INSTITUTO
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The impact of Analytics in encouraging companies to engage in Mergers & Acquisitions

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Master's in Business Analytics

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BUSINESS
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Department of Quantitative Methods for Management and Economics

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Resumo

Fusões e Aquisições (F&A), apesar de ser um dos métodos de transformação empresarial mais populares por todo o mundo, não têm vindo a colher os frutos espectados. Por outras palavras, a taxa de sucesso deste tipo de estratégia é relativamente baixa. A Análise de Dados ou *Analytics*, por outro lado, tem tido um crescimento notável em todos os aspetos. Este estudo procura contribuir para a literatura existente formando uma ponte para a ligar as duas disciplinas, inclusive a sinergia entre as duas.

Este estudo, investiga a convergência de F&A e Análise de Dados, com foco em apurar o impacto que a Análise de Dados tem nas suas tomadas de decisão. Ou seja, passar por explorar o contributo da Análise de Dados no aprimoramento dos resultados das estratégias de F&A e influência nas empresas a participar nesse tipo de transações. A revisão de literatura extensiva, que integra F&A, *Analytics* e a sua interseção, serviu de ponto de partida para a exploração dos benefícios promissores da incorporação de análise de dados de F&A nos processos de tomada de decisão das empresas. De forma a atingir os objetivos propostos e responder às questões da investigação, foram realizadas 19 entrevistas a líderes de empresas. Esta abordagem permitiu o acesso a um conhecimento mais aprofundado sobre o tema, na perspetiva do tecido empresarial. A intenção era a captura da perceção destes relativamente ao uso, aplicabilidade e futuro potencial das análises de dados, impulsionadas por tecnologia, nas transações. Para o efeito, o estudo incorporou uma Análise de Conteúdo e Codificação Temática. Finda a investigação, os resultados indicam que o uso de *Analytics* em F&A tem, de facto, um peso e que influencia a tomada de decisão.

Palavras-Chave: Fusões e Aquisições (F&A), Análise de Dados, Tomada de decisão, Codificação Temática, Análise de Conteúdo

Abstract

Mergers and Acquisitions (M&A), in spite of being one of the most popular methods of business transformation all around the globe, is not bearing the fruits it ought. In other words, the M&A's success rate is incredibly low. Analytics, on the other hand, has been on the rise in all respects. This study contributes to existing literature by bridging this gap and offering insights into the synergy between the two disciplines.

This study delves into the intersection of M&A and Data Analytics, focusing on understanding the impact analytics has on their decision-making. That is, to explore the value of analytics in enhancing M&A outcomes and its influence on firms' engagement in such transactions. A comprehensive literature review encompassing mergers and acquisitions, analytics, and their concurrence, laid the groundwork for investigating the promising benefits of incorporating M&A Analytics in firms' decision-making processes. In order to achieve the proposed objectives and answer the research questions, 19 interviews to business leaders were conducted. This approach facilitated the drawing of more in-depth insights on the topic. The intention was to capture their perceptions of the use, application, and future potential of technology-driven data analytics in M&A deals. That being said, the study was achieved through Content Analysis and Thematic Coding. The investigation concludes that the use of analytics not only weighs but also influences the decision-making process.

Keywords: Mergers & Acquisitions, Data Analytics, Decision-making, Thematic Coding, Content Analysis

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List of Abbreviations

M&A Mergers and Acquisitions

RQ Research Question

OB Objective

LR Literature Review

CHAPTER 1

Introduction

Contextualization

According to several studies and investigations, throughout the years, M&A deals, in general, are not bearing the fruits like they ought. The deals are displaying a tendency to fail in the improvement of the acquiring company's performance and competitiveness of the firms combined (Xavier, 2019). Schweizer et al. (2022) mentions further studies where it has been outlined that, most likely due to the complexity of M&A and the learning process, which has not been sufficiently addressed, the performance exhibits have resulted in mixed findings. McClelland et al. (2021) state that better insights drive superior value, and it is faster, nonetheless, many still opt for the following traditional M&A, "which typically involves an army of human analysts wielding spreadsheets and crunching data". McClelland et al. (2021), from KPMG, add that firms hesitate to fully use advanced analytics in their deals, mainly due to the "traditional M&A mindset", and because they choose to embrace what they call the "proven workbook". This means companies tend to prefer traditional M&A over analytical-based strategies because, since these strategies are very recent, there are fewer records to prove their worth.

In theory, M&A deals create synergy essential to competitive advantage and businesses' growth and renewal. Nonetheless, without the proper analysis and the proper tools to predict the synergy, said deals can fail miserably (Xavier, 2019). According to KPMG (2021), data analytics has recently become a revolutionary force in M&A. In spite of the business world no longer being a stranger to data science and data analytics, their application on M&A has been a lot slower, in comparison. This research project aims to explore the value analytics can bring to M&A strategic decisions and if, with the use of analytics, firms are more likely to engage in M&A deals.

Notwithstanding the comprehensive existing information and previous investigations in Mergers & Acquisitions and Business Analytics detached, there is somewhat of a gap in the knowledge linking both disciplines. Furthermore, it is also paramount to understand the value the use of analytical techniques and tools can have in companies engaging in corporate restructuring activities, such as mergers & acquisitions.

Research Objectives and Motivation

The biggest question underlining the entirety of this dissertation is whether the use of analytics on M&A decision-making impacts firms' likelihood to engage in merger & acquisition activities. Notwithstanding, throughout the years, research has come to prove that many of the deals fail. Bearing this in mind, the present study also means to understand why firms are compelled to engage in M&A and the reasons behind the failure to achieve their goals. Considering the huge gap in the research combining both subjects, the research can prove fruitful and essential to ignite the need to further discuss and investigate the combination of the two paramount areas of management. There is also an interest in analysing and drawing conclusions out of the data collected from the business leaders and their companies, plus their perception on the use, application, and potential future application of technology-driven data analytics in M&A activity.

The study objectives proposed to answer the research question are:

OB 1 – To understand the current state of affairs regarding M&A, plus the motives that drive firms to engage in deals and the reasons they often fail.

OB 2- To investigate the potential benefits of incorporating data analytics in M&A decision-making to improve deal outcomes.

OB 3 - To examine the impact of analytics on the likelihood of firms' engaging in M&A deals.

The research questions of this dissertation are:

RQ 1 - What are the drivers that influence companies' intention to partake in M&A deals?

RQ 2 - What are the reasons behind failed M&A deals and does the use of analytics improve their success rate?

RQ 3 - What are the perceived benefits of using analytics in M&A decision-making?

RQ 4 - Does the use of analytics influence the possibility of companies to engage in M&A deals?

Through an exhaustive literature review (LR) of existing secondary research, on both topics – Mergers & Acquisitions and Analytics -, plus a survey to understand the feeling company owners and experts of the area have towards M&A Analytics followed by a thorough analysis of the data collected, this project aims to combine and produce new and valuable knowledge to the scientific community. All being well, this project will prove to be a constructive addition to the existing literature concerning the above-mentioned topics. This study is also a means to help raise awareness of new technology-driven methods available to companies that will facilitate, speed along and provide them with better insights in their deals.

That being said, this research project will provide an overview of the current circumstances where both topics converge. It can prove relevant to enthusiasts of either or both disciplines, to the scientific community, and companies or individuals that wish to learn the particular focus of this study. Furthermore, it can also be relevant to companies in the verge of engaging in a M&A transaction.

Research Structure

In order to comply with the proposed objectives and research questions, the structure of this research project is as followed: The first chapter is an introductory section, in which it is presented the contextualization of the problem, the problem discussion, the research objectives, the research questions and the structure last. It is followed by current and relevant theory inserted in the LR on the subject of Mergers and Acquisitions (M&A) and Analytics, and the topics combined – M&A Analytics -, in Chapter 2. Proceeding from the empirical findings, Chapter 3 links the findings to the research questions through theoretical approaches. Chapter 4 follows with the methodology section in which it is provided with a brief explanation, application and evaluation of the methodologies chosen. Chapter 5 focuses on the primary research question. (1- survey, 2- the sample, 3- results and findings). The last chapter, Chapter 6, contains the research project's summarization and conclusion. It also evaluates the investigation's limitations and suggestions for further research.

CHAPTER 2

Literature Review

The fundamental objective of an investigation is to find an answer to the problem proposed (Vilelas, 2020). Thus, the search for relevant literature and the consequent review is required. The literature review, in Chapter 2, covers two crucial areas of the problem: theoretically relevant literature and an overview of relevant similar studies and literature (Flick, 2015).

The purpose of the LR in this investigation is to introduce the relevant and time-conscious existing information, through the recognition of a group of specific concepts and proceedings, regarding mergers and acquisitions and data analytics to this date.

The literature review, similarly, to the research and construct, was performed in stages. Firstly, it was performed broader research for scientific articles through the application of the following string: "analytics" OR "business analytics" OR "data analytics" AND "M&A" OR "mergers and acquisitions" to the search engine of specific databases, such as Scopus, Web of Science and ResearchGate. It was a targeted search, whose criteria were articles limited to empirical studies – journal articles, conference papers, book chapters and reports, from 2018 to the present year (the last 5 years). Afterwards, the selected articles' title, authors, year of publication, abstract, and keywords were exported to an Excel document to undergo further evaluation. From both the title and abstract, based on its relevance to the study in question, several articles were excluded. At last, it was performed a quality assessment based on the soundness of the texts to ensure the remaining articles' quality, integrity, and relevance.

2.1. Mergers and Acquisitions

Despite the global pandemic from 2019, Merger and Acquisitions (M&A) activity worldwide has reached new highs – encompassing pending and completed deals in 2021 -. Nonetheless, most transactions are not meeting expectations, which means they are not achieving the results expected (Schweizer et al., 2022). Several scientific studies throughout the years have tried to understand what is behind the curtains of M&A activity. Understand the motives, the drivers, the forms or types, the dimensions of future discourses, risks, and uncertainties, how the firms manage to overcome them, and their understanding and preparation of future course actions (Hirshleifer, 1995; Aminova, 2016).

The term M&A entails a transaction between two firms that are combining in some form (Hirshleifer, 1995). Mergers and acquisitions are used interchangeably, meanwhile, their legal meanings are generally disparate (CFI, 2022). "A merger is said to occur when two or more companies, around the same size, decide to pool resources under a common entity, often forming a new entity together. An acquisition implies the exercise of absorbing the business of a (generally smaller) company, thereby taking effective control of the company's assets or management without combining their businesses physically" (Aaldering et al., 2019).

2.1.1 M&A Drivers

Oftentimes, acquirer companies opt for buying startups or smaller firms that possess specific expertise, technology, or idea and capability. This type of investment is, for several companies, far more attractive than investing in domestic Research and Development (R&D) (Aminova, 2016). There are a considerable number of diverse types and forms of transactions. Moreover, depending on the target company's board approval, the deals can be either friendly or hostile (CFI, 2022).

In spite of the number of benefits and effects on companies' results, their impact on sustainable competitive advantage and other benefits that successful M&A are expected to grant, investigators agree that the process of a merger or an acquisition is highly complex and challenging and, more often than not, the expected results and the value-creating potential are not realized (Aaldering et al., 2019; Schweizer et al., 2022).

According to Schweizer (2022), the key to success is learning how to acquire and build acquisition capabilities successfully to increase performance. In his investigation concerning M&A research, the author addresses a few disputes and issues uncovered from several studies. In general, the collected findings question if the knowledge applied comes from experience accumulation and deliberate learning rather than capabilities built on learning mechanisms. In more depth, the impact of acquisition experience can vary substantially. There has been an exceptionally large contribution to the literature on the topic when it was first refuted that the effect of experience on M&A is always positive. Factors such as similarity of the previous experience; amount and level of experience and external environment characteristics can all play a huge influence. (Schweizer et al., 2022).

Evermore, mergers and acquisitions are a decisive strategic means for achieving long-term competitive advantage. Today's business environment is very rapid and ever-evolving, thus, in order to keep up, companies are forced to invest in new capabilities and resort to external help to develop marketable goods that meet the requirements and expectations of nowadays empowered customers. M&A activity helps companies to step out of their institutionalised strategic, cultural, and organisational contexts thus allowing them to enhance their range of products or their R&D channel as increasingly vital organisational tools to re-adapt to changes in the industry (Aaldering et al., 2019).

Despite the fact that M&A activity is often argued that it does not bring financial value to the shareholders, not to mention its high failure rate, it is still exceedingly popular. It is consistently the go-to business transformation method chosen by firms, especially by executives of top organisational entities. A few of the reasons behind its popularity are because it allows companies to "swallow" potential competition, increase their presence points, promote special brands, covertly escape imminent bankruptcy, among others (Abdul et al., 2019).

Strategically and growth-wise, the reasons can vary from an interest in expanding product portfolios, gaining access to new markets, increasing managerial specialisation and power, engaging in cross-selling, expanding geographical distribution, or simply gaining access to valuable assets, expertise for instance. (González-Torres et al., 2020). Provided that the acquirer has studied and gathered a set of guidelines and policies to instruct him for the entire duration of the activity - and has enough funds and resources to see it through -, M&A has the potential to bring about economic value by extending on existing capabilities. Granted that it is a successful merger, the acquirer can be granted considerably higher benefits - as opposed to organic growth - and elicit favourable synergy effects in both firms (Aminova, 2016).

The table below shows the compilation of the main M&A drivers from the various authors observed in this chapter.

Table 2.1. Summary of the M&A drivers

Drivers	Description	References
Strategic Advantages	Strategic means to achieve long-term competitive advantage by expanding product portfolios, gaining access to new markets, increasing managerial specialization and power, engaging in cross-selling, expanding geographical distribution, and accessing valuable assets.	Aaldering et al., (2019) González-Torres et al., 2020)
Business Transformation	M&A activities allows firms to step out of their longstanding strategic, cultural, and organizational contexts, enabling them to enhance their range of products, R&D capabilities, and adapt to changes in the industry.	Aaldering et al., (2019)
Financial Value	M&A transactions have the potential to bring economic value by extending existing capabilities, generating higher benefits - as opposed to organic growth -, creating synergy effects in both companies and covertly escaping imminent bankruptcy.	Aminova (2016)
Competitive Positioning	M&A activities provide opportunities for companies to "swallow" potential competition, increase their presence points, promote special brands	Abdul et al. (2019)
Access to Knowledge and Expertise	Acquiring startups or smaller companies with specific expertise, technology, or even ideas, allow organizations to gain valuable knowledge and capabilities that are likely more appealing than investing in domestic R&D.	Aminova, (2016)

2.1.2 Reasons behind M&A failure

M&A transactions are likely the most long-standing vehicles of development and expansion sought-after by companies worldwide, notwithstanding the crescent number of failures and non-achievable expectations have been growing alongside its popularity rise. Studies say that the growth in M&A transactions stands in “sharp contrast” to its high failure rate. In fact, when the achievement of the previously defined goals is taken into consideration, only 56% of said transactions are successful (Abdul et al., 2019; Ganly et al., 2020). There is a vast number of empirical investigations available that aim to understand whether takeovers are, in fact, “value-creating or value-destroying corporate events.” However, there is no straightforward answer to the question. Trying to determine the drivers behind the abnormal returns, is just as complex as considering they do not reflect solely on the acquisition’s value (Renneboog & Vansteenkiste, 2019).

Several studies and investigators, throughout time, have explored and tried to gather the reasons behind the pitfalls. Abdul et. al (2022) in their investigation examined a considerable amount of said studies, and although the results in finding a common rate of failure were inconclusive, perhaps due to the use of different calculation methods, the message is still clear: many M&A fail.

The first and most common reason across various investigations is post-merger integration failure. This phase refers to the process of making the necessary adjustments to the functional activities, organisational structures, and cultures of two organisations in order to merge them into a cohesive and effective whole. This involves implementing changes that will enable organisations to function together seamlessly and achieve their shared objectives (Bodner & Capron, 2018). Combining two distinct entities into one functional whole is not so easily achieved. Other investigations have pointed out that the weight of the "employee factor" is not weighted in the equation as it should be. It was further explained that two-thirds of all mergers fail to achieve the desired results due to the organisation's apathy to the employees' reactions and interests. Changes in the culture of different organisations can lead to negative emotions such as anxiety, distrust, and hostility among individuals. These differences may cause discomfort and make it challenging for people to work together, which can impact the overall functioning and productivity of the organisation (González-Torres et al., 2020).

Another found common reason for failure is the overestimation of synergy. In reality, all prospects of calculated synergy at the deal's announcement may be overestimated. This can be due to behavioural biases, biased bidder press releases, price pressure, merger integration frictions, and unanticipated changes in the market, among other reasons. Moreover, a substantial amount of literature shows that bidder shareholders earn zero or even negative returns at the takeover announcement, especially when it comes to large public deals. Highlighting the apparent lack of value creation by acquiring firms. When analysing the evolution of the share price or the merged firm's operational performance 2 to 3 years after the takeover deal, studies indicate that the bidder's shareholders receive truly little or no positive return on the deal (Renneboog & Vansteenkiste, 2019).

The other reasons uncovered stress the weight of cultural differences, changes in management style, disruptiveness of routines financial and legal issues, lack of strategic rationale, poor strategic planning, slow integration and cultural incompatibility, administrative problems, discrepancies in corporate perception of the future, improper selection of target and unrealistic expectations (Abdul et al., 2019; Aminova, 2016). At last, customers are also essential elements that both affect and are affected by the deal (González-Torres et al., 2020).

Gartner experts, Ganly et al. (2020) group common M&A pitfalls in five inclusive reasons, in which each group can cover a different phase of an M&A transaction. The first reason is Misjudged Opportunities, which concerns companies focusing on the wrong type of acquisition target and evaluating known markets in a superficial manner, aggravating risks. For instance, it could be companies that merge hoping to solve problems, or misassumptions, in general, when evaluating the synergies or growth prospects.

The second reason is Overambitious, Unclear or Undeclared Drivers, which entails companies that fail to clearly identify and communicate the reason behind the merger or acquisition. The drivers can be an extensive list of motives, nonetheless, companies are only able to achieve a few major goals in any given transaction. The third reason is Misconceived Benefits, which explains why flawed synergy estimations and incomplete assessments of firms' transformation costs can endanger a deal. If the synergy prospects end up not justifying the acquisition cost, it will likely reduce the chances of Return on Investment (ROI) regardless of how well the deal is executed.

The fourth reason, Execution Flaws, entails incomplete due diligence, lack of transformative governance, failure to address critical people issues and failure to use external advice and/or expertise, will consequentially impact the value generation and perhaps even collapse the entire transaction. The fifth and last reason is Power Politics. All transactions intake personal and power politics for all the involved, resulting in a "winner/loser" situation across all departments and the levels within the newly formed organisation. This could potentially prevent employees from working together and disrupt the power balance of the combined enterprise.

Renneboog and Vansteenkiste (2019) performed a study examining around twenty-five characteristics surrounding a deal and uncovered that three proved to be consistent predictors in determining the success or failure of a deal. The first is serial acquisition performance, where the CEO exudes overconfidence - which is the main driver for the observed underperformance – and engages in a series of acquisitions. Both the performance and the success rate of said deals display a tendency to decline, deal after deal. The second, related or focused acquisitions outperform unrelated and diversifying deals, as the former is more likely to possess the means - skills and resources - to properly operate and integrate the target firm.

Related or focused acquisitions refers to the acquisition of a company or business that is related or complementary to the acquiring company's existing operations or core business focus. Diversified" acquisitions, on the other hand, involve the acquisition of companies in unrelated industries or businesses (Salter & Weinhold, 1978). Lastly, deal performance is also positively affected by shareholder intervention when it comes in the form of voting, activism, monitoring, and advisory skills. An important takeaway is that long-run underperformance "results from poor acquirer governance along with poor merger execution and integration.

In 1999 it was introduced an 83% failure rate as a prior probability, which is before new data is collected -, following a study from KPMG. Given the seriousness of the data and its extensive dissemination, it was expected to see a shift in behaviour in M&A overall evidencing a substantial reduction in the number of M&A deals moving forward. However, there was a complete lack of reaction to the menacing information thus explaining the persistent high failure rate in the following decades.

The goal of this study, by McGaughan & Chengalur-Smith (2021), was to prove the harmful use of human judgment as “self-serving bias” as it is commonly known. In other words, involved parties can display a tendency to blend what is accurate or fair, with what might benefit them better. Surprisingly, in KPMG’s clients was detected a mitigating effect. This could indicate that having a better understanding of the potential risks involved and receiving expert support can increase the likelihood of decision-makers recognizing the significance of prior probabilities, ultimately guiding them towards making better-informed decisions.

The table below summarizes the reasons for failure mentioned in this study, according to the different authors under observation.

Table 1.2 Summary of the reasons for M&A failure

Reasons for Failure	Reasons for failure	References
Post-Merger Integration Failure	Difficulties in making necessary adjustments to functional activities, organizational structures, and cultures of the merged entities, as well as neglecting the impact of cultural differences and employee reactions and interests	(Bodner & Capron, 2018) González-Torres et al. (2020)

Overestimation of Synergy	Behavioural biases, biased bidder press releases, merger integration frictions, unanticipated market changes, and flawed synergy estimations can lead to overestimating the potential benefits of the deal, resulting in limited or no positive return on investment.	Renneboog & Vansteenkiste (2019)
Cultural Differences and Management Challenges	New management style, disruptiveness of routines, financial and legal issues, lack of strategic rationale, poor strategic planning, slow integration, cultural incompatibility, administrative problems, discrepancies in corporate perception of the future, and improper selection of targets.	Abdul et al. (2019) Aminova, (2016).
Misjudged Opportunities:	Focusing on the wrong type of acquisition target, evaluating known markets superficially, and not accurately assessing risks, synergies, or growth prospects.	(Ganly et al., 2020)
Misconceived Benefits:	Flawed synergy estimations, incomplete or inaccurate assessments of transformation costs, and the inability to justify acquisition costs with realized synergies.	(Renneboog & Vansteenkiste, 2019).
Execution Flaws	Incomplete due diligence, lack of transformative governance, failure to address critical people issues, and not making use of external advice or expertise.	(Ganly et al., 2020)
Power Politics:	Personal and power dynamics within the newly formed organization, which can disrupt collaboration and upset the power balance.	(Ganly et al., 2020)

2.2. Mergers & Acquisitions Analytics

In the beginning of the 21st century, it was believed that with the powerful blast of data and computing power, business intelligence and analytics would change the face of this era. It had the potential to boost operational and strategic decision making's success rate. At the time, many organisations and business owners leapt at the opportunity, however the results were disconcerting. Despite years of large investments, it was found that a large number of companies were not supporting their decision-making on data. In fact, many of them did not consider their own company as "highly data driven." Further studies revealed that in several companies, poor strategic decisions were often as frequent as good ones, if not more. Thus, becoming clearer that there is still a lot of room to grow between optimal decision-making based on data and the present (McGaughan & Chengalur-Smith, 2021). The majority of companies possess neither analytical capabilities, infrastructures, human resources nor skills to implement them or put them to use and meet today's needs (Król & Zdonek, 2020).

Business analytics encompasses technology, applications, and processes, and it focuses on the gathering, storing and analysis of historical raw data in order to achieve valuable and focused insights and a sounder understanding of businesses' performance areas. It is derived from the combination of Business Intelligence techniques, such as Optimization, Forecasting and Predictive Modelling with Statistical Analysis. The main objective is the extraction of useful and actionable insights from historical data elicited from advanced Artificial Intelligence Analytics. In the last couple of years, BI and Analytics have been, consecutively, ranked as a top priority to firms worldwide as a means to achieve competitive advantage and attain business value. The sudden interest can be explained by the business benefits it can provide companies (Król & Zdonek, 2020; Silva et al., 2021).

There are several management tools used to this date to facilitate strategic analysis within firms, such as PESTEL or the SWOT analysis, which address several aspects of said strategies. These frameworks were developed at a time when computers were not as universal and accessible. Today, they represent several inherent drawbacks. For instance, they can only reflect the outcome of a single event at a time and required constant manual updates – without automation; The assessment of target companies is captured with discrete results rather than continuous scores that prescribe granular precision. In addition, the traditional tools are not capable of capturing dimensions that are the basis on which organisations are ranked, thus risking not properly identifying and portraying relevant metrics (Pröllochs and Feuerriegel, 2020).

Gartner's acclaimed Analytics Maturity Model (Figure 1) is widely used to evaluate the organisations' analytics maturity, it can be seen as a "path to perfection". The levels of maturity in each stage translate into the stages of application and usage of analytics within the firm. The higher the integration, application, and complexity of analytics, the higher the level of maturity (Król & Zdonek, 2020). Gartner's worldwide survey revealed that only 40% out of 196 enterprises, rated themselves in the highest two levels, 9% at the top level. Thus, further proving organisations are far from being analytically mature and fully benefit from the analytical potential. The three most common obstacles identified keeping them from increasing their usage of analytics are: "defining data and analytics strategy; determining how to get value from projects and solving risk and governance issues" (Gartner, 2018).

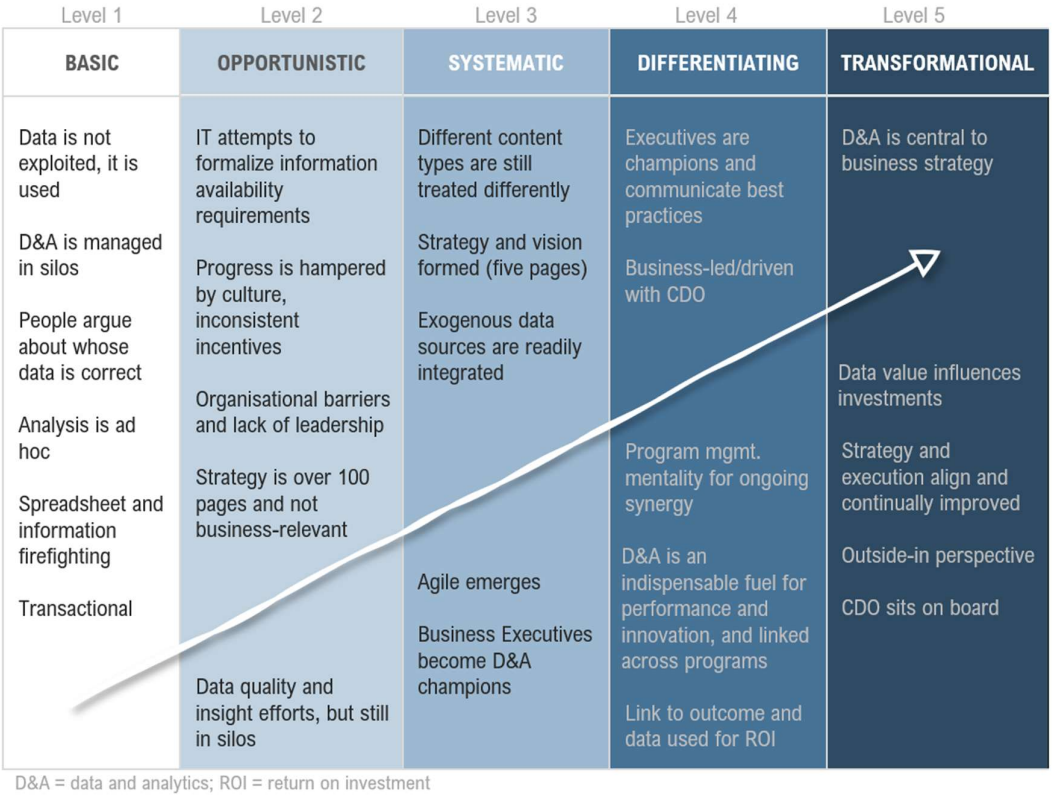

Figure 2.1. Gartner's 2017 Analytics Maturity Model
Adapted by the author

In addition, Gartner further divided the data's maturity into four main categories within their analytical maturity model (Figure 2.2). The distinct levels are Descriptive, Diagnostic, Predictive and Prescriptive. The first, Descriptive analysis, focuses on answering the question "what happened?" and is the foremost source of information for management. Relying on business intelligence and big data systems, to access historical, allows the summarization of reports, visualisations, and dashboards. The second, Diagnostic analysis, attempts to answer the question "why did it happened?" which entails using mainly exploratory data analysis techniques searching for insights. This type of analysis helps the user to detect consistencies and quantitative relationships between variables.

Next, there is the Predictive analysis, which aims to understand "what will happen?". It enables forecasting and predicting of future trends and events based on patterns and relations in past data. Some of the most used techniques in these analyses are Classification, Regression and Time-Series Forecasting, elicited from both Statistics and Machine Learning. Lastly, probably the most difficult and complex analysis, is the Prescriptive analysis. This analysis focuses on answering the question "how can we make it happen?" or "what actions should be

taken?". Through the use of techniques such as Simulation, What-if scenarios, Machine Learning, Heuristics and Optimization, it tries to uncover the course of action to be taken in order to optimise business processes and achieve business objectives (Król & Zdonek, 2020; Silva et al., 2021).

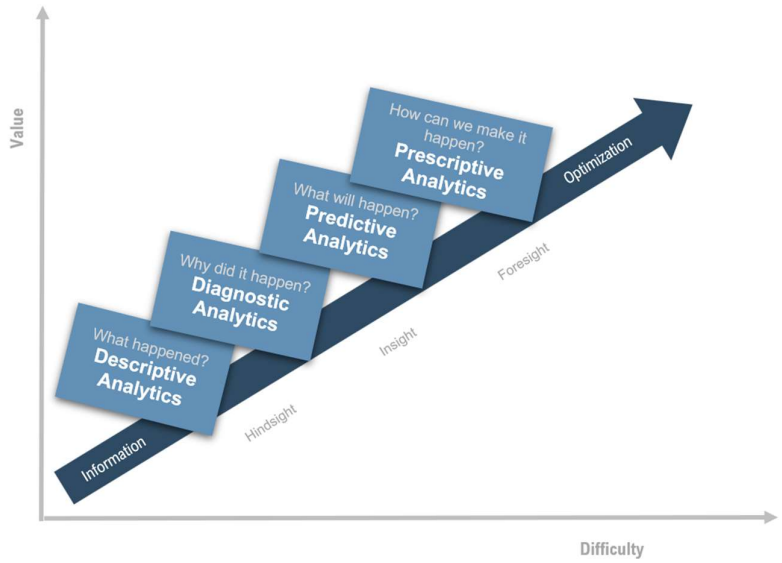

Figure 1.2 Gartner's Levels of Data Maturity (2012)
Adapted by the author

KPMG (2021) developed a M&A-relevant analytics matrix that categorises data by analytics and data complexity (Figure 3). In the same lines as Gartner's Analytical Maturity Model mentioned in the previous chapter, KPMG's matrix weighs the relation of analytics' complexity itself with the complexity of the data. Data complexity, the horizontal axis, is driven by the sources' volume and how they are structured and depends on the degree of granularity. Whereas the analytics' complexity, the vertical axis, ranges from descriptive to prescriptive analytics.

When it comes to data complexity, the approach can be basic, advanced, or state-of-the-art analytics. In Basic Analytics, the tools are meant to structure and allow the visualisation of data in a more efficient and robust fashion to achieve deep granularity. Advanced Analytics implies the usage of more complex statistical models to develop forecasts and decision-support models. Lastly, State-of-the-art Analytics are grounded on particularly complex models and data sets which are rarely used in M&A. Regarding analytics complexity, similarly to Silva et al. (2021), Descriptive Analytics is considered the most basic and is used to summarize and visualize data, which entails explorative reporting and multiple source combination. Diagnostic Analytics

illustrates and allows us to better understand the data, through the use of n-dimensional interactive reporting, data discovery analysis and network analysis. Predictive Analytics makes time series forecasts, multi-variable predictions, and integrated scenarios analysis to calculate the most accurate valuations. Lastly, Prescriptive analytics assists in data-driven decision-making, portfolio optimization and behavioural finance optimization through suggestions for optimization (KPMG, 2021).

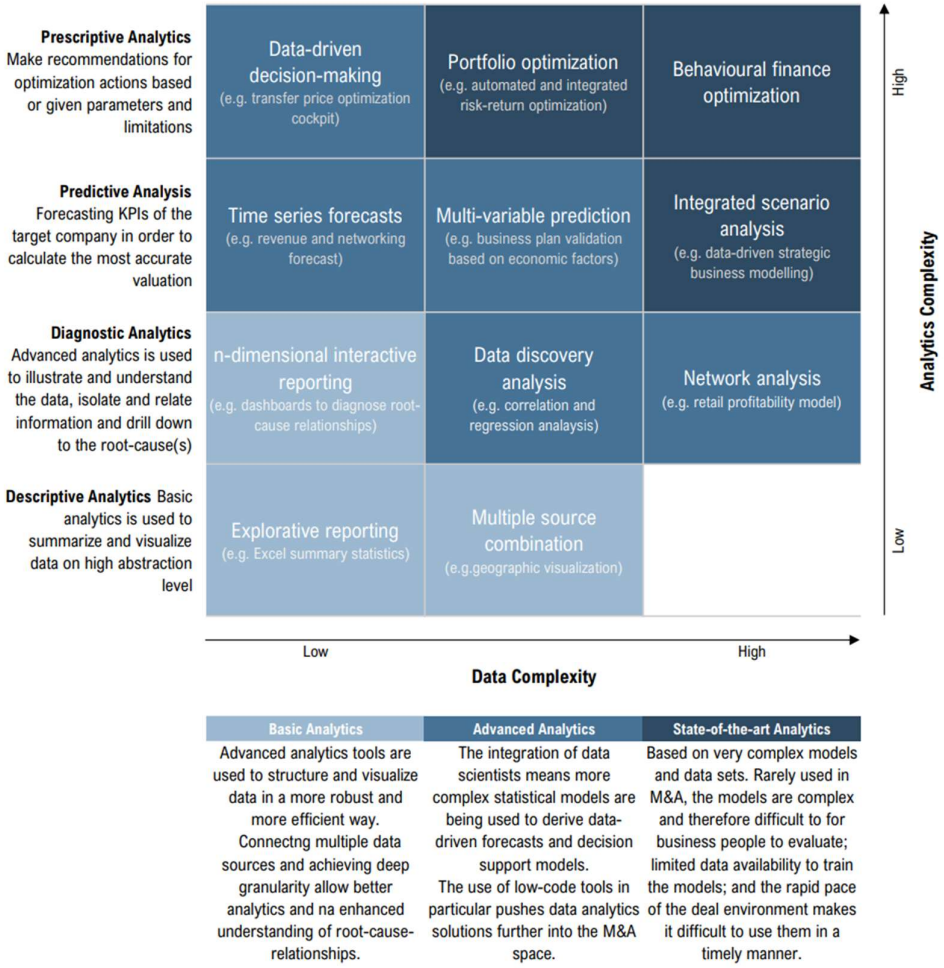

Figure 2.2 KPMG's Data Complexity vs Analytics Complexity
Adapted by the author

M&A is far from being the only business process to feel the weight of the change when it comes to technology, yet it is uniquely impacted when compared to the others. This is due to the fact that M&A is a combination of processes and disciplines, throughout the entirety of the transaction, which are required to function consistently together rather than a single process (Deloitte, 2022).

M&A can be a minefield, filled with potential and very real dangers alike. The target companies are more than motivated to sell at the highest profit possible and often leave the skeletons and most valuable assets hidden. Both the bidder and the target can benefit from the use of analytics to uncover relevant information thus avoiding common or any other mistakes (Moeller and Brady, 2014).

Throughout the years, there has been a crescent demand for analytical capabilities and resources. However, when it comes to M&A, many organisations still prefer to work with traditional M&A methodologies rather than using analytical-based capabilities (Kalaivani et al., 2022). Companies have a tendency to become complacent and choose not to see intelligence as a function, which explains why so many of them fail to engage and give themselves the opportunity to thrive in this environment(Moeller & Brady, 2014). Not only do organisations display a tendency to prefer traditional methodologies, but they also have implemented truly little advanced analytics to truly comprehend the benefits of its application in other areas, including M&A activity (Kalaivani et al., 2022). By standing aside, with the belief that their approach will continue to serve them right rather than adapting to change, they fail to observe and respond accordingly to the everchanging environment surrounding them leaving multiple opportunities behind (Moeller & Brady, 2014).

The application of data analytics and data science to M&A deals has been rather slow in contrast to other business areas, which could be due to the fact that data or the software to process it effectively might not have been accessible, or the data analytics was not integrated into the deal process (KPMG, 2021). Contrastingly, both Deloitte and PwC's (2022) opinion differs, in each of their latest report on M&A trends they argue that digital tools and virtual settings are gaining prominence in M&A deals. Moreover, 69% of respondents reported using data analytics in their diligence and monitoring and 27% are considering embodying those capabilities (Deloitte, 2022), (PwC, 2022). In addition, organisations are increasingly seeking and applying data-driven strategies to every facet of their operations (PwC, 2022).

(KPMG, 2021) summarises the impact data analytics has on M&A in "greater processing power and data storage capabilities, which has led to an exponential increase in data availability and processing". Analytics holds great value because it contributes with speed and efficiency, excellence and valuable insights to any deal. It elevates the quality and integrity of the data being processed through automated checks, adds speed which is vital to keep up with ongoing trading updates and scenario analysis. Over and above, when it comes to due diligence, it allows the analysts to uncover hidden market signals or indicators and drill down the relevant topics. Concisely, data analytics is the key to a more proficient approach, methodology, more and better information and smarter decision-making.

Whilst our knowledge concerning mergers and acquisitions is growing, our understanding of their backgrounds and performance implications still remains relatively fragmented (Schweizer et al., 2022). Analytics is not about being cautious and conservative, but rather about ensuring the company has in its possession every possible bargaining chip and is able to use it to its advantage. This can be achieved through the development of comprehensive knowledge of all aspects surrounding the deal allowing companies to navigate them more effectively on an ongoing basis. *"Embracing big data is as much about changing mindsets as it is about crunching numbers"* (Barton & Court, 2012). In short, the use of business analytics leads to a more adept approach to M&A, because it specialises on finding the best long-term value from the deal, rather than simply closing the deal without considering how that value can be realized (Moeller and Brady, 2014).

In today's rapid environment, deals are getting more complex which means that accurately calculating value requires more data, more options to test and evaluate and more value sources to factor in. Analytics is already a vital tool in allowing teams to see the largest picture by through the broadening of the number of factors that can be screened at the same time and the creation of a more accurate evaluating model (Accenture, 2021). The combination of data analytics tools alongside data collection aids organisations to make more conscious decision making that consequently resulting in more profitable insights, better visibility, improved and more effective negotiation strategies for post-merger integration. (Kalaivani et al., 2022). Data analytics brings value into a deal in the form of speed and efficiency - in reported numbers and up-to-date factbooks -, quality - in its automated rule-based workflows with a clear audit trail - and insights - with unprecedented depth and breadth of analysis -, throughout the entire duration of the deal (pre-deal, in deal and post-deal) (Accenture, 2021).

To foresee how integration will play out, we must be able to describe exactly what we are buying. Many people, including rival leaders, believe business leaders are “flying blind” in times of uncertainty when, in fact, they understand exactly where they are headed and the leading path to reach it. Organisations such as these have built keen situational awareness. To reach the ability to understand where things are going and to promptly adapt to changing environment, one undoubtedly needs analytics. Through exhaustive searches of internal and external data sources for critical information, the company can remain aware of its surroundings. Moreover, analytics is the most essential tool to navigate crises and instability – which is often in M&A -, mainly because analytics thrives in ambiguity allowing the user to see the best path from the beginning (Kozyrkov, 2020).

Aaldering et al. (2019) defend that, in spite of several studies having already addressed the significance of assessing and valuing suitable acquisition targets beforehand, the existing approaches have a tendency to focus on evaluating target companies solely from the technological perspective or are only concerned with the investigation of financial variables. Uncovering new M&A opportunities can also be achieved by generating market-based competitive intelligence, relying on the analysis of market characteristics. Also, the process of tracking down a manageable number of opportunities for further evaluation can be more quickly and effectively achieved with the use of analytics, and it is considered the most fundamental step to increase the M&A's success. Experts' opinions might be subject to subjectivity and ambiguity, whereas data-driven business intelligence is prudent to cope with this same issue. Hence, the construction of a recommendation system that provides high-quality decision support is increasingly regarded as a key factor in creating actionable business intelligence (Aaldering et al., 2019).

It is noteworthy that having a highly effective intelligence function within organisations increases their chances of survival and prosperity (Moeller and Brady, 2014). The use of advanced analytics increases the likelihood of adding or generating true value for a firm, whilst resulting in immediate benefits for both practitioners and businesses alike. Overall, it can provide the means for firms to strengthen their position in today's highly competitive market, as long as companies reach for the full potential of leveraging analytics to compete more effectively (Pröllochs and Feuerriegel, 2020).

Analytics can help firms accurately identify and mitigate external threats, such as market concerns, aggressive competitors, offenders, and environmental changes. Additionally, it is capable of addressing various issues, including corporate fraud, identity theft, reputational damages, corporate spying, and the liabilities of e-commerce. All of the above are fundamental for companies looking to grow. By having an effective intelligence function in place, organisations can proactively manage risks and take advantage of opportunities to achieve their strategic objectives (Moeller and Brady, 2014).

Methods can be built on advanced analytics and benefit from automated processes. Once implemented, all tasks and functions can be executed in a fully computerised fashion. In addition, managers can update their performance assessments, consult industry reports, or perform other analyses more frequently as opposed to the common management tools that, due to the extensive manual labour, are only available on a monthly basis or even less often. Firms risk "overlooking short-term trends that required immediate action". Similarly to businesses' frameworks, strategies are assumed to be responsive rather than static, as they include feedback loops to monitor progress and adapt to subsequent planning. Thus, accurate and prompt knowledge referring to internal and external environment events is key (Pröllochs & Feuerriegel, 2020).

Every endeavour to automate, especially automate analysis, is a source of direct value for companies. Recent innovations in advanced data analytics, achieved through computerization, enables companies to track and manage internal performance. The intrinsic returns, which are manifold, encompass automation, different levels of granularity in the analysis, computational methods, and techniques. Furthermore, it can be used to improve single daily tasks or processes or to enhance entire industry units (Pröllochs & Feuerriegel, 2020).

The assorted benefits identified throughout this investigation have been grouped in main benefits, which can be found in the following table (Table 2.3):

Table 2.3 Summary of the benefits of analytics in M&A

Benefits	Description	References
Smarter decision-making	Data analytics delivers relevant insights, as a result of descriptive, diagnostic, predictive, and prescriptive analysis, and allows for a better understanding of the financial and other business areas' performance, thus actively contributing for the boost in the success rate of operational and strategic decisions.	McGaughan & Chengalur-Smith (2021) Król & Ziomek (2020) Silva et al. (2021).
Superior competitive advantage	Worldwide recognition as top priority for firms that mean to achieve greater business value, higher than their competitors, in a highly competitive market.	Król & Zdonek, (2020); Silva et al. (2021)
Efficiency returns & Due Diligence	Higher analytics maturity results in processes' automation that lead to greater processing power and quality, data accessibility, enhanced speed, and efficiency in deal-related activities. It also enhances the efficiency of due diligence tasks significantly by allowing the detection of undisclosed market tips, higher levels of data integrity, capacity to evaluate several components or insights at the same time and the drilling down of relevant topics.	(Król & Zdonek, 2020), KPMG (2021); Accenture 2021)
Comprehensive knowledge	Enables companies to navigate through instability whilst building resilience even in uncertain environments due to the drawing of a very comprehensive situational awareness. This includes all the aspects that surround a deal, yet some of the more prevalent aspects are market characteristics, financial variables, and technological perspectives.	Kozyrkov (2020)
Uncovering new opportunities	New opportunities could be revealed through the generation of accurate valuations of market-based competitive intelligence, assessment of external threats and environmental concerns, and market shifts. Overall, it can contribute to the success of any deal due to its continuity in tracking down incessantly every manageable opportunity or lead to be evaluated.	Aaldering et al., (2019)
Risk management	Improves companies' ability to proactively manage and mitigate risks, vulnerability of the company, detect external security threats and frauds whilst addressing reputational issues and strengthening their position in the market.	Moeller & Brady (2014) Gartner (2018)
Automation and agility	Implementing analytics enables automation of tasks and processes, increasing efficiency and agility in decision-making. It allows for real-time updates, more frequent performance assessments, and the ability to adapt strategies based on feedback loops and prompt knowledge of internal and external events.	Pröllochs & Feuerriegel (2020)
Value creation	Advanced analytics brings value in the form of actionable insights, superior processing, performance increase and its capability to strengthen a firm's position in the market thus facilitating its growth. In the post-deal integration, it can track performance, evolution, and results.	(Moeller & Brady, 2014) Accenture (2021) Kalaivani et al. (2022) Król & Zdonek, 2020) Silva et al. (2021)
Powerful analytical capabilities	New enhanced techniques, tools and applications replace the limited traditional management methods, enriching by being able to retain key facts and other important metrics.	(Pröllochs and Feuerriegel (2020) Król & Zdonek (2020) Silva et al. (2021)

CHAPTER 3

Theoretical Approach

Following the literature review, conducted in the previous chapter that led to the arising of relevant research questions, the discussion that follows is to be guided by those same questions. Several authors, insights and opinions that expose different points of view, allowed the formulation of ideas concerning the role of analytics in M&A decision-making (Hirshleifer, 1995).

The first research question concerns the *motivations behind M&A intention*, whereas the second question concerns *reasons that often lead M&A deals to failure*. Both research questions derived from the first objective that aims to understand the current state of affairs of M&A, plus the motives that drive firms to engage in deals and the reasons they often fail. In short, the motivations and reasons for failure underscore the intricacy and challenges associated with such transactions meanwhile, highlighting the weight of strategic planning, effective integration procedures, exhaustive due diligence, and attention to cultural and employee factors for fruitful outcomes. For instance, according to the research conducted, the main motives that drive firms to partake in M&A deals are to achieve strategic advance or a more competitive positioning, to undergo a business transformation, for financial value or to have access to expertise - in the form of knowledge or capabilities-. Whereas, regarding the reasons it can lead to failure, it can occur due to a failure in the post-merger integration phase, overestimation of the potential synergy or misjudged opportunities, culture differences, management discrepancies, execution flaws mid transaction or the integration, and power politics within the organisation.

Hence, emerged the first and second research questions:

RQ1 - What are the drivers that influence companies' intention to partake in M&A deals?

RQ2 - What are the reasons behind failed M&A deals and does the use of analytics improve their success rate?

From the second objective of this dissertation that aims to investigate the potential benefits of incorporating data analytics in M&A decision-making to improve deal outcomes -, emerged the second research question:

RQ3 - What are the perceived benefits of using analytics in M&A decision-making?

In a few words, this research question derived from the emerging need to understand, first of all, what can the use of analytical tools and capabilities do to help improve decision-making in M&A deals. Second, what is the perception different authors have on the potential impact of those same benefits on the deal. Overall, the research advocates that data analytics contributes immeasurably, and the benefits can be sum up in competitive advantage, vast and comprehensive knowledge surrounding all internal and external aspects of the deal, value creation, performance enhancement, risk management and mitigation, and improved decision-making in general.

The last research question derived from the third objective: *to examine the impact of analytics on the likelihood of firms engaging in M&A deals*. In summary, the investigation indicates the use of analytics in M&A decision-making can have a meaningful impact on firms' probability to engage in such deals. More precisely, it can substantially enhance their prospect in it. By enabling firms and organisations to make well-informed decisions while target-searching, it also increases their chances of having a successful integration post-M&A. The leveraging of data analytics, ensures companies attain a competitive advantage, effectively optimize strategic manoeuvres and, overall, performance improvement within the dynamic M&A landscape. On that account, the last research question is:

RQ4 - Does the use of analytics influences the possibility of companies engaging in M&A deals?

The table below (Table 3.1) assembles the objectives and research questions which have guided the field investigation of this study. The table allows a clearer understanding of the relation between the objectives of the study and the research questions that have emerged before moving on to the primary research.

Table 2.1 Summary Table of the Objectives and Research Questions

Objectives	Research Questions	References
OB1 To understand the current state of affairs regarding M&A, pl us the motives that drive firms to engage in deals and the reasons they often fail.	RQ1 - What are the drivers that influence companies' intention to partake in M&A deals?	Deloitte (2022, 3 7) PwC. (2022, 1 25) Hirshleifer (1995) Kalaivani et al. (2022) KPMG (2021)
	RQ2 - What are the reasons behind failed M&A deals and does the use of analytics improve their success rate?	Barton & Court (2012, 11) Deloitte. (2022, 3 7) Kozyrkov (2020, 12) Meglio & Risberg (2011, 4) KPMG. (2021)
OB2 To investigate the potential benefits of incorporating data analytics in M&A decision-making to improve deal outcomes	RQ3- What are the perceived benefits of using analytics in M&A decision-making?	Barton & Court (2012, 11) Deloitte. (2022, 3 7) Kozyrkov (2020, 12) KPMG. (2021) Pröllochs & Feuerriegel (2018)
OB3 To examine the impact of analytics on the likelihood of firms' engaging in M&A deals	RQ4 - Does the use of analytics influences the possibility of companies engaging in M&A deals?	Deloitte (2022, 3 7) Kozyrkov (2020, 12) KPMG. (2021) Schweizer et al. (2022)

CHAPTER 4

Methodology

One of the ways to attain knowledge is through scientific research. Scientific research is, generally, referred to as the act of obtaining scientific knowledge, knowledge that is systematic, clear, logical, organized, and verifiable (Vilelas, 2020). Such expertise comes from the use of rational methods and techniques to a form a logic and precise thinking, and its consequent application to processes (Bayram, 2021). Unlike common sense, scientific knowledge results from the methodical and systematic investigation of reality and is characterized by the search for plausible causes of an event (Vilelas, 2020).

In this chapter, you are expected to find a descriptive overview of the investigation process. This project falls under the Social Research category, which is defined as the methodical analysis of established research questions through the use of empirical methods. Social Research's primary objective is to make empirically based sound statements that can be generalized. It serves three tasks, which are: knowledge – to describe and help understand certain phenomena -; practice-oriented to be applied to a professional practice; and as the basis for political or practical decisions (Flick, 2015).

4.1. The Literature Review

A literature review is a thorough synthesis of existing research that encompasses both theory and context, thereupon it can be described as a narrative review. Furthermore, it is a critical analysis of the existing literature found in papers, online and/or in books (Meglio & Risberg, 2011) (Pautasso, 2019). According to Emereritus (2022), the research design is a well-structured framework that encompasses research techniques and tools, whose sole objective is to ensure the research achieves its goals. It also acts as a direction guide in order to allow the research to yield favourable results.

As covered in the theoretical approach, chapter 3, the insights extracted from the literature review carved the formulation of the research questions. It served as well, as the foundation for shaping the research approach and selecting appropriate methods for the second phase of this investigation, the data collection and analysis.

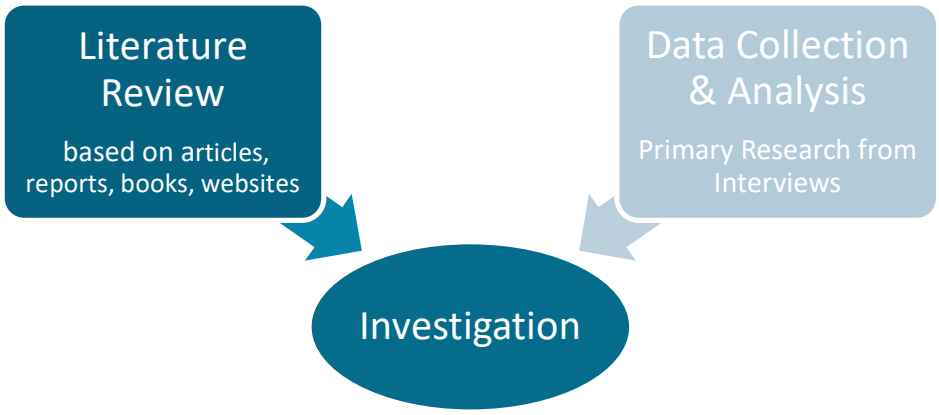

Figure 3.1 Research Model
By the author

4.2. Research Design

The purpose of the research draws from the little existing literature on the application of analytics in M&A decision-making, more specifically the impact it can have in influencing companies to engage in M&A deals. Accordingly, it was applied an exploratory research design, a specific kind of search that focuses in enabling a preliminary understanding of an event, problem, or subject area (Creswell, 2014). This kind of research was deemed fit and enabled a comprehensive outlook, in other words, holistic understanding of M&A, Data Analytics and where they come together before engaging in further analysis. In sum, the findings indicate there it may exist a relation between factors such as size, industry sector and financial performance that are somewhat tied to their intention to partake in M&A deals. Moreover, the literature heavily suggests the use of analytics enhances accuracy and the credibility or veracity of a deal, enabling companies to better identify synergies meanwhile avoiding potential risks.

On that account, transpired from the exploratory research, it was deemed fit the research questions should be followed up through the employment of a qualitative research. Regarding the qualitative methodology carried out in this study, and while trying to analyse the information with the use of the inductive process, which can only be applied through observation, collection and analysis *in loco* of the scientific facts, the focus was on trying to understand the meaning attached to the phenomenon analysed rather than its interpretation.

According to Vilelas (2020), the acts, words and gestures can only be understood in their context.

4.3 Data Collection & Analysis

4.3.1 Data Collection

The interview, from the methodological point of view, is a specific social interaction whose sole purpose is to attain information for an investigation (Vilelas, 2020). In semi-structured interviews, there is specific intended scope which is why the questions are previously orchestrated. Nonetheless, opposite to questionnaires, the2 interviewer can deviate from the script and the interviewees are not handed a list of possible answers thus allowing them respond freely (Flick, 2015). In its form, the interview methodology can be distinguished for the application of fundamental processes of communication and human interaction (Quivy & Campenhoudt , 1992). It is also worth mentioning that in this type of analysis, the aim is to understand the meaning the interviewees attribute to the phenomenon rather than trying to interpretate the phenomenon itself (Vilelas, 2020).

The investigation embodies a pragmatic character, considering it was arranged with a convenience non-probabilistic sample. That is, the sample was put together concurring with the availability and accessibility of the interviewed. The sample is constituted by nineteen business leaders in management-level positions and with decision-making power within their companies. All the interviewees are currently working in firms from varied industry sectors. The interviewees were reached either by email or phone, where they were presented with the opportunity to participate in the interview which aims to investigate and analyse their perception of the impact of the use of analytics on M&A decision-making. Moreover, it was thoroughly explained that all of the data collected was meant for investigation purposes only and that both the company and the interviewee would remain entirely anonymous.

The interviews were held either via Zoom or at a time and place agreed upon by both parties. The sample can be considered relatively small, nonetheless, it is worth mentioning that the few were intentionally selected as they were deemed the best representatives to investigate the phenomena at hand. The conclusions and insights withdrawn from this investigation, bearing in mind the size of the sample, require a cautious thorough examination and do not allow generalisations. Although none of the objectives of this study demands a generalisation as its primary purpose, it can still be regarded as the biggest limitation of this study.

Before the interview, the recruited were handed the script of the interview plus a summary page on Business Analytics (Appendix A). The duration of the interviews ranged from 20 to 40 minutes, and the majority were voice-recorded with the participants' permission.

4.3.2 Data Analysis

The analysis of the side notes begins still in the field, and they can be registered during the interview as the investigator is able to identify problems or concepts that can later allow a better understanding of the situation. The writing and reading of the notes already constitute an important step in the analytical process (Santos, 2016). The compilation of the material collected on the field - the notes, the recordings, respective documentation, and the interviews' transcripts -, are not data, in fact. They are the formal means through which - combined with proper analysis - the data is meant to be constructed (Lessard-Hébert, Goyette, & Boutin, 1990).

The analytical description, the general schema of the analysis, cannot be fitted in a pre-existing matrix. It is rather formed deriving from the material collected. The classes, categories and their relations are suggested or found inductively from the data. It is in the analyst's hands to uncover relevant categories from which it will allow the understanding of a certain observed reality (Albarello et all., 1997).

For the analysis of the data, the methods chosen were Thematic Coding and Content Analysis. Coding consists of condensing the raw data into a concise and readable tag. Authors refer to Content Analysis as the most common method used for data processing in qualitative research (Vilelas, 2020) (Flick, 2015). Content Analysis, combined, allowed the easy recognition of patterns and themes underlying within the transcripts. Coding is the method for analysing textual data. Firstly introduced by Glaser and Strauss (1967) and further elaborated by several other authors throughout the years, this process of interpretation entails a number of distinguished 'procedures' that can be used for working with text. It consists of grouping the data, following the coding paradigm, enabling the researcher to determine that "the phenomenon A happens under certain conditions and that B occurs under such conditions". The advantage of the development of categories, relations and, predictably theories, is allowing the interpretation of the text to become more methodological, readable, and manageable (Flick, 2015).

The coding process organized the ideas into codes, categories, and themes. Below is the graph representing the process of the preparation, coding, categorising, and analysis of the raw qualitative data. Both explicit and implicit codes were used, which means some of the codes reflect what is visible in the data - Explicit Coding -, meanwhile others result from the interpretation of the content - Implicit Coding (Culumbia University, 2023). Many of the themes, categories and codes applied were created beforehand, based on the literature research, following the process below.

Once again, Content Analysis, grounded on Thematic Coding was used to interpret the data collected from the interviews. In the framework that follows (Figure 4), are the schematized classifications that served as the groundwork allowing the creation of the thematic coding from the *corpus* of the interviews.

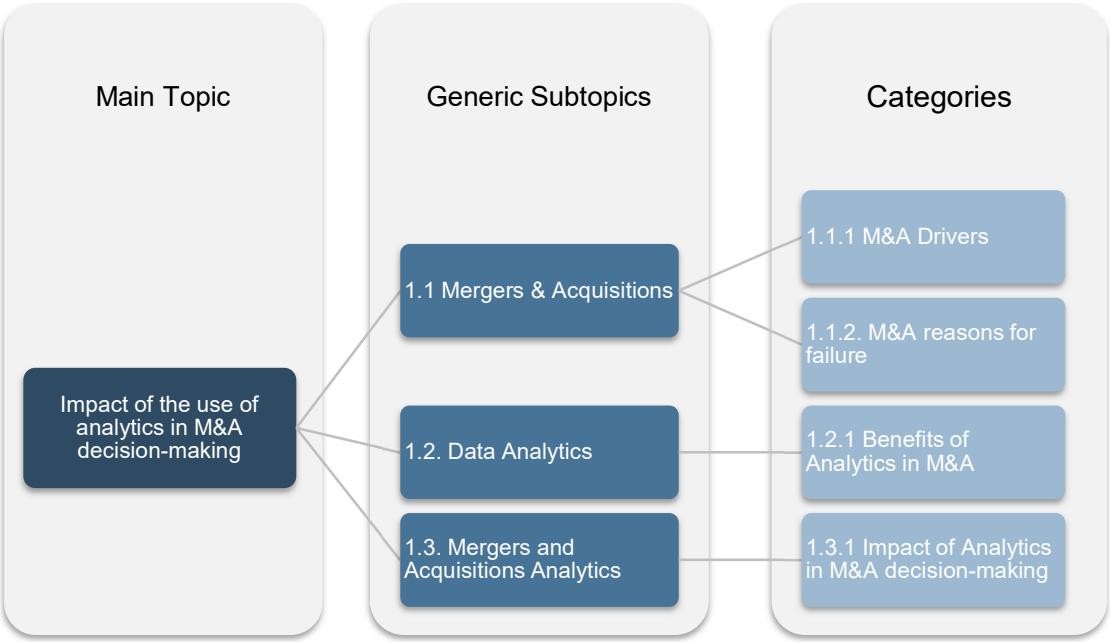

Figure 4.2 Content Analysis Model
By the author

Firstly, each audio recording from each interview was fully transcribed to written text, resulting in the *corpus*[1] for the proceeding content analysis. It followed the category grouping

[1] For confidentiality reasons, the transcripts of the interviews are not disclosed in this dissertation.

and definitions. The constitution of the categories can be done before or after the interview, or both processes can be combined (Flick, 2015). A combination of both methods was applied to this particular investigation. Part of the categories were defined based on the literature review whereas the remaining categories were defined afterwards based on the data collected. The model below summarizes the process the raw data (the transcripts from the interviews) underwent until becoming themes and allowing the formation of conclusions.

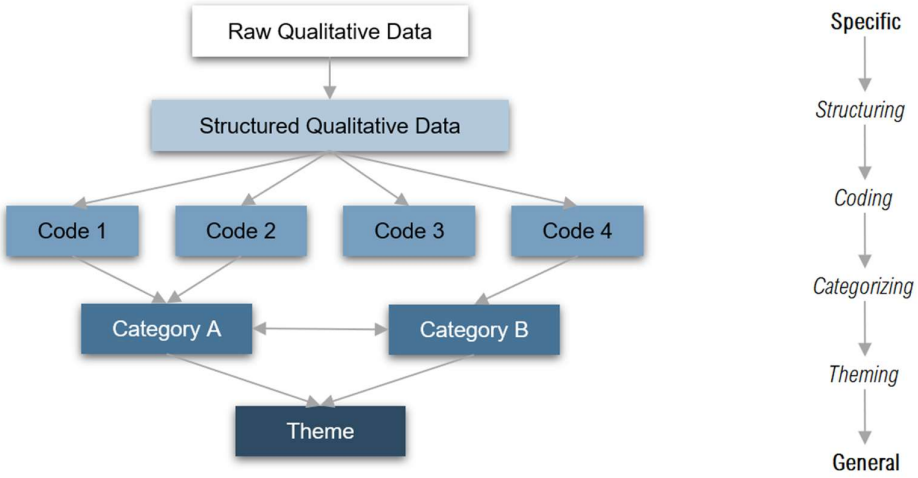

Figure 4.3 Coding Process
Adapted by the author

In order to minimize the categorizing error, three category dictionaries - in tabular format -, were created, to comprise every segment of the interviews according to its pertinence to the objectives under investigation (Appendix A, B and C). The dictionaries subdivide into three inclusive moments which match the research questions and study objectives. The first is the *M&A drivers*, that resulted in 5 themes and 13 categories; the second *Reasons that lead to M&A failure* that led to the creation of 4 themes and 10 categories, the third and fourth are *Benefits of Analytics in M&A* and *Impact of Analytics in M&A decision-making*, that correspond to 4 themes and 9 categories, and 3 themes and categories respectively.

4.3.3 Sample Description

The sample of this study encloses 19 organisational management-level business professionals, working and leading teams in their daily functions, within different organisations. The majority of the participants are from Portugal, two of the participants are from Belgium and one from the Netherlands (Appendix L).

The companies operate in distinct activity sectors - following the GCIS categorisation – (Figure 7, complemented in Appendix N), which are: Financial Services (n=2), Consumer Discretionary (n=2), Information Technology (IT) (n=4), Industrial (n =5), Materials (n=2), Consumer Staples (n=1) and Real Estate (n=1).

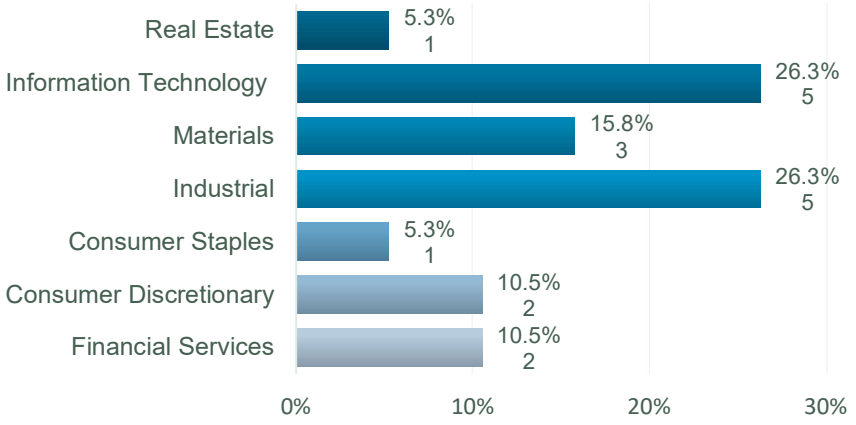

Figure 4.4 Activity Sect
By the author

Regarding the size of each participants' company (Figure 4.5, complemented in Appendix M), they range from micro to large, and the distribution is quite balanced. The percentage of micro companies is 23,5% and of large companies if 23,5%. Small and medium companies make up 35,3% and17,6% of the total, respectively.

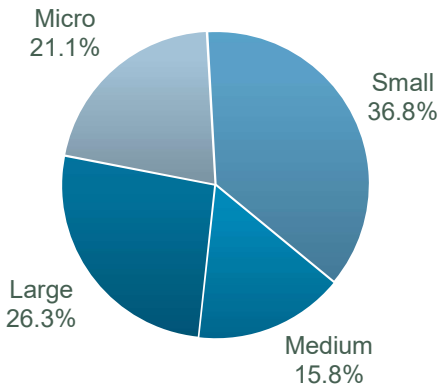

Figure 4.5 Company Size
By the author

All the participants have a higher education level (Appendix G), whereas 41% have a bachelor's degree, 35% a Master's degree and 18% a Doctorate, as it is visible in Figure 9. The least popular is the Postgraduate option with only 6%. Gender wise, the majority of the respondents are male with a percentage of 89% (n=17).

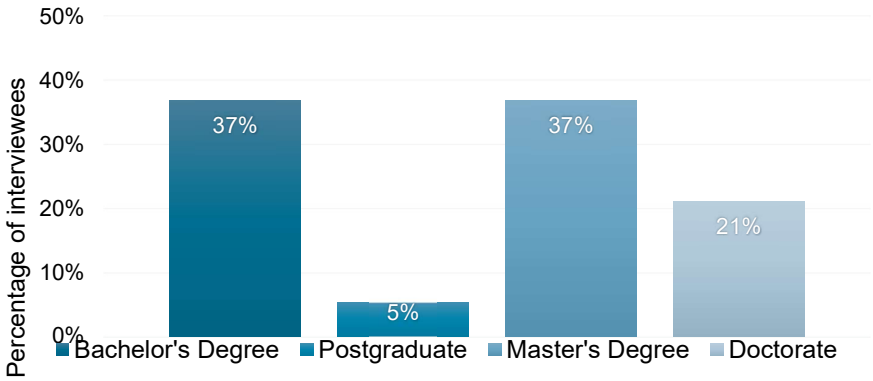

Figure 4.6 Education Level
By the author

The job positions were grouped according to the organisational management level, which corresponds to three levels of management (Figure 10, complemented in Appendix H). Upper Level, Middle-Level and Lower-Level. In the Upper-Level of management that encloses CEO, Founders, Managing Directors, Managing Partners and Partners, the percentage is 57,9%, follows the Middle-Level of Management enclosing Department Directors and Managers with 31,6%. At last, Lower-Level Managers, which include Supervisors, Junior Managers, among others, has 10,5%.

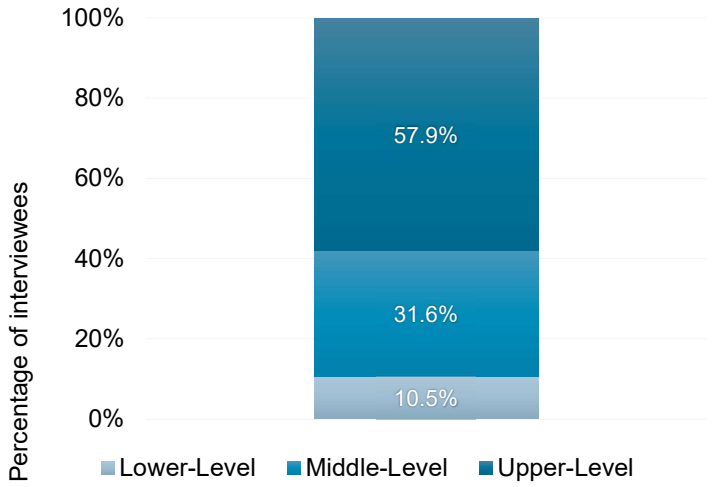

Figure 4.7 Organisational Management Level
By the author

When it comes to the age group of the participants (Figure 11, complemented in Appendix F), they range from 25 to 65 years old. The most recurring group is the 36 – 45 age group with 47%. The age group with the least answers is over 65 years old with 5%.

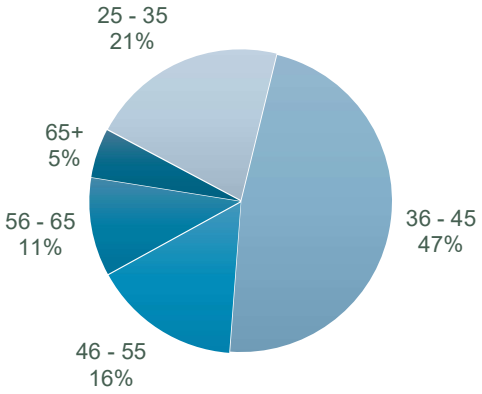

Figure 4.8 Age groups
By the author

Concerning professional experience, the recurring value, in both the number of years of total professional experience (Appendix I) and the number of years at the current position (Appendix J), is over 10 years of experience (n=8, n=8).

CHAPTER 5

Results Presentation & Discussion

This chapter presents and explores the information collected from the interviews. The goal is to validate and add to the knowledge introduced in the literature review, through different perceptions from several business professionals. The investigation provides further insights and new theories concerning the impact the use of analytics on companies' intention to partake in M&A deals. The first part of this chapter is dedicated to the presentation and characterization of the participants. The second part goes over the interviewees' perception of M&A and M&A Analytics, and their opinion on whether the use of analytics impacts M&A.

5.2 Perception of M&A drivers

Within the first group of questions, the aim is to understand the perception organisational leaders have on M&A drivers and if they believe the use of analytics has an impact, either by contributing to the better understanding of the factors and motivations or even influencing the decision-making. This group relates to the first objective of this dissertation: "To understand the current state of affairs regarding M&A, plus the motives that drive firms to engage in deals and the reasons they often fail", and the research question associated (RQ1): "What are the drivers that influence companies' intention to partake in M&A deals?".

The drivers identified in this first group of questions were tagged directly in the transcript by the codes created, grouped into the previously identified categories and themes, all of which are summed up in the Table 1, in

. Due to the nature of the answers and relevance to this dissertation, the M&A motives - unlike the remaining of the groups of questions - were analysed by themes instead of the categories.

In general, the participants were more prone to list Strategic Advantages drivers to justify the intentions, naming "growth" as the most sought out M&A driver. Sixteen out of the total nineteen answers, mentioned company growth, expansion of product portfolio, access to new markets and/or geographical expansion drivers. The Business Transformations theme, which includes Diversifying the Business in Cultural, Strategic and Organisational Context, Enhancing Procedures and Performance, Competitive Positioning and Access to Knowledge and Expertise was tied with seven answers each (n=7, n=7, n=7)). Competitive Positioning

encloses Gaining Market Share, Promote Brands and Crush the Competition. Access to Knowledge and Expertise had seven answers in total (n=7). The Financial Value driver was the least mentioned driver with only six mentions. This theme includes the Economic Value, Expected Synergy Effects and to Escape Bankruptcy motivations.

Table 5.1 Perception of M&A Drivers

Question	Theme	Interviewees	Total Answers
What are the main motivations that drive companies to engage in M&A deals? Questions 1 and 2 in the script	Strategic Advantages	1 2 3 4 5 7 8 9 10 11 12 13 15 16 17 18	16
	Business Transformation	1 2 6 7 9 15 19	7
	Financial Value	1 2 4 6 11 14	6
	Competitive Positioning	2 3 9 13 16 17 19	7
	Access to Knowledge and Expertise	1 2 4 8 15 16 19	7

5.3. Perception of the reasons that lead to M&A failure

The aim of this group of questions is to understand what causes the leaders associate M&A failure to, and if they believe that the use of analytics can turn the results around. This group also relates to the first objective of this dissertation: "To understand the current state of affairs regarding M&A, plus the motives that drive firms to engage in deals and the reasons they often fail", and the research question associated (RQ2) is: "What are the reasons behind failed M&A deals and does the use of analytics improve their success rate?".

The benefits identified in the interviews were categorised into existing codes, categories, and themes (Appendix P and

Appendix B), created beforehand based on the LR research. The previously identified benefits are: Post-merger Integration Failure (n=5), Execution Flaws (n=5), Overestimation of Synergy (n=4), Misjudged Opportunities (n=3), Misconceived Benefits (n=4), Cultural & Organisational Differences (n=10), Management Challenges (n=4), Power politics (n=3). Two new codes and categories were created and enclosed into the pre-existing themes due to the demand, which means they were mentioned by several participants throughout the interviews, which supports their creation. The two newly formed reasons are: Information gap (n=4) and Lack of objectivity (n=3).

Table 5.2 Perception of the Reasons Behind M&A failure

Question	Theme	Interviewees	Total Answers
What are the main reasons that lead to M&A failure? Question 4 in the script	Post-Merger Integration Failure	1 2 3 7 16	5
	Overestimation of Synergy	2 5 10 16	4
	Cultural Differences	1 2 4 6 7 8 9 15 16 17	10
	Management challenges	2 3 11 16	4
	Misjudged Opportunities:	5 15 16	3
	Misconceived Benefits:	2 5 10 15	4
	Execution Flaws	1 5 6 15 19	5
	Power Politics:	3 7 11	3
	Information gap	1 8 9 19	4
	Lack of Objectivity	12 15 19	3

The categories enclosing the reasons for failure are represented in graph above. The most deemed reason for failure in the eyes of these leaders are Cultural and Organisational Differences, mentioned by ten out of the total responses. Information Gap and Post-Merger Integration Failure tied for the second most mentioned reason. “The lack of a proper comprehensive integration between both companies; cultural differences; different management styles can also play a decisive role in some cases, not to mention a poor valuation of the synergy’s potential, are all reasons that justify the downfall of many merger transactions”.

Two of the participants reclined to answer, to which they have admitted not being comfortable enough to reply because they had no knowledge or experience on the topic. Meanwhile, other participants provided complimentary examples and shared experiences in which the majority failed to succeed according to the expectations set out.

5.4. Perception of the benefits of Analytics in M&A

This third group tries to answer the second objective of this dissertation: "To investigate the potential benefits of incorporating data analytics in M&A decision-making to improve deal outcomes", and the research question associated (RQ3) is: "What are the perceived benefits of using analytics in M&A decision-making?".

The benefits identified in the interviews were categorised into existing codes, categories, and themes (Appendix C), created beforehand based on the LR research. The newly formed "Enhanced Objectivity" benefit was mentioned several times in the interviews, justifying the creation of a new code and category to enclose it. The categories are as follows: Smarter Decision-Making (n=9), Value Creation (n=3), Efficiency Returns and Due Diligence (n=6), Comprehensive Knowledge (n=13), Uncovering New Opportunities (n=3), Risk Management (n=3), Automation and Agility (n=4), Superior Competitive Advantage (n=0), Powerful Analytical Capabilities (n=10) and Enhanced Objectivity (n=5) (Appendix Q).

Table 3.3 Perception of the benefits of Analytics in M&A

Question	Theme	Interviewees	Total Answers
What are the main benefits of the use of analytics to M&A deals? Question 3, 5 and 6 in the script	Smarter decision-making based on data	2 3 4 10 13 16 17 12 14	5
	Superior competitive advantage	-	4
	Efficiency returns & Due Diligence	1 7 18 2 3 11	10
	Comprehensive knowledge	1 2 3 4 5 6 9 10 11 13 15 18 16	4
	Uncovering new opportunities	8 16 10	3
	Risk management	1 16 18	4
	Automation and agility	8 18 3 6	5
	Value creation	7 11 13 1 16	3
	Powerful analytical capabilities	1 2 3 4 5 9 16 4 10 12	4
	Enhanced objectivity	6 7 8 12 15	5

The categories enclosing the benefits mentioned are reflected in figure 14, above. It is transparent that the most mentioned benefits were Smarter Decision-Making, Powerful Analytical Capabilities, and Comprehensive Knowledge. Altogether, the leaders displayed a natural tendency to acknowledge the need for a deeper understanding - surrounding all aspects of the transaction -, that can be attain with deep data analysis, thus leading to smarter decision-making. To paraphrase: "The biggest benefit is the empowerment of managers in their decision-making […]". In addition, "[…] an effective data analysis allows the reduction of information's asymmetry and allows a proper assessment of the businesses whilst enabling the implementation of preventive measures to mitigate discrepancies".

Two of the interviewees pointed out that analytics does not weight in experience, human emotion, and behaviour, which can make decisions solely based on the data unreliable. "[…] Experience and intuition are also vital and should not be underestimated when making a decision". Contrastingly, five other interviewees highlighted "enhanced objectivity" as a crucial advantage because it is free from bias, emotion, or favouritisms. In their own words, data analytics allows managers "[…] to get away from emotion, […] regain control of the process and objectify". Additionally, "the identification of risks and opportunities cannot be based on intuition or subjective evaluations, it needs to be based on concrete data. "If data analytics could convince the humans behind the mergers and acquisitions that their process is not unique, it could provide relativity to the individual steps of the process, hence facilitating the M&A process itself".

5.5. Perception of the impact of analytics in M&A decision-making

This fourth and last group concerns the third objective of this dissertation: "to examine the impact of analytics on the likelihood of firms' engaging in M&A deals", and the research question associated (RQ4) is: "Does the use of analytics influences the possibility of companies to engage in M&A deals?". With this group, the answers were divided into three themes: Positive Sentiment (n=17), Negative Sentiment (n=1) and Unsure, (n=1). Answered on the questions 7 and 8 of the interview script (Appendix A), seventeen out of the total nineteen respondents have a positive perception towards the influence the use of analytics can have on M&A decision-making (Appendix D).

The outcome to retain is that the respondents, on the whole, defend the use of analytics not only has an impact, but that influence is positive (Appendix R). Furthermore, "the influence is

incremental, […] considering the use of analytics is progressing". Another participant further explains that "[…] without data there can be no decision-making which is why the answer has to, forcibly, be *yes*". To the best of his knowledge, "[…] it functions like the purchase of any other good", to which he clarified with a practical example: "Imagine buying a property. In many cases, that purchase comes from the belief that that property will bring you utility or satisfaction somehow. This decision is influenced by your personal preferences and perceived benefits, and that perception is the believe that the property will serve a useful purpose or bring you a sense of contentment. This happens because information was produced. Data was produced. With companies it works a little the same way".

From the total number of respondents, two either have a negative perception or are not entirely sure about the impact analytics can have on M&A decision-making. These respondents raised questions such as the data's ability to factor human feelings into the equation as "[…] it cannot provide nor evaluate qualitative data about human behaviour". Moreover, because business analytics is not capable of grasping the spectrum of human emotion, intuition and feeling, it makes it flawed and dangerous. Another assumption discussed, was that in micro and smalls companies that impact is lessen, meaning this interviewee defend analytics has reduced influence on the M&A decision-making when it comes to environments surrounded by micro and small companies. Nonetheless, to the best of his knowledge, he also believes that the impact has a bigger influence on larger companies. Therefore, despite recognizing several benefits, these respondents conjointly claim that analytics has or should have little to no impact on M&A decision-making.

Table 5.4 Perception of the impact of Analytics in M&A decision-making

Question	Theme	Interviewees	Total Answers
Does the use of analytics in M&A decision-making impact the likelihood of firms engaging in M&A deals?	Positive Sentiment	1 2 3 5 6 7 8 9 19 11 12 14 15 16 17 18 19	17
	Negative Sentiment	4	1

Questions 7 and 8 in the script	Unsure/Do not know	13	1

CHAPTER 6

Conclusions & Recommendations

6.1. Final Considerations

The present investigation has proved fruitful in the sense that it has achieved its desired objectives and answered the proposed research questions, meanwhile shedding light on the meaningful role of analytics on the M&A decision-making landscape. The findings have confirmed that M&A Analytics brings value to the transaction itself and to the combined firms, bolstering decision-making processes and enhancing the outcomes. Furthermore, based on the data collected and its consequent analysis, conclusions can be drawn that M&A Analytics has a positive influence in encouraging firms and firm owners to engage in MA deals.

The Literature Review was the starting point of this investigation and its findings have helped shape and guide the forthcoming path. The literature heavily suggests the use of analytics enhances accuracy and the credibility or veracity of a deal, enabling companies to better identify synergies whilst avoiding potential risks. The answers obtained from the interviews, in general, concur with the findings. Even though, the leaders have added Enhanced Objectivity to the benefit of the use of analytics, claiming it greatly impacts the success or failure of a deal. As expected, the knowledge of data analytics and its applicability in M&A procedures is narrow and superficial. Surprisingly, the knowledge surrounding M&A also proved to have truly little depth.

The depth of the answers attained from the investigation warrants consideration. Some of the responses lacked depth, which can indicate some discomfort or apprehension surrounding the topic, especially the application and benefits of Analytics on the business landscape. The hesitancy raises speculation that both the firms and leaders do not have a deep knowledge in M&A procedures and are, likewise, not familiar with data analytics in general. In other words, based on their answers we can conjecture the participants are not aware of all or many of the benefits the use of analytics can bring to M&A deals. This experience underscores the need for continued education and awareness-building around the value of analytics in M&A strategies.

Moreover, it is noteworthy there was an array of refusals to participate in the investigation due to a lack of knowledge and lack of confidence or at ease with the topic. The large number of refusals to participate has allowed some room to further explore intriguing insights. The hesitancy among several firms and their leaders to engage in the research topic encourages the noticeable uneasiness also observed in the participants. The refusal can be attributed to a perceived complexity or uncertainty around the subject matter.

In sum, the study has successfully addressed the research objectives and questions, confirming that the use of analytics, in M&A strategies and decision-making, is rather a rather pivotal driving force. The use of analytics enables the empowerment of the leaders and decision-makers, encourages strategic engagement in M&A, and extends its benefits to companies regardless of size, age, or industry. These findings underscore the paramount importance of leveraging analytics as a transformative instrument in optimizing M&A activities for long-term success, meanwhile acknowledging the challenges and opportunities for a deeper exploration in this field.

6.2. Investigation Limitations

There were several limitations to this study that are important to bear in mind., and therefore, list. In spite of this investigation being more focused on the quality of the content under investigation which is why it relied on interviews rather than a Survey, the sample size can still be considered small. Thus not accurately representing the broader population. The participants were also chosen based on availability and through shared connections, which means it is a convenient sample rather than a random sample. Moreover, the sample is not representative of the target population which makes it difficult to withdrawn conclusions and to apply those same conclusions to a wider context.

The participants have self-selected themselves to participate (after being invited), which means that their motivation to adhere to the interview or characteristics might differ from the other participants, or leaders in general that have not participated.

Another limitation that might have affected this study is the participants desire to respond according to what they think is acceptable socially instead of providing truthful answers, potentially affecting the reliability of the findings. Plus, the participants' challenge in accurately recalling passed events could have resulted in misleading responses.

6.3. Suggestions for Further Investigation

There is more to investigate in this study and more relevant approaches to explore within the subject. For instance, in order to further delve into this study, it could be relevant to explore whether certain professional aspects or personal characteristics of the interviewees affect their responses. More specifically, to understand the relations between the different variables.

Another approach within the topic that might prove useful would be to conduct an in-depth case study of a specific M&A transaction where analytics might have played a significant role. By analysing the impact of the decisions on post-merger integration, the financial outcome, the synergy, and the strategic alignment. As an alternative, it might also be interesting to investigate long-term performance analysis. By exploring long-term performance of companies that heavily rely on analytics and comparing to the results of companies that do not apply analytics at all the investigation could potentially draw factual evidence and insights on the applicability and benefits of the use of M&A analytics.

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Appendices

Appendix A. Interview Script

Topic: The Use of Data Analytics in M&A Decision-Making

What is **DATA ANALYTICS**?

DATA ANALYSIS is the process of examining sets of information to obtain insights, identify patterns and make better informed decisions. It involves collecting, cleaning, transforming, and modelling data, using various statistical, mathematical and visualization techniques and tools.

Data analysis can be applied in various areas of business and in different commercial activities, to help understand data and obtain important information.

ANALYTICAL MATURITY portrays companies' development level and ability to use data analysis to obtain insights, recommend actions, and make better-informed decisions.

An organization with high analytical maturity has a data-driven culture, with established processes and a qualified team in analytics. These organizations are more likely to leverage data strategically, implement advanced analytics, and adopt innovative technologies such as Artificial Intelligence (AI) and Machine Learning (ML), to gain a competitive advantage.

The **GOAL** of the evolution of analytical maturity is to enable organizations to achieve better insights with a deeper knowledge, make better decisions, and achieve a competitive advantage through the strategic use of data.

STAGES of analytical maturity:

DESCRIPTIVE	DIAGNOSTIC	PREDICTIVE	PRESCRIPTIVE
DATA COLLECTION	DATA PROFICIENCY	DATA CONSUMPTION	DATA AS A CULTURE
Basic analysis to describe what happened in the past. Creation of simple reports and visualizations.	Use of more advanced techniques to identify patterns, trends, and cause-effect relationships.	Use of statistical models and forecasting techniques to predict future events and make projections based on historical data.	Use of sophisticated models to recommend actions and strategies, optimization of results and better-informed decision-making.

Topic: The Use of Data Analytics in M&A Decision-Making

THE INTERVIEW

M&A drivers

Mergers and Acquisitions (M&A) are business strategies that involve the combination of two or more companies to form a new entity or the acquisition of one company by another. Mergers occur when two companies come together to create a single entity, sharing resources, expertise, and synergies to gain competitive advantages and increase value for shareholders.

1. What are the main motives that might drive companies to engage in M&A activity?
2. What are the internal and external factors that influence companies' decision to engage in M&A?
3. In your opinion, how can data analysis contribute to the understanding of these factors?

Reasons that lead to M&A failure

Studies indicate that despite this type of transaction rarely being successful - the success rate is significantly low -, as it does not bring monetary benefits to the shareholders, Mergers and Acquisitions (M&A) continue to be one of the most popular and sought-after methods of transformation by companies in various sectors of activity to this day.

4. In your experience, what are the most common reasons that lead to the failure of those deals?
5. Can analytics potentially increase the success rate of M&A negotiations? Y/N
    - **1.5.1.** How?

Benefits of Analytics in M&A

The Mergers and Acquisitions (M&A) field is far from being the only one to feel the weight of change when it comes to the technology revolution. However, when compared to other areas, it is apparent that it is uniquely affected. This is because M&A is a combination of processes and areas throughout the duration of the transaction, which requires them to work in harmony. Both the acquiring and acquired companies can benefit from the use of analytics to uncover important information and avoid common mistakes.

6. What benefits can data analytics bring to the M&A decision-making process?

Topic: The Use of Data Analytics in M&A Decision-Making

THE INTERVIEWED

Gender: Male ☐ Female ☐

Age Group: -25 ☐ | 25-35 ☐ | 35-45 ☐ | 45-55 ☐ | 55-65 ☐ | 65+ ☐

Education Level:

Primary School ☐ | High School ☐ | Undergraduate Degree ☐ | Bachelor's Degree ☐

Master's Degree ☐ | PhD ☐

Job Position: _____

Professional experience: 1-2 ☐ | 3-5 ☐ | 5-10 ☐ | 10+ ☐ (number of years)

Experience at current job position: 1-2 ☐ | 3-5 ☐ | 5-10 ☐ | 10+ ☐ (number of years)

THE ENTERPRISE

Name of the enterprise: _____

Age of the enterprise: 1-3 ☐ | 4-7 ☐ | 8-15 ☐ | +15 ☐

Activity Sector (GICS):

Information Technology ☐ | Health Care ☐| Financials ☐ | Consumer Discretionary ☐ | Communication Services ☐ | Industrials ☐ | Consumer Staples ☐ | Energy ☐ | Utilities ☐ | Real Estate ☐ | Materials ☐

Company's size (please see table below):

Micro ☐
Small ☐
Medium ☐
Large ☐

Category	Number of Employees	Annual Turnover	Annual Balance Sheet
Micro	1 – 10	< 2 million €	< 2 million €
Small	10 – 50	< 10 million €	< 10 million €
Medium	50 - 100	< 50 million €	< 43 million €
Large	≥ 250	≥ 50 million €	≥ 43 million €

Topic: The Use of Data Analytics in M&A Decision-Making

Impact of Analytics in M&A decision-making

7. Do you believe the use of analytics influences companies' likelihood to engage in M&A deals?
8. What are the main perceived changes or differences in companies' approach to adopting data analytics in their M&A decision-making?

Appendix B. Thematic Coding for Objective 1

	Research Question	Theme	Category	Code	Definition
Objective 1 Understand the current state of affairs regarding M&A, plus the motives that drive firms to engage in deals and the reasons they often fail	**RQ1** What are the drivers that influence companies' intention to partake in M&A deals?	Strategic Advances	Growth	1SAG	Buy or merge to grow the business (vs organic growth)
			Access to new markets	1SAM	Access different customers
			Expand product portfolio	1SAP	Access to new products, services and/or distribution channels
			Geographical expansion	1SAGE	Access to new territories, cities, countries, etc.
		Business Transformation	Step out of institutionalised strategic, cultural, organisational context	1BTI	Diversify business' processes and procedures
			Enhance processes, procedures and/or performance	1BTP	Automate and/or optimize processes and procedures to enhance performance and productivity
		Financial Value	Economic value	1FVE	Gain financial benefits, return on the investment (ROI), increase profits, revenues
			Synergy effects	1FVS	Access combined revenues, talent, technology, cost optimization
			Escape bankruptcy	1FVB	To repay debts or escape bankruptcy
		Competitive Positioning	Take out competition	1CPC	Absorb competitors
			Gain market share	1CPMS	Combine their market share over their competitors
			Promote brands	1CPB	Promote the company
		Access to Knowledge and Expertise	Access to knowledge and expertise	1KE	Access the company's know-how and expertise
	RQ2 What are the reasons behind failed M&A deals and does the use of analytics improve their success rate?	Integration and Execution	Post-merger integration failure	2IEI	Failure to integrate or merge the companies after the transaction
			Execution flaws	2IEF	Mistakes mid-integration or transaction
			Lack of objectivity	2IEO	Decision makers are not objective on the pursuit of the goals, are biased, emotionally influenced or follow preferences
		Synergy and benefit estimations	Overestimation of synergy	2SEO	Exaggeration of the synergy estimation values and benefits
			Misjudged opportunities	2SEMO	Focusing on the wrong type of target, evaluating superficially, not accurately assessing risks, synergies, or growth prospects.
			Misconceived benefits	2SEMB	Flawed synergy estimations
			Information gap	2SEI	Lack or missing information
		Cultural and Management Challenges	Cultural and organisational differences	2CMC	Cultural clash or incompatibility, disruptiveness, conflicts
			Management challenges	2CMM	Changes in management style, disruptiveness
		Power and politics	Power politics	2PP	Upsetting the power balance and collaboration

Appendix C. Thematic Coding for Objective 2

	Research Question	Theme	Category	Code	Definition
Objective 2 to investigate the potential benefits of incorporating data analytics in M&A decision-making to improve deal outcomes	**RQ3** What are the perceived benefits of using analytics in M&A decision-making?	Decision-making and knowledge	Smarter data driven decision-making	3DMD	Making smarter decisions based on the data and analysis
			Comprehensive knowledge	3DMK	Deep holistic knowledge regarding all aspects of the transaction
			Enhanced objectivity	3DMO	Free from bias, emotion, or favouritisms
		Operational efficiency and due diligence	Powerful analytical capabilities	3OAC	Powerful analytical tools and techniques that enrich the analysis
			Efficiency returns & Due Diligence	3ODD	Processes automation to increase due diligences and all deal-related tasks' speed and efficiency
			Automation and agility	3OAA	Automation of tasks and processes, increasing efficiency and agility in decision-making
		Risk management	Risk management	3RMR	Proactively manage and mitigate risks such as security and vulnerability
			Uncovering new opportunities	3RMO	Value creation resulting from actionable insights and performance increase
		Value Creation	Value creation	3VC	Generation of accurate valuations and tracking down opportunity or lead

Appendix D. Thematic Coding for Objective 3

	Research Question	Theme	Code	Definition
Objective 3 to examine the impact of analytics on the likelihood/possibility of firms' engaging in M&A deals	**RQ4** Does the use of analytics influence the possibility of companies to engage in M&A deals?	Positive sentiment	4PS	The respondent has positive sentiment or agrees that the use of analytics influences M&A decision-making
		Negative Sentiment	4NG	The respondent has a negative sentiment or does not agree that the use of analytics influences M&A decision-making, solely or at all.
		Unsure	4U	The respondent is not sure if the use of analytics impacts M&A decision-making.

Appendix E. Gender Frequency Table

	Frequency	Percentage	Cumulative Percentage
Female	2	10.5	10.5
Male	17	89.5	100.0
Total	19	100.0	

Appendix F. Age Group Frequency Table

	Frequency	Percentage	Cumulative Percentage
25 - 35	4	21.1	21.1
36 - 45	9	47.4	68.4
46 - 55	3	15.8	84.2
56 - 65	2	10.5	94.7
65+	1	5.3	100.0
Total	19	100.0	

Appendix G. Education Level Frequency Table

	Frequency	Percentage	Cumulative Percentage
Bachelor's Degree	7	36.8	36.8
Doctorate	4	21.1	57.9
Master's Degree	7	36.8	94.7
Postgraduate	1	5.3	100.0
Total	19	100.0	

Appendix H. Organisational Management Level Frequency Table

	Frequency	Percentage	Cumulative Percentage
Lower-Level	2	10.5	10.5
Middle-Level	6	31.6	42.1
Upper-Level	11	57.9	100.0
Total	19	100.0	

Appendix I. Professional Experience (in years) Frequency Table

	Frequency	Percentage	Cumulative Percentage
10 +	16	84.2	84.2
3 - 5	1	5.3	89.5
6 - 10	2	10.5	100.0
Total	19	100.0	

Appendix J. Professional Experience at Current Position (in years) Frequency Table

	Frequency	Percentage	Cumulative Percentage
10 +	9	47.4	47.4
3 - 5	6	31.6	78.9
6 - 10	4	21.1	100.0
Total	19	100.0	

Appendix K. Company Age Frequency Table

	Frequency	Percentage	Cumulative Percentage
15 +	9	47.4	47.4
4 - 7	3	15.8	63.2
8 - 15	7	36.8	100.0
Total	19	100.0	

Appendix L. Location Frequency Table

	Frequency	Relative Frequency	Cumulative Frequency
Portugal	16	84%	84%
Belgium	2	11%	95%
Netherlands	1	5%	100%
TOTAL	19	100%	

Appendix M. Company Dimension Frequency Table

	Frequency	Percentage	Cumulative Percentage
Large	5	26.3	26.3
Medium	3	15.8	42.1
Micro	4	21.1	63.2
Small	7	36.8	100.0
Total	19	100.0	

Appendix N. Activity Sector Frequency Table

	Frequency	Percent	Cumulative Percent
Consumer Discretionary	2	10.5	10.5
Consumer Staples	1	5.3	15.8
Financial Services	2	10.5	26.3
Industrial	5	26.3	52.6
Information Technology	5	26.3	78.9
Materials	3	15.8	94.7
Real Estate	1	5.3	100.0
Total	19	100.0	

Appendix O. Perception of the M&A drivers Table

	Number of answers
Strategic Advantages	16
Business Transformation	7
Financial Value	6
Competitive Positioning	7
Access to Knowledge and Expertise	7

Appendix P. Perception of the M&A reasons for failure Table

	Number of answers
Post-Merger Integration Failure	5
Overestimation of Synergy	4

Cultural & Organisational Differences	10
Management Challenges	4
Misjudged Opportunities	3
Misconceived Benefits	4
Execution Flaws	5
Power Politics	3
Information Gap	4
Lack of Objectivity	3

Appendix Q. Perception of the benefits of Analytics in M&A Table

	Number of answers
Smarter decision-making	9
Value creation	5
Efficiency returns & due diligence	6
Comprehensive knowledge	13
Uncovering new opportunities	3
Risk management	3
Automation and agility	4
Superior competitive advantage	0
Powerful analytical capabilities	10
Enhanced objectivity	5

Appendix R. Impact of analytics in M&A Frequency Table

	Frequency	Percentage	Cumulative Percentage
Positive Sentiment	17	89.5%	89.5%
Negative Sentiment	1	5.3%	94.7%
Unsure	1	5.3%	100.0%
Total	19	100%	