first phase of the acquisition process concerns the definition of the strategic aspects of the transaction, with the management identifying the key drivers aimed at increasing the value of the company. At this stage, the focus is on the strategic analysis of attractive sectors. The analysis is be carried out with a view to complementarity (i.e. through the identification of those resources that can best integrate with those already present in the company), to obtain higher synergies and reduce the integration risks. Subsequently, a sample of potential target companies is identified in line with the strategic premises. When selecting the company to acquire, it is important to take into account its potential to deliver value. In many cases, the key factor is to be able to acquire companies that are undervalued due to poor economic conditions, or because markets are not able to reflect their full value, while still seeing assets that can help the acquiring company increase its value, maximizing the benefits of integration. At this point, the research phase ends as it provides the input to enter into the planning phase, which is in the most cases a very sensitive phase as it may jeopardizes the subsequent ones.

Target Company. Regardless of the previous considerations made for the acquiring company, in some cases the M&A process can be triggered by the target company a its management or shareholders could look for divestment or because it is in precarious economic situation. In this latter case it will be difficult to assert its bargaining power in the evaluation phase. For the target

[26] DePamphilis D. (2013). Mergers, Acquisitions, and Other Restructuring Activities. Academic Press.

company, time is more important as the continuation of a stalemate could have negative repercussions and divert attention from daily activities, with a consequent loss of operational effectiveness. It is necessary to make an analysis regarding the M&A experience of the acquiring company in order to gain more clarity. It is important for management to think about the possible scenarios that may arise following a divestment.

Phase 2: Planning

Acquiring Company. With research phase being completed with the identification of the target company, now the buyer needs to access the information of a private and confidential nature. At this point there is the first interaction between the two entities with the signature of a confidentiality agreement through which the parties undertake to guarantee the non-disclosure during the information exchange. Next, a common programme is then drawn up detailing how and when to plan the next phases of the transaction. A timeline is therefore defined and attention is focused on forecast-like information. Estimates are made on the possibilities of integration and the key drivers of the transaction are identified. At this stage there is also a preliminary risk analysis intended to minimise (or mitigate) the transaction risks, hence enabling a smooth progress. An analysis of potential operational and strategic complementarities may also be included as the key focus relates to the definition of the process.

Target Company. After making the first contact with the purchasing company, it is necessary to provide the information necessary for the initial evaluation. The more comprehensive the information, the faster the negotiation and closing phase of the transaction will be. Generally, all the data and information are provided in the information memorandum. This document contains all the material information for the acquirer including: general information of the company, financials, strategy and market positioning, opportunities for potential development, organization and corporate structure. Clearly, the more historical data there is, the easier the subsequent evaluation will be. This phase is finalized with an agreement on the planning of the process and on the evaluation methodologies.

Phase 3: Due Diligence

This term refers to one of the most delicate phases of the M&A process. In many circumstances upon the target evaluation, many transactions are interrupted and end up ending the relationship between the parties. A good due diligence activity presupposes a fair assessment of the price of the transaction and the identification of main (and potentially hidden) risks (Perry and Her, 2004)[27].

[27] Perry, J. S., Herd, T. J. (2004). Reducing M&A risk through improved due diligence. Strategy & leadership, 32(2), 12-19.

The assumption is that the target company aims to maximize the proceedings from the sale, while the acquirer, on the opposite is driven by minimization of consideration and risks. The acquirer must give an actual valuation of the acquisition. In order to carry out a correct assessment, all aspects that are part of the due diligence phase must be considered:

- Commercial due diligence: this phase is aimed at providing a detailed appraisal of the target company's positioning in the market. Some major aspects are subject to in-depth evaluation: the situation of the target market, the main competitors, barriers to entry, and customer potential.
- Operational due diligence: through this dimension, the acquiring company evaluates the target company's operational activities delving into whether an integration of operational activities is feasible and what are the main risks related to the cost structure and operational management of the target company. The evaluation phase in this case must also cover the entire scope of value chain both up and downstream the target company. In fact, a large part of the integration success derives from the integration of the activities conducted by the respective companies.
- Financial due diligence: financial due diligence refers to another fundamental aspect as the acquiring company aims to determine the financial profile of the target company. It observes the consistency of financial statements, with a particular focus on liabilities and costs related to corporate debt. Furthermore, the elements related to taxation are evaluated as a key component of the analysis, noting that in case of cross-border transactions, the tax considerations may be a big part of the discussions.
- Legal due diligence: this refers to all transactions related to the negotiation that must be included within regulatory frameworks and in full compliance with the rules and regulations applicable to both companies, in order to receive the green light from the relevant tax authorities and avoid possible claims after deal completion.

Phase 4: Negotiation

This phase is presented without highlighting a distinction between the two companies because at this point both parties begin to enter into a perspective of integration. The acquiring company, after evaluating all the elements of due diligence, is ready to formulate the proposal of the acquisition price. In this phase, "face-to-face" meetings between company management are often the preferred approach so as to establish upfront trust between the management of both companies. Once the price has been agreed, the parties enter into a “sale and purchase agreement” defining the terms and conditions of the transaction. Upon fulfilment of any pending conditions (i.e. approval from relevant regulator or antitrust authorities) the transaction is defined as “completed” and therefore

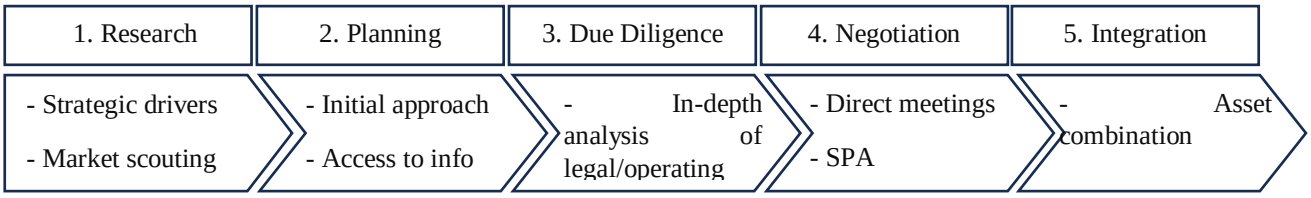
the new company work as a unique entity to achieve the planned synergies. It is important that a consistent communication strategy is developed and reorganization is carried out by assigning specific roles and tasks within the new company.

Phase 5: Integration

Once the negotiation has been concluded, the combined entity proceeds with the integration of the assets and all the company resources. This last phase does not have a defined duration, as, depending on the scale and complexity of the deal, it could last months or years. Integration success largely depends on preliminary work in the design and negotiation phase, but despite this, the actual implementation requires a great deal of effort and continuous control from top management. It is important to make sure that information about the company's mission reach all the levels of the company and that each employee knows exactly what they need to do, who they should contact and through what processes. It is therefore necessary to formalize the new processes in such a way that everything is formalized and clear. As anticipated, the integration phase could take years, and possible risks could arise as the new company is consolidated. The level of integration is very much linked to the similarity between companies. For this reason, horizontal operations tend to achieve full integration in a shorter timeframe. Even in this case, however, there is a certain degree of subjectivity, since the level of post-acquisition integration is very much linked to the sector to which acquiror and target operate, the size of the company and exogenous variables.

To summarize this paragraph, the Figure 6 summarizes the main phases and the main activities featuring the M&A process.

Figure 6 – The M&A Process (author's adaptation)[28]



2.4.1 Focus on Valuation

A prominent aspect in the M&A process refers to valuation and because of its wider implications it is treated with a dedicated focus. The determination of the economic value in any M&A transaction is subject to a series of factors, such as deal type, share involved, taxes and so on. For the purpose

[28] Author's adaptation based on DePamphilis D. (2013). Mergers, Acquisitions, and Other Restructuring Activities. Academic Press.

of this study, in the next paragraphs it is proposed the discussion of the two main valuation approaches adopted in practice: the relative approach and the Discounted Cash Flow (DCF). It needs to be noted that in a valuation process both methods are used in conjunction to check relative assumptions and reach a possible valuation range, rather than a deterministic value.

Market Multiples

Also defined as the market multiples method, this is the most widely used valuation method with the DCF as is mostly popular for market operators valuating publicly traded companies. In the relative (or comparative) valuation approach, the value of a company (or its assets) is estimated by looking at comparable firms with similar traits. This technique is based on the calculation of the "market multiples", determined as the ratio between market prices (i.e. stock market values or comparable transactions) and economics, equity and financial metrics (i.e. profit, turnover, operating results) of a sample of companies which characteristics are deemed comparable. The estimated multiples are applied (with some adjustments when required), to the relative metrics of the target to determine the value of the company.

As mentioned above, multiples can be divided into two categories, in relation to the context in which the prices at the numerator are determined:

- Stock market multiples (stock market multiples) based on the market quotations of the comparables and express stand-alone values of a company.
- Precedent transactions multiples referred to prices representative of previous M&A transaction involving the transfer of controlling shares of comparable companies.

Despite a similar methodology to derive the final value, the two categories of multiples address different conceptual formulations. This is because while the market-based multiples reflect a stand-alone valuation, the precedent transaction multiples generally incorporate an acquisition premium recognized in the negotiation and due to the benefits expected from the strategic buyer. The multiple is determined by the sale price, which is influenced by a number of factors including: the percentage of capital purchased (i.e. total outstanding capital, majority or minority), the characteristics of the buyer (i.e. strategic or financial), the payment method (i.e. cash, shares or a combination of the two), any earn-out clauses, tying part of the payment to future results, and the presence of assets to be discontinued following the transaction. Since the comparable transaction multiples approach presents considerable difficulties in the information collection phase, due to the possible lack of any comparable transaction in the past, the stock market multiples are most commonly used in company valuation. Below the key multiples adopted to determine the equity value of the target are listed:

- P/E (Price-to-Earning ratio): refers to the ratio between the stock market price and net earnings per share (EPS) or, alternatively the ratio between market capitalization (equity value) and total net profits. The P/E expresses the value of a stock and indicates the multiple applicable to the earnings to obtain the value of equity capital. It is a multiple that can be affected by the influence of fiscal or fiscal policies and the different degree of indebtedness, and for these reasons is therefore subject to distortions;
- PEG (Price Earnings / Growth ratio): this is a partial derivation of the P/E, as the ratio of the P/E multiple to the expected growth rate of earnings per share (defined with "g") is used by analysts to identify overvalued or undervalued stocks;
- P/B (Price-to-Book-Value): expresses the ratio between the market value of the equity (market capitalization) and the book value of the company capital (equity, book value). Considering the book value of the capital (given by the difference between the net book value of the assets and the net book value of the liabilities), the resources shareholders have invested in the company, and the market price of the shares (P) the value of the flows expected by the shareholders, the multiple can be interpreted as a measure of return for investors. The P/B is assessed in relation to the reference value of 1, that is, for values above 1, the market appraises the company above its book value, whereas for value below 1 the market appraises the company below is book value.

Moving from to the asset-side perspective, the main multiples of the total value of a company (or enterprise value) are described below:

- EV/EBIT: the ratio of enterprise value to EBIT indicates how many times the EBIT is reflected in the enterprise value. Due to its calculation, it is not totally insensitive to budgetary policies, because in any case it takes into account depreciation, which is susceptible to subjective evaluations by management;
- EV/EBITDA: is the ratio of enterprise value to EBITDA, and as per the EV/EBIT case expresses how many times the EBITDA is reflects into the enterprise value. Unlike the previous one, however, it is able to neutralize any accounting policies of the financial statements since the EBITDA is determined before depreciation, amortization and write-downs, which are by practice subject to management considerations;
- EV/Sales: represents the ratio between enterprise value and the company turnover and is mainly used in cases the assessment involves companies with negative margins or in the turnaround phase, as the homogeneity of turnovers facilitates and guarantees comparability between different companies.

In summary, the relative approach offers a set of different multiples to be adopted in order to determine the company valuation. Apart from the difference between equity-side and asset-side multiple, it is possible to affirm that different multiples can be adopted according to the specific case and the target peculiarities (i.e. business, accounting assumptions and phase along life-cycle).

Discounted Cash Flow (DCF)

The DCF approach, also referred to as the "fundamental approach" is based on the use of the sole target financials to determine its intrinsic value. The valuation methodology relies upon discounted cash flows and expresses the value of a business as a function of its ability to produce an adequate level of cash to meet investors expectations of remuneration. The value of a company (or in some cases, of a project or activity) is derived by discounting the expected cash flows of the company at a discount rate (thereinafter defined as WACC, or weighted average cost of capital, in the case of asset-side valuation or *Ke*, the cost of equity, in the case of equity-side valuation) reflecting its riskiness. The generic formula below summarizes the DCF calculations (assuming asset-side valuation) (Damodaran, 2012)[29]:

$$\text{Value of firm} = \sum_{t=1}^{t=n} \frac{\text{FCFF}_t}{(1+\text{WACC}_{hg})^t} + \frac{\left[\text{FCFF}_{n+1}/(\text{WACC}_{st} - g_n)\right]}{(1+\text{WACC}_{hg})^n}$$

In the following paragraphs, the main components of the DCF model are described:

- Expected Cash Flows: as per the multiples approach, the DCF can be used to determine both equity-side and asset-side target's valuation. Therefore, applying the model with consistent inputs in terms of the cash flows and the discount rate the two approaches should provide the same estimate of the target's value. Considering the case of asset-side valuation, the main inputs required are: the cash flows available to all investors, or FCFF (defined as Free Cash Flow to Firm) which are estimated gross of financial charges and are not affected by changes in debt. On the contrary, the flows available to shareholders only (defined Free Cash Flow to Equity) estimated as net of debt issuances and repayments and, consequently, for this case it is be necessary to explicitly assume how the debt ratio will vary over time.

  A key component in the estimation of FCF is the growth rate. The rate (g) at which cash flows are expected to grow in the future should be again consistent with the definition of cash flow adopted: in the case of FCFE, reference will be made to the growth of net income or earnings per share, which are measures of shareholder return; in the case of FCFO we will refer to the growth rate of operating income, which measures the return for all

[29] Damodaran, A. (2012). Investment valuation: Tools and techniques for determining the value of any asset (Vol. 666). John Wiley & Sons.

investors. As for the stable growth rate, since it must be a rate that will last in perpetuity, it is implicitly assumed that the firm's other performance measures (revenues, earnings, dividends, reinvestments) will also grow at the same rate. In addition, it must consider that in the long term a company cannot grow at a rate higher than that of the economy. Accordingly, it can be assumed that a "high growth" rate applies in the first period of estimation, whereas a lower "stable growth" rate would apply in the long run (as it is expressed in the formula above)

- Discount Rate: estimated cash flows are to be discounted at the cost of capital. If the cash flows to be discounted are dividends or FCFE (equity-side perspective), the appropriate discount rate is the Ke, conversely, in the case of FCFF (asset-side perspective) it will be appropriate to use WACC. The determination of the WACC is summarized below:

$$WACC = \left[kd\ (1 - tc)\ \frac{D}{(D + E)}\right] + \left[ke\ \frac{E}{(D + E)}\right]$$

Where:

Kd is the cost of debt

Ke is the cost of equity

D is the weight of debt in the company financial structure

E is the weight of equity in the company financial structure

tc is the applicable tax rate

The above formula highlights two main aspects underlying the DCF valuation approach. First, it emerges how the final result strictly depends on the financial structure of the company and in particular on the degree of financial leverage. A second aspect relates to the benefit of tax shield, which has a positive impact on the cost of debt the company recognizes to debtholders.

- Terminal Value (TV): due to the fact that FCFF can be estimated up to a certain point in time (generally five years, in line with the company industrial plan) the residual economic value of the company after the estimation period is calculated through the TV. This is necessary as after a certain period, assumptions on company financials can no longer be accurate and increasingly subject to a higher degree of assumptions. There are two methodologies for the calculation of TV: the exit multiple approach and perpetuity growth approach. In the first case, a multiple for company value is calculated (i.e. EV/EBITDA) and applied to the financial metric determined in the last year of the estimation period. This

approach estimates the residual part of company value discounted at that year in future. Under the second case, the perpetuity formula is applied, including FCFF at numerator and WACC minus growth at denominator. The TV so calculated reflects the outstanding value of the company from the end of estimation period to infinity. The preference toward one approach of the two relates to several consideration including the soundness of a looking forward multiple as opposed to a perpetuity model and the availability of appropriate inputs (i.e. growth rate).

In brief, the DCF is an approach aimed at determining the company value based on the intrinsic financials of the target and is subject to multiple assumptions. For this reason, in practice, upon estimation of final Enterprise Value, sensitivities are applied to key inputs (i.e. growth rate, WACC components and other management assumptions) in order to derive a possible valuation range for the company.

3. M&A in Digital Payments Sector

Chapter 3 encompasses the discussion regarding the overview and the main drivers featuring the digital payments sector. More in detail, the first paragraph provides a comprehensive perspective of the digital payments sector, describing the key market drivers with a focus on the Italian environment. Then, the topic shifts on the role of M&A as a tool for digital payments companies, discussing the main motivations and the market trends over the recent years. Finally, three case studies are presented with the aim to provide a practical perspective on the strategic rationales leading to M&A in the digital payments sector.

3.1 Digital Payments: Dynamics and Perspectives

3.1.1 Market Drivers

A period of sustained transition is currently ongoing in the payments sector, with continuous developments taking place currently throughout the entire environment. The digital economy and e-commerce are centred around the major progresses experience in e-payments, which are projected to account for a $1.3 trillion in 2023 (Capgemini, 2023)[30]. Owing to the payments industry's rapid expansion outside the boundaries of conventional transactions, established firms are overcoming the legacy obstacles on several fronts. The new players in the digital payments (or PayTechs) have given rise to a wave of innovation and breakthrough ideas that are revolutionising the industry, facilitating e-commerce, and providing consumers with unprecedented alternatives in terms of services and customers experiences. All these changes have essentially turned payments more instantaneous, seamless, and integrated into consumer experience[31].

The disruptive changes featuring the traditional payments ecosystem have been coming at a rapid pace and with extensive impacts over the last years. PaytTech applications reflect the vision of startups gaining an opportunity to leverage on their technological edge and the focus on customer centricity to expand into payments providing new service configurations. Based on this, users can enjoy today faster, easier and more convenient payments solutions addressing individual needs. In the midst of this disruption, a brand new generation of digital players has emerged. PayTechs are a category of FinTechs (new companies engaged in the application of technology into the wider financial environment) which focus on the payments value chain, as well as payments facilitators

[30] Capgemini (2023). 2023 World Payments Report.

[31] Błach, J., Klimontowicz, M. (2021). The Determinants of PayTech's Success in the Mobile Payment Market—The Case of BLIK. Journal of Risk and Financial Management, 14(9), 422.

(PayFacs) and PSPs (Payment Service Providers), platforms creating new payments propositions, and payments technology suppliers.

Accounting for the PayTechs' impact, these entities have enabled the development of a dynamic, fastly evolving and modern payments landscape. In response to the growing need for seamless payments solutions and the growing trends of the digital economy, PayTechs are providing at the same time integrated solutions for merchants and customers on both ends of the marketplace. In this process, PayTechs quickly realised that seamless, integrated, and speedy solutions can provide an immediate competitive edge over traditional payments systems. Against this general background, it is possible to discern some of the key transformations shaping the PayTechs environment:

- The role of e-commerce in driving the digital economy. The new payment solutions are assisting in the most effective direct connection between retailers and customers, resulting in quicker, less expensive, and safer payment options.
- As PayTechs focus on the whole customer experience by offering convenient services both before and after payments, several participants in the payments industry are considering value beyond payments and becoming a one-stop shop for customers' cash management need.
- The adoption of "pay by bank" and other innovative payment options like "variable recurring payments" by a large number of participants will make open banking a really revolutionary experience. Because of the growth of e-commerce, platforms, and marketplaces, embedded payments are anticipated to expand and further reduce the divide in not being perceived as non-financial services providers.
- In addition to providing new payment options, distributed ledger technology (DLT), smart contracts, and tokenization enable instantaneous settlement through a new infrastructure. Each of these drivers represents itself a fundamental change, even if the rate of adoption, size, and influence of each force may differ throughout markets in the coming years. PayTechs will keep driving change, but established PSPs are also crucial in determining how the industry will develop in the future.

What discussed so far, highlights how the payments sector is undergoing a phase of extensive transformation, on the wake of the ongoing digitalization ongoing. Based on the existing reports and academic research (Leon, 2021 and EY, 2023)[32] [33], it is possible to identify some mega-trends

[32] León, C. (2021). The adoption of a mobile payment system: the user perspective. Latin American Journal of Central Banking, 2(4), 100042.

[33] EY (2023). The rise of PayTech — seven forces shaping the future of payments.

which are driving the change in the traditional payments system, paving the way for the emergence and affirmation of the digital payments ecosystem.

Open Banking

Open banking, which developments goes in parallel with technological and governmental policy progresses, is a global phenomena giving consumers more control over their data, identities, and financial transactions. As such, open banking enables approved third parties to utilise banking services on their behalf. Secure application programming interfaces (APIs), enable banks to offer their services through a new channel in various countries. In the past, cards providers have firmly controlled the retail payments environment as most financial services were only available through the bank's own channels, including websites and mobile applications, which enabled a highly integrated approach to service delivery. Open banking enables new opportunities to overcome this reliance and satisfy growing consumer demand for seamless, personalised payment experiences. Furthermore, open payments essentially let customers and other parties start the payment distribution and/or collection process. They ensure security and meet consumer permission standards, allowing digital payments to be made without the need for middlemen and transactional tools like cards or cheques. Worldwide instances of open banking differ substantially as while allowing customers access to accounts is subject to regulatory minimums in the European Union (EU), banks in other regions, like the US and Canada, have taken a more commercial approach and have started to commercialise API channels. PayTech heavily rely on APIs as a key facilitator for smooth integration of services. In summary, the open banking approach creates highly attractive "open payments" or "pay by bank" choices by directly linking merchants and consumers, opening up new avenues for quicker, more secure, less expensive, and more convenient payments for customers.

Real Time Payments (RTP)

RTP has expanded swiftly in recent years as a result of businesses' and customers' growing desire for speedy money transfers. RTP transfers money in real time, end to end, using real time payment platforms. In 2022, the worldwide real-time payments industry was estimated to be worth $17 billion and by 2030, it is projected to increase to $193 billion, corresponding to compound annual growth rate (CAGR) of 34.9%[34]. Currently, the RTP ecosystem is fragmented and localised, with

[34] EY (2023). The rise of PayTech — seven forces shaping the future of payments.

several competing platform. 2008 saw the UK lead the way in this regard, and several other nations, including India, Sweden, Australia, and Mexico, soon followed. The US and Canada are set to enter the fray in the coming years, with their first real-time rail rollout anticipated in the next years. Some RTP systems have matured more quickly than others due to a number of factors (maturity is defined by the ecosystem's acceptance of the system):

- Frameworks driven by regulations: these are the nations where regulator-led RTP efforts have had more initial implementation success.
- Greenfield infrastructure: banks with more modern technology may find it easier to adopt RTP.
- Cohesive ecosystems: The EU was able to implement the Single Euro Payments Area (SEPA) Instant beyond strict constraints because of its interconnectedness. Compared to the fragmented US market, individual nations' markets are more linked in terms of cross-border intergovernmental coordination, commerce, and corporate job prospects.

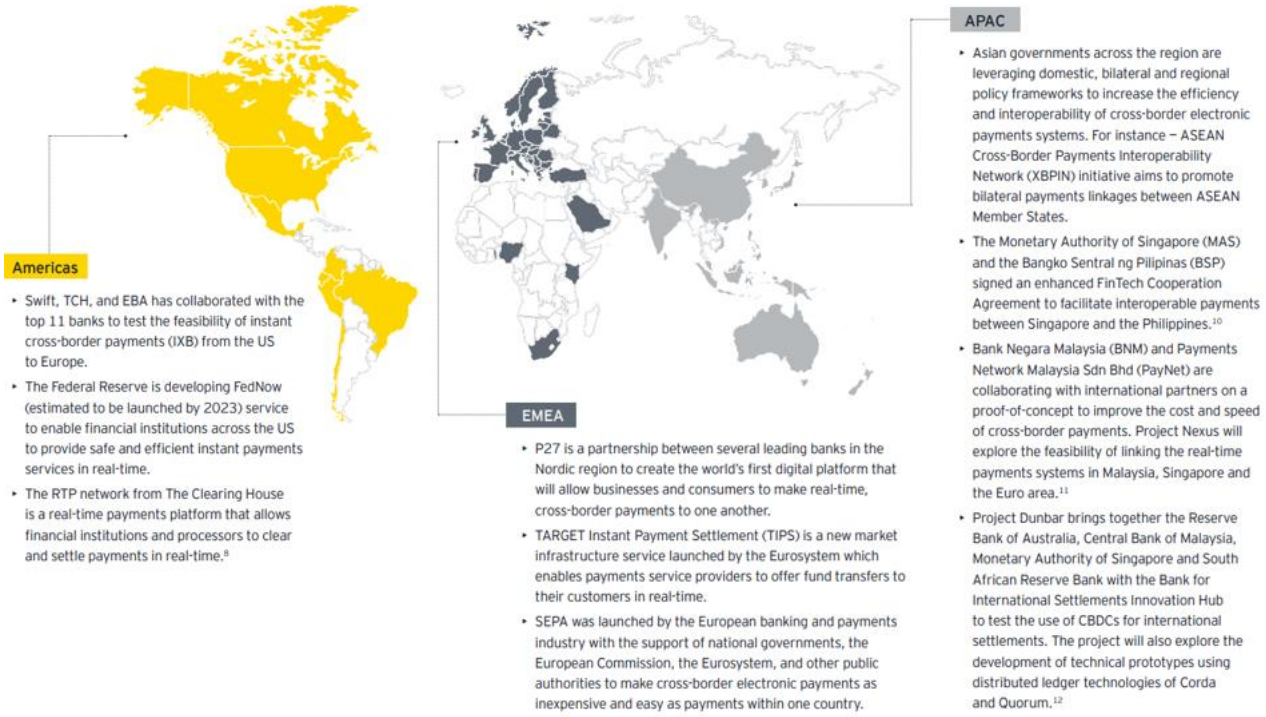
The desire from customers for more convenient access to deposits, regulatory reforms, and technological advancements have led to an unprecedented surge in RTP deployments. Nevertheless, as discussed, regional differences exist in RTP adoption and maturity rates. The actual value of RTP is only seen when it is accompanied by value-added services or overlays, such request to pay, fast cross-border payments, and fraud and liquidity management tools, even if the basic RTP infrastructure represents a step towards the future of payments. By offering these overlays, financial institutions, PSPs, PayTechs, and FinTechs would be able to boost transaction volumes in addition to their bottom lines. On turn, this benefits every involved entity inside the ecosystem.

Cross-Border Payments

PayTechs have transformed retail cross-border transfers and payments while lowering costs and enhancing transaction speed and transparency. International payments are predicted to surpass $200 trillion in 2027 as they continue to grow, with an important weight of B2B transactions. The majority of B2B payments are made at the wholesale level while retail and remittance payments are still relatively minor. PayTechs are working quickly to take advantage of these developments and improve the cross-border payments business models and consumer experiences, while rules are setting the foundation for the modernisation of the sector. Compared to domestic payments, cross-border transfers have been historically slower, associated with higher transaction costs, and far less transparency. Improving cross-border payments is a major area of focus in PayTech space. Globally, banks and central banks are beginning to see how digital assets, cryptocurrencies, and DLT technology as a whole may enhance and revolutionise clearing and settlement procedures. In

order to facilitate the transfer of currencies across nations, domestic systems are working cooperatively to establish worldwide, instantaneous cross-border payments systems. In order to make it easier for banks to execute instantaneous cross-border payments, IXB is being developed in partnership with eleven institutions, which will implement regional payments infrastructure. The creators of IXB want to expand its scalability by including more currencies and real-time payment infrastructure in the future. Figure 7 exposes the main regional payment systems.

Figure 7 – Main Cross-Border Payment Systems (EY, 2023)[35]



Buy Now Pay Later

During the pandemic, BNPL rapidly grew in popularity as more transactions moved online and consumers searched for methods to stretch their budgets. This more recent payment option provides immediate credit decisions and the ability to pay in installments at the time of sale. This cutting-edge financing option helps retailers and merchants increase sales, draw in customers, and reduce the so-called phenomenon of "cart abandonment". Customers look at BNPL services because of affordability, ease of use, and steady payment schedule. Particularly in markets such as India, BNPL is the e-commerce payment option that is expanding at the highest rates. In 2021, BNPL accounted for almost 3% of worldwide e-commerce spending, or over $157 billion (EY, 2023)[36],

[35] EY (2023). The rise of PayTech — seven forces shaping the future of payments.

[36] EY (2023). The rise of PayTech — seven forces shaping the future of payments.

with the value expected to increase steadily in the coming years. Due to its growing popularity as a substitute for credit cards and other payment methods, there is now more competition in the BNPL market. For instance, Apple introduced in 2022 its own BNPL sevice throughout Europe. Although BNPL was first used to more affordable fashion products, its use has grown among merchants incorporating BNPL options in their online purchase systems. Moreover, corporate purchasing as well as non-discretionary purchases like medical care, legal services, and auto repairs are also now including in BNPL.

Despite such outstanding early success, a major concern compared to incumbent banking models is the absence to date of consistent regulation in the BNPL space. In many cases, institutions see traditional consumer lending models as distinct products that need extensive credit risk rating and affordability evaluations. However, authorities are intervening aiming to uniform the service conditions for this services. BNPL has prompted a reconsideration of the EU's Consumer Credit Directive guidelines. In the United Kingdom, the Financial Conduct Authority has begun to regulate BNPL entities, and consequently all firms must follow consumer protection regulations. On top of this, profitability difficulties are arising over the last years, with lower consumer spending, higher interest rates in response to inflationary pressures, and more stringent general lending conditions. It is also important to consider the loss rate for BNPL players. It is estimated that, for every US$1 billion in processing volume, BNPLs write off $19.2 million in bad debt, whereas largest credit card providers wipe off just $270 (EY, 2023)[37]. As a natural way ahead, pure-play BNPL players will have to choose between being purchased or expanding the service portfolio they provide. In order to retain a viable operating model and enhance profitability, BNPL participants must develop a more sustainable business strategy that capitalises on opportunities while minimising risk taking. BNPL players need to prepare to evaluate consumers' creditworthiness more thoroughfully while expanding their base. This will involve the increasing recourse to artificial intelligence (AI) and machine learning (ML) to create complete credit ratings through integration with other BNPL providers.

The Emergence of Digital Wallets and Super Apps

Digital wallets provide users with a single location to handle their funds while also considerably lowering payment transaction rates. Super Apps, at the same time, aim to satisfy practically any financial, recreational, or lifestyle demand its customers may have by using data. When compared to the markets in North America or Europe, APAC is leading the way in this field with the emergence of giants such as *WeChat*, capable to integrate all the key services for customers,

[37] EY (2023). The rise of PayTech — seven forces shaping the future of payments.

including payments. Other integrated value-added services like loyalty programmes, security, and the conversion of closed-to-open loop wallets are also associated with the growing popularity of digital wallets.

The way by which customers save and spend their funds in today's digitally first economy is drastically upending traditional banking around the globe. Super Apps and digital wallets are at the heart of this transformation. In the early days of the internet, digital wallets were initially developed as a way to address peer-to-peer (P2P) payments. However, they rapidly acquired popularity among e-commerce companies and helped to expedite online payments. PayPal expanded the idea in 1999, revolutionising the way merchants and customers perceived payments. A new digital wallet service called Venmo, which PayPal purchased in 2013, and PayPal itself debuted in 2021, giving users a single location to handle their funds. Additionally, it offered clients the opportunity to purchase with cryptocurrency by introducing Checkout with Crypto.

In 2021, mobile commerce overcame desktop e-commerce, accounting for 52% of all e-commerce spending with transaction values via mobile devices. In the same year, mobile wallets accounted for 49% of all e-commerce payments made worldwide. The usage of digital and wallet payments has increased more in economies that were formerly more cash-based and less reliant on credit cards. In APAC, digital wallets account for 68.5% of all e-commerce payments. By 2025, this is anticipated to increase to 72.4%[38].

Given their extensive reach and solid customer base, both Super Apps and digital wallets are aggressively venturing into new services including digital identification, BNPL, and contactless payments using wearables and near-field communications (NFC). Super applications aim to satisfy practically every kind of financial, recreational, or lifestyle requirement its users may have by taking use of network effects. By 2025, it is predicted that digital wallet spending would surpass $10 trillion, with 69% of transactions coming from emerging markets such as China and India (EY, 2023)[39]. Also in terms of adoption of digital wallets, the APAC region has outperformed North America and Europe, which are still primarily dependent on credit cards and card networks. Digital payments have directly impacted environments once mostly cash-based, as a result of the consolidation of key companies in APAC. Furthermore, the market was ready for upheaval due to the dual effects of insufficient infrastructure and rapid technology innovation.

Applications such as wearables, QR, NFC, and payment gateways have significantly boosted the number of contactless transactions. Since QR codes don't require new infrastructure, they have

[38] EY (2023). The rise of PayTech — seven forces shaping the future of payments.

[39] EY (2023). The rise of PayTech — seven forces shaping the future of payments.

surpassed NFC payments and represent an innovative way to make contactless payments in-store. Additionally, it is supported by the regular discounts and promotions that PSPs provide. Reaching 12 million users per week in 2023, QR codes have the potential to become a cutting-edge method for mobile users to pay and respond (Deloitte, 2023)[40]. Digital wallet use is also correlated with integrated value-added services including security, loyalty programmes, and the conversion of closed-to-open-loop wallets. Therefore, one of the main issues facing PayTech companies is protecting consumers' digital identities, with biometric authentication serving as an extra security measure. By introducing additional services, digital wallets are expected to continue growing and gaining more users in the next years. This will assist in boosting adoption rates and persuading retailers to take payments. At the same time Super Apps to include social media-initiated payments, voice triggered payments, cryptocurrencies, NFT management, metaverse payments and biometric payments.

Embedded Payments

Integrated payments are becoming a crucial component of the most innovative value propositions as companies strive to give their clients more personalized, seamless experiences. By 2030, embedded finance is predicted to account for a global value reaching $7 trillion[41]. Embedded payments are the biggest subsector of embedded finance, with a market value expected to represent between 60% and 70% of embedded finance by 2030, or over US$4.5 trillion. It is projected that 74% of digital consumer payments made globally by 2030 would take place on non-financial services companies' platforms. Business models including non-financial services firms (like Uber or Shopify) providing payment capabilities to their business clients are linked to embedded payments. Therefore, embedded payments are becoming increasingly prevalent across all business models, including B2B2C and B2B2B. The acceptance of integrated payments is still greatly aided by PayTechs. Embedded payments often address a variety of issues, including making it simpler for companies to accept payments. Additionally, they give companies greater value to their subsidiary companies (for example, Uber keeps its drivers "in its ecosystem" longer by providing them wallets and credit cards). Embedded payment systems were first intended to give consumers a more positive checkout experience while giving retailers control and payment alternatives. For instance, Shopify's merchant clients may now benefit from payments processing, money accounts, and payment cards thanks to the PayTech provider Stripe. Embedded payments allow businesses like Shopify to provide a more smooth and frictionless experience for their consumers by eliminating the need for them to stand

[40] Deloitte (2023). Digital payment technology for merchants How QR codes will impact the future of payments

[41] Dealroom and ABN Amro Ventures (2022). The rise of embedded finance. Report issued in March 2022.

out as a separate step. Both B2B2C and B2B2B markets provide new opportunities for direct or indirect client engagement. The cost of payments services for online retailers, such as those on Shopify, is normally 3% of the total amount sold, which generates significant revenue for the platforms that provide it as an integrated service. Furthermore, payments for gig economy and service workers, from straightforward integrated wallets to "instant payouts", create a sizable profit.

The e-commerce business is dominated by marketplaces, encountering a phase of sustained growth rates. Roughly half of all e-commerce sales occur on marketplaces globally. Cross-border e-commerce is the next fastest-growing subsegment, after marketplace e-commerce. In contrast to direct merchant e-commerce, which is expanding at moderate rate, e-commerce marketplaces area increasing overall at a CAGR of 19% (McKinsey&Company, 2023)[42]. Nevertheless, it has to be considered that integrated payments pose a direct threat to banks' acquisition of business units. Companies may now obtain payment processing from other suppliers, such as marketplaces and platforms, instead of needing to collaborate with banks. It is difficult to compete with these payment markets and platforms since many banks do not yet provide the same "integrated" experience—that is, the option to activate payments options with as much as one tap.

The quest to becoming invisible constitutes the next big leap in the PayTech ecosystem. This concept has to do away with the requirement for extra credentials to be provided for authentication. Rather, the invisible payments system will use biometric data to verify and identify the consumer automatically. As a result, customers will therefore hardly be engaged in lenghty transactions. The payments will simply take place as a result of their interactions, enabling them to just walk out of their purchases, check-out-free establishments. In the automobile industry, in-vehicle commerce is being integrated into automobiles to enable drivers to pay for a variety of in-car services (fuel, parking, insurance, vehicle maintenance payments), purchases (financing, payments, car-share, rental cars), mobility, and more directly from the vehicle. The overall transaction volumes made through connected car e-commerce is expected to break the $500 billion threshold by 2030[43].

Central Banks Digital Currencies (CBDCs) and Digital Currencies

As initial industry solutions emerge, digital currencies and CBDCs are increasingly being introduced and adopted and are quickly moving to the top of the list for payment providers searching for regulated alternatives. The ultimate advantages of digital currencies include

[42] McKinsey&Company (2023). On the cusp of the next payments era: Future opportunities for banks. Report issued on 23 September 2023.

[43] McKinsey&Company (2023). On the cusp of the next payments era: Future opportunities for banks. Report issued on 23 September 2023.

atomic/instantaneous settlement, enhanced automation, transparency, and efficiency, as well as the capacity to programme money to enable new business models.

With the popularity of digital currencies and CBDCs, blockchain is spearheading as the force of change in payments. As a result, new players in the payments and cryptocurrency ecosystems are emerging. In this perspective, the market capitalisation of Bitcoin the most important cryptocurrency to date, has reached $1 trillion in February 2024 (Tan, 2021)[44]. Main platforms providing bitcoin and blockchain technologies are also venturing into the payments space. Bifinity, a payments technology firm, was introduced by Binance, the largest cryptocurrency exchange in the world. It will serve as Binance and other blockchain platforms' official fiat-to-crypto payments provider. Bifinity's APIs may also be used by merchants to prepare their establishment for cryptocurrency and enable payment processing. There are also established payment firms in the cryptocurrency space. Customers may now use cryptocurrency connected to their Visa and Mastercard credit cards to make payments. Coinbase users may make purchases in the non-fungible token (NFT) marketplace using Mastercard credit and debit cards. Cryptocurrencies can be sent, received, and transferred by PayPal users. Several global institutions, including as the World Bank, the IMF, and the Bank for International Settlements (BIS), are investigating ways to fortify the infrastructure supporting digital currencies. As many as 86% of central banks worldwide are actively investigating the possibilities for CBDCs, 60% are experimenting with the technology, and 14% are implementing pilot programmes, according to BIS (2022)[45].

Compared to other stablecoins, commercial bank deposits would be regulated, which makes tokenization advantageous. This is due to the fact that commercial banks have considerably clearer liability exposure, including source of money. Tokenized commercial bank deposits are expected to become the standard form of on-chain currency in the industry, since they are necessary to fully realise all tokenization potential. A digital currency solution is required to enable Delivery-versus-Payments (DvP) efficiency in the growing tokenization of financial and physical assets, such as in the settlement of securities. To enhance cash management inside major multinational organisations or service providers, DvP technology and programmable forms of money may also be leveraged to promote operational efficiency for intraday movements.

3.1.2 The Italian Environment

[44] Tan, B. (2023). Central bank digital currency and financial inclusion. International Monetary Fund.

[45] BIS (2022). Bank for International Settlements, “BIS Innovation Hub work on central bank digital currency (CBDC).

The Italian market of digital payments is actively participating to the ongoing step changes which are characterizing the broader PayTech ecosystem. As of the date of writing, available aggregate data refer to the first semester of 2023, and for this first part of the year, digital payments transactions in Italy reached a total amount of €206 billion, up +13% on the same period in 2022 (EY, 2023)[46]. Although the strong impetus resulting from the new reality of Covid-19 pandemic is slowly wearing off, digital payments are expected to reach a value between €425 and €440 billion by end 2024, a value slightly lower than the total of the cash transacted. The pandemic has undoubtedly brought consumers in Italy closer to payment methods that do not involve contact with cash, giving a strong boost to the electronic payments sector that still saw the country lagging far behind most of the other countries in the European Union. However, the transition to digital, after the great leaps forward forced by the Covid-19 period, is slowing down with digital payments returning to growth (+13%) at rates more similar to pre-pandemic rates (with an average annual growth rate 2016-2019 of +10.5%). On the other hand, a greater growth was recorded in the number of transactions carried out (+17.6%), which reached €4.5 billion, with a consequent decrease in the average receipt equal to 45.7 euros today (almost two euros less than twelve months ago, when the value was at €47.5) (EY, 2023)[47].

According to the latest market research (EY, 2023)[48], card payments are growing faster than inflation, with an estimated progress of +6.4% in June 2023. Without further exogenous effects or measures aimed at the adoption of digital payment instruments, however, growth is expected to settle back at pre-pandemic levels in the coming years. Among physical payments, the value of contactless payments exceeded €100 billion in the first half of 2023, continuing its growth albeit at a slower pace than in the past (+25%). The slowdown in the growth of contactless is physiological, it means that the tool and its level of use are reaching their level of maturity. In fact, the penetration of physical card payments has exceeded 70% and continues to rise, showing how more and more people choose this method on a daily basis to make a payment". On the other hand, the market for Mobile & Wearable Payments keeps growing, confirming the trend as one of the main drivers in the market: transactions in the first half of the year stood at €12.2 billion euros (+97%), with an even larger invrease in the transaction of 108% for a total of 450 million.

The BNPL has also grown in Italy in the last year, however, the sector is withnessing the same issues seen in the global BNPL market. In particular, headwinds from the macroeconomic scenario

[46] EY (2023). Fintech Waves 2023: the Italian FinTech ecosystem, 2023 edition. Report issued in February 2023.

[47] EY (2023). Fintech Waves 2023: the Italian FinTech ecosystem, 2023 edition. Report issued in February 2023.

[48] EY (2023). Fintech Waves 2023: the Italian FinTech ecosystem, 2023 edition. Report issued in February 2023.

seem persisting curbing the spectacular growth seen in 2020-2021. At the same time, increasing competition from new and incumbent players is eroding margins, forcing BNPL providers to rething their models and reasses their offert. As discussed for the broader BNPL developments, the single most important factor to be seen in the coming years refers to the developments in regulatory space, with the finalization of new European Directives on Consumer Credit (CCD).

The evolution of the Italian digital payments ecosystem towards a level of maturity is also underscored by the data regarding the development phase of PayTechs. In fact, while those in the early stage have decreased by 25%, those in the early growth phase have increased by 37% (EY, 2023)[49]. Additionally, from the point of view of annual turnover, entities with a turnover of more than 5 million euros are on the rise, making up 24% of the sample, against the 9% recorded in 2020 edition. In terms of investment inflows, the payments and money transactions sector stood out the most, especially thanks to the growth performance achieved by Satispay and Scalapay, the leading PayTech unicorns in the Italian market active respectively in the everyday payments solutions and BNPL.

3.2 The M&A Motivations in Digital Payments

As per other industries M&A represents a key driver for development in the sector of digital payments as well. The quick development of digital payments environment makes players heavily rely on the opportunities of external growth. In this perspective, while multiple rationales for dealmaking are common to other sectors, some key drivers are specific to digital payments, as detailed below.

Achievement of scale economies

First of all, payment providers can increase their client base fast by purchasing rivals. In addition to the opportunity for cross-selling, this also improves infrastructure utilisation, which on turn lowers unit costs. Fixed cost degression produces definite cost synergies, particularly in payment processing and taking regulatory systems into account. Payment processing is not immediately very successful since it is a mass industry with modest earnings per transaction. As a result, it is also feasible to pay off the large expenditures in infrastructure and IT that are presently necessary more rapidly. Acquiring smaller rivals may be one way for larger companies to consolidate market share and create operating synergies. A notable example of this is the merging of Global Payments and Total System Services (TSYS) in May 2019, which had a combined volume of almost €19 billion.

[49] EY (2023). Fintech Waves 2023: the Italian FinTech ecosystem, 2023 edition. Report issued in February 2023.

Due to this significant merger, a preeminent global payments expert was formed, offering software and payment technology to 1,300 financial institutions in more than 100 countries, as well as over 3.5 million merchant clients. The two US firms planned their merger with the express purpose of strengthening their market positions in the payment software space, in addition to achieving economies of scale and financial flexibility.

Access and Retention to Specialized Skills

M&A can help gain specialised, complementary expertise from the target business. Payment service providers are desirable candidates for M&A if they are market niche specialists or have specialised technology, capabilities, or resources that are difficult or impossible to develop internally or quickly. Specifically, the procurement of cutting-edge payment systems against the backdrop of swiftly evolving client demands and mobile payments are important motivators. Expertise in purchasing data analytics might be crucial for payment service providers. Among other things, the methodical assessment of cash flows can yield important data for the company's risk management and credit default probability. Additionally, businesses might employ other strategies to monetize the data as the payment providers' access to merchant and customer data provides a substantial added value. Businesses that do not operate in the financial services or payment industries can also add payment transactions to their value chain.

For instance, Mastercard acquisition of a controlling interest in the Danish company Netts' corporate services division fits this purpose. In addition to supporting real-time account-to-account (A2A) payments, the targeted purchase of technology and services highlights Mastercard's ongoing strategic positioning growth outside of the card industry. Developing specific use cases for immediate payments and adding to previously completed acquisitions is crucial in achieving this goal. Furthermore, gaining new competencies relevant to the main business, like data analytics and a focus on the entire shopping experience is becoming increasingly central. In certain locations, acquirers are currently increasing their issuing capacity. Originally, payment processors who were just focused on processing payments, like PayPal or Klarna, have started to provide (small) loans in an effort to enhance their shopping experience. They may also exploit certain transactions for this reason. With the recent acquisition of Honey in the USA, PayPal, for instance, has advanced and committed to improving the purchasing experience.

Geographical Expansion

Significant obstacles prevent organic expansion in new geographic areas. The growing suppliers face competition from established competitors, lack familiarity with certain sector and regulatory aspects, and are mostly unknown in the target market. In order to grow in these markets, a well-

directed cross-border development of the business sector is made possible by M&A of current payment service providers in the target regions. This reduces risks unique to a certain nation and makes it easier to introduce one's own profitable company plan into other markets. For instance, the combination between Nexi and SIA, close in 2021 (and discussed later in this chapter) has been primarily driven by the geographical scope combination of the two entities, resulting into the creation of the main European PayTech. The group aims to increase the scope of services it offers and accelerate the introduction of new products to the European market.

The Convergence between payments and security providers

Among other things, the growing significance of mobile payments highlights the need of security as a crucial component of financial operations. Enhanced risk identification and fraud protection, together with robust identity and customer verification, are necessary factors enabling account access within the parameters of PSD 2. To this extent, it is therefore possible to anticipate a rise in M&A activity between payment service providers and experts in cybersecurity, fraud prevention, and risk identification in order to reinforce security level. Using AI to automatically detect fraud or unauthorised access is crucial is becoming increasingly crucial in the market. Suppliers have the ability to produce significant competitive advantages, particularly in the B2C market featured by a high volume of individual transactions. Initial trends in this field have already been noted, such as Mastercard's acquisition of the Canadian business Ethoca, which provides services for detecting and preventing fraud in online commerce, and PayPal's acquisition of Simility, a platform for digital fraud prevention.

The Role of Financial Investors

Financial investors, including private equity investors, who seek various integration methodologies, dominate the payments sector and add up to the key rationales addresses so far. Because of this, many payment service providers' unique business features make them especially well-suited to take part in the M&A growth market's multiple expansion and frequently exponential development curve. This is frequently accomplished by putting into practice strategies including upgrading of the management, making supplemental acquisitions to maximise the strategic direction, and refocusing the company strategic direction. Multiple opportunities materialize in this space:

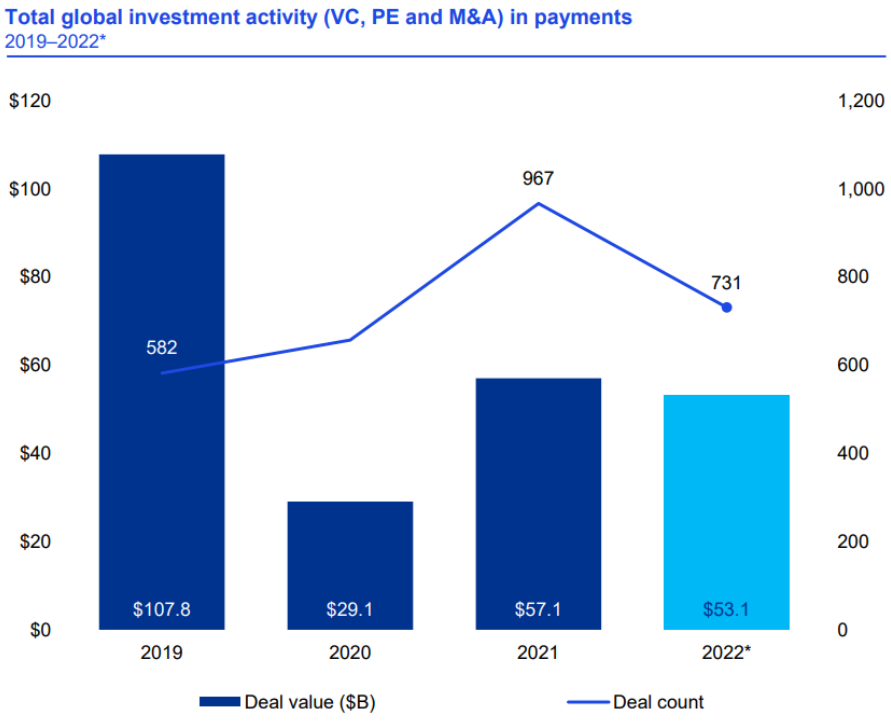
- PayTechs and legacy financial institutions have mutual benefits of a collaborative approach expanding in each other’s sector,
- Partnerships with PayTech startups allow traditional players to offer products meeting market expectations in a short time, with simplicity, flexibility and convenience,

- Strategic Collaborations are expected to continue to be an enabling factor for continuous growth in the market, allowing the creation of value for both parties through the design and offer of innovative solutions.

3.3 Market Trends

As discussed in the previous paragraph, M&A is key alternative for digital payments operators, in order to pursue growth opportunities, gain scale and access new markets. Looking at the M&A trends, and in line with the general M&A market, following a sustained level of dealmaking activity in the aftermath of Covid-19 pandemic, digital payments transaction suffered a slowdown due to macroeconomic uncertainties, mainly increasing interest rates, negatively affecting valuations especially for high growth companies. The trend discussed is reflected in the Figure 8 below.

Figure 8 – Global M&A Activity[50] in Payment Sector - billion of $ (KPMG, 2023)[51]



With over $53.1 billion in total investment, PayTech remained the most popular fintech industry in the world in 2022, despite a year-over-year fall in investment. Over half of this amount came from the acquisition of the Australia-based BNPL Afterpay player, with a countervalue of $27.9 billion. Based on the above, important drivers emerged from the market highlights during 2022 and 2023:

[50] Including M&A, Venture Capital and Private Equity investments.

[51] KPMG (2023). Pulse of Fintech H2'22 February 2023: Global analysis of fintech investment. Report issued in February 2023.

- Sustained transaction volume in spite of market uncertainties: with the exception of the anomalous year of 2021 (recording a strong post Covid-19 recovery), the payments industry had the second-highest amount of agreements ever in 2022. While totale value marked a reduction, the volume of transactions is a good proxy of the range of payment-related prospects and the industry's long-term appeal to investors.
- Key countries drawing megarounds valued at $100 million or more: the seven largest venture capital deals were from seven different jurisdictions: Sweden-based Klarna ($800 million), UK-based SumUp ($603 million), South Korea-based Toss ($405 million), and Scalapay ($500 million). This indicates the remarkable geographic diversity of private deals reinforcing the strong interest towards the PayTech sector.
- BNPL is still on the focus despite difficulties with valuations: as discussed, changed market conditions, turned headwinds against the BNPL model since 2022. Because of the high rate of inflation and rising interest rates, BNPL firms' margins would probably continue to be strained for longer than expected. There was nevertheless activity in the BNPL market despite this, with deals involving stand-alone companies, especially large corporations aiming to integrate or develop their own BNPL products. Walmart revealed intentions to work with One, a FinTech in which it holds a controlling share, to provide a new BNPL service.
- Increasing emphasis on embedded payments: throughout 2022 and 2023, interest in embedded payments grew across a wide range of industries, including ride-hailing, gambling, retail, and e-commerce. Corporates expressed a special interest in the area, perhaps to increase the value of their customer base.

Figure 9 – Top 10 Transactions in FinTech Sector in 2021-2023 (Adapted from KPMG, 2023)[52]

Rank	Target	Sector	Deal Value
1	Afterpay	PayTech	$27.9 billion
2	Avalara	RegTech	$8.4 billion
3	SIA	PayTech	$3.9 billion
4	Bottomline Tech	B2B	$2.6 billion
5	Tink	PayTech/B2B	$2.1 billion
6	Yayol	B2B	$2.1 billion

[52] Adapted from: KPMG (2023). Pulse of Fintech H2'22 February 2023: Global analysis of fintech investment. Report issued in February 2023.

7	Interactive Investor	Digital Investments	$1.8 billion
8	Billtrust	PayTech	$1.7 billion
9	Computer Services	B2B	$1.6 billion
10	FNZ	Digital Investments	$1.4 billion

Figure 9 below summarizes 10 of the main M&A transactions occurred in FinTech since 2021, highlighting how 4 relate to PayTech. Looking at available data for 2023, the fact that payments have seen a sizable amount of deal volume says a lot, especially in light of the unstable global economy that has led to a decline in transaction value across many sectors. Such consideration highlights the extraordinary interest from investors in a wide range of participants throughout the payments space internationally, as well as the amount of attention, innovation, and cooperation that are taking place in this industry. The key market catalysts for 2024 can be summarized as:

- Businesses with lower levels of debt seeking to acquire technology capabilities at lower valuations;
- Payments players expanding the scope of their platforms (either directly and through partnerships);
- BNPL changing from being a standalone offering to more of a platform feature;
- Asia-Pacific companies and investors shifting the focus from growing customer base to improving customer engagement.

3.4 Case Studies

This final paragraph of Chapter 3 is dedicated to the discussion of three case studies related to M&A transactions conducted in the recent years in the digital payment environment. These have been chosen as considered some of the most representative to summarize the motivations for M&A in the sector.

Case 1 – Nexi – SIA

On 16 December 2021, Nexi and SIA communicated the completion of the integration announced on February 2020. The deal announced in 2019 paves the way for the creation of the Italian champion in payments and one of the key operators in Europe.

Nexi

Nexi founded in November 2017 from the merger of two historic Italian companies: the Central Institute of Italian Popular Banks (ICBPI) and CartaSi, one of the main credit card operators in Italy since 1980s. Nexi is a company providing digital payment services to banks and other institutional

customers such as the public administration. Its key services regard the purchase (i.e. the supply and management of POS), and issuance process (i.e. the issuance of credit cards and other digital payment methods) and the management of all the systems behind it. Nexi is one of the major partner of banks and merchants in providing payment solutions and established itself over the last years as one of the main PayTechs in Europe.

SIA

The Società Interbancaria per l'Automazione (SIA) founded by the Bank of Italy, the Italian Banking Association (ABI) and other Italian banks in 1977, had the original purpose to create the National Interbank Network, namely the infrastructure that digitally connects all financial institutions, and during the 1980s, SIA helped launch the ATM circuit. SIA also provides a variety of services to banks and other customers, with the company being best known for being a payment processor. In a few words SIA operate sas the creator and manager of the underlying infrastructure of the banking system, which makes sure that all the steps in payment systems take place correctly. For this reason, SIA has among its clients many central banks around the world.

The Acquisition

The deal, which combines two of main entities active in the Italian payment ecosystem, allows Nexi to consolidate itself as the leading Italian PayTech at European level, able to promote the transition to a cashless and digital economy in Europe, capable of covering the entire value chain of digital payments and serving all market segments with the most complete and innovative range of solutions. The combined group, accounting for approximately €2.9 billion in revenues and €1.5 billion in EBITDA (as of 31 December 2020 and including fully operational synergies), is well positioned to grow through development of new partnerships with banksìing institutions and merchants in the different domestic markets markets and in Europe. The key rationales for the combination can be listed as:

- The combination, is primarily led by scale as it will create the leading Italian PayTech in Europe;
- A new technological and digital innovation hub will be created guaranteeing a portfolio of best-in-class solutions, technologies and skills in all areas of digital payments, in Italy and Europe;
- Significant value creation for Nexi shareholders, with recurring cash synergies estimated at approximately €320 million per annum when fully operational1 adding those deriving from the mergers with Sia and Nets;

- Approximately €2.9 billion in revenues and €1.5 billion in EBITDA on a pro-forma aggregate basis as at 31 December 2020, including fully loaded synergies.

Figure 10 – Summary of Nexi-SIA Combination Synergies (Nexi, 2021)[53]

2019 Results (€ billion)	Nexi	SIA	Synergies	Combined Entity
Revenues	1.08	0.73	0.05	1.81
EBITDA	0.59	0.28	0.13	1.00
EBITDA Margin	55%	38%		55%
Operating Cash Flow	0.47	0.18	0.15	0.80
Operating Cash Flow Conv. (%)	81%	65%		81%

Figure 10 summarizes the combined financial synergies of the combination, showing a generalized improvement in terms of revenues growth, profitability and cash generation. The new group is therefore well positioned to provide integrated payments solutions to the banking and digital payments system in Italy and Europe. Nexi operates now as a major player, able to serve a diversified customer base (i.e. international and national banking institutions, large companies and small merchants, as well as providing payments services to the public administration) as the technological partner of the larger banking and financial ecosystem.

Case 2 – Square – Afterpay

With an announcement issued on 1 August 2021, Square acquired Afterpay, one of the major BNPL operators in the world, for $29 billion. The transaction still today represents the largest transaction by value in FinTech and witnesses the focus on BNPL solutions. A brief description of the players involved is reported below.

Square

Square is the biggest corporate technology platform, covering a wide range of sectors. Thanks to Square, businesses can sell anywhere, operate more productively, manage staff, keep track of inventory, connect with clients, schedule appointments, buy food online, and more with the innovative proprietary operating system. These technologies open up for new possibilities for different of organisation, from small family-run firms to international chains. It also fundamentally changed the way the banking sector views small companies. In summary, Square operates as an

[53] Nexi (2021). Nexi e SIA, firmato atto di fusione tra i due Gruppi Un passo fondamentale per la creazione della PayTech italiana leader in Europa. Press release issued on 16 December 2021.

integrated platform for financial services dedicated to small and medium enterprises providing innovative tools and solutions beyond a simple payment processor.

Afterpay

Since its startup, Afterpay offered a set of solutions to facilitate customer purchase experience. As of the time of the acquisition, the company accounted for around 16 million customers and approximately 100,000 merchants worldwide—including well-known stores in important verticals like fashion, home goods, cosmetics, athletic goods, and more. Customers may get the items they need and want with the help of Afterpay, all while keeping control and financial well-being. Moreover, Afterpay helps businesses expand by encouraging recurring business, raising average transaction values, and enabling customers to make payments over time. Afterpay has been consistently delivering support customers in making responsible purchases without charging late fees, interest, or revolving debt across many countries across several regions (including Asia Pacific, North America and Europe, also operating under its Clearpay brand).

The Acquisition

Given its scope of activities, Square immediately found the BNPL entry a compelling potential, since consumer preferences, particularly those of younger consumers, are moving away from traditional credit tools, merchants are continuously looking for new methods to increase sales, and omnichannel shopping is expanding globally. Another aspect refers to the enhancement of the merchant and cash app ecosystems. Square and Afterpay's complementary activities offer a material ground to accelerate development across many strategic levers. Larger sellers and geographic expansion are expected to be accelerated by Afterpay's worldwide merchant base, which will also encourage more Square seller acquisition. When the Afterpay app is incorporated into Square’s Cash App, it will allow users to manage their repayments, find new merchants, and broaden Cash App's already expanding product offering. The acquisition is poised to give Afterpay more size, better positioning, and value as a leading BNPL provider. Square has millions of vendors and over 70 million active Cash App users annually. Afterpay will gain from this massive and expanding client base, which will help the company develop both online and offline. Cash App's financial functions, such as money transfers, Bitcoin and stock purchases, Cash Boost, and more, will be available to Afterpay customers, integrating and expanding the cross offer of services for final customers.

Finally, the combination has the potential to lay the ground for material revenue synergies to sustain long-term growth. Afterpay is expected to be accretive to gross profit growth, with a little decline in adjusted EBITDA margins anticipated in the first year following the transaction's conclusion.

Square sees a chance to invest in Afterpay's robust unit economics and alluring growth synergies, including the chance to launch new products, encourage sellers' incremental growth, and boost Cash App users' engagement. It is noted that Afterpay's management team will be a key part of the integrated entity as following the transaction's completion, Afterpay's co-founders and co-CEOs will join Square and assist in running the company's separate merchant and consumer businesses as a member of Square's Cash App and Seller ecosystems. Figure 11 lays out the key synergies deriving from the Square-Afterpay acquisition.

Figure 11 – Summary of Square-Afterpay combination synergies (Square & Afterpay, 2021)[54]

	Consumers	Merchants
Expand customer base	• Strengthen Afterpay's consumer base of 16 million with 70 million annual active Cash App customers • Bring Afterpay's merchant base more consumers through Cash App • Reach new Cash App audiences in global geographies	• Strengthen Afterpay's merchant base with millions of Square sellers • Attract new sellers to Square with BNPL as an acquisition tool • Grow in upmarket and in new geographies together
Strengthen products and build connections	• Add Afterpay BNPL to Cash App's ecosystem • Integrate commerce discovery from Afterpay App into Cash App to drive engagement • Afterpay consumers can receive the benefits of Cash App's ecosystem, including P2P, stock brokerage, bitcoin, Cash Card, Boost, taxes and more	• Enable Afterpay BNPL for Square Sellers, supporting their growth through higher transaction sizes and conversion rates • Introduce Seller ecosystem to Afterpay's merchants • Grow Afterpay's presence with SMBs, in-person commerce, and new verticals

In summary, the transaction establishes o global leading player in the payment solutions for small and medium enterprises, integrating the Square's merchant network with the extensive Afterpay's customer base. The complementary fit between BNPL services and the Cash App platform, constitutes a primary source for growth for the combined company, posing the a significant potential to expand in new geographies and within the existing markets.

Case 3 – Poste Italiane – LIS

On 15 September 2022, Poste Italiane, through its controlled entity Postepay, announced the fulfilment of the outstanding conditions for the acquisition of the LIS Holding S.p.A., one of the leading in-store payments service provider in Italy.

Poste Italiane

Poste Italiane is Italy's leading omnichannel platform providing delivery services, insurance, payments as well as internet and mobile. Since its foundation 160 years ago, to date, Poste Italiane sustained the economic development of the country and today operates with a network of 12,800

[54] Square & Afterpay (2021). Square adds Afterpay to Seller and Cash App, Connecting its Ecosystems. Joint presentation issued on 1st Augut 2021.

post offices, 122,000 employees, €588 billion in total financial assets and around 35 million customers, with a daily average of around 20 million interactions between physical, digital and B2B2C channels, More in particular, Poste Italiane, through Postepay provides an integrated offer cards and payments, mobile and internet services. As of 2021, Postepay is one the main operators in Italy, reaching nearly 14 million customers across all services.

LIS

LIS Holding, previously a portfolio company of International Game Technology, is a digital payments platform recording in 2021 about 5 million daily accesses, leveraging on a proprietary platform infrastructure. Founded 15 years ago, LIS Holding operates in the Paytech sector with know-how, experience and high technological skills, which allow us to be a leader in the creation and management of solutions and infrastructures for the provision of a wide range of financial and payment services for both businesses and final customers, through a widespread network of about 60,000 PuntoLis brand stores, located throughout the country. LIS Pay S.p.A., a subsidiary of LIS Holding S.p.A., also offers electronic money services, being one of the first EMIs authorized by the Bank of Italy and a leading player in the world of financial services.

The Acquisition

A first element help understand the transformative impact of the acquisition for Poste Italiane, as the countervalue of the transaction involving 100% of the share capital of LIS is €700 million, the most important acquisition in company's history. LIS, being a long-time partner of Poste Italiane in the payment services, leverages a proprietary Paytech platform and distinctive expertise, as well as a highly qualified management team and is active in the Italian proximity payments market through a network of affiliated points of sale. LIS offers services including the payment of bills, prepaid payment cards, phone top-ups and vouchers, as well as solutions for merchants and businesses. It also provides an integrated management of all the back-office activities of the point of sale and of the payment and commercial services provided to customers.

In the fiscal year 2021, LIS reported turnover stood at €228 million with an EBITDA of €40 million and a clear growing trend for the first half of 2022, recording gross sales of €132 million and EBITDA (+16% year-on-year) of €24 million. Several are the key drivers underpinning the strategic rational of the deal. Poste has acquired a PayTech company already profitable: one of the few exceptions in a sector wherein companies need cash to fuel growth. The objective is clear, that is strengthening Postepay's leading positioning in the PayTech sector and further contributing to the implementation of the group omnichannel strategy.

For the sake of comparison, LIS figures are very similar to those of SisalPay, another leading player in Italian PayTech landscape, which by merging with Banca Cinque of Intesa San Sanpaolo, has created Mooney, one of the main competitors of the new Postepay. The acquisition is clearly intended to consolidate the payments market, leveraging especially on the digital advantage in the omnichannel strategy, which is one of the key levers in Poste Italiane's current plan. Postepay, which manages 28.3 million payment cards and approximately 10 million digital wallets as of 2022, will leverage LIS' technological know-how to expand its product offering.

4. M&A Value Creation

Chapter 4 lays out the theoretical premises underpinning the discussion on M&A value creation. As anticipated in the opening Chapter, value creation is one of the most sought-after areas in the study of M&A success, and therefore it is interesting to better define the dynamics leading to successful M&A. To this end, a literature review is conducted highlighting the main contributions in terms of the nature M&A performance and the extent of post-deal value creation (or destruction). Then, the analytical methodology is described, whereas in the last paragraph, the research hypothesis are presented.

4.1 Literature Review on M&A Value Creation

The discussion around the essence of M&A success has widely interested researchers and practitioners since several decades, with little convergence on the real premises of key drivers supporting transactions value creation. As a matter of fact, M&A success responds to a series of different perspectives and can be subject, from case to case, to several variables. Before entering in the bulk of the discussion, it is necessary to clarify that for the purpose of this study, value creation is intended the economic benefit going to the acquiring company's shareholders. On this aspect, the study from Zollo and Meyer (2008)[55] deepens the analysis of the meaning and understanding of M&A performance, through a sample of 146 transactions (diversified both in terms of industry and geographical areas). Their results show that M&A performance can be interpreted as a complex concept with multiple facets. A first aspect regards the fact that there is no single factor that can encompass all the various perpsectives affecting M&A performance. Secondly, there is a path that connects the performance of the post-deal integration with the long-term performance of the firm. Thirdly, short-term window event studies are unrelated to any other performance metrics. Gaughan (2018)[56] conducts an extensive review of the key rationales behing the M&A strategy. In particular, he classsifies dealmaking activity based on the quest for: growth, synergies, diversification or focus, integration (both vertical and horizontal) and other motives (management, R&D and distribution improvements, and tax reasons). All such variables are investigated, with multiple methodologies adopted providing mixed results in terms of M&A performance.

Delving into the sign of M&A performance, no univocal evidence is available to date. On the one side multiple studies support the thesis of M&A as a tool of value creation for acquiring companies.

[55] Zollo, M., Meier, D. (2008). What is M&A performance?. Academy of management perspectives, 22(3), 55-77.

[56] Gaughan, P. A. (2018). Mergers, acquisitions, and corporate restructurings. John Wiley & Sons.

Eckbo and Thorburn (2000)[57] research highlights that U.S. bidder in M&A returns are close to zero, whereas domestic bidders result into significantly positive average abnormal returns following announcements. A stronger performance from the domestic bidder is further supported by measurements of abnormal accounting performance before to and during the purchase. The bidders with the smallest equity amount in relation to the target and bids comprising stock payment often yield the highest returns on domestic bidder announcements. Similarly to this study, Alexandridis et *al.* (2017)[58] contends that since 2009, M&A transactions have increased the value that acquiring firms' shareholders get. Stock-based transactions differently from the past evidence, no longer destroy value, and public acquisitions provide positive and statistically significant abnormal returns for acquirers. The reported positive M&A performance appears to be driven by larger deal value, in particular, for transactions of least $500 million, which are usually linked to more severe agency problems, investor scrutiny, and media attention. The equivalent synergistic gains have surged as well, indicating a significant increase in total value creation through M&A. Findings are resilient also for controlling tests, confirming the association of significant gains to the standard of corporate governance among acquiring companies. Gupta et *al.* (2021)[59] analyse how acquisitions and post-merger effects impact value generation. The influence of delayed synergy, proxied by sales growth, on the post-M&A performance of acquiring corporations is examined. The study uses a panel dataset of 64 transactions from 2012 to 2018 using the System Generalised Method of Moment model to assess the effects of synergy and value creation following the transaction M&A. The study's findings indicate that value creation emerges for the post-M&A acquiring firms and that delayed synergy has a beneficial impact on future synergies. Sales from the company's prior year have a significant positive impact on sales growth for subsequent years, according to the lagged dependent variable synergy, which demonstrates a strong positive influence on dependent variable synergy. Synergies can be established or at least not harmed if the post-M&A integration of the target successfully absorbs the resources of the acquired firm and successfully deploys such resources. Furthermore, Ibrahimi et *al.* (2021)[60] use the event study approach and multiple regression to evaluate value creation in mergers and acquisitions and its drivers in the MENA area using a sample of 610 deals over a 15-year period. According to findings, despite generalized positive post-M&A performance, target companies generally get more value from mergers and

[57] Eckbo, E., Thorburn, K. (2000). Gains to bidder firms revisited: domestic and foreign acquisitions in Canada. Journal of Financial and Quantitative Analysis, 35, 1–25.

[58] Alexandridis, G., Antypas, N., Travlos, N. (2017). Value creation from M&As: New evidence. Journal of Corporate Finance, 45, 632-650.

[59] Gupta, I., Mishra, N., Tripathy, N. (2021). The impact of Merger and Acquisition on value creation: an empirical evidence.

[60] Ibrahimi, M., Amine, M., Taghzouti, A. (2021). Determinants of value creation through mergers and acquisitions in the MENA region. International Journal of Business Performance Management, 22(2-3), 273-290.

acquisitions than do acquirers. In domestic transactions, the acquirers stand to gain the most, whereas in cross-border transactions, the targets do, a proof of the increasing information asymmetry along due to geographical distance. Acquisitions, industry relatedness, and mergers all have a good or negative effect on this value generation. Value generation is independent of target status, mergers and acquisition experience, geographic extent, and mode of payment.

To a different extent, an equally significant strand of M&A literature leans toward the conclusion that M&A transactions lead to null value creation or even value destruction for buyer's shareholders. In particular, Walker (2000)[61] examines the acquiring companies' stock price performance and strategic goals. The findings are consistent with the asymmetric information hypothesis, which holds that acquiring-firm shareholders benefit more from cash offers, and the strategic alignment hypothesis, which holds that acquiring-firm shareholders benefit more from takeovers that increase the firm's market share or geographic reach. Subsequent investigation reveals that takeovers based on diversification strategies, that is where the acquiring company recognizes limited possible overlap with its current operations, are the main source of shareholder losses. The latter companies often had better growth prospects before the takeover was announced. Iannotta (2010)[62], summarizing practical evidence, contends that when studying impacts on target's, bidder's, and both parties' combined shareholders, abnormal returns tend to be larger for cash acquisitions. Target's stockholders realise returns that are considerably and materially favourable (from 10% to 40%). On the other hand, abnormal returns for bidders' shareholders are often nil or somewhat negative. Referring to the payment method, better results for cash transactions have two main explanations: these transactions are typically linked to financial problems, which tend to discipline management; stock transactions indicate to the market that the bidder thinks the stock is overvalued. Li et *al.* (2021)[63] propose that investors may be interested in the acquirer's acquisition history. This research contends that the contradicting viewpoints on value creation have failed to account for the time interval between acquisitions, and proposes an analysis based on worldwide evidence of 24,263 acquisitions spanning 19 years across 81 nations. This is due to the fact that the frequency of a merger might alter investors' expectations regarding the integration of new businesses and, consequently, investment returns. Authors find that previous experience has a positive impact on market return due to how investors evaluate a merger announcement, which is influenced by both merger numbers and time distribution.

[61] Walker, M. (2000). Corporate takeovers, strategic objectives and acquiring-firm shareholder wealth. Financial Management, 53–66.

[62] Iannotta, G. (2010). Investment Banking A guide to underwriting and Advisory services. Springer.

[63] Li, S., Liu, G. S., Gregoriou, A. (2021). Do more mergers and acquisitions create value for shareholders?. Review of Quantitative Finance and Accounting, 56, 755-787.

Finally, even considering its relatively limited timespan, it is useful to discuss findings related to digital payments M&A. Despite the majority of studies refer to the larger context of FinTech, important findings and research direction harness the digital payments M&A scope. Kotarba (2018)[64] sustains that the success in PayTech M&A largely depends on a series of factors to be accounted for before the acquisition process. These are:

- Need for a deep understanding of the gap in terms of digital skills between the buyer and the seller as a critical success factor in the delivery of expected synergies value.
- The role of the Chief Information Officer (CIO) is crucial in defining the leadership in the M&A deal structuring and execution.
- The formulation and understanding of digital gaps is a key part in the delivery of on-line banking services, and as such, this aspect requires close supervision throughout the entire process.
- The integration of digital solutions is the process which allows to achieve synergies from combining multiples innovations in one asset.
- The definition of the digital KPIs should be a major part of due diligence activities.

Dranev et *al*. (2019)[65], in their study analyse the increasing involvement of PayTech companies in recent M&A from the perspective of investors and by analysing the acquirer company' post-acquisition performance in terms of abnormal returns. Through the adoption of event study methodology, authors find positive market reaction following the acquisition of PayTech companies in the near term and negative market reaction following the acquisition in the long run. Investors' responses to announcements of acquisitions are explained by the interconnections of cross-border acquisitions, the extent of the acquirer's domestic market development, and other features of M&A transactions. Cappa et *al.* (2022)[66] looks into how digital payments M&A could affect the future earnings of the acquiring bank. To this extent, the study measures the stock market's response to M&A operation announcements using an event study approach.

Finally, among the most recent contributions Finally, Bain (2024)[67] observes the evolving strategy for value creation in PayTech deals as apart from worldwide growth, in the recent years banks are selectively acquiring assets that enhance their capabilities as the sector progresses from cards to

[64] Kotarba, M. (2018). Impact of digitalization on M&a Transactions in banking. Zeszyty Naukowe Politechniki Poznańskiej. Organizacja i Zarządzanie.

[65] Dranev, Y., Frolova, K., Ochirova, E. (2019). The impact of fintech M&A on stock returns. Research in International Business and Finance, 48, 353-364.

[66] Cappa, F., Collevecchio, F., Oriani, R., Peruffo, E. (2022). Banks responding to the digital surge through Open Innovation: Stock market performance effects of M&As with fintech firms. Journal of Economics and Business, 121, 106079.

[67] Bain (2024). Global M&A Report 2024. Gaining an edge in a market reset.

digital payments to adjacent areas. This includes payroll, disbursement, and small company services and enhancing payments with working capital. Furthermore, a change in the M&A strategy is emergin as many leading banking institutions are actively seeking to realize separate companies capable to trade at higher multiples by splitting their payments operations rather than buying new ones in order to unlock value.

4.2 Methodology

The two main areas of methodology adopted for the analysis are presented here below, that is event study and regression model.

Event Study

The relationship between announcements and market reaction is the core of the empirical part of this study, through the observation of a sample of M&A announcements related to transactions conducted worldwide. In particular, the analysis aims to demonstrate the reaction of the stock markets post-announcement and to observe their formation around the day of the announcement. The effect of the transaction announcement on daily returns from stock prices is determined through the event study methodology. This analysis is widely adopted to observe the behavior of data sets over a given period in the proximity of the studied event (MacKinlay, 1997)[68]. This approach requires a process composed of defined steps. The main ones are discussed below.

The Event-study is a methodology adopted in various management studies to infer the importance of a given event on the market value of the companies involved. The use of market prices makes it possible to overcome the main limitation of accounting data analysis: the possibility of such data being distorted by the choices made by companies when preparing the financial statements, and therefore of being not fully reliable indicators of company performance. On the contrary, the value that the market attributes to the company is considered to reflect the real value of the companies, being an expression of the present value of the future cash flows related to the ownership of the share and valued by the market on the basis of all the relevant information available. The methodology of the event-study relies on three fundamental assumptions (MacKinley, 1997[69]):

- Efficient markets: this means that prices incorporate all the relevant information available to market participants. Any new information regarding the issuer should be quickly incorporated into the prices as soon as it is made public. It follows that it is possible to study

[68] MacKinlay, A. C. (1997). Event studies in economics and finance. Journal of economic literature, 35(1), 13-39.
[69] MacKinlay, A. C. (1997). Event studies in economics and finance. Journal of economic literature, 35(1), 13-39.

the change in prices following the disclosure of the relevant information, over a period within which that information will continue to exert an influence on the value of the company.

- The event cannot be anticipated: the market should not have had any information about the operation in advance. However, it is possible that some information will leak to the market in advance; this is especially true for M&A announcements that are the result of prior strategic planning, about which some news or rumors may have already circulated. The possibility that the news has already been leaked to the market justifies the adoption of a symmetrical observation window, the duration of which extends both before and beyond the date of the announcement.
- No other events occurred during the reporting period: therefore, no information must have occurred that could have an effect on market prices that cannot be distinguished from those caused by the original event. The likelihood of cofounding effects increases as the time window for detecting "abnormal" returns increases.

First, it is needed to determine the event of interest and the period in which the event will be reviewed (or event window). As mentioned, the event of interest concerns the detection of daily returns of markets as a response to a particular announcement. Time windows can be defined in intervals of a few days up to months or years. Since the event study analysis described here aims to detect short-term reactions, different event windows are considered to be within the range of [-10; +10] around the announcement date (day 0). It is assumed that this time frame is robust enough to include any leakage of information prior to the announcement date and thus neutralize possible over-reactions as a result of the event.

Over this period of time, the study will compare the actual returns of the stocks with the expected returns and determine possible abnormal returns. According to the author, the return of the market model is adopted, based on a linear relationship between the debt return and the equity return is assumed, as show in formulas below:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

$$E(\varepsilon_{it} = 0);\ var(\varepsilon_{it}) = \hat{\sigma}^2_{\varepsilon_i}$$

Where:

R_{it} is the return of period t from title i;

$R_{m,t}$ is the return of the period t on the market;

α, β are the market model parameters for observation i;

$\sigma^2_{\varepsilon i}$ is the oscillation term of the model with mean 0;

ε_{it} is the error component of the regression model for the observation *i* in the period *t* (where the expected value of ε_{it} is 0).

Looking at the formula above, the return R_{it} is given by a fixed α term, the market return $R_{m,t}$ multiplied by the β term and an error term (ε_{it}), reflecting the error in the estimation model. It is assumed that the expected value of ε_{it} is 0 and that the variance of ε_{it} (var(ε_{it})) is expressed by $\sigma^2_{\varepsilon i}$.

The second step refers to the estimation of the abnormal market return, for which it is necessary to define an estimate window, which in general, is defined before the event study window to avoid any overlap in the estimation model and ensure independence between the two windows. The event window, in the time period in which the estimated α and β parameters are used on market data to estimate what should be the expected return based on the market behavior. To assess the abnormal return for the company's shares, the estimate period is set to the 90 days prior to the considered window. Abnormal yields are determined as:

$$AR_{it} = R_{it} - E(R_{it}|X_t)$$

Where:

AR_{it} is the *abnormal return* for title *i* at time *t*;

R_{it} is the real market return of the title *i* to time *t*;

$E(R_{it} | X_t)$ is the expected return for title *i* at time *t* given the return of the market at time *t*.

To obtain the market model parameters for title *i*, the methodology of the Ordinary Least Squares Model (OLS) provides consistent estimators. For firm *i*, the market parameters are determined estimates as:

$$\hat{\beta}_i = \frac{\sum_{t=T_0+1}^{T_1} (R_{it} - \hat{\mu}_i)(R_{mt} - \hat{\mu}_m)}{\sum_{t=T_0+1}^{T_1} (R_{mt} - \hat{\mu}_m)^2}$$

$$\hat{\alpha}_i = \hat{\mu}_i - \hat{\beta}_i \hat{\mu}_m$$

$$\hat{\sigma}^2_{\varepsilon_i} = \frac{1}{L_2 - 2} \sum_{t=T_0+1}^{T_1} (R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt})^2$$

Where:

$\hat{\alpha}_i$, $\hat{\beta}_i$ are the estimates of the return of Title $_i$;

$\hat{\sigma}^2_{\varepsilon_i}$ is the error of estimation;

$\hat{\mu}_i$, $\hat{\mu}_m$ are respectively the estimates of the average return of the stock and the market within the estimate period;

With T_0 and T_1 representing the upper and lower bound of the prediction period prior to the event window. The extent of the interval L_1 is determined as $T_1 - T_0$. The extension of the reference period of the analysis is determined in relation to the nature of the event studied. In the case of events that are not anticipated, (i.e. not foreseeable or not preceded by a leak), the event window within which the abnormal return is calculated begins on the date of the event; in the case of anticipated events, including M&A announcements, it is more appropriate to consider a symmetrical event window, that is. starting before the announcement and ending following the announcement day.

After having determined both the prediction window, in which the model's parameters are estimated, and the event window, in which the market reaction is observed around the announcement date, the abnormal returns for the announcement *i* are expressed by the following formula:

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$$

Where:

AR_{it} is the abnormal return for company *i* at time *t*;

R_{it} is the real return for company *i* at time *t*;

R_{mt} is the market return to time *t*.

At this point, it is necessary to understand the extent to which the estimated AR are significant from a statistical viewpoint, that is, whether the market reaction is sensitive to the announcement or not. To this end, it is introduced a statistical test, under which the null assumption of *AR* with average 0, and variance 1 is tested. The formula below exposes the determination of the AR variance:

$$\sigma^2(AR_{it}) = \sigma^2_{\varepsilon_i} + \frac{1}{L_1}\left[1 + \frac{(R_{mt} - \hat{\mu}_m)^2}{\hat{\sigma}^2_m}\right]$$

Where:

$\sigma^2_{\varepsilon i}$: *the* noise term is the variance attributable to the sampling error in α_i *and* β_i;

L_1: is the length of the prediction interval.

Under the null assumption H_0, that the event does not affect the returns of the company *i*:

$$AR_{it} \sim N(0,\sigma^2(AR_{it}))$$

It then continues with the aggregation of *abnormal returns* through time (in the event window) and through titles. The *cumulative abnormal returns* for a given window are calculated as:

$$CAR_i(t_1,t_2) = \sum_{t=t_1}^{t_2} AR_{it}$$

$$\sigma_i^2(t_1,t_2) = (t_2 - t_1 + 1)\sigma_{\varepsilon i}^2$$

Where:

$CAR_i(t_1,t_2)$ are the cumulative *abnormal returns* for title *i* in the *event window*;

$\sigma^2_{\varepsilon i}$ is the variance of CAR_i (under the assumption of independence of abnormal *returns*);

With T_1,T_2 being the upper and lower limits of the *event window*, respectively;

L_2 represents the length of the *event window* and is calculated as T_2-T_1.

Under the null hypothesis H_0:

$$CAR(t_1,t_2) \sim N(0,(\sigma_i^2(t_1,t_2))$$

At this point, we proceed to the aggregation between securities to draw general conclusions on *abnormal returns*. The average cumulative *abnormal returns* between securities are estimated:

$$ACAR(t_1,t_2) = \frac{1}{N}\sum_{i=1}^{N} CAR_i(t_1,t_2);$$

$$var(ACAR(t_1,t_2)) = \frac{1}{N^2}\sum_{i=1}^{N} \sigma_i^2(t_1,t_2)$$

Where:

ACAR(t1,t2) is the mean of cumulative *abnormal returns*;

var(ACAR(t1,t2)) is the variance of the means of cumulative *abnormal returns*;

N is the number of events considered.

Finally, to test the null hypothesis that abnormal returns mean is zero, the statistic test to be used is:

$$\theta_1 = \frac{ACAR(t_1,t_2)}{var(ACAR(t_1,t_2))^{1/2}} \sim N(0,1)$$

Regression Model

To reach significant evidences a quantitative analysis, conducted on empirical data, is developed adopting the multiple linear regression model. The model, estimated through the method of the ordinary least squares (OLS), assumes that between the dependent variable (Y) and the independent or explicative variables (X) there is a linear relationship. It is assumed that, from uncorrelated sample data observations, it can be estimated a number of relationships corresponding to the single variables featuring the sample. Hence, the result will feature a series of β coefficients measuring the

variation of dependent variable in function to the unit variation of each independent variable, being the other variables kept constant.

The analytical section is complemented with the commentary on the results for each β coefficient their respective significance and finally it is evaluated the general fit of the regression model. Here below, the model is expressed:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_n X_{ni} + \varepsilon_i$$

$$E(\varepsilon_i) = 0$$

Where:

Y_i is the dependent variable (where y_i represents the *i-th* sample observation of the dependent variable);

β_n is the slope corresponding to the *n-th* dependent variable X_n keeping constant the other dependent variables (where β_0 represents the regression intercept);

X_{ni} is the n-the independent variable (where x_{ni} represents the sample observation of the n-the variable subject to the analysis in respect to the *i-th* observation);

ε_i is the *i-th* error component of the model (where the expected value of the average of the errors of the model is equal to 0);

$n = 0, \ldots, N$ identify the regression coefficients;

$i = 0, \ldots, I$ identify the single observation.

4.3 Research Hypothesis

In this paragraph the research hypothesis are presented with supporting rationale.

Hypothesis 1: Do M&A announcements lead to significant buyer share price reaction in digital payment sector?

In accordance with the broader literature (Zollo and Meier 2008; and Das and Kapil, 2012)[70] [71], a key area of investigation in M&A field regards the understanding of the key levers leading to value creation and the associated dynamics. While different perspectives emerge in regards to short-term and long-term performance assessment, under the assumption of market efficiency, short-term

[70] Zollo, M., Meier, D. (2008). What is M&A performance?. Academy of management perspectives, 22(3), 55-77.

[71] Das, A., Kapil, S. (2012). Explaining M&A performance: a review of empirical research. Journal of Strategy and Management, 5(3), 284-330.

measures can reflect the market expectations in respect to the transaction, while isolating from the effect of cofounding events influencing the performance of the combined entity in the longer run (Shah and Arora, 2014)[72]. Differently from other established industries, PayTech features still a limited strand of evidence in terms of how external growth can be conducive to effective value creation (Dranev et *al.* 2019 and Cappa et *al.* 2022)[73] [74]. To this end, in order to further investigate on the value creation dynamics, an event study analysis is conducted on the selected sample of PayTech transactions with aim to find evidence on if and to what extent, M&A is conducive to value creation for acquirer's company shareholders following announcement. According to methodology proposed by MacKinlay (1997)[75], abnormal returns are therefore determined and tested for statistical significance in the following windows: [0;+1], [0;+2], [0;+5], [0;+10], [-1;+1], [-2;+2], [-5;+5] and [-10;+10]. Such intervals are deemed appropriate to assess the different perspectives of information assessment given they are set to include windows covering both the days following the announcement date and the windows around the announcement date, to assess the different impact of the value of information.

Hypothesis 2: Do the characteristics of M&A transactions have a significant impact on the buyer's short-term market reaction?

As discussed in the literature review section, an extensive strand of research in the M&A performance field has been devoted to address the multiple characteristics defining the deal, with the aim to understand any significative relationship on value creation. The dimensions analysed in academic research span from the choice of equity or available liquidity to fund the transactions, with the signalling theory (Travlos, 1987)[76], to the legitimacy theory, envisioning the role of sustainability in explaining better returns for acquirers performing better in terms of attention towards stakeholders (Caiazza et *al.*, 2021[77]). Following the first step of assessing the value creation, the second hypothesis is aimed to identify the variables having an impact on abnormal returns, so as to understand which deals are effectively conducive to wealth creation for acquirer's

[72] Shah, P., Arora, P. (2014). M&A announcements and their effect on return to shareholders: An event study. Accounting and Finance Research, 3(2), 170-190.

[73] Dranev, Y., Frolova, K., Ochirova, E. (2019). The impact of fintech M&A on stock returns. Research in International Business and Finance, 48, 353-364.

[74] Cappa, F., Collevecchio, F., Oriani, R., Peruffo, E. (2022). Banks responding to the digital surge through Open Innovation: Stock market performance effects of M&As with fintech firms. Journal of Economics and Business, 121, 106079.

[75] MacKinlay, A. C. (1997). Event studies in economics and finance. Journal of economic literature, 35(1), 13-39.

[76] Travlos, N. G. (1987). Corporate takeover bids, methods of payment, and bidding firms' stock returns. The journal of finance, 42(4), 943-963.

[77] Caiazza, S., Galloppo, G., Paimanova, V. (2021). The role of sustainability performance after merger and acquisition deals in short and long-term. Journal of Cleaner Production, 314, 127982.

shareholders. This approach can be found in the studies from Karamanos et *al*. (2015)[78] e Kellner (2024)[79]. While the set of key variables studied in previous contributions encompasses each aspect relating to the transaction and the involved companies, the scope of this analysis is to focus on the main ones as per Gaughan (2018)[80] and DePamphilis (2013)[81], that is: deal value, geographical scope, extent of business diversification, payment method, previous experience of the buyer and premium. Also, it is investigated the impact of the timing of announcement, that is if the transaction has been conducted between 2020 and 2021, a period considered of sustained activity and valuations in the PayTech sector. A regression model is realized, with dependent variable the abnormal return window [-1;+1]. In particular, based on the preliminary reading of the available literature, the following signs are expected for each variable (Figure 13).

Figure 13 – Expected signs for Regression Variables [82] [83] [84] [85]

Variable (Exp. sign)	**Rationale**
Deal_Value (-)	While the value of an acquisition could communicate the scale of growth achieved, at the same time, high deal value implies material transfer of wealth to target's shareholders and higher integration risks, leading to a negative expected sign.
Percentage (+)	The percentage stake involved in the deal is assumed to have a positive effect on the value creation since higher stake translates into a larger degree of control on the target.
Cross_Border (+)	Geographical expansion is one the most sough after growth path for PayTech, therefore the occurrence of a deal being conducted in a different country is associated with an expected positive sign on returns.
Experience (+)	Past M&A experience is a proxy of buyer's integration and value

[78] Karamanos, A., Bakatselos, G., Agolli, R. (2015). Abnormal stock market returns to announcements of M&A banking deals in Greece 1996-2013. Management Dynamics in the Knowledge economy, 3(2), 217-217.

[79] Kellner, T. (2024). The impact of M&A announcements on stock returns in the European Union. International Review of Economics & Finance, 89, 843-862.

[80] Gaughan, P. A. (2018). Mergers, acquisitions, and corporate restructurings. John Wiley & Sons.

[81] DePamphilis D. (2013). Mergers, Acquisitions, and Other Restructuring Activities. Academic Press.

[82] Gaughan, P. A. (2018). Mergers, acquisitions, and corporate restructurings. John Wiley & Sons.

[83] DePamphilis D. (2013). Mergers, Acquisitions, and Other Restructuring Activities. Academic Press.

[84] Wang, H., Gu, J., Jiang, L. (2021). High-Premium M&A, Financial Performance and Reduction of Major Shareholders. In Proceedings of the Fifteenth International Conference on Management Science and Engineering Management: Volume 2 15 (pp. 385-398). Springer International Publishing.

[85] Vazirani, N. (2012). Mergers and Acquisitions Performance Evaluation-A Literature Review. SIES Journal of Management, 8(2).

	creation capabilities accrued through similar combination process, and it is expected to positively influence market reaction.
Covid-19 (-)	The period relating to Covid-19 pandemics has showcased a significant correction in asset prices and sustained market volatility. In light of this, the expected sign for announcements during such phase is negative.
Diversification (+)	Despite contrasting findings on literature regarding diversification into areas other than core business, the PayTech sector provides the case for value creation through diversification, therefore a positive sign is assumed.
Premium (-)	Higher premium paid by the buyer to target's shareholders tend erode value for the buyer, reflecting into an expected negative market reaction.

Research Question on Hypothesis 2: Is there any difference in abnormal returns between the U.S. and the European markets?

The final research question addresses the geographical differences of the deals, differentiating between transactions conducted in the U.S. market and those conducted in the European market, namely the two main area of development for PayTech. Looking at the available contributions in the field, no empirical study has been conducted to find conclusive evidence specifically in this regard. In fact, while Dranev et *al.* (2019)[86] investigate the FinTech M&A value creation across USA, Canada and Europe as aggregate, other studies consider the areas as separate, as in the case of Baba et *al.* (2020)[87] for Europe and the USA. The interest toward these two areas draws upon the fact that the U.S. and Europe operate under peculiar dynamics in terms of regulation, market players and growth prospects. Accordingly, the analysis presented in the next chapter will identify any possible differences dividing the transaction sample into two sub-samples defined by the target's country of incorporation and as such observing any relative difference in terms of impact and statistical significance of transaction variables on abnormal returns.

[86] Dranev, Y., Frolova, K., Ochirova, E. (2019). The impact of fintech M&A on stock returns. Research in International Business and Finance, 48, 353-364.

[87] Baba, C., Batog, C., Flores, E., Gracia, B., Karpowicz, I., Kopyrski, P., Xu, X. C. (2020). Fintech in Europe: promises and threats.

5. Empirical Analysis and Results

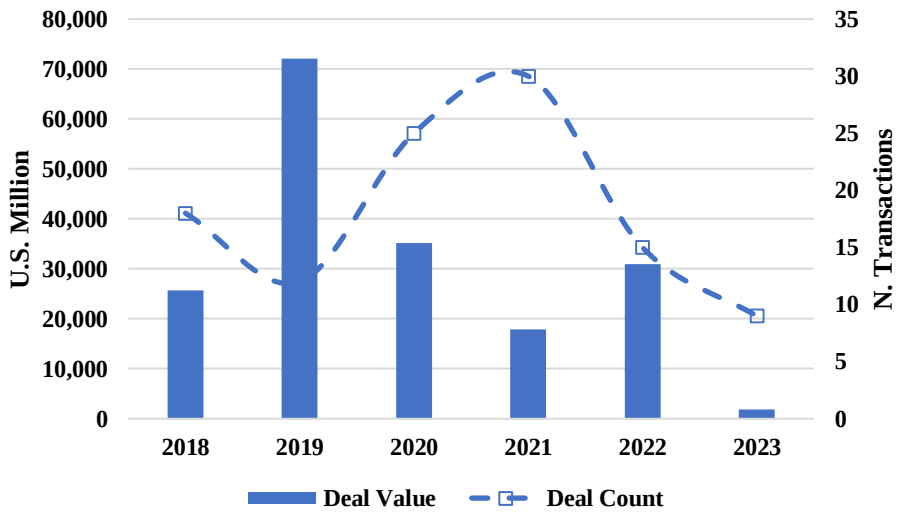
In this Chapter 5 the empirical analysis is rolled out with discussion on implications and limitations of key evidences. More specifically, in the first paragraph, the selected sample is presented and key descriptive statistics are summarized to provide an overview of the transactions subject to the analysis. The second paragraph focuses therefore on the presentation of the results, providing the description of the associated empirical interpretation and potential limitations of the analysis.

5.1 Sample Presentation

The empirical analysis is carried out on a sample of M&A transactions in the PayTech sector, identified as such by the provider Bloomberg. The search criteria are as follows:

- Deal Type: Acquisition/Merger;
- Operation Status: Completed;
- Deal Value Threshold: $1 million;
- Analysis period: 6 years (defined from 01/01/2018 to 31/12/2023 inclusive);
- Deal Category: Company and Assets Deals;
- Post-transaction percentage control: minimum 51%;
- Geographical dimension: Worldwide;
- Acquirer Status: Listed;
- Industry: Financials, High Tech, Other Financials.

Figure 12 – Sample Summary (Deal Value and Deal Count)[88]



[88] Sample selection.

Based upon the abovementioned criteria, any observation associated with missing values was eliminated from the preliminary selection. The final sample includes 109 observations, with an associated overall value of $183.7 billion. Figure 12 displays the distribution of the sampled transactions in terms of value and number. Overall, it is possible to asspreciate a fair distribution across the years considered in terms of deal activity, while still taking into consideration the significant contraction in transaction volumes in the period 2023.

The variables used in the regression model are described below.

CAR [-1; +1] (dependent variable)

CAR [-1; +1] is the dependent variable and corresponds to the *Cumulative Abnormal Returns* determined in the interval [-1;+1], since this is the window associated with the highest statistical significance (as demonstrated in the previous section) and comprising both pre- and post-announcement days.

ln_Deal_Value (independent variable)

The variable expresses the value of the transaction in millions of U.S. dollar. Since the variable is associated with high volatility in observations, a logarithmic transformation is adopted.

Cross_Border (independent variable)

Cross_Border is expressed as a dummy variable reflecting the geographical nature of the transaction. In particular the variable is construed assigning a value of 1 to transactions conducted between companies belonging to different countries, while the value 0 corresponds to the so-called domestic transactions, that is conducted within the same country.

Diversification (independent variable)

Diversification is a dummy variable expressing the level of correlation between buyer and target activities in terms of the sector to which they operate. *Diversification* assumes value 1 for different businesses and value 0 for related businesses.

Covid-19 (independent variable)

Covid-19 is a dummy variable incorporating the timing of the transaction announcement relative to the Covid-19 period, that is 2020 and 2021. More specifically, Covid-19 takes value 1 for deals occurring in 2020-2021 and 0 in case of deals before or after such period.

Premium (independent variable)

Premium includes in the model the level of the premium paid by the buyer to the shareholders of the target in order to achieve control of the latter. Generally, the premium is associated with a positive value, although in some cases it is possible that it has a negative manifestation due to possible contingent conditions of the target.

Percentage (independent variable)

Includes in the model the percentage ownership being subject to transfer in the transaction. As per criteria discussed earlier in this paragraph, the transactions considered involve a transfer percentage leading the acquiring company to a majority stake post-transaction.

Experience (independent variable)

This is a dummy variable reflecting in the model the characteristic of the buyer being a recurrent acquirer. A similar feature is of particular importance is sectors such as digital payments where in many cases the leading players operate as aggregators and grow up through multiple bolt on acquisitions. To this extent, the variable takes value 1 in case of experienced acquirers and value 0 in the opposite case.

5.2 Results and Discussion

The first hypothesis of the study is analyzed using the data determined by the analysis of the mean *abnormal returns* (also defined as CAAR) related to the operations included in the sample, in different time windows and of which the relative significance is observed.

Hypothesis 1: The announcement of an M&A operation in the mid-cap segment is reflected in the markets through a significant impact on the acquiring company's stock returns

Table 1 – Results of Event Study Analysis

EVENT WINDOW	CAAR
[-10;+10]	0,02407
[-5;+5]	0,01977
[-2;+2]	0,01753*
[-1;+1]	0,01852***
[0;+10]	0,01657
[0;+5]	0,01260
[0;+2]	0,01564**
[0;+1]	0,01851***

An observation of Table 1 allows to appreciate the creation of short-term wealth for the shareholders of the acquiring companies. In fact, positive CAARs emerge in all the ranges considered, an evidence supporting the positive reaction by markets to acquisition announcements. Accordingly, this reflects into a reward to buyers' shares with value creation in the days around the

date of the deal announcement. In particular, the degree of significance is more defined in the narrower windows, that is [-2;+2] [-1;+1], [0;+2] and [0;+1] as compared to the larger windows, and generally appaear to lose significance along with days preceding the announcement. The highest level of significance is obtained with reference to the [-1;+1] and [0;+1] windows, which show a α level of 0.01. Looking at the other CAAR intervals, it is possible to say that the effect related to the post-announcement market reaction in PayTech M&A tends to be reduced for longer post-announcement windows.

Hypothesis 2: The characteristics of the transaction significantly explain the post-announcement value creation for the acquiring company's shareholders

$$CAAR\ [-1;+1]_i = \beta_0 + \beta 1 ln\_Deal\_Value_i + \beta_2 Percentage_i + \beta_3 Cross\_Border_i + \beta_4 Experience_i + \beta_5 Payment_i + \beta_6 Diversification_i + \beta_7 Premium_i + \varepsilon_i$$

Table 2 – Regression Output

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	P-Value
Model 1	**B**	**Std Err.**	**Beta**		
(Constant)	,034	,011		2,989	,004***
ln_Deal_Value	-,005	,002	-,199	-2,126	,036**
Percentage	,007	,004	,168	1,767	,080*
Cross_Border	,002	,001	,188	2,108	,038**
Experience	,012	,005	,202	2,222	,029**
Covid-19	-,025	,006	-,347	-3,858	,000***
Diversification	,003	,005	,062	,688	,493
Premium	-,004	,005	-,078	-,862	,391

*, **, *** Significant at α level respectively of 0,10, 0,05 and 0,01.

ANOVA

	Sum of Squares	df	Quadratic Mean	F	P-Value
Regression	,016	7	,002	4,360	,000***
Residual	,054	101	,001		
Total	,070	108			

*, **, *** Significant at α level respectively of 0,10, 0,05 and 0,01.

Model Summary

R	R-Square	R-Square Adjusted	St. Error
,482	,232	,179	,2312

Results of Model 1, presented in Table 2, show the impact of the chosen variables with respect to the abnormal returns of the transactions and the relative level of significance. First of all, it is possible to appreciate how the signs are in line with preliminary expecations stated in Chapter 4. In particular:

- *ln_Deal_Value* is associated with a negative and significant effect (for a *α level* of 0.05) on the dependent variable CAAR, an evidence supporting how the increase in the value of the transaction is associated with a negative sign, and therefore a destruction of value, for the buyer's shareholders. This trend may be possibly related to the perceived higher risk associated with larger deal amount.
- *Percentage* is associated with a positive and significant effect on CAAR (with an α level of of 0.10), providing a proof that the higher the stake involved in the deal, the better the impact on the value creation the acquirer's shareholders. Therefore, the announcement of deal involving larger control on the target is seen positively from the market.
- *Cross_Border* is associated with a positive effect on abnormal returns that is significant for a *α* level of 0.05, a result that can be explained by the expectation that an acquisition of a player operating in a different country can better sustain corporate development through growth in a new market.
- *Experience* is related with a positive relationship with CAAR which is significant for a *α* level of 0.05. This evidence appears in line with the expectation that experienced acquirers can deliver better value during the integration phase, because of the capabilities developed.
- *Covid-19* is associated with a negative sign on abnormal returns with an α level of 0.01, a confirmation that transactions announced during 2020 and 2021 suffer from the market uncertainties related to Covid-19 pandemic.
- No significant effects are found with reference to the other independent variables *Diversification* and *Premium*. In particular, with regard to *Diversification*, while the sign is line with preliminay expectations of positive relationship on the dependent variable, no statistical significance can be found, a sign that further reasech is suggested to investigate on this aspect. Similarly, *Premium* is associated to CAAR with a negative sign, but the lack of

statistical significance implies that this dimension cannot be considered strong in the analyzed sample, a consideration possibly realated to the substantial premium recognized in some transactions which could be justified in light of the strategic importance of gain control of the target.

- Looking at the model, the degree of adaptation looks relatively low with an R^2 of 0.232 (R^2 Adjusted 0.179), but can be considered satisfying in the context of the empirical nature of study. The F-test of 4.360 is significant for a α level of 0.01, an evidence that there is at least one explanatory variable adopted in the model with a significant relevenace on the dependent variable. Finally, with reference to multicollinearity, the VIF test does not show any critical value (Appendix).

Research Question on Hypothesis 2: The is a an extent of difference on the geographical scope in respect with transactions conducted in Europe

To conduct regression analysis on the above stated research question, the full transacation sample is reduced to the transactions featuring European targets. Overall, 66 deals are selected for this sub-sample (with the remainder of 43 transactions referred to the sub-sample of U.S. transactions).

$$CAAR\ [-1;+1]_{iEU} = \beta_{0EU} + \beta_1 ln\_Deal\_Value_{iEU} + \beta_2 Percentage_{iEU} + \beta_3 Cross\_Border_{iEU} + \beta_4 Experience_{iEU} + \beta_5 Payment_{iEU} + \beta_6 Diversification_{iEU} + \beta_7 Premium_{iEU} + \varepsilon_{iEU}$$

Table 3 – Regression Output on EU Sub-Sample

Coefficients					
	Unstandardized Coefficients		Standardized Coefficients	t	P-Value
Model 2	**B**	**Std Err.**	**Beta**		**B**
(Constant)	,015	,015		,968	,337
ln_Deal_Value	-,102	,332	-,040	-,307	,760
Percentage	,002	,013	,019	,146	,885
Cross_Border	,003	,001	,276	2,247	,028**
Experience	,002	,728	,381	3,077	,003***
Covid-19	-,007	,003	-,238	-2,580	,011**
Diversification	,004	,006	,081	,655	,515
Premium	-,001	,006	-,031	-,235	,815

*, **, *** Significant at α level respectively of di 0,10, 0,05 and 0,01.

ANOVA

	Sum of Squares	df	Quadratic Mean	F	P-Value
Regression	,076	7	,011	2,373	,033**
Residual	,264	58	,045		
Total	,340	65			

*, **, *** Significant at α level respectively of 0,10, 0,05 and 0,01.

Model Summary

R	R-Square	R-Square Adjusted	St. Error
,472	,223	,129	,02133

Results of Model 2, presented in Table 3, are substantially in line with the evidences discussed in the previous Model 1. Nevertheless some differences emerge in terms of the sign and statistical significance. In particular, the sub-sample of European transactions put into evidence, the significant relationship regarding:

- The signs and significance of the variable *Cross_Border,* which confirms a significant and positive effect (for a *α level* of 0.05) and on the dependent variable, in line with the evidence shown in respect of the wider sample, implying that M&A is an effective lever to create value entering into new markets.
- At the same time, *Experience* confirms the positive and significant effect (for a *α* level of 0.01) in respect to the dependent variable, demonstrating how this assumption is proven to be even stronger than in Model 1. This effect can be explained by the presence of some recurrent acquirers in the European space (i.e. Nexi from Italy and Worldline from France) which are found to carry out multiple transacations selected in the analyzed sample.
- Also *Covid-19* confirms its negative effect on CAAR, now significant for a *α* level of 0.05, a sign that PayTech M&A announcements during 2020 and 2021 are associated with relatively lower CAAR.
- No significant effect is determined with respect to *ln_Deal_Value, Percentage, Diversification and Premium.* Regarding the first two variables, sign is the same as Model 1, however no statistical significance can be found, witnessing that the relationships are weaker in the sub-sample of European transactions.

- Looking at the model, the adaptation is slightly below compared to Model 1, with an R^2 of 0.223 (R^2 Adjusted 0.129). The F-test of 2.373, which is significant at a α level of 0.05, demonstrates the presence of at least one variable with a significant value within the model. Also F-test shows a lower value than in Model 1. Finally, with reference to multicollinearity, the VIF test does not put into evidence any critical value (Appendix).

Overall, the two regression models have provided evidences in line with the expectations set out in the hypothesis. It should be noted however, that the results can be considered statistically relevant within the sample considered. Indeed, any change the analysed M&A sample could result into potential difference in the identified relationships and level of significance. Furthermore, it could be interesting to investigate the impact of different variables into the regression models. In fact, the chosen variables constitute only a selection of the potential set of variables affecting the success and the value creation of M&A transactions. Additional variables, or different adaptations of the dimensions adopted may provide new insights on how short-term value creation is determined. Notwithstanding the mentioned limitations, the statistical section proves and supports, from an empirical point of view, the fact that M&A is a fundamental strategy conducive to growth and wealth creation for acquirer's shareholders. The study constitutes a key starting point for future research in the field, as new and more detailed evidences on PayTech M&A will unfold in the coming years.

6. Conclusions

The thesis has discussed the rationales and the consequences related to M&A transactions and the criticalities of the main phases of the integration process, with a focus on the very particular trends of the PayTech. Although the sector is attracting a growing interest, the academic research appears still limited in terms of evidence on the relationship between M&A and PayTech. Based on such premises, the thesis has ecncompssed the discussions of value cretion, as a central matter in financial and business reserach, providing new contribution to the long-studied issues of how M&A leads to an effective benefit for the shareholders of the buyer and how this aspect is influenced by the characteristics of the transaction itself.

Following the introductive section, Chapter 2 elaborates on the rationales, processes and dynamics related to M&A. First of all, different alternatives are available for a company in its development process and those related to external growth, in particular M&A, constitute the set of strategic options with the most immediate realization in terms of growth acceleration and deliverability expected synergies. Nevertheless, it needs to be understood that the integration of a new entity (in terms of assets, organization and culture) brings in multiple risks compared to other growth alternatives (i.e. the development of strategic alliances, joint ventures and pursuing internal growth) which can lead to potential dirsuption of value for the acquirer and its shareholders, in the worst cases. With reference to the main categories of M&A transactions, the different approaches described reflect the high degree of complexity in defining the most adequate strategy for growth and the associated pros and cons. Above all, M&A is not always associated with a smooth process, and in case the transaction is perceived as hostile, the target company can effectively enact a series of defense strategies to oppose the offer from a third party acquirer. Another key aspect discussed refers to the description of the process, looking in depth to its main phases and critical activities, from preliminary research to integration, with a focus on valuation methodologies. Finally, Chapter 2 outlays an historical overview of global M&A market and the most recent trends in terms of deals volumes and considerations relating dealmaking activity with broader macroeconomic trends.

In Chapter 3, the study proposes the discussion on the dynamics featuring the PayTech, the industry of focus of this reseach, and to the central role of M&A in light of peculiarities of the sector. Based on the most recent technological and digital develpment the vertical of payments is undergoing a thorough transformation. More specifically, the growing role of e-commerce, combined with the emergence of open banking approach and other trends such as BNPL, RTP, cross border payments and the increasing adoption of digital currencies. The convergence of these forces is enabling today an historical shift in the modalities payments are conducted around the world, with also Italy being subject to such trends. In this scenario, the choice of M&A represents the most immediate option to

grow for companies in PayTech to gain scale economies, access and retain specialized skills and reach geographical expansion in new untapped markets, among the others. Looking at the M&A trends in PayTech, the evolving macro scenario with the related interest rates increase over 2022 resulted into a slow down of deal-making activity and in a substantial decrease of companies valuation. The Chapter ends with the discussion of three case studies referred to Nexi-Sia, Square-Afterpay and Poste Italiane-LIS combinations, which shed lights on the different rationales leading to the external growth in PayTech.

Chapter 4 and Chapter 5 propose an empirical analysis carried out thanks to sample of 109 transactions conducted in the period 2018-2023 in the PayTech sector globally. The short-term market reaction around the date of announcement has been determined to assess value creation. Following this initial step, the analysis has been developed to observe which characteristics of the transaction influence the market reaction, through an event study analysis. The results, in line with the stated hypothesis, confirm a generalized value creation across the event windows in terms of abnormal returns for the shareholders of the acquiring companies with greater significance in the intervals defined as [0;+1], [0;+2], [-1;+1] and [-2;+2]. This shows stronger evidence for shorter intervals around the day of the announcement, suggesting that the longer the event window the higher the possibility for the abnormal returns to be influenced by cofounding factors.

Given the significance of the window defined as [-1;+1], such interval is adopted for the realization of the multiple regression model to understand how the variables characterizing the deal can influence the market reaction. More specifically, it is noted that the value of the transaction, the stake percentage involved in the transaction, the previous experience of the acquirer, the cross border geographical scope and the feature of the transaction being realized during Covid-19 period are the variables that have all a significant impact on the cumularive abnormal returns of the acquirer. In the second regression model, conducted on the sub-sample of deals conducted in the European market, the results are in line with the evidences (in terms of sign and significance) analyzed in the first model, with acquirer’s experience, deals conducted cross border and the Covid-19 timing remaing significant on the acquirer's shareholders returns.

The thesis has encompassed the fundamentals of M&A as a growth option applied to companies operating in PayTech. The quick development observed in the PayTech makes the recourse to M&A the main strategic option to seek growth in the sector and effectively respond to competition. In fact, the dramatic grorth in the sector, imposes an immediate adaptation to the external business environment requiring the development of integration capabilities to gain value from combinations. This point makes clear how in PayTech, players have limited time to develop and launch innovations, preferring the acquisition of already estabished entities. The deployment of M&A is

therefore crucial not only to win competition, but also to consolidate the sector with the realization of PayTech platforms capable of providing integrated payment solutions.

In summary, the analysis carried out in this study allows in first instance to appreciate M&A as a fundamental option in the growth path of a company. In addition, the discussion, combined with the case studies, highlight how M&A represents in practice an effective and direct way to pursue the possibilities of growth in PayTech and at the same time to respond to the challenges presented by the external environment in which companies operate. Through the perspective of PayTech sector, the value creation potential of M&A transactions has been observed, showing a positive impact for the acquirer's shareholders, a factor which can be used as a proxy for the future realisation of the benefits of the business combination. This thesis can serve as the basis for future researches in the field, aimed at identifying and going in depth into the value creation dynamics of PayTech M&A.

Bibliography

Alexandridis, G., Antypas, N., Travlos, N. (2017). Value creation from M&As: New evidence. Journal of Corporate Finance, 45, 632-650.

Baba, C., Batog, C., Flores, E., Gracia, B., Karpowicz, I., Kopyrski, P., Xu, X. C. (2020). Fintech in Europe: promises and threats.

Bain (2024). Global M&A Report 2024. Gaining an edge in a market reset.

BIS (2022). Bank for International Settlements, "BIS Innovation Hub work on central bank digital currency (CBDC).

Błach, J., Klimontowicz, M. (2021). The Determinants of PayTech's Success in the Mobile Payment Market—The Case of BLIK. Journal of Risk and Financial Management, 14(9), 422.

Brealey, R., Myers, S., Allen, F. (2015). Principles of corporate finance. 13th Ed.. McGraw-Hill Education, London.

Caiazza, S., Galloppo, G., Paimanova, V. (2021). The role of sustainability performance after merger and acquisition deals in short and long-term. Journal of Cleaner Production, 314, 127982.

Capgemini (2023). 2023 World Payments Report.

Cappa, F., Collevecchio, F., Oriani, R., Peruffo, E. (2022). Banks responding to the digital surge through Open Innovation: Stock market performance effects of M&As with fintech firms. Journal of Economics and Business, 121, 106079.

Damodaran, A. (2012). Investment valuation: Tools and techniques for determining the value of any asset (Vol. 666). John Wiley & Sons.

Das, A., Kapil, S. (2012). Explaining M&A performance: a review of empirical research. Journal of Strategy and Management, 5(3), 284-330.

Dealroom and ABN Amro Ventures (2022). The rise of embedded finance. Report issued in March 2022.

Deloitte (2022). Payment providers | The race to scale and expansion into new markets. Report pubblicato a marzo 2022.

DePamphilis D. (2013). Mergers, Acquisitions, and Other Restructuring Activities. Academic Press.

Dranev, Y., Frolova, K., Ochirova, E. (2019). The impact of fintech M&A on stock returns. Research in International Business and Finance, 48, 353-364.

Doytch, N., Cakan, E. (2011). Growth effects of mergers and acquisitions: a sector-level study of OECD countries. Journal of Applied Economics and Business Research, 1(3), 120-129.

Eckbo, E., Thorburn, K. (2000). Gains to bidder firms revisited: domestic and foreign acquisitions in Canada. Journal of Financial and Quantitative Analysis, 35, 1–25.

EY (2023). Fintech Waves 2023: the Italian FinTech ecosystem, 2023 edition. Report issued in February 2023.

EY (2023). The rise of PayTech — seven forces shaping the future of payments.

Fontana, F., Caroli, M. (2017). Economia e gestione delle imprese. V edizione. McGrawHill Education.

Gaughan, P. A. (2018). Mergers, acquisitions, and corporate restructurings. John Wiley & Sons.

Gupta, I., Mishra, N., Tripathy, N. (2021). The impact of Merger and Acquisition on value creation: an empirical evidence. In The Importance of New Technologies and Entrepreneurship in Business Development: In The Context of Economic Diversity in Developing Countries: The Impact of New Technologies and Entrepreneurship on Business Development (pp. 1435-1456). Springer International Publishing.

Ibrahimi, M., Amine, M., Taghzouti, A. (2021). Determinants of value creation through mergers and acquisitions in the MENA region. International Journal of Business Performance Management, 22(2-3), 273-290.

Iannotta, G. (2010). Investment Banking A guide to underwriting and Advisory services. Springer.

Jensen, M. C., Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure", Journal of Financial Economics, 3(4), 305-360.

Karamanos, A., Bakatselos, G., Agolli, R. (2015). Abnormal stock market returns to announcements of M&A banking deals in Greece 1996-2013. Management Dynamics in the Knowledge economy, 3(2), 217-217.

Kellner, T. (2024). The impact of M&A announcements on stock returns in the European Union. International Review of Economics & Finance, 89, 843-862.

Komlenovic, S., Mamun, A., Mishra, D. (2011). Business cycle and aggregate industry mergers. Journal of Economics and Finance, 35, 239-259.

Kreutzer, M. (2011). Selecting the right growth mechanism: The choice between internal development, strategic alliances, and mergers & acquisitions. In Balanced growth: Finding strategies for sustainable development (pp. 77-94). Berlin, Heidelberg: Springer Berlin Heidelberg.

KPMG (2023). Pulse of Fintech H2'22 February 2023: Global analysis of fintech investment. Report issued in February 2023.

Kotarba, M. (2018). Impact of digitalization on M&A Transactions in banking. Zeszyty Naukowe Politechniki Poznańskiej. Organizacja i Zarządzanie.

León, C. (2021). The adoption of a mobile payment system: the user perspective. Latin American Journal of Central Banking, 2(4), 100042.

Li, S., Liu, G. S., Gregoriou, A. (2021). Do more mergers and acquisitions create value for shareholders?. Review of Quantitative Finance and Accounting, 56, 755-787.

MacKinlay, A. C. (1997). Event studies in economics and finance. Journal of economic literature, 35(1), 13-39.

McKinsey&Company (2023). On the cusp of the next payments era: Future opportunities for banks. Report issued on 23 September 2023.

Masrurul, M. (2012). An overview of strategic alliance: competitive advantages in alliance constellations. Advances in management, 5, 12.

Nexi (2020). Creating a Fully Integrated European PayTech Leader Strategic Combination Between Nexi and SIA. Investor presentation issued on 5 October 2020.

Nexi (2021). Nexi e SIA, firmato atto di fusione tra i due Gruppi Un passo fondamentale per la creazione della PayTech italiana leader in Europa. Press release issued on 16 December 2021.

Ortiz-de-Urbina-Criado, M., Angel Guerras-Martin, L., Montoro-Sánchez, Á. (2014). The choice of growth method: strategies and resources. Academia Revista Latinoamericana de Administración, 27(1), 30-45.

Perry, J. S., Herd, T. J. (2004). Reducing M&A risk through improved due diligence. Strategy & leadership, 32(2), 12-19.

Shah, P., Arora, P. (2014). M&A announcements and their effect on return to shareholders: An event study. Accounting and Finance Research, 3(2), 170-190.

Square & Afterpay (2021). Square adds Afterpay to Seller and Cash App, Connecting its Ecosystems. Joint investor presentation issued on 1 Augut 2021.

Steigenberger, N. (2017). The challenge of integration: A review of the M&A integration literature. International Journal of Management Reviews, 19(4), 408-431.

Tan, B. (2023). Central bank digital currency and financial inclusion. International Monetary Fund.

Travlos, N. G. (1987). Corporate takeover bids, methods of payment, and bidding firms' stock returns. The journal of finance, 42(4), 943-963.

Vazirani, N. (2012). Mergers and Acquisitions Performance Evaluation-A Literature Review. SIES Journal of Management, 8(2).

Walker, M. (2000). Corporate takeovers, strategic objectives and acquiring-firm shareholder wealth. Financial Management, 53–66.

Wang, H., Gu, J., Jiang, L. (2021). High-Premium M&A, Financial Performance and Reduction of Major Shareholders. In Proceedings of the Fifteenth International Conference on Management Science and Engineering Management: Volume 2 15 (pp. 385-398). Springer International Publishing.

Zollo, M., Meier, D. (2008). What is M&A performance?. Academy of management perspectives, 22(3), 55-77.

Annex 1 – Sample Summary

n = 109	*CAAR [-1;+1]*	*ln_Deal_Value*	*Percentage*	*Cross_Border*	*Experience*	*Covid-19*	*Diversification*	*Premium*
Min	0.000	0.456	0,100	0.000	0.000	0.000	0.000	0,050
Max	0,367	10.464	1,00	1.000	1.000	1.000	1.000	0,690
Mean	0,018	5.825	0,803	0,413	0,541	0,505	0,138	0,403
Median	0,019	5.521	0,925	0.000	1.000	1.000	0.000	0,430
Std. Dev.	0,106	1.721	0,256	0,495	0,501	0,502	0,346	0,185

Annex 2 – Correlation Matrix

n = 109	*CAAR [-1;+1]*	*ln_Deal_Value*	*Percentage*	*Cross_Border*	*Experience*	*Covid-19*	*Diversification*	*Premium*
CAAR [-1;+1]	1							
ln_Deal_Value	-,109	1						
Percentage	,118	,354	1					
Cross_Border	,011	-,007	-,100	1				
Experience	,162	-,018	,095	,104	1			
Covid-19	-,338	,071	-,100	-,153	-,140	1		
Diversification	,108	,056	,031	-,136	,170	-,010	1	
Premium	-,173	,101	-,048	,131	-,041	-,030	-,065	1

Annex 3 – Collinearity Statistics

	Model 1	
Variable	**Tolerance**	**VIF**
ln_Deal_Value	,858	1,166
Percentage	,908	1,101
Cross_Border	,898	1,114
Experience	,980	1,020
Covid-19	,965	1,037
Diversification	,968	1,033
Premium	,874	1,144

	Model 2	
Variable	**Tolerance**	**VIF**
ln_Deal_Value	,769	1,300
Percentage	,782	1,279
Cross_Border	,746	1,340
Experience	,876	1,142
Covid-19	,870	1,150
Diversification	,874	1,144
Premium	,890	1,124

Annex 4 – Results of U.S. Sub-Sample

$$CAAR\ [-1;+1]_{iUS} = \beta_{0US} + \beta_1 ln\_Deal\_Value_{iUS} + \beta_2 Percentage_{iUS} + \beta_3 Cross\_Border_{iUS} + \beta_4 Experience_{iUS} + \beta_5 Payment_{iUS} + \beta_6 Diversification_{iSU} + \beta_7 Premium_{iUS} + \varepsilon_{iUS}$$

Regression Output on US Sub-Sample

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	P-Value
Model 2	**B**	**Std Err.**	**Beta**		**B**
(Constant)	,071	,021		3,382	,002***
ln_Deal_Value	-,011	,004	-,414	-2,550	,015**
Percentage	,001	,001	,163	,984	,332
Cross_Border	,014	,011	,198	1,358	,183
Experience	,032	,014	,340	2,288	,028**
Covid-19	-,006	,002	-,247	-2,757	,009***
Diversification	,009	,009	,160	1,039	,306
Premium	-,000	,000	-,189	-1,254	,218

*, **, *** Significant at α level respectively of di 0,10, 0,05 and 0,01.

ANOVA

	Sum of Squares	Df	Quadratic Mean	F	P-Value
Regression	,010	7	,001	2,507	,034**
Residual	,021	35	,001		
Total	,031	42			

*, **, *** Significant at α level respectively of 0,10, 0,05 and 0,01.

Model Summary

R	R-Square	R-Square Adjusted	St. Error
,578	,334	,201	,02441