How to make Post-Merger Integration successful?

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Tanguy Chambon
Student at HEC Paris – Major in Accounting & Financial Management – Grande Ecole

Patrick Legland – Thesis Supervisor
Professor at HEC Paris

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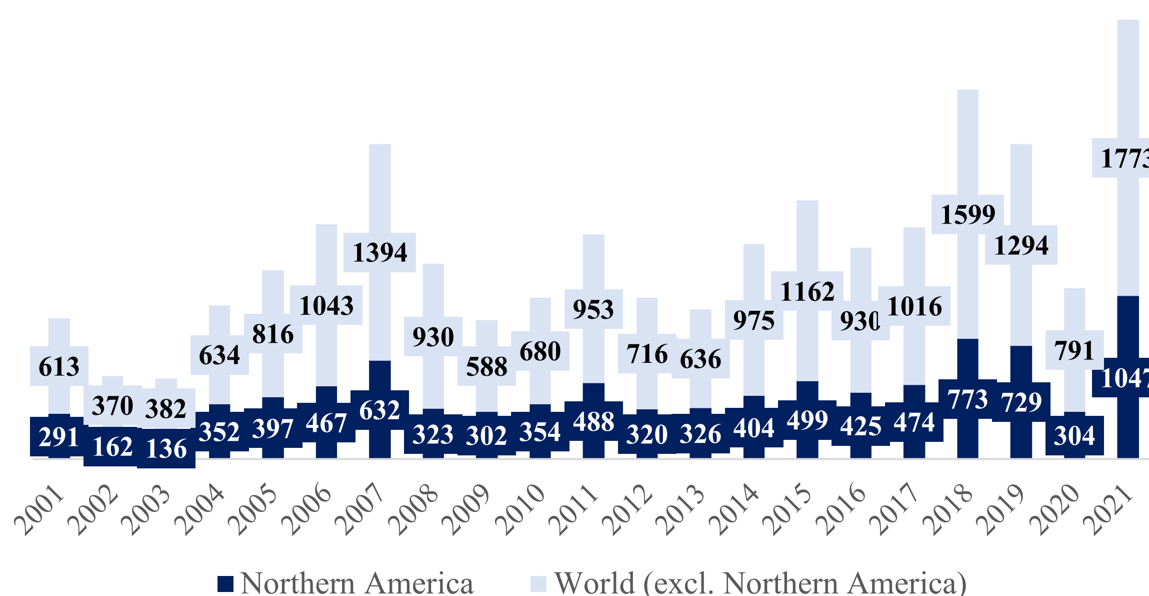
Abstract

Post-Merger Integration: a make or die moment in a M&A transaction. With over 60% of M&A deals failing due to poor integration, Post-Merger Integration is crucial to the success of an M&A deal, regardless of the type of acquirer or target. History shows how theoretically successful M&A deals have become failure benchmarks because of poor integration. It is at the exact moment of a M&A signing that Post Merger Integration starts and that the situation becomes particularly challenging. If PMI integration is essential to the success of an M&A deal, it is therefore necessary to understand how to make a PMI a success. This paper aims to divide the subject into 4 main parts. The first part consists of defining the current environment and the main underlying issues surrounding M&A transactions. The second part aims at finding out how the value of a successful Post-Merger Integration can be judged? What criteria should a corporate or financial player use and track to know if the integration has been value-creating? Thirdly, the idea is to know how corporate and strategic buyers can concretely create value during this integration phase? The main thesis is that the realization of synergies is a prerequisite that is still far from sufficient. Indeed, in order to transform synergies into a corresponding NPV, other integration factors, especially cultural, human and identitarian, must be taken into account: there is no pre-cooked miracle recipe for an acquirer to guarantee the success of a PMI, but only certain key elements that can reduce the risks of a failed integration. Finally, after this theoretical study, a case study of a successful integration will support the different theories seen in this paper.

Introduction

Since 2000, the volume and value of M&A deals skyrocketed. The Compounded Annual Growth Rate between 2001 & 2021 in terms of value is c. 5.5% according to Refinitiv. 2021 was the best year for M&A worldwide, particularly in the US. Here after a graph showing the increase in value of M&A deals since 2001.



This very intense escalation can be explained by different interdependent reasons:

- A very cheap access to money thanks to very low interest rates: interest rates have been at an all-time low since 2015. This level of interest rates has considerably boosted the growth of M&A deals as companies have had much cheaper access to financing for their external growth projects.
- A significant presence of investment funds and more particularly of private equity funds: in the last quarter of 2021, private equity funds achieved an all-time high level by investing over $312 billion. This is mainly due to the $2.9 trillion still uninvested by private equity funds, which are then under pressure from their investors.
- Finally, much more recently, it is the very strong interest in SPACs (Special Purpose Acquisition Companies) that has accelerated the growth movement around M&A transactions. Conceived in the 1990s, SPACs are "*empty shells*" that go public with the objective of raising funds to acquire a company. By 2021, SPACs already accounted for 10% of IPOs, with an upward trend for 2022.

In a context where M&A transactions have never been so numerous and voluminous, one could easily imagine that the success rates of transactions have reached satisfactory levels (thus prompting managers to consider this growth option). The reality is much gloomier. In fact, the

vast majority of M&A deals are abysmal failures for a wide array of reasons. One of them is the poor integration of the target within the parent company with much lower synergies than those imagined before the deal. The Post-Merger Integration phase bears much of the responsibility for all these failures.

Post-Merger Integration: a boon or a bane for acquirers. Post-Merger Integration is the crucial double-edged moment when the M&A deal can go from success to failure. Thus, many researchers consider that integration is the most important phase of the merger or acquisition process. The process of post-acquisition integration can be defined (A.L. Pablo 1994) as "*the implementation of changes in functional activities, organizational structures and cultures of the two organizations to expedite their consolidation into a functional whole*".
PMI is the most sensible phase of the entire merger or acquisition process (Delecourt and Fine 2008): this is the moment when all the previous efforts and all the previous precautions can be definitely ruined. In order not to ruin all the efforts, integration must rhyme with value creation. The creation of value is illustrated and quantified using indicators that vary according to the types of players involved in an M&A deal. One of the main purposes of this study is therefore to study and highlight the main value creation criteria to be used and tracked in the context of a post-merger integration.

Problem Statement:

On a backdrop where M&A transactions have never been so significant both in volume and number, the M&A success rate has remained unchanged at a consistently high level. The failure rate for M&A transactions is currently over 60% and has been rising for several years. A major paradox emerges: on the one hand the value and volume of M&A deals has never been so high, on the other hand the failure rate of M&A transactions has never been so extreme. This situation is all the more paradoxical given that the subject of M&A integration and value creation has gained considerable popularity in recent years. Indeed, in the past few years the number of consulting firms specializing in Post-Merger Integration and value creation has increased considerably. So, if the initial question is how to make the Post Merger Integration process a success, it also comes down to how to increase the success rate of M&A deals in a context of growing interest for external growth?

Objective of the thesis:

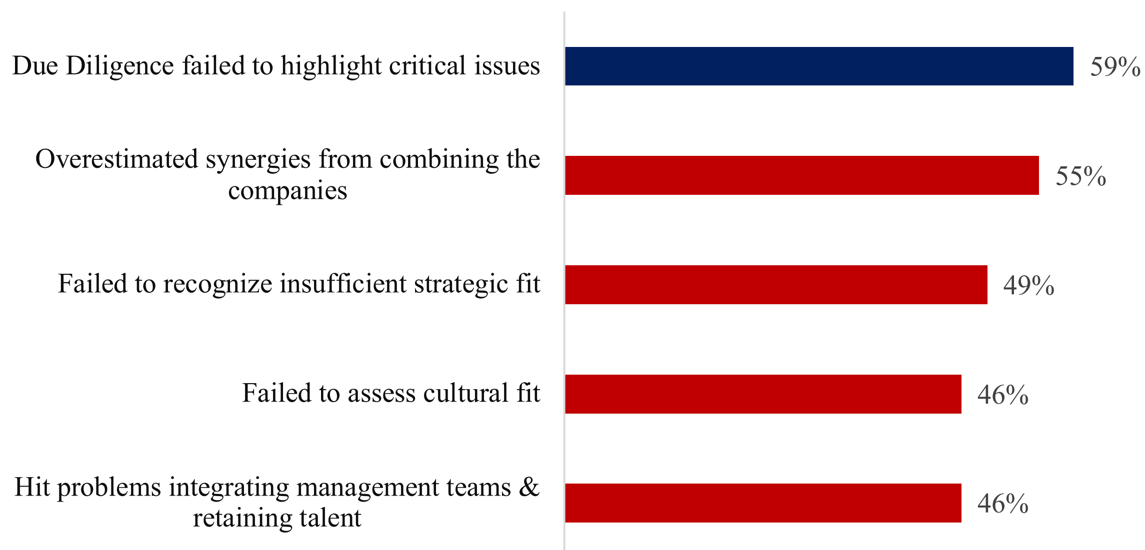
The objectives of this thesis are two-fold: the first preliminary objective is to find out what indicators a strategic acquirer or a financial acquirer (private equity fund) can use to judge and quantify the value creation of an M&A transaction. The second essential objective is to know how, in the context of integration, a strategic acquirer can increase value creation in order to make the Post-Merger Integration a success? These are two intrinsically linked objectives that will help answer the initial question: how to make Post-Merger integration successful?

I. Making PMI a success: understanding the basic issues of a M&A deal

1.1 Why is the PMI so important?

If the initial question is how to make PMI a success, it is worth asking why Post Merger-Integration is so crucial. By observing and analysing the main reasons behind the failure of several M&A deals, one can quickly notice that Post Merger Integration constitutes one of the main points explaining these failures. Statistical and quantitative studies can confirm this postulate. The analysis carried out by Bain in 2012 brings out the main reasons of M&A failure. This statistical study is based on a survey of a sample of 353 company executives located in the US, Europe and Asia. These companies vary in size and were selected to represent as many industries as possible. It should be noted that respondents were given the opportunity to answer several questions. Hereafter the results of this study:

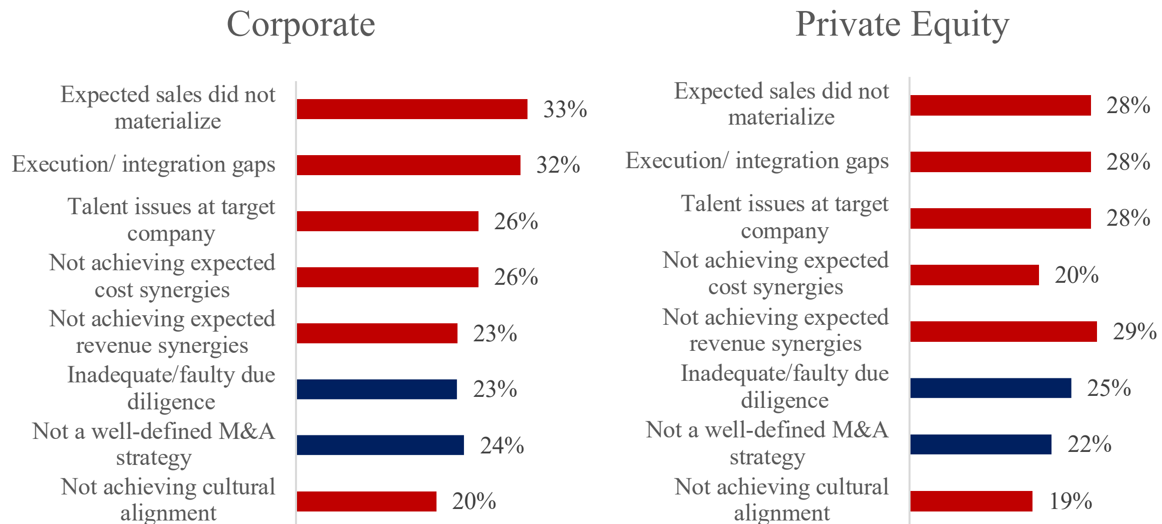
Top five root causes of deal disappointments or difficulties – Bain



In red are highlighted the main difficulties related to Post-Merger Integration. It is therefore obvious to see that integration issues are among the top causes of M&A deal failure. Integration difficulties represent 4 out of the main 5 reasons of failure. Thus, as imagined, it appears that Post-Merger Integration is a very hot topic in M&A processes as far as it can destroy all previous efforts. Beyond this study carried out by Bain on the main reasons for M&A deal failures, it seems relevant to add more granularity to this analysis in order to know the main

causes of failure by type of player. It would indeed be relevant to know the main causes of failure for corporate on the one hand and financial acquirers on the other. These are the two main players in the M&A market, with different motivations and performance criteria.

Top reasons why M&A transactions have not generated expected value (within internal reasons) – Deloitte

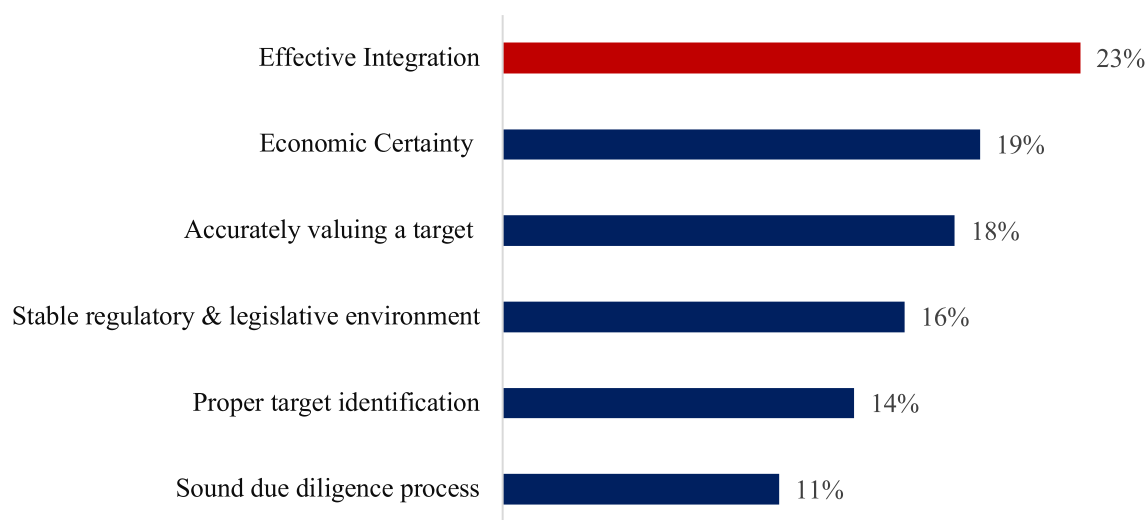


This Deloitte study highlights how M&A issues can vary depending on the type of buyer. As one might expect, cultural, strategic and human integration issues are much more prevalent among corporate buyers. For private equity funds, the problems are more related to financial integration. Although integration issues differ between players, the fact remains that Post-Merger Integration remains, for any kind of acquirer, one of the main points of tension in M&A deals.

While these results highlight the importance of the Post-Merger Integration process, it is possible to take this point further and emphasise the importance of this stage: rather than looking at the main reasons for M&A deal failure to understand the importance of PMI, it is also relevant to look at the main criteria for a successful M&A deal. From the negative to the positive reasons that drive management to focus on Post-Merger Integration processes. To explore the positive reasons for the importance of the PMI stage, a 2019 Deloitte survey asked executives about the key success criteria for an M&A deal. The study surveyed 1,000 executives working in over 20 different industries including both corporate and private equity.

It is worth noting that more than 33% of respondents worked in a company with revenues exceeding $1 billion. This "positive" study on the main factor influencing the success of a M&A operation confirms once again the importance of PMI:

Most important factor in achieving a successful M&A transaction – Deloitte



To conclude this point, as Post-Merger Integration represents for any kind of acquirers, (Corporate as well as Financials) one of the main failures and success reasons for M&A transactions, this phase of integration has to be considered as crucial when imagining a deal. With hindsight, we will see that lessons can be learnt from the most severe M&A deals failure: Post-Merger Integration is a make or die moment within a M&A deal.

1.2 The right motives behind a M&A deal

In order to properly consider the integration of a company for the acquirer, it is necessary that the acquirer applies a clear and effective roadmap based on the initial motivations underlying the M&A transaction. In press releases related to M&A transactions, acquirers always communicate the underlying reasons for the transaction. This is a crucial and essential element in an M&A transaction. Pfizer's acquisition of Hospira, for example, was aimed at increasing growth in the Sterile injectable pharmaceuticals segment. For the Exxon-Mobil merger, the objective was to increase its international presence and reduce exploration costs. The entire integration roadmap of two companies will stem from the underlying motivations behind the transaction. A successful PMI is first and foremost a M&A transaction with the right incentives. So what are those underlying motivations?

It is possible to consider two MECE (Mutually Exclusive, Collectively Exhaustive) reasons behind M&A deals:

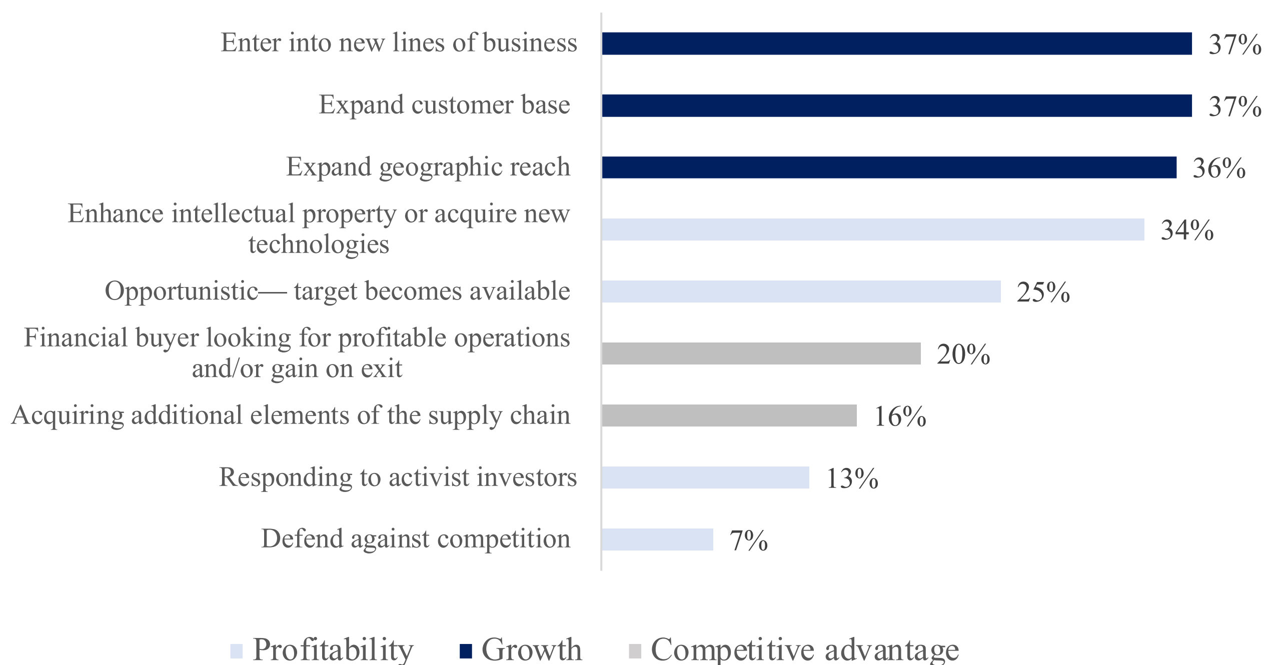
i. Motivations that increase the value of the company since the deal aims at increasing current and/or future economic profit.
ii. Motivations that are in the interest of the company's management and not in the interest of the company's value: deals that increase the wealth of the decision maker at the expense of the company's wealth

These two categories make it possible to include all the major reasons for external growth. Now, in order to add granularity, we need to study each of these two major categories

1.2.1 Motivations increasing company's valuation

To begin with, let's focus first on the reasons that aims at increasing the value of the company. To further strengthen this point, a 2016 KPMG study brings out the main strategical reasons for doing M&A.

KPMG 2016 – Why doing M&A?



From the answers given by the respondents of the KPMG study, it is possible to identify 3 main types of motivations with regard to the strategic motivations of M&A:

i. Motivations to increase the company's growth
ii. Motivations to increase the company's profitability
iii. Motivations to gain competitive advantage

Nevertheless, beyond this rather crude categorisation there are an almost infinite number of strategic reasons why companies decide to carry out an M&A project. This categorisation of the main strategic reasons for M&A transactions is far from being MECE. Typically, motivations revolving around ESG issues are also increasingly common. We have therefore been able to study here the main reasons for a transaction to increase the value of the company

It is now appropriate to focus on the second major category of motivations: incentives that stem from private interests aiming at increasing the wealth of decision-makers at the expense of the wealth of society.

1.2.2 Motivations that are in the interest of the company's management

This motivation stemming from private patrimonial interests, distinct from the company, originates from the theory of the internal inefficiency of the firm: the so-called X-inefficiency. This theory first appeared with Leibenstein in 1966: there is a difference between the efficient behaviour of companies, as expected by market theory, and what it is effectively observed. The main reason for this gap is that a company can be conceived as a particularly complex organisation with a fairly vertical separation between the owners (investors) and the controllers (managers). Among these complex companies, decisions are made at the level of managers who sometimes have aspirations other than increasing the value of the company. These conflicts arise from the fact that investors are primarily interested in increasing the value of the company in order to increase their capital, whereas managers and decision-makers are primarily interested in increasing their salaries, bonuses (but also their egos). Finally, these motivations show that managers are looking for gains at the expense of shareholders gains. Among these personal motivations, several theories have emerged.
One of the first to study this theory of personal motivation in M&A was Mueller in 1969. He worked on the "*Empire building*" theory: this is the idea that managers are directly interested

in the size of the company they work in. Managers want the company to grow as fast as possible. To achieve this, they very often rely on external growth at the expense of any strategic interest and fit with the target. Another motivation that is solely in the interest of the manager (vs. the shareholder) comes from Roll's work from 1986: managers, through overconfidence, also known as hubris, consider themselves better than others and therefore more capable of running other people's businesses. This Hubris theory as a motivation in M&A deals leads, most of the time lead to a situation where the target is clearly overpaid. The illustration of the overpayment is in the premium which is often far above markets standards. This overpricing leads in the medium term to a destructive market reaction.

As a conclusion, there are a very wide array of reasons for doing M&A. When this reason is not motivated with personal purpose, M&A may increase the value of the firm via an increase in profitability, growth or competitive advantage (to be noted that these categories are not perfectly MECE). On the other hand, there may be a mismatch in interest between management and shareholders. Due to internal processes and vertical separation between investors and & managers, some management members aren't incentivized to increase the value of the firm but to increase the size of the company. In this scenario, M&A rimes with volume and hubris but not with value creation. Thus, to understand how to make Post Merger Integration successful, it is first absolutely essential to assess and understand the basic motives behind the M&A transaction. A good rule of thumb would be "tell me what your motivations are and I'll tell you if your PMI is likely to succeed".

At this stage, one can already assume that a successful PMI often stems from beneficial M&A motives. At least, having good reasons helps to establish an engineering roadmap and logically increase the Post Merger Integration probability of success.

1.3 *Good modelling of possible 'positive' synergies*

If some authors (Weber 2014) consider a 50% of failure rate in M&A process, others suggest that this failure is at an even higher rate of between 70% and 90% (Clayton et Al 2011). Such high failure rates are mainly due to the fact the acquirers didn't manage to benefit from the synergies they had imagined before head (Sehleanu, 2015). Before getting into details, it is necessary to define the principle of synergies in general. In corporate finance, synergy is the

concept that the combined value and performance of two companies will be greater than the sum of the separate individual parts: roughly speaking, it is the principle that 1+1>2.

Inspired by the work of Bruner (2004), Damodaran (2005) and Collan et al. (2009), it is possible to consider two main types of synergies:

- *Operational synergies:* these synergies lead to the improvement of companies' operating activities. They can be achieved as far as the newly created entity is bigger than the former one. Thus, it can mostly benefit from economies of scale and better bargaining power (more pressure on pricing for instance)
- *Financial synergies*: these synergies stem from the point that the newly created entity may have a better debt capacity and tax benefits

Before an M&A process, It is definitely essential to assess and know exactly the synergies the acquirer is targeting in the transaction. In *Investment Management and Financial Innovations*, Anna Loukianova, Egor Nikulin and Andrey Vedernikov illustrate the point that before studying each synergy one by one, it is crucial "*for an acquirer to assess the expected synergetic effect from the M&A activity before engaging in it*". A good modelling of synergies is one step further in a good Post Merger Integration.

1.3.1 Operating synergies

Among operating synergies, a wide array of categories can be considered. Nevertheless, here we will try to focus on the most standard and widely used categorisation stemming from the studies and research methodologies of Bruner (2004), Damodaran (2005) and Collan et al. (2009). As mentioned above, they agree on the fact that in total there are 8 main types of synergies divided into two categories:

- Operating Synergies
- Financial Synergies

In this part dedicated to operating synergies, we will split these operating synergies accordingly to their research methodology with 3 synergies in Operating Synergies & 5 synergies in Financial Synergies:

- (i) Revenue synergies
- (ii) Growth synergies
- (iii) Cost reduction synergies

- (iv) Tax benefits leading to loss carry forward
- (v) Tax benefits leading to Asset write-up
- (vi) Tax benefits leading to tax rate decrease
- (vii) Increased borrowing capacity & lowered interest rates
- (viii) Decreased cost of capital

A. Revenue & Growth synergies (2/8)

Revenues synergies on the one hand and growth synergies on the other hand represent 2 of the 8 synergies categories used by Bruner (2004), Damodaran (2005) and Collan et al. (2009). If we try to get into details, these two categories of synergies mainly comprise:

- Cross-selling
- Cross-branding
- Enhanced market power
- Enhanced market access

Cross-selling may be defined as "*the action or practice of selling an additional product or service to an existing customer*". The goal of cross-selling is mainly to extend the value and lifetime of a customer for the company. By integrating new products or services, newly merged companies have a high probability of cross-selling: company "A" will be able to pass on the services or products of the newly integrated company "B" to its existing customers. For example, a company specialising in the sale of mobile phones would acquire a company specialising in telecoms networks. Each of the two companies would therefore benefit from the customer network of each of the entities.

Cross-branding can be defined as the situation when "*two brands work together to create a new product that uses both brands*". Cross-Branding or Co-branding can be an effective way to build business, boost awareness and break into new markets. To be a success, cross-branding must be a win-win for all players in the game. A well-known example of cross-branding is between Uber and Spotify. Even though there is no capital link between the two companies, they have set up an offer that is a benchmark in terms of cross-branding. Here's how it works: When riders are waiting for an Uber ride, they're prompted to connect with Spotify and become the DJ of the trip. The benefits of this strategy are twofold: for Uber and for Spotify. A user on

Spotify will be tempted to use Uber because of the service. Conversely, an Uber user will be curious to use Spotify because of its advertising on the Uber app. In the context of mergers and acquisitions between two companies operating two distinct brands, cross-branding revenue synergies may therefore arise.

According to the OECD, Market Power can be defined as "*the ability of a firm (or group of firms) to raise and maintain price above the level that would prevail under competition*". There are many theories on market power, in particular that: a horizontal merger unhappily reduces the number of operators in a given industry and increases the market share of the acquiring company (Stigler 1964). This situation allows companies to increase their prices to end customers. In this condition there is no denying that M&A can lead to revenue synergies thanks to a greater bargaining power. However, it should be noted that in practice this theory has not always been verified. Indeed, the market authorities take care to avoid this situation as much as possible, as it is contrary to the market economy and harmful to end customers. This is one of the main reasons for the existence of anti-trust laws. Therefore, although mergers and acquisitions can increase market power, revenue synergies are sometimes difficult to achieve because of financial market authorities.

Finally, Market Access "*refers to the ability of a company or country to sell goods and services across borders*". Mergers and acquisitions make it possible to benefit from the geographical locations of each of the parties involved. Establishing a presence in a new geographical area can be one of the main motivations behind M&A operations. China, for example, has developed a national strategy of buying up foreign companies in order to establish itself: the number of Chinese M&A operations involving foreign companies has increased tenfold in number and fiftyfold in transaction volume between 1999 and 2019 according to the Institute for Mergers, Acquisitions and Alliances (IMAA). Through this acquisition strategy, the idea is therefore to take advantage of the customer base, distribution channels, etc. of the foreign target to better establish itself in new regions.

In conclusion, the possibilities for revenue & growth synergies are numerous but will vary massively depending on the industries and geographical areas involved in these M&A transactions. Following the MECE categorisation of synergies used by Bruner (2004),

Damodaran (2005) and Collan et al. (2009) we have been able to better understand 2 out of the 8 synergies categories.

B. Cost-reduction strategies (3/8)

Most of the time, cost-reduction synergies are considered as the simplest to predict and model. Unlike revenue synergies, cost-reduction synergies are finite: a company can't cut costs indefinitely but it can increase its revenues almost indefinitely. This cost reduction process occurs most of the time through:

- *Greater Purchasing Power*: this category of cost synergies arises mainly from market share gains (cf. Revenue & Growth synergies). It is closely related to the market power synergies discussed above. While market power synergies allow for higher prices to be charged due to the large size of the new entity, purchasing power synergies allow for lower procurement prices to be charged to key suppliers. Market power applies to customers, purchasing power applies to suppliers. The mechanisms are almost identical: by making an acquisition, a company increases its market share and therefore its bargaining power with respect to both customers and suppliers. This leads to revenue synergies (discussed above) and cost synergies (discussed here). As an illustration, Greene, Kini, and Shenoy studied a sample of 785 conglomerate acquisitions between 1986 and 2010. They brought out the fact that there is an increased purchasing power over common supplier industries.
- *Economies of Scale*: Scale Economies represent the cost reduction that stem from the fact that some activities carried out by firms separately can now be combined and streamlined. In other words, the more you produce, the lower the cost per unit is. Thus, a leaner workforce, a smaller sales team, a single head office rather than two, avoiding duplication in R&D, pooling of advertising expenditure to rejuvenate the old and acquired brands, etc., are sources of scale economies.
- *Scope Economies*: Scope Economies are the cost reduction that stem from the combination of supporting activities for one range of services or product. It will be easier to make such savings in companies that offer a wide variety of products or services. Typically, the most common scope economies will be in Marketing, IT, etc.

Therefore, while cost synergies are often considered as the most straightforward ones, they are not always the most easy and profitable synergies to implement (vs. revenue synergies)

1.3.2 Financial synergies

For a large proportion of M&A deals, the focus of synergies is on the revenue and cost synergies discussed earlier. Considering only these two categories of synergy is a mistake and would mean ignoring a particularly important family of synergies: financial synergies. Bruner (2004), Damodaran (2005) and Collan et al. (2009) even consider that these synergies are very often underestimated whereas they represent 5 out of the 8 existing synergies within a M&A deal. According to JP. Morgan, Financial Synergies represented in 2009, 41% of total synergies value within M&A deals. There are definitely crucial within a M&A and Post-Merger Integration process.

Thus, according to Bruner (2004), Damodaran (2005) and Collan et al. (2009), it is possible to consider 5 main synergy levers among financial synergies:

- Tax benefits leading to loss carry forward
- Tax benefits leading to Asset write-up
- Tax benefits leading to tax rate decrease
- Increased borrowing capacity & lowered interest rates
- Decreased cost of capital

Here, we have been able to assess & explain the main synergies that have to be considered within a M&A deal & Post-Merger Integration phase. In Part III of this study, we will focus more on the mathematical way to calculate and assess their market value. Indeed, knowing these synergies is interesting but being able to model & predict their amount is key for assessing the value created.

1.4 Good modelling of damaging 'negative' synergies

If the success of an M&A operation and more particularly of the PMI phase depends to some extend on a good evaluation of the synergies envisaged with the target company, success also depends on a good modelling of the negative synergies that may exist between the two companies. Even if this categorization is far from being exhaustive, it is possible to consider three main levels of “negative synergies” or “dyssynergies”:

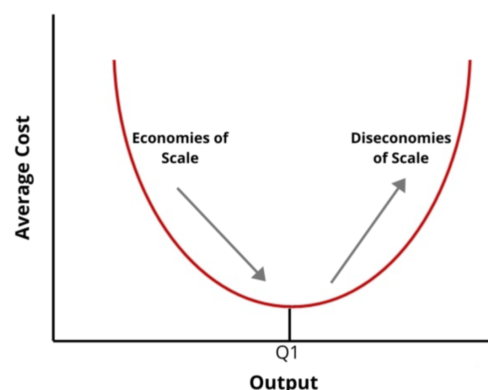
- Cannibalization

- Operational complexity
- Client or supplier leakage

Cannibalization: it refers to a "*phenomenon that happens when there's a decreased demand for a company's original product in favor of its new product*". It is possible that promoting the target company's products or services will reduce sales of the buyer's product or service. This is not an enviable situation, especially as it not only reduces sales but can also lead to a degraded product mix: if the cannibalizing products have a lower margin than the cannibalized products, the overall margin of the company will be reduced. This risk will be particularly high for a transaction between two companies offering similar products or services in a similar market.

Operational complexity: this difficulty is often linked to setting up a structure that is too big too quickly without the company having time to be optimised. This situation most often results in two concepts that are antithetical to scope and scale economies:

- *Diseconomies of scale:* this happens when the company has grown so large that the cost of production per unit now starts to rise. There are several mismanagement reasons for this. Most often it is due to an "overcrowding" phenomenon where both employees and machines get in each other's way, reducing operational efficiencies. Here under, a graph explaining the Diseconomies of scale principle:



- *Diseconomies of scope:* it occurs when the production of a company as a whole is less than the production of each of the companies separately. The coverage for scope

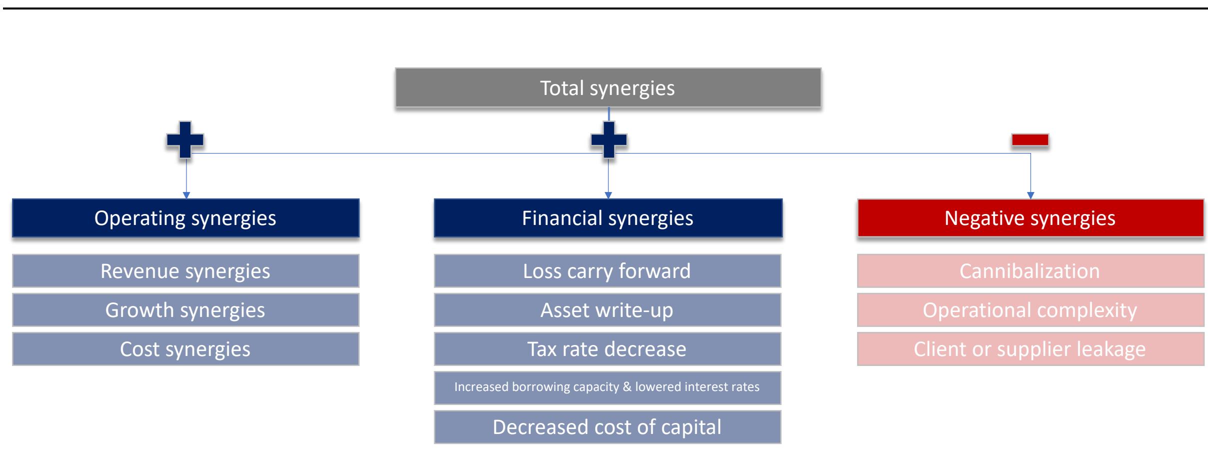
economy may often be quite vague. Considering one sales employee can replace another one within another branch isn't always a good vision. Indeed, the same sales force or advertising strategy may not be appropriate in the premium segment and the price-sensitive mass segment of a market. This illustrates the problem of 'conflicting out' when the mutually incompatible markets are approached with the same resource. In this context, consequences can be catastrophic and lead to a reduction in market share for specific segments where the resources applied doesn't fit with market needs and / or expectations.

However, it must be noted that the topics of diseconomies of scale of diseconomies of scope are still a hot topic among economics.

Client or supplier leakage: with an acquisition some customers or even suppliers may simply stop buying from or supplying the new entity. This situation is all the more recurrent as the Share Purchase Agreements often include a Change of Control Clause allowing (notably suppliers) to break a contract in case of a change of control. A supplier or customer could be led to terminate relations with a new entity in order to reduce its dependence on an overly large structure.

As a result, the integration of two companies can very often result in loss of revenue, profitability or even strategic downgrading. This can be due to many reasons but most often these negative synergies seem to occur when the buyer is more interested in growing rather than consolidating: this often leads to disorganized production systems and therefore to disappointing financial indicators.

All things considered, we have been studying positive synergies with the categorization of Bruner (2004), Damodaran (2005) and Collan et al. (2009) as well as negative synergies that are very often underestimated or even forgotten in M&A transactions. Here under a recap graph regarding all synergies studied in this part:



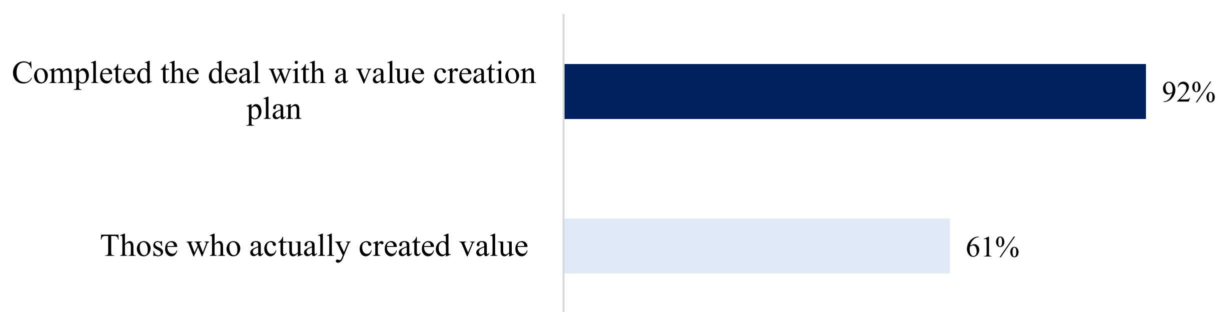
This synergy assessment will be a backbone for our future analysis in this paper regarding value creation and Post-Merger Integration success. Up to this point, we can assume that a successful Post-Merger Integration will mainly stem from:

- Good motivations for carrying out this operation…
- …Which must result in the implementation of synergies (both cost and revenue)…
- …While having assessed the risk of negative synergies.

If all elements mentioned above seem necessary for the implementation of a good Post Merger Integration, It is necessary to focus on the criteria that companies should use to determine whether or not a Post-Merger Integration is successful.

II. Criteria for a successful PMI

Value creation is a concept that at first seems particularly vague: MacKinsey considered in a 2012 report that value creation in M&A processes is an "*inexact science*". Indeed, the different types of players (banks, funds, corporate) use different types of criteria which sometimes give contradictory results. In this respect, we can see that many corporate players in particular, thinking they are following the right performance and value creation indicators in a M&A deal, find themselves disappointed by the performance of the transactions: a study conducted by PWC on 600 companies from various sectors and geographical areas illustrates this "*inaccurate science*" of value creation. They asked executives about their experiences with value creation in M&A. Here are the highlights of the findings:

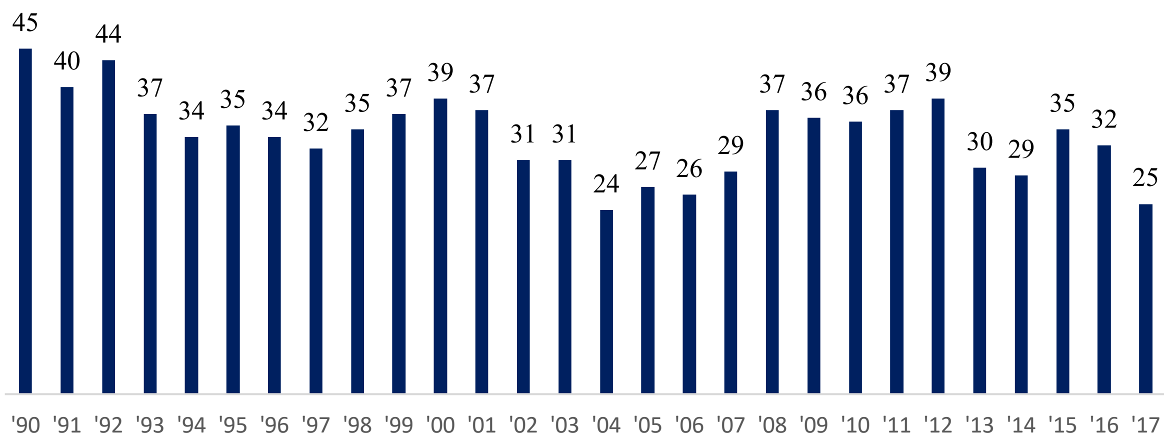


Predicting the right criteria for value creation is not easy given the multiplicity of indicators: ROE, ROCE, EPS, IRR, Total Shareholder Return, Synergies, etc. To focus more precisely on our subject of PMI, it is appropriate to use the words of Harbison & al (1999): "Value is created after an acquisition". According to Harbison & al (1999), the PMI is the key moment of the transaction in terms of value creation: this is a make or die moment. As far as value is created only after an acquisition, value is created during the phase of Post-Merger Integration. If a company really wants to know if the Post-Merger Integration is a success, it has to know how to track the value creation of this phase. To tackle this value creation topic during the PMI phase, we need focus on the main types of actors involved in M&A transactions.

2.1 Criteria for industrials

The share of corporate buyers, also known as strategic buyers, has decreased considerably in recent years. Strategic buyers account for 57% of M&A deal values (2016 Pepperdine University Report). In the 2022 Bain M&A report, we observe that the share of financial buyers has risen sharply in the fast few years. This phenomenon is all the more important that dry powder is at an all-time high, urging funds to invest and leading to even higher valuations. As a corporate, one of the most widely used aggregate tracked during a M&A process is synergies. The reason why the indicator followed by corporations is synergies is because the objective of a M&A transaction for a corporate is to establish synergies with the target. For a corporate, the quality of the PMI phase can be judged by whether or not it managed to incorporate the envisaged synergies. On a financial level, it is more a question of the extent to which the synergies established between the two companies can absorb the acquisition premium paid by

the buyer. The acquisition premium can be defined as the difference between the estimated actual and market value of a target vs. the real price paid to purchase this company. For a listed company, for example, the standard way to value the premium acquisition is to compare the unit purchase price of the shares with the unit price of the shares approximately one week before the transaction. This premium is called the "*one-week deal premium*". Note that according to the 2019 M&A report by BCG, the one-week deal premium has remained relatively constant, with a little decreasing trend, over the last 30 years: the average is around 30%.



It is on the basis of this premium vs. synergy relationship that the main criterion of value creation for a corporate in an M&A transaction is based. In other words, can the synergies achieved be sufficient to offset the extra costs paid (premium)? This question therefore amounts to a study of this relationship:

Value Created for an acquirer = Market Value of Synergies – Premium Paid

While this value creation criterion is essential for corporations, assessing their market value remain a particularly delicate exercise. Most of the time, the most simplistic approach is to calculate the Net Present Value (NPV) of the contemplated synergies. With this simplified approach, a Post -Merger Integration would be considered successful for a corporate only if it respects this relationship:

$$(1)\ Premium\ Paid < \sum_{i=1}^{n} \frac{S_i}{(1+r)^n}$$

r: the discount rate (WACC) of the new entity

S_i: Synergistic gains on Cash Flows over the period

n: Number of periods

In part III, we will analyze a more detailed and precised approach to value the synergies. In the (1) relationship, synergies are not valuated according to the specific type of synergies: cost synergies, revenue synergies, financial synergies, etc. A topic of part III will go further in the (1) inequation to better understand the main variables for the value creation within a M&A process.

Moreover, if it is complicated to assess the market value of synergies, it is also tricky to determine the right premium to pay: there is an arbitrage between paying a high premium and risking overpaying vs. paying a low premium risking losing the auctions sales. The premium concept is such a hot topic that Sirower and Sahni (2006) have even taken the problem in reverse. They developed a rather simplistic model consisting of considering the NPV of the synergies of a deal as the break-even point to adjust the maximum possible premium so that the difference between the two remains positive (and therefore that there is value creation for the corporate). Thus, on the basis of the companies' assumptions and depending on the cost synergies and revenue synergies modelled, this framework makes it possible to determine the maximum premium payable for the deal to remain value-creating. The value creation criterion for strategic deals is therefore mainly based on the equation of comparing the Present Value (or Market Value) of synergies with the Premium Paid. However, as mentioned, knowing the precise market value of synergies before the transaction is often a difficult and inaccurate exercise (cf. Part III) which has a crucial influence on the premium paid by the buyer (to use the framework of Sirower and Sahni - 2006). On the contrary, knowing the market value of synergies, can be done after the transaction when all synergies have been implemented. This exercise is not necessarily relevant for the corporate entity since it needs, at the time of paying the premium, to know the amount of the synergies (in order to deduce the maximum amount it can pay while continuing to create value). In practical terms, to know the amount of synergies after a transaction, the following equation should be used:

$$Combined\ Post\ Merger\ Value = Combined\ Pre\ Merger\ Value + Synergies - Cash\ paid\ including\ premium$$

It can therefore be deduced that:

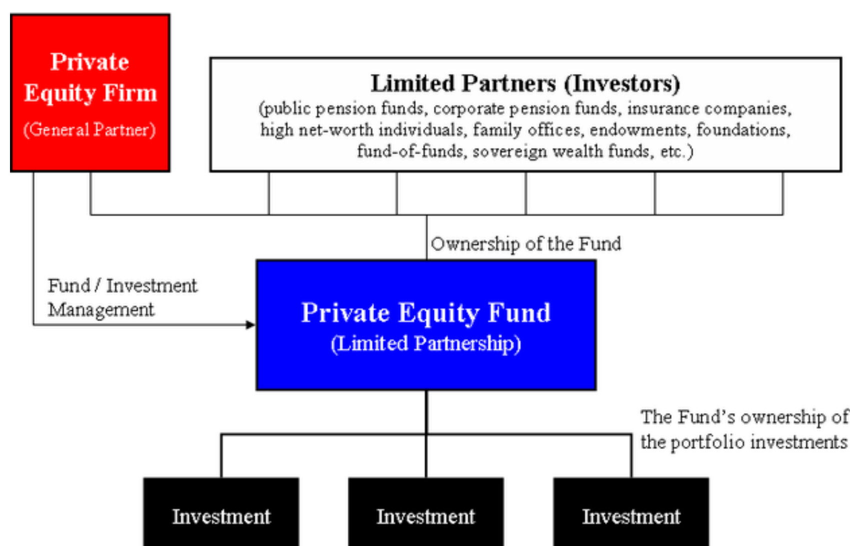
$$Synergies = Combined\ Post\ Merger\ Value - Combined\ Pre\ Merger\ Value + Cash\ paid\ including\ premium$$

If the value creation relationship between NPV of synergies and the premium paid apply for corporates (i.e. 57% of the value of M&A deals), the rest of the transactions, according to Bain's report, involve finance actors (funds, SPACs, etc.). Their value creation criteria can't be the same as far as these actors aren't looking for synergies.

2.2 *Criteria for financial actors*

In order to go straight to the point, we will focus only on Private Equity investors and find out what is the main value creation criterion tracked in their operations.

As a reminder, a Private Equity is "*a substitute way of private financing, distinct from public markets, in which funds and investors directly invest in companies or engage in buyouts of such companies. Private equity funds earn money by charging management and performance fees from investors (also called LPs).*" Below is a summary diagram of the classic organization of a private equity fund."



As explained above, the reason why value creation indicators are distinct for different types of buyers is that objectives are different:

- *For strategic transactions* made by corporates, the essential criteria of success for a Post Merger Integration is based on the principle of synergies: this is why the value creation criterion is based on synergies (as a reminder, NPV of synergies must be higher to the premium paid to create value for the corporate).
- *For Private Equity Funds*, there are very rarely seeking to establish synergies in the context of their acquisitions (apart from build-up operations of course). The main purpose of these companies is to invest the funds of the LPs in unlisted companies and to make these funds grow. This is "pure" investment, in the same way as one might invest in the listed markets. Thus, synergies can't constitute the backbone of the value creation criteria.

That's why, the most commonly used value creation criterion used by these funds is the same as any other kind of investment: The Internal Rate of Return (IRR). The IRR can be defined as the rate of return that cancels out the sum of cash flows discounted at this rate for a given project. In concrete terms, an IRR of 10% over 5 means that this project will yield 10% per year. More mathematically, the formula for obtaining the IRR is the solution *"x"* of the following equation:

$$0 = NPV = \sum_{n=0}^{N} \frac{CF(n)}{(1+x)^n}$$

CF(n): Cash flows

n: Each period

N: Holding period

NPV: Net Present Value

But with what rate should we compare the IRR of a project in order to know if the investment of a private equity fund has created value? The IRR should be compared to the average rate of return required by all stakeholders of the project. In other less technical words, for a Private Equity fund it is the target's WACC.

To summarize, if a Private Equity aims at creating value with an investment, the fund investment must obey the follow relationship:

$$IRR\ (Project) > WACC\ (Target\ company)$$

Thus, if the IRR of the Private Equity fund's investment is higher than the target's WACC, then value has been created for the Private Equity fund. To understand this mathematically, if we apply an IRR higher than the WACC in the Net Present Value formula of a project, the NPV of that project is positive. Conversely, if the IRR is lower than the WACC of a project then the Net Present Value of the project becomes negative. Even if the IRR calculation isn't that easy to obtain in particular with all assumptions that are needed in the BP to compute it, the advantage of this KPI is that it takes into account the cost of time using a discount rate. However, this discount rate is a hot topic that also constitutes the limit of the IRR. Indeed, in the calculation to obtain the IRR, it is assumed that the net cash inflow can be reinvested at this IRR (which is not the case in reality). For instance, with a project with a 20% IRR, to obtain this figure, it assumed that money can be reinvested each year at a rate of 20%. In reality, a 20% reinvestment rate isn't wise. This necessity for care is all the more crucial that IRR and NPV calculations for the same project may give contradictory orientations. Below is a quick example of such a situation:

Example of two projects with conflicting IRR and NPV results

Period	Project 1	Project 2
Year 0	-5 000	-5 000
Year 1	2 000	0
Year 2	2 000	0
Year 3	2 000	0
Year 4	2 000	0
Year 5	2 000	15 000
NPV	**2 582**	**4 314**
IRR	**29%**	**25%**

Indeed, we find a project 1 with a higher IRR but a lower NPV. If these two projects are exclusive (one can only invest in 1), a real dilemma arises for the buyer. In such a situation, it would be advisable, at equivalent risk, to turn to the project with the higher NPV. Indeed, as mentioned above, the IRR calculation is based on the assumption that the cash is reinvested at 29% and 25% respectively. This makes the result less rigorous than the NPV. All in all, as

many indicators, IRR may have limits, however it is one of the most rigorous, reliable and commonly accepted indicators in Private Equity.

Nevertheless, if the IRR is often the most used, it would be a shame not to mention another widely used indicator: the Cash-on-Cash multiple. During a planned interview with ████████ ██ branch, he indicated how the Cash-on-Cash multiple was for him one of the main criteria to monitor. The Cash-on-Cash multiple (or Money of Money multiple) corresponds to the Cash obtained at the end of the investment by the Private Equity fund divided by the cash invested at the beginning (thus excluding the debt portion). The is the return on the capital invested. More mathematically:

$$MoM = \frac{Total\ Cash\ Inflows}{Total\ Cash\ Outflows}$$

While this indicator is not a value creation criterion as such, it is a very good performance indicator. ██████████████████ indicated that LPs (fund investors) tracked this cash-on-cash multiple much more often than IRRs (even though the cash-on-cash multiple does not include a time dimension). This can be explained by the fact that the cash-on-cash multiple indicates very concretely how much the LPs will receive in relation to their initial investment (vs. the IRR).

All things considered, there is no denying that IRR is the most commonly used value creation criteria. IRR has to be compared with the target's WACC to assess the value creation. For a Private Equity fund, a Post-Merger Integration would be considered as successful if the IRR of the project is higher than the WACC of the invested company. However, within a transaction situation, it is crucial to also pay attention to other KPIs such as Cash-on-Cash multiple or the Net Present Value of the project.

2.3 Why EPS isn't such a good indicator?

Koller (2005) highlights how Earning Per Share (EPS) is a particularly used metric. This indicator is indeed simple to calculate, easy to understand and effective. However, the major drawback of EPS is that it includes a lot of accounting data. Therefore, EPS can be, to some

extent easily manipulated. To understand this, we need to look at the definition and exact formula of EPS. The EPS can be defined as the "*company's profit divided by the outstanding shares of its common stock. The resulting number serves as an indicator of a company's profitability*".

$$EPS = \frac{Net\ Income - Preferred\ Dividends}{End\ of\ Period\ common\ share\ outstanding}$$

The reason this indicator is so widely used is that it summarizes all the gains for shareholders. This data is therefore of considerable interest to both shareholders and management. EPS is therefore widely used by corporations to communicate on their M&A transactions. It is not uncommon to find this indicator in the second or third line of an M&A press release. A M&A deal is said to be accretive if the transaction allows the buyer to increase its EPS. Conversely, the transaction is said to be dilutive. Nevertheless, this indicator is very different from the concept of value creation:

- EPS can be easily manipulated
- EPS is distinct from cash considerations
- EPS doesn't include the notion of risk

As an easy to manipulate indicator, in the early 2010s, IBM launched a vast share buyback programme in order to mechanically increase its EPS. This policy was heavily criticized as this investment did not create any value for the company. On the contrary, this cash should have been used in R&D or other investments. With hindsight, it has been proven that for IBM this increase in EPS rimed with a destruction of value for the company: this is one illustration of the reason why EPS isn't a good indicator for value creation. This example also illustrates the theory behind a study published in 2020 by MacKinsey "*The Value of Value Creation*". The consulting firm shows how much corporations, in the context of their M&A transactions, are often obsessed with this indicator at the expense of classic financial aggregates (debt level, cash flow, etc.). All in all, there is no direct link between value creation for a corporate and the evolution of the EPS. That's why, an accretive deal can definitely be value-destroying. This is the theory of Haas and Hodgson, according to which a deal with a dilutive EPS will create more value through synergies than a deal with an accretive EPS.

Finally, if Haas and Hodgson and the examples cited above show how EPS is an indicator that is very far from value creation, it is still important to communicate on it in the context of M&A transactions. Indeed, Haas and Hodgson recognize that EPS must be communicated in order to send a good signal to the market (which will therefore have an impact on the Total Shareholders Return).

2.4 TSR: no value creation, but an essential KPI

Total Shareholder Return (TSR) is a measure of the performance of stocks of different companies over time. It combines share price appreciation and dividends paid to show the total shareholder return expressed as an annualized percentage. It can be calculated as:

$$TSR = \frac{P^t - C^{t-1} + D^t}{C^{t-1}}$$

P^t : Current Price at time t

C^{t-1}: Purchase Price at time t-1

D^t: Dividends at time t

TSR is not an indicator of value creation for the buyer but again it is essential to look at it. It helps answer a key question for buyers: has the value creation resulting from the transaction been well perceived by the market? Thus, if the market perceives the transaction as not creating much value, then the market's reaction on the share price is likely to be weak or even negative given the premium paid. Conversely, if the prospects for value creation are strong, the share price will tend to rise. Knowing how to communicate on the value creation of an M&A deal is the opportunity to take advantage of the market's reactions to increase its share price. Thus, if this indicator isn't quantifying value creation, it is therefore the consequence of value creation or not. In other words, if there is concrete value creation, TSR should increase and conversely.

Based on this indicator, it is therefore interesting to study statistically the reaction of the market after the announcement of transactions. Sirower and Sahni (2006) set up a statistical study between 1995 and 2001 analysing the TSR between the announcement of the deal and an average time horizon (one to two years). The result of their research showed an average one-year TSR of (4.2%) for a premium paid of about 35.7% on average. As we have shown in this

paper, the vast majority of deals are not successful. If the market has not perceived these transactions well (leading to a negative TSR), it is because they have not generally led to the levels of synergies and/or returns envisaged. The fact TSR is on average negative is logical as far as it is the consequence and illustration that most M&A deals (c.60%) are not creating value (based on the synergies contemplated vs. the premium paid). Above what we have been saying before there is an additional reason why TSR isn't such a good indicator for M&A transactions: TSR is much more driven by movements in the company's industry or macro events rather than by individual and stand-alone performance of the company. TSR is not that relevant when it comes to judging on the short term the performance of a M&A transaction.

To conclude on this indicator, if it is not a criterion of value creation as such for the corporate, it is one for the investor and the corporate must take it into account. It is nevertheless obvious that if the deal is value-creating for the corporate, then it has a good chance of being so for the investor. In other words, if the synergies are greater than the premium paid, the market will tend to value positively the deal and therefore generate a positive post-deal TSR. The TSR is therefore not a value creation in itself but its post-deal value (positive or negative) is closely linked to the value creation criteria studied before for corporations: a successful Post-Merger Integration is likely to be illustrated with a positive post-deal TSR evolution.

2.5 ROE vs. COE: a value creation criterion for M&A?

In the case of a M&A transaction, can the Return On Equity (ROE) be considered as a good indicator of value creation? In practice, ROE is commonly used by investors. Indeed, by comparing ROE with COE, investors can know whether or not their investment has been value-creating. However, this indicator is not necessarily that relevant. In the following, we will call "*the spread*" the difference between ROE & COE (i.e. $Spread = ROE - COE$). ROE can be defined as the return on book equity. It is calculated as follows:

$$ROE = \frac{Annual\ Net\ Income}{Shareholder's\ Equity}$$

COE can be defined as the return that a company theoretically pays to its equity investors, i.e. its shareholders, to compensate for the risk they take in investing their capital. Based on the ROE formula, it is possible to extend this formula using the ROCE:

$$ROE = \underbrace{ROCE}_{Operational} + \underbrace{\frac{Debt}{Equity} * (ROCE - Cost\ of\ Debt * (1 - Tax\ Rate))}_{Financial}$$

With this formula, we can then distinguish two parts in the calculation:

i. An *operational part* around the ROCE

ii. A *financial part* around the Financial Leverage

Thus, if the cost of debt after tax is lower than the ROCE, the ROE is largely boosted. The reason why it is relevant to explicit this ROE formula is that it shows how much ROE can be manipulated. This easy capacity to manipulate ROE makes this KPI not such interesting for value creation:

- Leverage is one of those levers that can, under certain conditions, optimize the ROE. However, increasing leverage without translating into operational improvements is in the long run value-destroying.
- Accounting manipulations above the Net Income could mechanically improve the ROE as well. Increasing the Net Income without operational improvements is also value destroying in the long run.

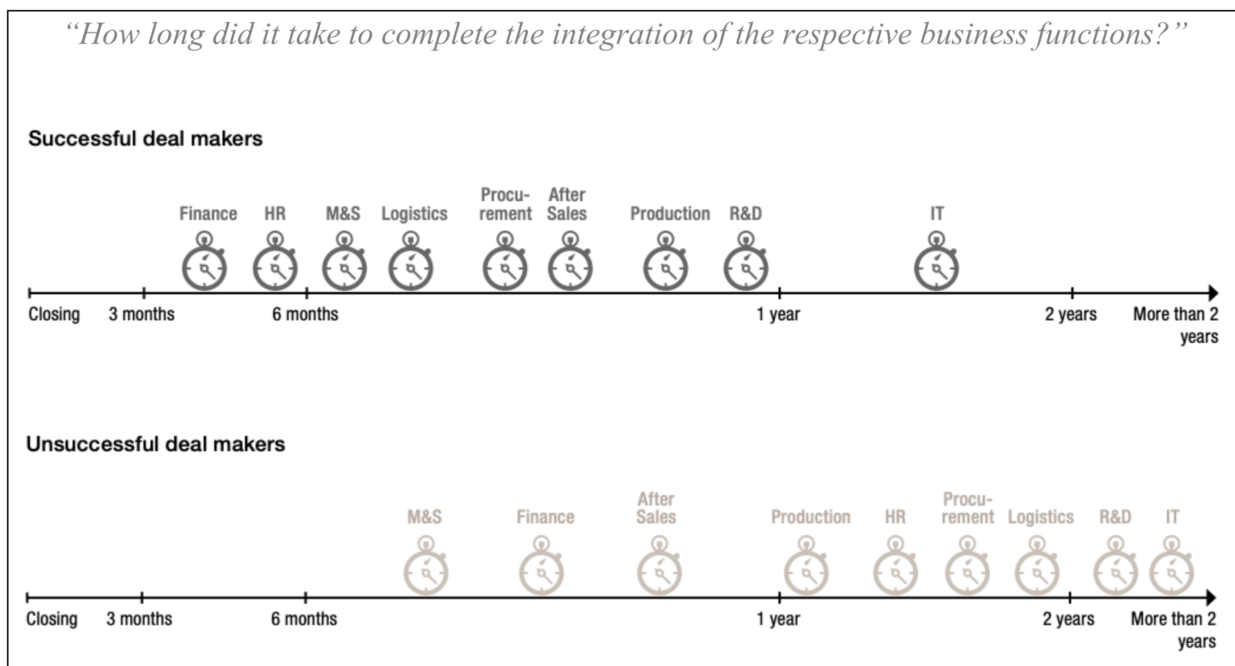
However, we have been saying that instead of focusing on the ROE, we should focus on the spread. Maybe the manipulation cited before doesn't change the spread between ROE and COE making the spread a quite reliable indicator for investor's value creation. However, according to Pettengill and Lander and their 2015 study, the COE takes much longer to adjust than the ROE. That is, if you increase the leverage of a company, ROE will quickly increase, without translating into an immediate increase in COE. This means that in the short term, the ROE vs. COE spread will increase thanks to leverage or account manipulating without having created any value or even with a destruction of value.

2.6 Can the time of Integration be considered as a criterion for a successful PMI?

In addition to the financial success criteria discussed above, an essential non-financial criterion that must be considered in M&A processes is the speed of integration of a target. Is the success of a Post-Merger Integration linked to the speed of integration? Is there a need for speed in Post-Merger Integration? Indeed, taking time to integrate a company after an M&A deal may

mean that the complementary nature of the companies and the synergies imagined are not so easy to implement.

It is possible to address this question of need for speed from a financial point of view: the sooner the integration is successful, the sooner the positive effects of the integration materialize, the sooner the financial indicators show good results. In other words, the faster a Post-Acquisition is, the faster synergies will appear. Digging into this point of speed, we understand that the speed of a PMI is crucial: over time, after an M&A transaction, a phase of uncertainty among employees, shareholders, bankers and even customers can set in. It is not uncommon for competitors to take advantage of M&A transactions and their uncertainty to win back business from the buyer of a M&A transaction. In this context, it is definitely crucial to minimize the time it takes to integrate a company. Epstein (2004) and Homburg & Bucerius (2005, 2006) make this relationship between successful PMI and duration of PMI very clear. This relationship is based on the intrinsic uncertainty of this tricky period. More than money lost during this period (due to the value of time), it is above all uncertainty that is the main risk during this period. Because of uncertainty, customers, employees or even stakeholders risk leaving the company. Below is a survey of over 250 transactions conducted by PWC in 2017 from a wide array of sectors. On these transactions, buyers were asked to indicate whether the deal was successful and the length of time it took to integrate each of the major stages (Finance, HR, IT, etc.):

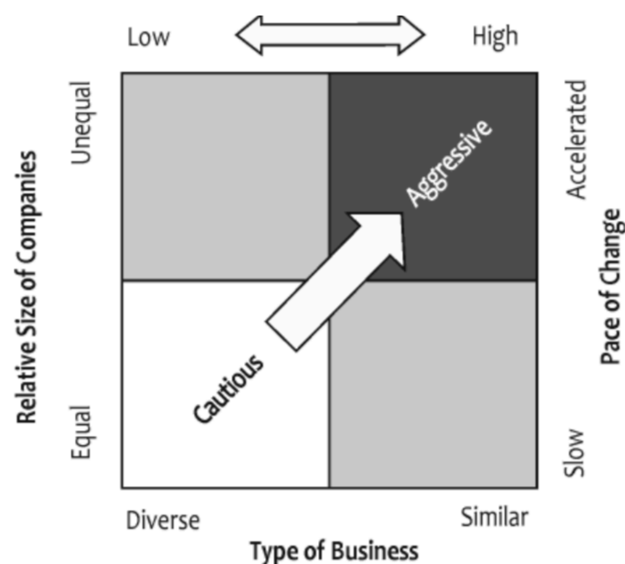


"How long did it take to complete the integration of the respective business functions?"

It is very clear that the successful deals conducted an integration in less than 2 years. This result is very different for the unsuccessful deals where some functions took more than 2 years to integrate. In summary, time rimes with uncertainty, risk and money losing. A successful PMI most often means a short and efficient PMI. Nevertheless, this approach must be moderated: certain authors (Bragado - 1992) and statistical studies (Wyman) remind us that speed should not be confused with precipitation. As the saying goes: one shouldn't mistake haste for speed. In some cases, the quest for speed is destructive of value. By trying to go too fast, there is a risk of not integrating the new society properly. As Jürgen Shrempp, CEO of Daimler Benz who led the successful merger with Chrysler, said: "*It'll take ten years to integrate people's minds*". Thus, to the postulate: "A successful transaction means a fast PMI", one could comment that:

- *The converse is not true*: a fast PMI does not mean a successful transaction. It depends on a lot of factors. The time of integration must be put in perspective with prior planning, quality of the pre-acquisition, due diligence, nature of the acquisition and its complexity, the need for mutual learning between companies about their resources and capabilities and how they can be leveraged etc.
- *Based on the NPV of Synergies vs. Premium paid value creation criteria, we can at least say that it is easier to create value if PMI is going fast*: as NPV is the sum of the Cash Flows stemming from synergies discounted with the WACC, one can understand that mathematically, the sooner the synergies are realized, the higher their Net Present Value are. With a high Net Present Value, the difference with the Premium paid is superior and the value creation as well. We will further develop this point in part III by using concrete formulas of synergies' Net Present Value.

Below is a summary matrix of literature and statistics that can finally summaries the link between speed of integration, degree of integration and the risk of integration



In conclusion, on the criteria for judging the success or failure of a PMI we have been able to examine two main points. The first was to study the main financial criteria of value creation. We noted that there are a multitude of aggregates to quantify value creation. However, by digging deeper and applying these aggregates to certain players and M&A transactions, we found that some were not rigorous enough or simply not applicable to M&A transactions. While others do apply to M&A transactions, they are sometimes too prone to manipulation like EPS. All in all, what stands out is that:

- A Corporate acquirer must focus primarily on the market value of synergies to be compared with the premium paid
- A financial acquirer must focus on the Net Present Value of the project rather than the IRR, which includes less rigorous reinvestment assumptions

Secondly, beyond these purely financial criteria, we wondered whether the success of a Post-Merger Integration could not be judged simply on the basis of its speed of integration. Studies have shown that a vast majority of successful transactions do have faster PMIs. This can mathematically be explained by the fact that the sooner the synergies are realized the higher the spread between NPV of synergies and Premium is. However, it would be simplistic to focus on speed only. Indeed, some of the most successful M&A deals include transactions that took several years to integrate: the case of Daimler-Benz & Chrysler is an example. If speed is an essential point in a PMI because it reduces uncertainty, we have to take into account the fact

that uncertainty is relative to a sector, the target, the synergies imagined and a multitude of other factors.

In the rest of the study, we will focus on strategic transactions as opposed to financial transactions. Based on what we have seen above, the main criterion for value creation for this category of stakeholder is the difference between the market value of the synergies and the premium paid. We will therefore focus in more detail on Net Present Value of these synergies as well as the practical implementation of the envisaged synergies. If the completion of the envisaged synergies is a necessary condition for a successful PMI, it doesn't seem to be sufficient.

III. The implementation of synergies: a necessary condition combined with cultural integration to turn the PMI into a success

3.1 Implementation of synergies: a necessary condition for a successful PMI

Focusing primarily on transactions of strategic players, we have seen that the main KPI for value creation in M&A is the successful implementation of the envisaged synergies (for a fixed premium). Nevertheless, a first limitation already mentioned in this paper is that to truly create value, the market value of synergies must actually be higher than the premium paid. As a reminder, for the corporate acquirer, the criterion for value creation in the context of a M&A transaction is based on the following equation:

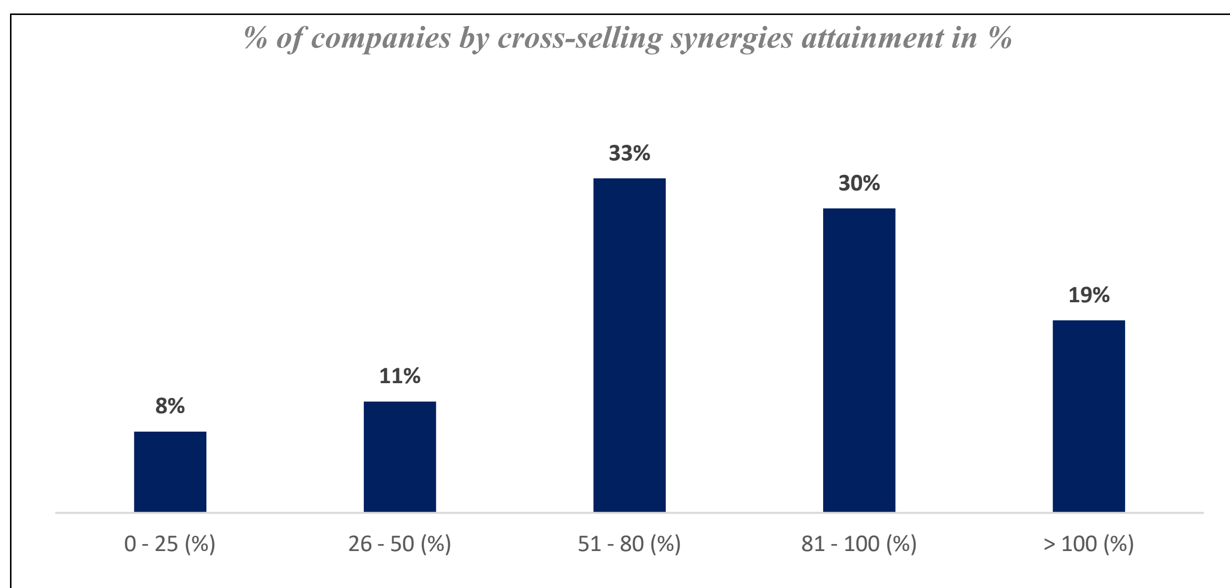
(1) Value Creation for an acquirer = Market Value of Synergies – Premium Paid

It is thus already crystal clear that the realization of the considered synergies is not a sufficient condition for the creation of value and therefore the success of the Post-Merger Integration. Indeed, other variables are to be taken into account:

- The premium paid
- The market reaction that will have consequences on the market value of synergies

Nevertheless, despite all these other variables, as synergies are an integral part of this equation, it is mathematically clear that achieving the considered synergies (or even more) is a necessary condition for making a Post-Merger Integration a success. Without the achievement of synergies, the market value of synergies can't be positive and then the value creation for the acquirer would mathematically be negative (considering that the premium paid is always positive). Thus, the realization of synergies appears to be a necessary condition. However, if

this condition is necessary, it is already a very discriminating barrier: many M&A transactions simply do not manage to transform the envisaged synergies into realised synergies. In 2020, MacKinsey published a statistical study of 75 executives in strategic companies (all sectors combined). In this study, MacKinsey focuses only on one type of synergy that we mentioned earlier: cross-selling.



In concrete terms, this means, for instance, that 33% of the companies surveyed have only managed to achieve between 51% and 80% of the cross-selling synergies envisaged. The gap between the conception and realization of synergies is, as we said, substantial. All in all, if synergies realization is a necessary condition, it is far from being easy to implement them.

3.2 The implementation of synergies: a necessary but not sufficient condition

While the realization of synergies is a necessary condition (taking into account the value creation equation) to make an PMI successful, this condition is far from being sufficient. As John R. Kimberly and Hamid Bouchikhi state in their 2012 book *Making Mergers Work*, "*Operational integration post-merger is a necessary but not sufficient condition for successful performance*". According to them, to transform the envisaged synergies into realized synergies with a beneficial market value, many other factors have to be taken into account. To focus on the value creation equation *(1)*, we understand that the first condition to create value is the only existence of synergies. It means that the buyer must transform conceived synergies into real ones. Secondly, the amount of synergies realized must be converted into market value. This

theorical market value can be computed using the Net Present Value (NPV) formula. However, up to this point we have seen a simplistic calculation of the Net Present Value of Synergies. We assumed that:

$$NPV\ (synergies) = \sum_{i=1}^{n} \frac{S_i}{(1+r)^n}$$

r: the discount rate (WACC) of the new entity

S_i: Synergistic Cash Flows over the period

n: Number of periods

However, to be particularly rigorous, the Present Value of synergies should not be calculated in the same way depending on the type of synergies. To take up the work done by Anna Loukianova, Egor Nikulin & Andrey Vedernikov in 2017 which uses the Datar-Mathews method, the NPV of the Total Synergies takes into account the specificities of each synergy. The total Net Present Value formula is then:

$$\boldsymbol{NPV\ (Total\ Synergies)} = PV\ (Cost\ Synergies) + PV\ (Rev.Synergies) + PV\ (Growth\ \ Synergies) + PV\ (Tax\ Synergies) + PV(Borrowing\ synergies) + PV\ (Discount\ rate\ Synergies) - PV\ (Cost\ of\ Integration)$$

The classification of synergies is similar to those studied above. This classification is based on the work of Bruner (2004), Damodaran (2005) and Collan et al. (2009).

It is interesting to look at the calculation of two of these NPVs in order to understand the main variables and components of the market value of synergies. On this basis, we can catch the main necessary conditions to turn synergies into a positive market value. Depending on the variables involved in the calculation of this NPV, we will be able to better understand on which points a corporate must be vigilant in order to increase the NPV of synergies, so that the Post Merger Integration is a value creative and a success. Below, we find for example the calculation of the Cost and Revenue Synergies PV:

$$(1)\ NPV\ (Cost\ Synergies) = \frac{CF_{Rand}\ *\ (1-t)}{r*(1+r)^n}$$

t: The effective tax rate

r: Discount rate of the combined entity (WACC)

CF_{Rand}: a distribution of possible cost savings that starts from year n+1 defined by a triangular probability density function

n: number of years to realize the synergies

$$(2)\ NPV\ (Rev.\ Synergies) = \frac{dR_{Rand} * FCFS}{r*(1+r)^n}$$

r: Discount rate of the combined entity (WACC)

FCFS: FcF as a % of the combined entity

dR_{Rand}: a distribution of possible revenue increases starting from year n+1 defined by a triangular probability density function

These two examples of calculating the market value of synergies by type of synergy highlight the plurality of variables involved in the final calculation of the market value of synergies. This confirms, once again, the fact that it is key, but definitely not sufficient, to realize synergies to succeed in a PMI. It is all the more not sufficient as far as one of the variables with the greatest impact in the calculation of NPV (more impactful than the % of synergies achieved) is the discount rate applied in the formula: this is the WACC of the newly formed company. This new adjustment variable is crucial because:

i. As mentioned above, up to a certain point, the calculation of an NPV is more influenced by the discount rate than by the cash flows in the numerator

ii. Thus, depending on the risk of the newly formed company, the market value of the synergies may fall considerably (and conversely increase), depending on changes in the discount rate (in this case the WACC).

Furthermore, another point highlighted in the work of Anna Loukianova, Egor Nikulin & Andrey Vedernikov (2017) is the importance of time (as we had seen earlier). The (1) & (2) NPV equations demonstrate this mathematically: the longer it takes to realize the synergies, the higher the discount rate and the lower the market value of the synergies. In other words, the longer the integration period, the higher the risk of not creating value. This confirm the

point tackled before regarding the importance of speed in the integration process: if speed isn't an indicator of a successful PMI, still, the faster, the easier to create value.

In conclusion of this section, we have seen that in view of the detailed calculation of synergies, many factors in addition to the simple realisation of synergies have to be taken into account:

- The market reaction with the importance of the WACC of the new entity in the calculation of the NPV of synergies
- The duration of the integration which can considerably reduce the NPV

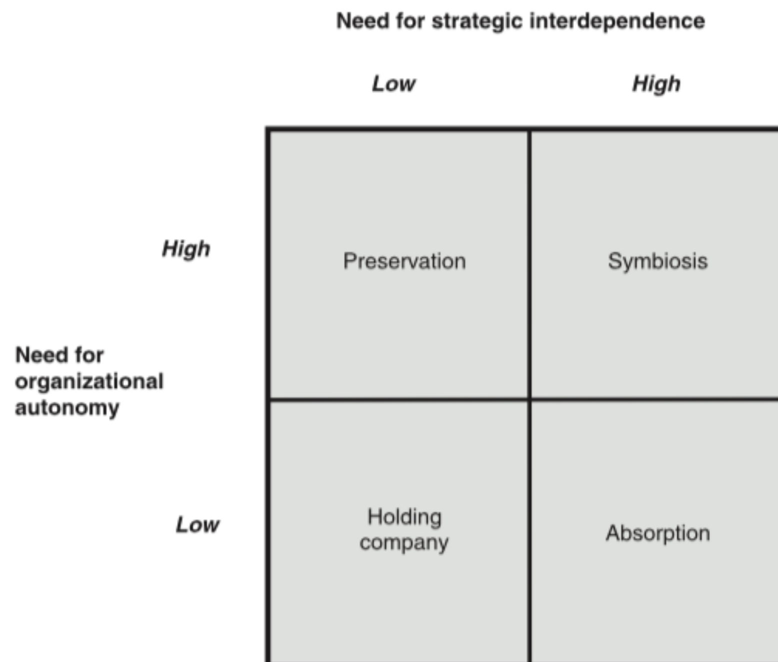
If the duration is an element that can be relatively easily managed by an acquirer, the evolution of the WACC is much more difficult to control. Indeed, the WACC is dependent on the risk of the newly created company. The risk of the new entity will depend on a considerable number of factors. As such, to continue with John R. Kimberly and Hamid Bouchikhi, one of the main points to be addressed in order to be sure to convert the synergies realised into a satisfactory market value (i.e a positive or neutral market reaction on the WACC of the newly created entity) is to focus on the cultural, identity and human integration between the two companies: to combine synergies and a good market reaction (preventing a WACC increase), it is necessary to focus on human, cultural and identity integration.

3.3 Achieving synergies requires good cultural, human and strategic integration

In this part the idea is now to focus on the weight of cultural, identity and human integration between two companies. Indeed, in order to achieve the contemplated synergies, create value and make the PMI a success, cultural integration must be successful (John R. Kimberly and Hamid Bouchikhi). Depending on the strategic rationale, the degree of cultural and human integration between two transactions will vary greatly. Haspeslagh and Jemison's integration model emphasises the trade-off between two extremes:

- *Complete absorption of the target:* meaning a full consolidation of the culture, operations, identity of both firms over time: almost disappearance of the target culture and identity.
- *Complete autonomy of the target*: meaning the identity and the culture of the target is unchanged, even if it means sometimes having overlapping employees between the buyer and the target.

In reality, the vast majority of deals are a middle ground between the two, tending towards absorption or autonomy depending on the strategic rationale of the investment. Below is a summary matrix, showing the main type of integration in function of Strategic interdependence and autonomy in integration:



The two main points to consider in the integration of the target's identity are

- The culture of the company
- The company's strategy

3.3.1 The corporate culture

Culture integration as well as all topics linked to the identity of the target are crucial within a Post-Merger Integration Process. This is the very hot and tricky topic when most managers consider the worst have been done when the reality is the total contrary. This moment of identity and culture integration is the moment when all efforts can be ruined (Delecourt and Fine, 2008). The corporate culture can be defined as the personality of a firm: the shared beliefs, norms, values and behaviors of the employees and managers. Corporate culture is very linked to the geographical position of the company as well as its country of origin. In M&A deals,

buyers often focus on financial and operational issues. They only really discover the target's culture at the time of integration. However, with a strong cultural incompatibility, the risk is to see some of the employees and executives (constituting the company's capital) resign. Executives from the target are an essential component of the acquired firm's resource base and their retention is an intrinsic determinant of Post-Merger performance. Thus, the greater the cultural differences, the greater the risks. On this basis, it is easy to understand that cross-borders deals involving different country cultures constitute an additional risk compared to transactions on a national scale. The main studies and writings on the subject of cultural integration mainly focus on the retention of employees after a M&A operation. Without the employees, many of the synergies can't take place and the PMI can't be successful. Many examples show how after a transaction many key employees leave for competitors. This was a crucial case of the merger between Glaxo and Smith Kline where many key scientists left for competitors. Culture and people are therefore key for an PMI, they can destroy the synergies envisaged.

For some, human is so essential that it can even be considered as value creation criteria within M&A processes. Haspestagh and Jemison (1991): cultural integration is a criterion for value creation. If the employees of the two companies collaborate, exchange and get to know each other, then the acquisition can be considered a success, regardless of the financial conditions. This view is extreme in that it places the cultural and human criterion at the center of value creation, apart from any financial considerations: they assume that positive economic and financial benefits will flow logically from this good human integration. It illustrates the importance of cultural integration in the PMI process. All in all, this point confirms our starting point: the realisation of synergies is therefore a necessary but not a sufficient condition. In order to succeed the PMI, it is absolutely necessary to succeed in the cultural integration which will enable the target's employees to be retained.

To stay on the subject of corporate culture, the buyer will have to choose between the option of:

- Acculturation: disappearance of the target's culture
- Mutliculturalism: retention of the target culture

It is possible to consider two main variables (Nahavandi & Malekzadeh - 1988) that will lead to the adoption of a model or middle ground:

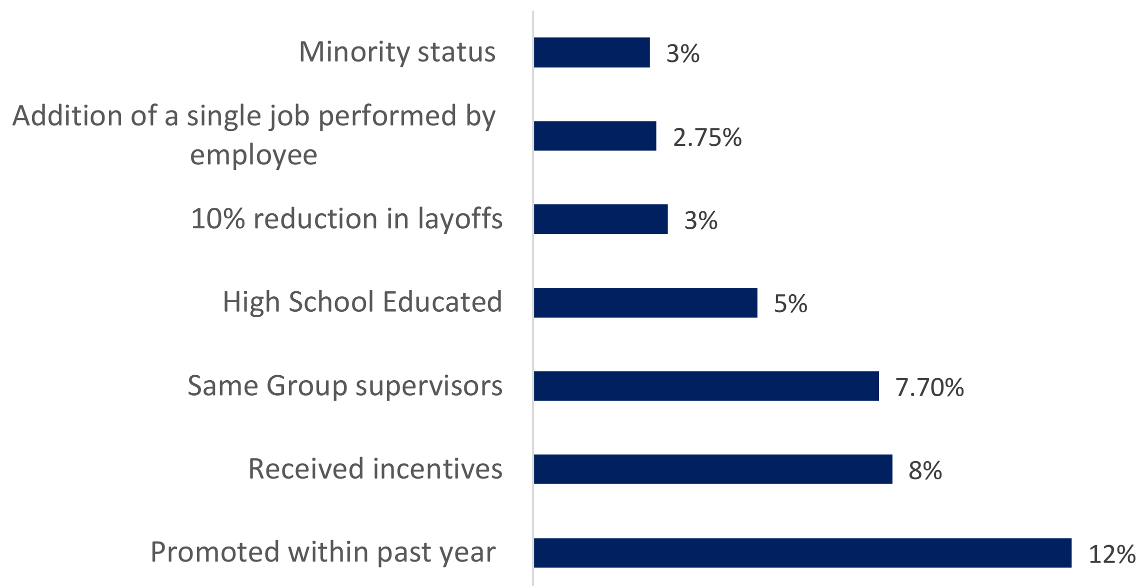
- The willingness or unwillingness of the target society to abandon its culture

- The nature and current intensity of the relationship between the two companies.

The type of cultural integration will therefore flow logically from these two variables. One of the main points to succeed at this stage is to survey the target's management and employees in order to agree on a cultural integration plan (acculturation or multiculturalism) prior to the transaction (Nahavandi & Malekzadeh - 1988).

In general, as the success of a cultural integration can be read on the basis of the % retention of the target employees. Several mechanisms can be put in place to boost the retention %. While the focus of our study here is on strategic corporate transactions, it should be noted that retention processes vary between strategic and financial deals.

The most commonly used tool is the golden hand- cuffs': special bonuses, stock options or generous earn-outs to capture employees. A quantitative study conducted by Mercer Human Resource Consulting in 2004 showed which employee retention levers were most effective. The study is based on the decrease in turnover rate according to each of the methods applied. Below are the results:



It would seem that the key to being good at human capital asset management is to give recognition to your employees more than bonuses and financial compensation. It would seem

that issues of recognition and working conditions are at least as important as issues of financial compensation. A successful PMI is therefore about keeping a good employee retention rate, which means not only giving good financial compensation but also giving importance and recognition to employees. In this study, the importance of the responsibilities given is particularly repeated. Promotion is the first lever to improve turnover. It must be understood that behind the principle of promotions, employees appreciate much more the empowerment of responsibility than the increase in financial compensation.

We have therefore seen how the integration of culture is a make or die topic for a PMI. It is a crucial moment when all efforts can be ruined. If the model of Nahavandi & Malekzadeh - 1988 uses two variables to be taken into account to know how to integrate a culture. It is also necessary to look at the definition of culture itself. In this respect, it is interesting to note the work of Bancel and Duval-Hamel (2008) showing the existence of two cultures:

- Formal culture: "*Defined and applied, mainly, destined to the internal and external communication in order to create the image and identity of the new company resulted from the merger or acquisition operation"*
- Operational culture: *"Defined and applied, destined to the internal structuring"*

The idea is to try to divide the company's culture into sub-groups (in this case two types of culture) and not to systematically apply the same degree of integration to these different sub-groups.

Successful cultural integration can therefore be judged by the retention rate of employees between the beginning of the integration and the end of the integration. Certain conditions have proven their capacity to maintain a fairly low turnover:

- The buyer must be familiar with the different types of company cultures (formal vs. corporate culture)
- The buyer must have a perfect knowledge of the target's identity (willingness to keep or not its culture / cultural links with the acquirer).

Beyond these conditions, several operational levers exist to help improve the level of retention: studies show that giving responsibility and recognition to employees has a more effective effect than a simple salary increase. Finally, one of the most pragmatic and widespread ways to increase the chances of success of a cultural integration is to carry out an HR Due Diligence which identifies all the risks of incompatibility between two companies. Given the critical issue

of human integration and the growing number of M&A transactions, the number of firms offering HR due diligence services has increased significantly in recent years.

3.3.2 Strategic integration

(Haspeslagh and Jemison - 1991) "*Acquisitions create value when the competitive advantage of one firm is improved through the transfer of strategic capabilities*". While there are considerations to be made about whether to remove or retain the target culture, the situation is quite different with regard to strategic integration. According to Meier and Schier, 2006, it is particularly important to retain a target's strategy in order to diversify the buyer's offer. The idea of strategic integration is therefore to integrate and add the strategy to the group's strategy portfolio. By adding a new strategy, the buyer diversifies (to a greater or lesser extent depending on the company type), and this diversification is beneficial as it reduces the risk. In contrast, buying a company to implement the buyer's strategy is time-consuming, laborious, risky and often unsuccessful. This only really makes sense for certain very specific types of acquisition:

- The acquisition of a new network (restaurants, agencies, retirement homes) for example. On a new network, it will be easy to apply the buyer's strategy.

The integration of the new company's strategy is therefore an important point in the retention of the target's business. Keeping the target's strategy is most often the most reasonable solution for a successful PMI.

In this sub-section, we have therefore noted that beyond the purely financial considerations linked to synergies, it is absolutely essential to consider cultural, human, identity and strategic integration in order to achieve a successful Post-Merger Integration. If a Post-Merger Integration is judged on the spread between the market value of the synergies and the premium paid, successfully integrating cultural and strategic factors is a necessary condition to see the synergies have a favourable market value (i.e. the company's risk remains stable so that the WACC does not grow significantly)

In conclusion, we have been able to work through a lot of theories around Post-Merger Integration. To the initial question of how to make Post-Merger Integration successful, we answered as follows: we first wanted to know what a successful PMI means and we agreed that

for a corporate it means an NPV of synergies that is higher than the premium paid. Once we had defined this criterion for judging a successful PMI, we were interested in how to meet this criterion via Post-Merger Integration: it appeared to us that on the basis of the value creation relationship, achieving synergies is a necessary but not sufficient condition. Indeed, these synergies must be converted into market value. In order to convert synergies into an acceptable market value, it is necessary to address temporal, cultural, identity, human and strategic considerations. Thus, a successful PMI is value creative for the company. A successful PMI is also the realisation of synergies illustrated by a corresponding NPV. A successful PMI is finally a high NPV of synergies thanks to a PMI that takes place quickly while integrating the cultural and strategic aspects of the target in a healthy way. Having studied the theory, it is now time to look at some practical cases.

IV. Case study analysis:

4.1 Pfizer – Hospira

The idea here is to focus on the study of a landmark healthcare transaction: the takeover of Hospira by Pfizer. This transaction took place on 5th February 2015. We will analyse this transaction through the prism of our previous theoretical study:

1. Motivations & Context of the transaction
2. Value creation criteria to be retained
3. Identification of synergies
4. Cultural, human and strategic integration
5. Valorisation of synergies
6. Conclusion on the success of this transaction and its Post-Merger Integration

4.1.1 Motivations & Context of the transaction

In 2015, Hospira is a New York-listed company that specializes in the design, production and distribution of pharmaceutical products, with a focus on generic injectables. In more detail, Hospira operates in three main segments:

- Sterile injectable pharmaceuticals - 68% of revenues
- Biosimilars - 13% of revenues

- Devices (infusion, pain management, ambulatory devices) - 19% of revenues

Pfizer is a US pharmaceutical company listed in New York, London and Switzerland. Pfizer's goal is to become the most innovative pharmaceutical company in the world. In this context, in February 2015, Pfizer completed the friendly acquisition of Hospira for a total consideration of $16,771m. This price includes 39% of the premium paid by Pfizer. Following the acquisition, Hospira was delisted.

What were Pfizer's main motivations for making this acquisition? According to reports published following the acquisition, the main reason for the transaction is the opportunity to benefit from significant cost synergies and in particular economies of scale. Indeed, analysts predict that within three years, Pfizer will benefit from an annual cost reduction of €800m/year. The second reason for the acquisition is also based on the existence of synergies between the two companies. Pfizer also believes it can benefit from growth synergies. While the Sterile injectable pharmaceuticals segment was stagnant for Pfizer, it was growing strongly for Hospira. The acquisition would allow Pfizer to reverse this trend and benefit from Hospira's growth in this shared segment. In summary, the transaction was motivated by two main points:

- *Cost synergies*
- *Revenue synergies*

It should also be noted that Hospira also had a number of interests in the transaction: Pfizer's substantial size and international presence allowed Hospira to significantly scale up its business by further internationalizing its operations.

4.1.2 Value creation criteria to be retained

In this type of strategic transaction involving two corporations, we saw earlier that the main criterion for value creation at the company level is based on two concepts: ***(i)*** the NPV of synergies & ***(ii)*** the amount of the premium paid. In order to know if the transaction was successful and the PMI was successful, it is necessary to know if:

$$Market\ value\ (Synergies) > Premium\ Paid$$

If this inequality is respected in this acquisition we can consider the deal as successful and the Post-Merger Integration as partly successful (as it does not integrate human factors).

4.1.3 Identification of synergies

As mentioned above, the main motivation for this transaction is the existence of two types of synergies:

- Cost synergies
- Revenue synergies

According to Pfizer press releases, cost synergies amount to €800m per year. They will be implemented within 3 years of the transaction. One of the main exercises will therefore be to study the valuation of these synergies in relation to the premium paid. We will look at two valuation methods:

- A method based on the classification and valuation work of Bruner (2004), Damodaran (2005) and Collan et al. (2009). As seen previously in the theory sections, this method is long to apply but more rigorous because it takes into account the specificity of each of the synergies.
- A method via a "classic" calculation of NPV based on the new effective tax rate, the new WACC, the envisaged synergies and the resulting integration cost.

4.1.4 Cultural, human and strategic integration

In this section, the cultural identity of Pfizer in 2015 will be presented first. For this, 3 main points on which Pfizer communicates are to be integrated, the mission, the purpose and the values of Pfizer. Pfizer's mission in 2015 is "*To be the premier, innovative biopharmaceutical company*". The drive is "*Innovate to bring therapies to patients that significantly improve their lives*". Finally, the values are "*Customer focus; Community; Respect for people; Performance; Collaboration; Leadership; Integrity; Quality; Innovation".* On this basis and the theoretical study made earlier we have to consider two main points to understand cultural integration:

- What are the cultural links between the two societies?
- Was there a shared will to integrate the two cultures?

First, let's look at the cultural links between the two societies. Based on the cultural identity of Pfizer, it would appear that the cultural links between Pfizer and Hospira are strong. Indeed, both companies share the same purpose & objective. This was confirmed by Pamela Puryear, Chief Talent Officer of Hospira and Pfizer after the acquisition. Although she admits that the

integration was difficult, she shows how much the alignment of the two companies' raison d'être and interests considerably helped the integration of the two companies' identities and cultures: "*we're all in the business of producing medicines to improve the lives of patients. I think there was a common core of values and a vision and passion for what we do to bring medicines to market*".

Secondly, let's look at the willingness or not to integrate the two cultures. To do this, it is relevant to use the words of the Chief Talent Officer in charge of cultural and human integration between the two companies. Indeed, Pfizer's CEO made cultural integration one of his main priorities at the end of the transaction: *"From the beginning, Ian (CEO) put culture right at the top among business priorities, like addressing the innovative core, making the right capital allocation decisions, and earning respect from society for the work we do".* In this interview, it's easy to see how Pfizer's CEO went out of his way to try to retain Pfizer's culture while incorporating the key positives of Hospira's culture. In this respect, Hospira had an element in its corporate culture that Pfizer did not: the culture of leadership. With this in mind, the Chief Talent Officer from Hospira, convinced of the benefits of leadership, integrated this Hospira-specific principle throughout the entire new entity. This example shows how much Pfizer and Hospira have agreed to integrate the cultures of both companies. In addition to this, as soon as Hospira was acquired, Pfizer's CEO launched major campaigns to integrate Hospira employees into Pfizer: in 2016, all so-called "EHS" integration activities were focused on employees of newly acquired companies, including Hospira. Finally, Pfizer therefore has a particularly effective system of cultural and identity integration, as shown by the particularly high employee retention rate. This model can be summarized as follows:

- Erasing the target's culture while incorporating some specific elements of its culture (leadership) on an ad hoc basis
- A fierce policy to capture and retain talent through numerous financial and also lucrative incentives (team building, seminars, etc.)

All in all, in line with the main variables seen earlier influencing the quality of cultural integration between two companies, one can easily say that Pfizer successfully dealt with those two variables and so successfully integrated the culture and identity of Hospira. As a reminder, this integration is a make or die for a deal: without this integration market value of synergies

(if they even appear) will be very low and unlikely to be higher than the Premium paid. At this stage, we can say that Pfizer is on a good way to succeed its Post-Merger Integration.

4.1.5 Valuation of synergies

As a reminder, valuation of synergies is crucial as far as it represents one of the two components in the value creation relationship: Market Value of Synergies > Premium Paid. To value the synergies involved in this transaction we will need some preliminary works:

- Calculation of the Effective Tax Rate of the Group
- Calculation of the WACC of the Group
- Assessing the Number of years to implement the synergies
- Assessing the amount of synergies

The first step is therefore to focus on the new effective tax rate of the newly created entity. All the information necessary for this calculation is public and available in the annual reports and press releases. All the information necessary for this calculation is public and available in the annual reports and press releases. Below are the details of this calculation which lead to an effective tax rate of 25% for the new entity:

Pfizer - Effective Tax Rate	
Provision for taxes	3 120
Earnings before taxes	12 240
Effective Tax Rate	**25%**

Hospira - Effective Tax Rate	
Provision for taxes	72
Earnings before taxes	388
Effective Tax Rate	**19%**

Pfizer & Hospira - Effective Tax Rate	
Revenue (Pfizer)	49 650
Revenue (Hospira)	4 464
Group Effective Tax Rate	**25%**

Once the effective tax rate stage is over, it is now time to look at another variable that is taken into account in calculating the net present value of cost synergies: the WACC of the combined entity in 2014. To obtain this WACC at the time of the transaction (2014), we used as an assumption a Risk-Free rate of about 2.3% (Average yield on treasury securities with different maturities), a market risk of 11% (S&P500 Annualized Return). Based on a leveraged beta of 0.89 and 1.04 and a cost of debt of 3.7% and 4.9% for Pfizer and Hospira respectively we obtain a WACC for the new entity of 8.95% (obtained by computing the weighted average of both WACC depending on the market cap of each entity). Below is a summary table of the WACC calculation:

WACC Computation - CAPM Formula	
Risk Free (2014)	2.3%
D/E+D (Pfizer)	15.7%
D/E+D (Hospira)	99.3%
D/E+D (Pfizer + Hospira)	
Beta (Pfizer)	0.89
Beta (Hospira)	1.04
Market Return (S&P500 Annualized Return)	11%
Cost of Equity - Pfizer	**10.0%**
Cost of Equity - Hospira	**11.3%**
Cost of Debt - Pfizer	**3.7%**
Cost of Debt - Hospira	**4.9%**
WACC Pfizer	**8.86%**
WACC Hospira	**10.41%**
Combined WACC	**8.95%**

On the basis of the Net Present Value formula for cost synergies, we must now consider the number of years required to realise and implement these cost synergies. According to Pfizer's press releases, Pfizer could achieve all the cost synergies envisaged in 3 years, for a total amount of €800m per year. Now that we have obtained the main elements necessary to calculate

the market value of synergies, we can apply the two methods of valuing synergies. The first valuation method is based on the classification and method of the work of Bruner (2004), Damodaran (2005) and Collan et al. (2009). We will focus here only on the valuation of cost synergies identified by Pfizer. Below are the details of the calculation of the NPV of cost synergies according to the first method:

$$NPV\ (Cost\ Synergies) = \frac{CF_{Rand}\ *\ (1-t)}{r*(1+r)^n}$$

t: The effective tax rate
r: Discount rate of the combined entity (WACC)
CF_{Rand}: Cost savings that starts from year n+1
n: number of years to realize the synergies

Based on our preliminary calculations we have:

t = 25%
r= 8.95%
CF_{Rand}= 800
n= 3

$$NPV\ (Cost\ Synergies) = \frac{CF_{Rand}\ *\ (1-t)}{r*(1+r)^n} = \frac{800*(1-25\%)}{8.95\%*(1+8.95\%)^3} = 5\ 150m$$

In the end, we obtain a market value of cost synergies of €5,150m. As a reminder, with a premium of 39%, the premium paid by Pfizer amounts to €6,541m. Continuing this exercise of valuing each of the synergies achieved by Pfizer by subtracting the integration cost in line with the work of Bruner (2004), Damodaran (2005) and Collan et al. (2009), we have the following result: a market value of synergies of €7,849m against a paid premium of 6,541. The market value of the synergies is 20% higher than the premium paid by Pfizer. Thus, based on the value creation criterion (NPV of synergies - Premium), it appears that Pfizer's Post Merger Integration was a success for the company. However, it is important to note that the method we used to evaluate the synergies is based on the work of Bruner (2004), Damodaran (2005) and Collan et al. (2009). It is not the easiest and the most widely used method. Indeed, this method of calculation requires the fact that each type of synergies must be evaluated separately. After the valuation of each synergy, the NPV (cost of integration) must be subtracted: this a quite a

complicated and time-consuming method. Thus, another method of valuing synergies that does not take into account the specificities of synergies can also be used. This method is not as accurate as the method derived from the work of Bruner (2004), Damodaran (2005) and Collan et al. (2009) but it is easy to use and apply. In concrete terms, this is a classic NPV calculation, isolating the impact of synergies and integration costs. Below are the main results of this method:

k€	2014	2015	2016	2017	Term. Value
Ramp up %	*33%*	*66%*	*100%*	*100%*	
Cost Synergie	264	528	800	800	
Implementation cost	(283)	(283)	(283)	-	
EBIT Impact	**-19**	**245**	**517**	**800**	
Tax Impact	5	(61)	(129)	(199)	
Net Impact	**(15)**	**184**	**388**	**601**	
Discount FcF	**(15)**	**169**	**327**	**464**	**7 357**
NPV of Synergies (k€)	**8 303**				

Hypothesis	
Cost of integration (€m)	850
Cost synergie (€m)	800
WACC	8.95%
Tax Rate	25%
Synergies expected in (years)	3

The results obtained are therefore quite different (c.60%). Thus, the challenge for a corporate is also to use the right methods to evaluate and calculate synergies.

For information purposes it is also interesting to look at the market perception of the acquisition: a few weeks after the acquisition, the transaction had increased the stock price from c.32$ to c.35$. One year after the transaction (April 2016), the share price was c.$33. Even if the deal was a success for the corporate, this transaction was not decisive for Pfizer and was rather undervalued by the market.

In conclusion, this practical part highlighted the different points raised in the previous theoretical parts. To the question, how did Pfizer succeed in its Post-Merger Integration? We have answered it by following the axes studied:

- Pfizer first had good underlying reasons for the acquisition. We were not in a case of hubris or personal enrichment of the management.
- The synergies and value creation criteria were clearly defined and priced by Pfizer at the time of the acquisition allowing Pfizer to have a clear integration roadmap for the company.
- Furthermore, the PMI was successful because Pfizer made sure to integrate the two cultures and identities of the two companies through various employee retention mechanisms.
- Finally, we were able to put into practice the theoretical synergy valuation exercise (to be compared with the premium paid by Pfizer).

All these studies have shown how, in practice, a company has managed to make Post-Merger Integration a success.

V. Conclusion

The initial objective of this thesis was to answer the question "How to Make a PMI successful"? The underlying research question we set out to answer was, at a time when M&A transactions have never been so large and numerous, how to reduce the current failure rate of over 60% to lower levels. To this question we found the following answer: to improve the chances of success of a PMI, a corporate acquirer must perform an acquisition with the right reasons and the right value creation and performance monitoring criteria in order to obtain a maximum of synergies which must above all materialize financially but also on the company's WACC. In order to achieve the best possible synergies in financial terms and in terms of WACC, these must be implemented quickly, while focusing on the cultural, human and identity integration of the target.

To find this answer, it became apparent that having the right motivations, aligned with the interests of the company and not personal interests, leads much more often to the success of the transaction. Furthermore, to answer this question, we asked ourselves how a company can judge whether a transaction has been value-creating? This question allowed us to examine the relationship between the NPV of the synergies of a transaction and the premium paid for it. The higher the difference, the greater the value creation and the more successful the PMI. Thus, in a third step we studied the importance of several levers on value creation. It became clear that the realisation of synergies is an absolute prerequisite for a successful PMI. Nevertheless, these synergies must be combined with a successful cultural, human and identity integration in order to convert these synergies into market value without being "crushed" by a very strong increase in the WACC linked to a potential rise in the company's risk due to one of the aspects of the integration being failed.

However, it is worth acknowledging the limitations of this study: the main limitation of this thesis lies in our value creation criterion. We have indeed considered only one equation in the value creation in an M&A context (spread between synergies and premium paid). Currently, more and more transactions can be considered successful even without necessarily obeying this relationship. Indeed, for example, more and more companies are making acquisitions for ESG (Ecological, Social & Governance) reasons. Thus, some acquisitions do not necessarily have a primary interest in achieving synergies. It would therefore be appropriate to study each of the isolated cases of transactions that do not obey the value creation equation studied.

VI. Acknowledgment

Finally, I would like to express my thanks to all the people who contributed directly or indirectly to this thesis. I hope that this thesis will meet their expectations. It has been a real pleasure to work on this subject at the very centre of the economic and financial situation.

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