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**The characteristics of mergers and acquisitions and their  
impact on performance in emerging countries: A Saudi  
Arabian study**

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## **Abstract :**

Mergers and acquisitions are attracting interest from financial researchers who are trying to determine the performance of these high-risk operations. It is not easy to identify variables that precisely map into the various factors that affect value creation through cross border mergers and acquisitions nor to pick an appropriate performance indicator because the definitions of performance vary in terms of accounting, financial and operational views.

In this paper, we focused on the impact of the characteristics of the transaction on the corporate financial performance of mergers and acquisitions, which are return on investment, return on equity and Marris ratio, using data on the deals that occurred during the period 2010-2015 in Saudi Arabia. Panel data and precisely random effect method are applied to carry out empirical analysis. In this paper, we examine whether specific merger characteristics impact the M&A's performance. The results show that the performance is negatively influenced by the level of indebtedness for the 3 performance indicators and by the sectorial proximity for the return on equity. The cash level has a very slight positive impact on the 3 indicators. Concerning the other explanatory factors, they do not have a significant effect on performance for the acquiring firms.

**Keywords:** Emerging economies, mergers and acquisitions, operation characteristics, performance measures.

## **Introduction :**

In the era of globalization of industry and markets, which is characterized by increasingly greater competition, businesses now operate in an increasingly competitive environment with market shares tending to narrow and unpredictable and frequent changes, seek to protect themselves against the main risk, that of their disappearance. To do so, companies are forced to circumvent this phenomenon through a regrouping movement.

The use of strategic alliances, mergers or the purchase of local companies now enables them to solve problems more easily, such as the acquisition of new markets, the establishment of a distribution network, the training of the employees, Improving their profit margins or intangible objectives such as improving their technological or organizational knowledge.

These operations have thus become, in a few decades, a mode of development considered as essential in the strategy of companies. Moreover, no one disputes The importance of the role of alliances or partnerships in the competitiveness and development of organizations, whether private or public, large or small, located in developed or emerging countries. Some companies even consider cooperation as crucial for their future. M&As operations Multiplied throughout the world in a short period of time, increasingly important financing has been put in place and increasingly large companies have become involved.

The main objective of these operations is to increase the results through the implementation of synergies (Ansoff, 1965) which are supposed to guarantee their success. Numerous studies have shown that the success of these operations was far from what was expected, and that not all of them allowed to increase performance and the latter remained uncertain. The risk of failure of such operations is high: the rate of failure announced varies between 45 and 70% (Cartwright & Cooper, 1993a, Ravenscraft & Scherer, 1987, Schoenberg, 2006).

The reasons for these failures can be many, as Doubt (2000) points out in the introduction to a special issue on mergers and acquisitions, citing, in a non-exhaustive manner, precipitation, lack of common strategic vision, coexistence of managers, the underestimation of human

resource management problems, the absence of synergies between the IT systems, and what relates to the characteristics of the operation, namely the cash level of the acquiring company, its level of indebtedness, the cross-border character as well as the sectorial proximity between the two companies.

For our research, we focused on the impact of the characteristics of the transaction on the performance of mergers acquisitions. Our study focuses on the analysis of a sample of 83 Mergers and Acquisitions carried out in Saudi Arabia during the period from 2010 to 2015. To our knowledge, it is the first to examine specifically the relationship between transaction characteristics and the performance of the acquirers of Saudi Arabian firms. We adopt a multivariate analysis framework to examine the relationship between the characteristics of takeovers, the acquiring firm and operational performance during the post-acquisition period. We study successively: the impact of cash level, debt level, cross-border character and sectorial proximity on the post-acquisition performance of acquiring companies.

Although numerous studies analyze mergers and acquisition in developed economies, a much smaller number of studies focus on M&As in of emerging economies . The choice of Saudi Arabia as our field of study wasn't hazardous. In fact Saudi Arabia is a country on the rise with its sights set on full integration into the global economy. Since the late 1990s, Saudi policymakers have made a concerted effort to reform the country's economy, and to position it as an investment destination and an important player in the global economy. Economic reforms have created many opportunities for outsiders seeking new trade and investment avenues. The country offers boundless economic possibilities, and its economic potential has yet to be fully tapped. Saudi Arabia is a pivotal country in the Gulf region and exhibits characteristics of an emerging power.

Our research question can now be clearly formulated: Do the characteristics of the M&A operation impact positively its performance ?

In order to answer this question, we have in the first part of this research paper a literature review on the various dimensions of mergers and acquisitions, namely the motivations behind the use of this kind of operations, the characteristics of the transaction affecting its operational performance as sectorial proximity, cross-border character, cash level and debt level and finally we will present the main measures and indicators of performance of mergers and acquisitions.

In the second part of our research paper, we present the hypothesis we will be demonstrating through this paper. Then, we present our methodological choices (data collection, choice of dependent and independent variables as well as the formulation of the general model on which we will base our empirical analysis).

In the last part, we will report the results of our empirical analysis while explaining the specific methods used for the data analysis then we will discuss the results obtained.

## **I. Litterature review :**

### **1) Reasons behind mergers and acquisitions :**

Mergers and acquisitions derive their justifications from multiple motivations. Management goals and objectives have been of central interest in research on mergers and acquisitions (M&A) for decades (Reiud, 1968; Steiner, 1975; Jensen and Ruback, 1983; see also Simon, 1964).

The firm is described within the framework of the agency theory as a node of contract between several actors with divergent interests (Coase, 1937). Leaders and shareholders, like other actors, are opportunistic individuals who seek to maximize their respective well-being often to the detriment of each other (Jensen and Meckling, 1976).

According to the theory of efficiency, the effects of synergies are the main objectives of mergers and acquisitions. The theoretical approaches which propose an explanation based on the concept of efficiency, start from the assumption that the managers are rational and that their objective is to maximize the value of the firm. A synergistic effect is defined as an increase in the value of the firm resulting from a more efficient management of the different means of production when two or more companies come together. These synergies materialize in the operating cycle (Goergen and Renneboog, 2004), as well as in the increase of market power, access to new markets and new technologies (Jensen and Ruback, 1983) .

These synergies can be achieved at several levels: financial, managerial and operational. For financial synergies, they result from the lower cost of capital. This decrease can be achieved in different ways. Weston and Chung (1983) argue that the increase in debt capacity following

the M&As allows the new firm to reduce its cost of capital on one hand. On the other hand, the increase in the size of the company gives it better visibility, more credibility with the markets and therefore cheaper financing compared to small businesses. Financial synergies can also translate into risk reduction through diversification, reduced risk of bankruptcy and gains in the funding cycle.

Managerial synergies are mainly linked to the interest of the leaders. The interests of leaders can manifest themselves in several forms, such as empire building strategies (Marris, 1963) and a diversification strategy to protect their human capital (Amihud and Lev, 1981). To this end, Jensen (1986) argues that the abundance of free cash flow available to managers leads to overpaying acquisitions. This process of overinvestment, which is synonymous with increasing the size of society, encourages their rooting (Shleifer and Vishny, 1989).

Managerial synergies can also be realized when the management of one of the M&As companies can take benefit from the management capabilities of the other to improve its performance.

In terms of operational synergies, they derive mainly from economies of scale and economies of scope. They are often cited as the primary motivation of M&As. By undertaking a merger-acquisition transaction, the company can increase its production volume. Thus, its fixed costs will be shared on a larger number of units, enabling it to realize increasing dimensional yields when production increases more than production factors (Meier and Schier, 2003). By reaching the minimum effective size (EMI), companies increase their efficiencies and considerably reduce their costs. In addition, synergies between the different entities will result in economies of scale and economies of scope.

Operational synergies also derive from the rationalization aimed at sharing non-specific resources (Meier and Schier, 2003). In other words, if you have similar resources in both entities, you have to group them together to eliminate the inefficiency and the untapped resources. These can cost the company a lot of money

As part of a related diversification, the acquirer is expanding the range of products and services offered, without diversifying into other unrelated sectors (for example, P & G with razors Of Gillette). This action will provide synergies resulting from major economies. The second type of diversification is unrelated diversification, the objective of which is to enable the acquirer to diversify into other high-growth sectors or industries. This is the principle of conglomerates.

This objective characterizes companies seeking profits in activities that are distinct from their own, either because of the return potential they can generate or because their market of origin is saturated and no longer presents any interesting opportunities but also to reduce risk through diversification.

## **2) The determinants of performance related to the characteristics of the operation :**

In this subsection, we discuss the factors most studied in the literature, related to the characteristics of the operations, which contributed to explain the performance. The main determinants of performance are the means of payment, the relative size of the target, the sectorial proximity, the cross-border character, the cash level and the debt level.

### **a. The cash level :**

The impact of payment method choice on performance is certainly one of the issues that has most interested researchers working on mergers and acquisitions. Numerous theories and numerous models have been developed by researchers, both to explain the choice of payment method but also its impact on performance.

The models of information asymmetry were developed by Hansen (1987) and Fishman (1989) and are based on the work of Myers and Majluf (1984). The informational asymmetry models thus predict a positive reaction of the market to the announcement of a cash offer and a negative reaction to the announcement of an offer in shares.

The empirical tests on the link between the method of payment and post-acquisition performance are mixed. Ghosh (2001), Linn and Switzer (2001), Moeller and Schlingemann (2004) find that cash-financed groupings are associated with a higher improvement than other forms of payment because cash payments are often financed by debt (Ghosh and Jain, 2000). Debt financing encourages managers to work more from fear of corporate bankruptcy and also reduces agency costs of free cash flow by reducing cash flows freely usable by executives (Jensen and Meckling, 1976). Managers who use cash also seek to signal to the market that they anticipate an increase in the value of the firm over the long term.



According to Jensen's Free Cash Flow (FCF) theory (1986), acquiring firms with excessive FCF are more likely to be involved in bad acquisitions, and therefore can lead to a post-acquisition counter-performance by wasting their funds. In negative net present value investments (NPV), particularly in M & A operations (Harford, 1999 and Moeller and Schlingemann, 2004). Carline et al. (2009) find a negative but not significant effect on the long-term performance of purchasers.

On the other hand, the performance is often negative following the announcement of a payment by shares (Travlos, 1987). One of the explanations for this result lies in the expected future performance of the transaction and implicitly in the firm's value. Shleifer and Vishny (2003) explain that buyers tend to use their stocks when they are overvalued, and tend to use cash when they are undervalued or properly valued.

However, the majority of empirical studies do not confirm this association between the cash level and the post-acquisition operational performance of the merged firms (Healy et al., 1992, Sharma and Ho, 2002, Powell and Stark, 2005, Martynova et al., 2007).

#### **b. Sectorial proximity :**

Healy et al.(1992, 1997) and Maquiera et al.(1998) find that productivity gains are stronger when the firms involved in the groupings have similar activities (managerial expertise, economies of scale, Market, etc.). Others researchers also confirm that mergers and acquisitions having the same activity outperform diversification acquisitions and produce significantly higher earnings for Shareholders of the acquiring company. Indeed, the expertise and familiarity of the management team with the industry facilitate productivity gains (Healy, Palepu and Ruback, 1997). On average for this type of consolidation, the excess return on operating cash flow for the five years following the acquisition is 2.7% higher than the industry.

On the other hand, the probability of success for the conglomerates is smaller given the ignorance of the leaders of the new sector of activity. It is for this reason that the M&As giving rise to conglomerates are less well received by the market.

Ghosh (2001) and Kruse et al. (2002) are opposed to what has been cited previously and find that the operational performance of conglomerate acquisitions outperforms the performance of horizontal acquisitions in a way that the conglomerates benefit from an increase in their size and better visibility of more favorable access to capital with a reduction in the risk of bankruptcy.

However, most empirical studies do not find a significant link between sectorial proximity and post-acquisition operational performance (Linn and Switzer, 2001, Sharma and Ho, 2002, Powell and Stark, 2005, Martynova et al. Carline et al., 2009).

### **c. Cross-border character :**

Eun et al. (1996) point out that cross-border acquisitions could generate value for the shareholders of the acquiring companies by conquering new markets and consequently by increasing their market share especially when the managers of the acquiring company are able to take advantage of foreign market imperfections . The empirical test confirms that acquirers obtain monetary gains when they make cross-border acquisitions. Gugler et al. (2003) find that cross-border acquisitions have a significant impact on post-acquisition operational performance.

In addition, international management research (Datta and Puia, 1995; Morisini et al., 1998; Chakrabarti et al., 2009) argues that the cultural distance between the acquiring and target country is likely to affect performance during cross-border acquisitions. Cultural differences can increase the integration problems of the target company and could lead to difficulties in managing the post-acquisition process (Schoenberg, 1999). Moeller and Schlingemann (2004), and Martynova et al. (2007) show that cross-border acquisitions have a lower post-acquisition operational performance than domestic acquisitions.

### **d. Debt level :**

Jensen (1986, 1987), Harris and Raviv (1990) and Stulz (1990) find that debt has a positive impact since it reduces agency phenomenas and increases supervisory power. According to

agency theory, debt plays a disciplinary role in aligning the deviant behavior of leaders. Indeed, Jensen (1986, 1993) and Stulz (1990) show that the regular payment of interest and the repayment of indebtedness make it possible to limit the aberrant practices of the managers.

However, results on the relationship between debt level and operating performance are mixed. Harford (1999), Ghosh and Jain (2000), Kang et al. (2000) confirm the positive relationship between high indebtedness and post-acquisition performance, while Clark and Ofek (1994), Switzer (1996), Linn and Switzer (2001) find no significant relationship between high indebtedness and Post-acquisition operational performance.

### **3) The measures of performance :**

Managing, administering, organizing, piloting, managing an organization are all terms given to a single mission: to carry out the objectives and strategies of a company. However, all these terms have been pooled with one concern: to improve the Performance of the firm.

In the field of organizational management, performance has always been an ambiguous notion. Traditionally, performance equates to achievement and achievement of the organization's goals, to be exceeded. It is a notion polarized on the announced result, but which also conveys a value judgment on the result finally obtained (Positive or negative) and the approach to achieving it. Neighboring notions coexist (efficiency, effectiveness) and overlap sometimes with performance in the writings.

Nowadays, performance can be defined, in its first acceptance, as an encrypted result in a ranking perspective (in relation to oneself - improving one's performance or in relation to others). The evaluation of performance is therefore constructed with reference to a reference system, a scale of measurement. But this definition is not universal. The word actually adopts several possible meanings or definitions depending on the domain in which it is used.

The word performance has become a common word that integrates several facets of our societies, and which even leads us to talk about performance worship (Bessire, 1999). And it is from the late 1970s that the obsession with performance has invaded most organizations, both large and small. The goal is simple for all managers: you have to be efficient.

In general, the technique most frequently used is that of pairing, consisting of the evolution of the operational performance indicators before and after an MA operation. The object of the study is to identify whether, on average, the operations of M&As improve or not the results of the purchaser. The most widely used indicators include turnover, profit or loss, economic rate of return, financial rate of return, changes in sales or market shares, and so on.

The results are edifying: nearly 50% of M&A operations are considered as failures (Meier and Schier, 2003). On average, there is a decline in economic performance after MAs operations or at best a poor performance improvement (Trautwein, 1990).

Performance in the firm can be defined as anything that contributes to improving the value-for-money; An efficient company is therefore, as we have already stated, both efficient and effective. Different indicators allow to measure it in addition to those already mentioned in the previous paragraph: the ROE and the ROI.

ROI (Return on Investment) is a financial indicator that allows you to measure and compare the return on an investment. Generally, return on investment is based on the calculation of the ratio of investment benefits to investment cost. The return on investment is an essential indicator for choosing between several projects and determining which will yield the most money compared to the initial sums invested.

$$\text{ROI} = \frac{\text{(Gain from Investment - Cost of Investment)}}{\text{Cost of Investment}}$$

For the Return on equity (ROE), it measures the return on equity in the balance sheet. This "accounting" ratio therefore measures the return on capital raised by shareholders. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

It is obtained by reporting the shareholders' net income, after deduction of tax, to the funds that the shareholders have invested.

$$\text{Return on Equity} = \text{Net Income/Shareholder's Equity}$$

Thus, academic research in management control considers that the first performance indicator used by a company was the ROI at the US firm General Motors in the 1920s. The ROI was invented by Donaldson Brown, one of historical leaders of GM, as "a final and fundamental measure of industrial performance", in order to build a financial representation of the company. The ROI was actually used as the main indicator of management concealed in a financial modeling that combines both finance and corporate governance (Bouquin, 2005).

Alfred P. Sloan, who was Brown's superior to GM, fully adhered to the ROI by qualifying it as a "meter standard of performance". Sloan and Brown therefore set the basis for a remote control based on forecast information. They therefore created ROI as the first indicator of the financial performance of management control.

The last indicator we are presenting is the Marris ratio, referred to as the Market to Book Ratio, is the inverse of the Book to Equity ratio, which measures the expected return on the equity market (calculated at book value).

If it is greater than 1, the company creates value. The anticipated profitability by the market is greater than the profitability demanded by the capital providers assessed by the WACC - weighted average cost of capital); If it is less than 1, there is a destruction of value.

$$\text{Marris ratio} = \text{Market capitalization} / \text{Equity}$$

The market value or the market capitalization indicates the value of the firm's present and future potentialities, while equity values the value compared to past strategies (accumulated resources previously invested = net book value). The measure is not absolute but relates to a potential for value creation.

## **II. Hypothesis :**

As cited above, the impact of companies' Cash level, level of indebtedness, the crossborder character of the firm and the sectorial proximity on performance measured by ROI, ROE and Marris Ratio has two different views.

Previous studies stated that the cash level, the indebtedness level, the crossborder character and the sectorial proximity affect positively the Performace while others suggested a negative relationship between them.

The hypothesis is developed as follows :

**H1:** The cash level impacts positively the ROI of the acquiring firms.

**H2:** The level of indebtedness impacts positively the ROI of the acquiring firms

**H3:** The crossborder character impacts positively the ROI of the acquiring firms.

**H4:** The sectorial proximity impacts positively the ROI of the acquiring firms.

**H5:** The cash level impacts positively the ROE of the acquiring firms.

**H6:** The level of indebtedness impacts positively the ROE of the acquiring firms

**H7:** The crossborder character impacts positively the ROE of the acquiring firms

**H8:** The sectorial proximity impacts positively the ROE of the acquiring firms.

**H9:** The cash level impacts positively the Marris Ratio of the acquiring firms.

**H10:** The level of indebtedness impacts positively the Marris Ratio of the acquiring firms.

**H11:** The crossborder character impacts positively the Marris Ratio of the acquiring firms

**H12:** The sectorial proximity impacts positively the Marris Ratio of the acquiring firms.

### **III. Methodology :**

This chapter presents the methodology used to collect the data that have enabled us to shed light

on our research problem. The first section describes the research methodology used. The second section describes our dependent and independent variables and their measurements.

### 1) **Data Selection :**

Data collection is a necessary and fundamental step in the success of any empirical study.

Our source of data is the Global Mergers and Acquisitions database of Thompson Reuters-Eikon. This company collects merger and acquisition data using a variety of sources such as financial newspapers, Reuters Textline, the Wall Street Journal, Dow Jones, etc. The database covers over one million deals, including 300,000+ US-target and 700,000+ non-US-target transactions since the 1970s.

Data is collected with regard to deals carried out by International companies with Saudi Arabian companies based in Saudi Arabia from 2010 to 2015. This period is chosen as period of investigation as it provides a long range of years to examine. Often, synergies are not realized instantly and examining 1 year back, and two years afterwards gives a better indication of the post merger performance of the acquisitions. That's why we choosed a total period of 8 years starting from 2009 to 2016including an investigation period of 5 years.

These data include the date of the announcement, the effective date, the name of the acquirer, the name of the target, the country of the acquirer, the country of the target, the RIC codes of the acquirers, the transaction value , the acquirer's attitude (friendly or hostile), the acquirer's sector of activity, the sector of activity of the target, the type of transaction (acquisition, merger or exchange offer) and percentage acquired.

Our initial sample consisted of 214 acquisitions which took place in the period between 01 January 2009 and 31 December 2015. We eliminate from our initial sample :

- Transactions whose status are declared not completed by the Thomson Eikon database subsequent to the announcement of the acquisition
- The transaction with the acquirer's RIC code is not available on our database
- Multiple acquisitions, insofar as the presence of multiple buyers does not make it possible to individualize the performance of each operation and to ensure that the results are not biased by the effect of multiple acquisitions.

We obtain at the end a total sample of 83 companies.

## **2) Dependant variables :**

### **Performance Measurement :**

ROI (Return on Investment) is a financial indicator that allows you to measure and compare the return on an investment. Generally, return on investment is based on the calculation of the ratio of investment benefits to investment cost. The return on investment is an essential indicator for choosing between several projects and determining which will yield the most money compared to the initial sums invested.

academic research in management control considers that the first performance indicator used by a company was the ROI as "a final and fundamental measure of industrial performance", in order to build a financial representation of the company.

Return on equity (ROE), it measures the return on equity in the balance sheet. This "accounting" ratio therefore measures the return on capital raised by shareholders. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. It is obtained by reporting the shareholders' net income, after deduction of tax, to the funds that the shareholders have invested.

Marris ratio : referred to as the Market to Book Ratio, is the inverse of the Book to Equity ratio, which measures the expected return on the equity market (calculated at book value).

If it is greater than 1, the company creates value. The anticipated profitability by the market is greater than the profitability demanded by the capital providers assessed by the WACC - weighted average cost of capital); If it is less than 1, there is a destruction of value.

## **3) Independent variables :**

The sectorial proximity between the acquiring company and the target company (SAMEINDUSTRY). In this study, we created a dummy variable that takes the value 1 when acquiring firms and acquired firms operate in the same industry and 0 otherwise.



The cross-border character (CROSSBORDER). In this study we have created a dummy variable that takes the value 1 when the acquiring firms and the acquired firms are in different countries which means the acquiring firm is not located in Saudi Arabia and 0 if The acquiring company is located in Saudi Arabia.

The level of liquidity (CASH). This variable is retrieved directly from the Thomson Eikon database and allows to have the level of liquidity that each company has at the end of each year during the 8 years of study.

The level of indebtedness (DEBT RATIO ). This variable is measured by the ratio of medium and long-term debt to the total assets of the acquiring firm at the end of the fiscal year.

#### **4) Model structure :**

For this study we estimated 3 models using OXMETRICS 7.

OxMetrics is a family of software packages providing an integrated solution for the econometric analysis of time series, forecasting, financial econometric modelling and statistical analysis of cross-section and panel data.

A panel data (also known as longitudinal data or cross-sectional time series data) regression analysis is applied to show the relationship between dependent and independent variables.

The general Panel regression models can be written as follows:

$$\mathbf{ROI} = \beta_0 + \beta_1 \text{DEBT RATIO} + \beta_2 \text{CASH} + \beta_3 \text{SAMEINDUSTRY} + \beta_4 \text{CROSSBORDER} + \varepsilon$$

$$\mathbf{ROE} = \beta_5 + \beta_6 \text{DEBT RATIO} + \beta_7 \text{CASH} + \beta_8 \text{SAMEINDUSTRY} + \beta_9 \text{CROSSBORDER} + \varepsilon$$

$$\mathbf{MARRIS RATIO} = \beta_{10} + \beta_{11} \text{DEBT RATIO} + \beta_{12} \text{CASH} + \beta_{13} \text{SAMEINDUSTRY} + \beta_{14} \text{CROSSBORDER} + \varepsilon$$

## **IV. Empirical results :**

### **1) Descriptive analysis :**

Table 1 presents the descriptive statistics for each explanatory variable. For each variable, we calculated the mean, standard deviation, maximum and minimum. These descriptive statistics indicate that these takeover transactions are, on average,

Table 1 : Descriptive Statistics

	<b>ROI</b>	<b>ROE</b>	<b>MARRIS RATIO</b>	<b>CASH</b>	<b>DEBT RATIO</b>	<b>SAMEIND USTRY</b>	<b>CROSSBORD ER</b>
<b>Min</b>	<b>-120,1</b>	<b>-156,63</b>	<b>-126,82</b>	<b>0,027</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Max</b>	<b>65,31</b>	<b>72,08</b>	<b>16,5</b>	<b>19167, 828</b>	<b>0,7099</b>	<b>1</b>	<b>1</b>
<b>Mean</b>	<b>4.864 6</b>	<b>6.3120</b>	<b>1.5134</b>	<b>631.19</b>	<b>0.30453</b>	<b>0.77612</b>	<b>0.54229</b>
<b>Standard Deviation</b>	<b>16.38 6</b>	<b>22.041</b>	<b>6.8658</b>	<b>1916.4</b>	<b>0.27462</b>	<b>0.41736</b>	<b>0.49883</b>

The average value of ROI is 4,86 varying between -120,1 and 65,31, which shows that the return on investment is very low in the acquiring firms.

Same remark for the Return on equity which average is 6,31 for values varying between -156,63 and 72,08 revealing a very low level of return on equity.

Furthermore the statistics show that the number of acquiring firms from foreign countries are dominant in our sample (more than 50% ).

Concerning the sectorial proximity, we can see that more than 70% of the companies acquire firms which operate in the same field.

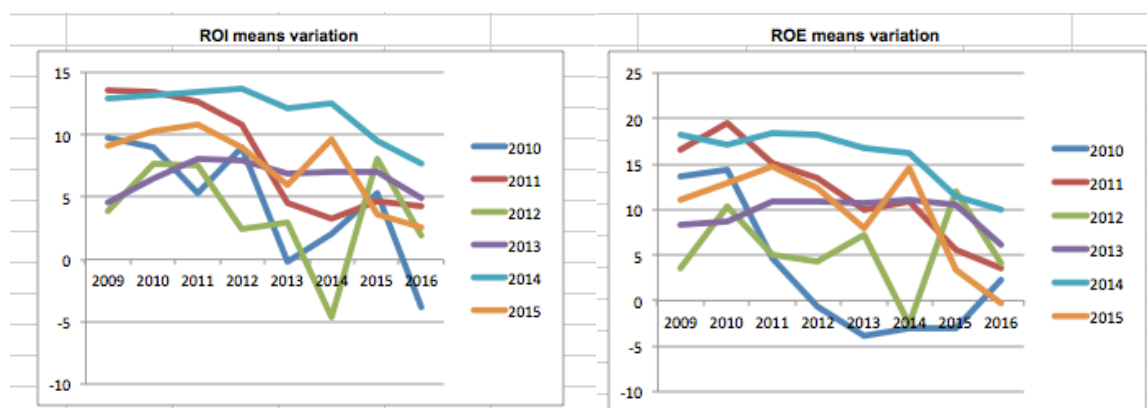
Then, as part of the descriptive analysis of the data, we performed a dynamic cross-matrix on excel to identify the ROI, ROE and Marris RATIO means for the mergers taking place in the same year, and then compare each mean with the corresponding reference years ( 2 years before and 2 up to 5 years after the Merger ).

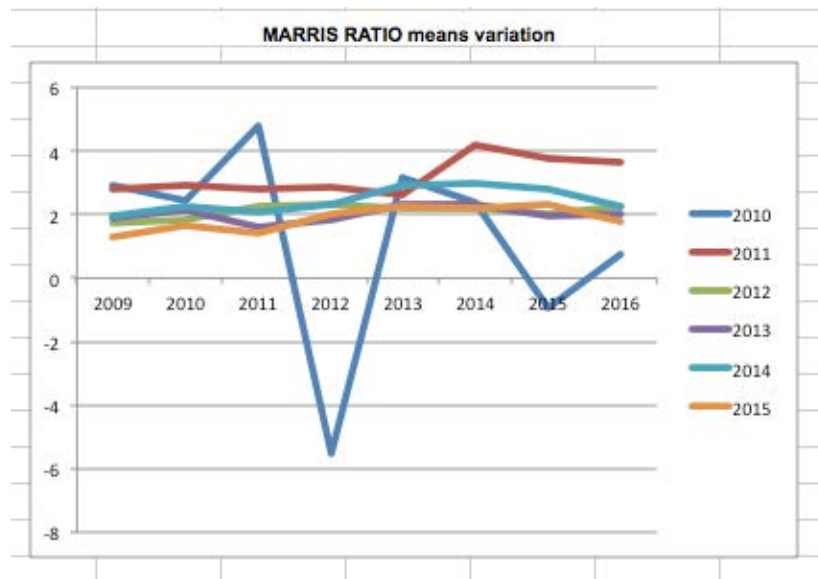
Table 2 : ROI, ROE and MARRIS RATIO means.

		2009	2010	2011	2012	2013	2014	2015	2016
ROI Means	2010	9,70153846	9,02769231	5,30714286	8,94857143	-0,1557143	2,05153846	5,34307692	-3,8341667
	2011	13,5226667	13,424375	12,64625	10,8711765	4,57266667	3,266875	4,67058824	4,20625
	2012	3,874	7,65066667	7,55133333	2,41666667	2,975	-4,6535294	8,11928571	1,92066667
	2013	4,567	6,478	7,998	7,9	6,90363636	7,03454545	7,03111111	4,984
	2014	12,9511765	13,1958824	13,388125	13,6435294	12,1141176	12,4676471	9,519375	7,68833333
	2015	9,1725	10,2725	10,83	9,005	5,945	9,5925	3,64	2,555
ROE Means	2010	13,59	14,3253846	4,58714286	-0,6842857	-3,8707143	-3,0053846	-3,0807692	2,20636364
	2011	16,64375	19,4166667	15,1558824	13,4717647	9,9325	10,8613333	5,53875	3,55
	2012	3,52642857	10,2893333	4,9725	4,235625	7,19588235	-2,5923529	11,9392857	4,03642857
	2013	8,359	8,756	10,875	10,9218182	10,7072727	11,1636364	10,585	6,13363636
	2014	18,280625	17,0594444	18,4825	18,2488235	16,6644444	16,1872222	11,52125	9,99388889
	2015	11,1175	12,8475	14,6475	12,275	7,9275	14,59	3,3475	-0,3033333
MARRIS RATIO Means	2010	2,92285714	2,42625	4,77857143	-15,521429	3,16571429	2,35875	-0,9157143	0,76571429
	2011	2,826	2,906	2,8	2,8525	2,608125	4,21846154	3,74384615	3,635
	2012	1,73285714	1,84153846	2,25125	2,29294118	2,20466667	2,17705882	2,00923077	2,27833333
	2013	1,87857143	2,12166667	1,60285714	1,82428571	2,32375	2,30125	1,94285714	2,005
	2014	1,94615385	2,26538462	2,10214286	2,330625	2,93785714	2,97466667	2,82923077	2,26076923
	2015	1,28	1,65	1,42	2,01	2,265	2,225	2,3175	1,76

We can clearly see that, for all the years of the study (2010,2011, 2012, 2013, 2014 and 2015) and for our 3 performance indicators (ROI, ROE and MARRIS RATIO) the performance falls heavily starting from the date of the M&A's transaction and continues to fall for up to 3 years after and then begin to improve slightly afterwards.

Figure 1 : Graphic presentation of the variation of ROI,ROE and MARRIS RATIO means.





We can say that generally, and by relying on the 3 performance indicators we chose for our research, that the mergers and acquisitions in Saudi Arabia aren't value creators .

## 2) Correlation :

In order to realize the regressions, it is essential to study the correlations between the different variables of the model and to test the problem of multicollinearity. In fact, a major problem that could bias the results of our model lies in the multicollinearity between variables.

Thus, it seems essential to ensure their independence.

Table 3: CORRELATION MATRIX

Correlation matrix:				
	CROSSBORDER	SAMEINDUSTRY	Cash	Debt Ratio
CROSSBORDER	1.0000	0.093501	0.26399	-0.069697
SAMEINDUSTRY	0.093501	1.0000	0.056396	-0.031428
Cash	0.26399	0.056396	1.0000	-0.074181
Debt Ratio	-0.069697	-0.031428	-0.074181	1.0000

According to the correlation matrix there is low correlation between the independent variables of our model. In so far as all the correlation coefficients are less than 0.26 , way far from the limit drawn by Kervin (1992).

Due to the complexity of the panel data regressions, we normally estimate two regressions, one with fixed effects method and the other with random effects method then we compare the two

methods using Hausman test. But in our case, we introduced 2 dummy variables in our regression. In this case the fixed effect method will not be appropriate and we will use from the start the random effect method named GLS (using within/ between) in the model PCGIVE of OxMETRICS software.

**Table 4 : Results of the regression with ROI as a dependant variable.**

ROI	Coefficient	Std.error	t-value	t-prob
SAMEINDUSTRY	-3,524	2,588	-1,36	0,174
CROSSBORDER	-2,81	2,193	-1,28	0,201
Cash	0,0012	0,0004	2,83	0,005
Debt Ratio	-19,85	3,95	-5,02	0,000
Constant	15,04	2,72	5,52	0,000
R2	9,31			

Table 4 shows the results of the regression analysis for the hypothesized relationship between the operation's characteristics and the Return on investment.

The p value is significant at the 10, 5 and 1 per cent level respectively for the Cash and Debt ratio . We can say that Debt ratio impacts strongly the return on investment (-19,85), the more the firm is indebted the less it is its ROI. This result is not consistent with the assumption that debt has a positive impact on performance since it reduces agency costs and increases management control.

The cash level, which coefficient is near to zero, even with a significant p-value, doesn't impact much the ROI.

The Sameindustry and crossborder characteristics have a negative impact on ROI but with non significant p-value.

To sum up, for the hypothesis relative to ROI performance , we can say that only Cash level impacts positively the ROI and the debt ratio impacts negatively the ROI.

**Table 5 : Results of the regression with ROE as a dependant variable.**

ROE	Coefficient	Std.error	t-value	t-prob
SAMEINDUSTRY	-4,97	3,86	-1,29	0,09
CROSSBORDER	-2,77	3,28	-0,846	0,398
Cash	0,0017	0,0006	2,59	0,010
Debt Ratio	-35,28	6,086	-5,80	0,000
Constant	21,65	4,089	5,30	0,000

R2	10,86
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Table 5 shows the results of the regression analysis for the hypothesized relationship between the operation's characteristics and the Return on equity.

The p-value is significant at the 5 and 10 per cent level for the Cash and at the 1, 5 and 10 per cent debt ratio. We can say that Debt ratio impacts strongly the return on investment by -35,28. Increased debt increases the leverage factor in a company. During normal or boom times, leverage results in exponential profit returns. During recessions, leverage can result in exponential losses, as well which is the case in our study.

The cash level, which coefficient is near to zero, even with a significant p-value, doesn't affect much the ROE.

The sameindustry characteristic affects negatively the return on equity by -4,97 at a level of 10 per cent.

To sum up, for the hypothesis relative to ROE performance, we can say that only Cash level impacts positively the ROE and the debt ratio impacts negatively the ROI as well as the sectorial proximity.

**Table 6 : Results of the regression with Marris Ratio as a dependant variable.**

Marris Ratio	Coefficient	Std.error	t-value	t-prob
SAMEINDUSTRY	-0,19	0,7231	-0,264	0,792
CROSSBORDER	-0,82	0,625	-1,32	0,187
Cash	0,00037	0,00016	2,30	0,022
Debt Ratio	-1,506	1,305	-1,15	0,249
Constant	2,416	0,784	3,08	0,002
R2	2,63			

Table 6 shows the results of the regression analysis for the hypothesized relationship between the operation's characteristics and the Marris Ratio.

The p-value is significant only for the cash at a level of 5 per cent, but with a very negligible coefficient (0,00004).

All the other independent variables (SAMEINDUSTRY, CROSSBORDER, and Debt Ratio) have a negative coefficient respectively (-0,19 ; -0,82 ; -1,506) but with p-value > 0,10 . Which means they don't have significant impact on performance.

To sum up, for the hypothesis relative to Marris Ratio performance, we can say that only Cash level impacts positively the Marris Ratio. For the other variables, they don't have significant impact on Marris ratio.

## **Conclusion :**

Mergers and acquisitions are an important area of research in finance. The actual performance of these operations always raises so many questions. Currently, with the renewed growth of these operations, the evaluation of their impacts remains all the more essential. Much research has been done to determine whether M & As are profitable. In the short term, a consensus tends to recognize their positive effect for the shareholders of the target, while they are not significant

for the shareholders of the acquirer. In the long term, the different methodologies used do not allow us to decide on the performance of mergers and acquisitions.

In our paper, we focused on the impact of the characteristics of the transaction on the corporate financial performance of mergers and acquisitions, that is Return on investment, return on equity and Marris Ratio, using data on the deals occurred during the period 2010-2015 in Saudi Arabia. Panel data and exactly random effect method are applied to carry out empirical analysis. In this paper, we examine whether specific merger characteristics impact the M&A's performance. The results show that the performance is negatively influenced mainly by the level of debt and slightly by the sectorial proximity concerning the return on equity. The cash level has a very slight positive impact tending to zero. On the other hand, other explanatory factors do not have a significant effect on performance for the acquiring firm.

Beyond the measurement of performance and its determinants, the motivations behind the development of mergers and acquisitions are also essential; They can effectively influence their long-term success. One of the main motivations noted in the literature is the personal interest of managers. Thus, the study of these engines is also likely to bring some clarification on the paradox of the blossoming of mergers and acquisitions despite their mixed results.

In future research, it would be interesting to take into account some reflections. First, it will be of interest to extend this analysis to other emerging countries in order to have a benchmark.

Secondly, new business and sector specific variables should be added, including the ownership structure of firm's capital and the environment in which firms operate, and other characteristics of the operation such as the friendly or hostile nature of the operation and the geographic proximity.

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