Administrative And Financial Sciences Review
Volume: 06/ N°: 02 (2022), P: 320-338

The Impact of Acquisition on the Financial Performance of Energy Companies: ARAMCO's acquisition of SABIC – Event Study.

ZAIDI Sania [1*], MERZOUGUI Merzougui [2]
[1] University of Eloued, (Algeria), zaidi-sania@univ-eloued.dz
2 University of Eloued, (Algeria), merzougui.univ@gmail.com

Received:13/11/2022 ***Accepted:***12/12/2022 ***Published:***31/12/2022

Abstract:
The current study aims to identify the impact of acquisition on the market value of the acquirer company, ARAMCO. The first objective of the study is to point out the impact of acquisition on the company's stock prices; while the second objective is to estimate the company's financial performance before and after the acquisition, which leads to determine the changes in the company's financial health due to its acquisition. An event study has been carried out on ARAMCO's stock returns by estimating the abnormal return for 40-day window The hypotheses will be tested using the (Paired Sample t-test), Following the event study, a financial analysis has been conducted to examine the company's financial performance before and after its acquisition from 2017 to 2021. Profitability and leverage ratios have been measured as well as comparing the company's Return on Average Capital Employed with its Weighted Average Cost of Capital to determine the company's value creation. The study showed a significant impact of the acquisition on the market value of ARAMCO, in addition to improvement in the company's profitability after the acquisition; nevertheless, the company had a higher rate of Return on Average Capital Employed in the year following to its acquisition.

Keywords: Acquisitions; Event study; Financial analysis; market value; ARAMCO.
JEL Classification : G13 ; I21 ; M19.

[*] ***Corresponding author.***

Introduction

In general, all companies aim is to grow and survive in the future. This is absolutely true since the attractiveness of a company is directly connected with its growth level. according to (Fridson & Alvarez , 2011, p. 62) .growth can be done on two bases: internal and external mean. The internal growth depends on the company's ability to generate more sales and creating more profits through its own operational activities. On the other hand, external growth consists of the company's non-operational activities such as: mergers, acquisition in an attempt to increase shareholder's wealth.

In the last few decades, mergers and acquisitions are gaining more attention by companies since it helps them increasing their rate of growth, size and market share. The common objective of all companies is improving their outcomes and shareholder's wealth. For this reason, mergers, acquisitions may occur in order to achieve more growth and control the market by gaining a competitive advantage against peers. But making the decision of merging with or acquiring another company is not as simple as it sounds. Management and decision makers should be aware of the consequences of M&A, while the success of M&A is uncertain and could lead to failure if it is not well-planned. It is important for the company to know whether these managerial actions would contribute to the company's market value and shareholder's wealth.

according to (Atrill & Mclaney, 2012, p. 419), growing and creating value is only possible when the company's new customers, projects, or mergers and acquisitions generate higher Return on Invested Capital (ROIC) than the needed cost of capital. Nevertheless, increasing shareholder's wealth depends on a well-selected strategy as well.
The importance of the given topic leans on the direct relationship between the value of shareholders and investment decision. As the company's value relies on its capability to obtain net cash and returns greater than the cost of its capital in the new investment, irrespective how famous the company is, or how admired its products are (Robert & Nell Minow, 2008, p. 43). Therefore, the management of the company should always have insights on how its objectives are being achieved, its earnings of the operating and financial activities, and the future of the company's financial position.

The core topic of the study is ARAMCO's acquisition of SABIC. this research is separated into two parts: the first one is theoretical, which discusses the importance of acquisitions in terms of the company's market value and shareholder's wealth; while the second part will include an event study on ARAMCO's acquisition of SABIC regarding the market reaction to the acquisition. Following there will be a financial analysis of ARAMCO's performance by using certain Key Performance Indicators (KPIs). The analysis has been conducted from year 2017 to 2021, thus examining the performance of the company before and after acquisition.

I.1Study Problem

The study mainly focuses on answering the following question: *What is the impact of the acquisition on the share price and operational financial performance of the acquiring company ARAMCO's?*

I.2 Hypotheses of the Study

In order to reach the objectives of the study, the following hypotheses have been developed:

H01: The shareholders of the acquiring company achieve an abnormal return positive during and before the announcement of the acquisition.

H02: The shareholders of the acquired company achieve an abnormal return zero accrual return neither positive nor negative after the announcement of the acquisition.

H03: The operational performance of the acquiring company improves after the announcement period using financial indicators.

The current study focuses on the external means of growth, acquisitions in specific, due to its importance in the accounting and financial areas.

I.3 Previous studies:

(Mei & Sun , 2007) have conducted an event study on U.S. Forest to determine the impact of the announcement on stock returns by estimating the abnormal returns and cumulative abnormal returns.

(Petersen & Mosegaard , 2015) have conducted a financial analysis on B&O's annual financial reports in order to estimate how the company has performed before and after its acquisition, thus determining the impact of B&O's acquisition on its own value.

(Al Hayek , 2018) has conducted research on Irbid Electricity to examine the impact of acquisitions on the income statement and whether it leads to generate more sales and earnings per share. Meanwhile (Mei & Sun , 2007) and (Al Hayek , 2018) agree on the fact that acquisitions have a significant impact on the company's value and companies can achieve more growth and generate more value to their shareholders through acquisitions, despite the different methods and data sources used in conducting the research. (Petersen & Mosegaard , 2015) stated that B&O has actually poor performance caused by the crisis and its acquisition had no Signiant impact on its performance.

I. THEORETICAL FRAMEWORK OF THE STUDY

The theoretical side of the study is concerned with the literature of Acquisitions, her Motives and Approaches to measure her efficiency.

II.1 What is an Acquisition?

Acquisitions are mainly defined, according to (Coyle , 2000, pp. 2-4), as the consolidation of two or more organizations together, they join their all or part of their operations. The main aspects that change when acquisition takes place are:

- The relative size of the individual companies in the business combination
- Ownership of the combined business
- Management control of the combined business.

Acquisitions takes place when one company acquires another one by controlling either interest in the company's stocks or business operations and its assets. the shareholders of the acquired company exchange their stocks for stocks in the acquiring company. The act of acquisition is usually paid mostly or entirely in cash.

Acquisition is one of the most critical aspects in the accounting and financial areas. In the modern economics, companies making the decision of acquiring another company in order to strengthen their position in the market. Nevertheless, acquisitions push the development wheel forward since they contribute to the economic growth and create more opportunities to develop the areas of information and technology in addition to helping companies to survive and maintain a strong position in the marketplace (Al Hayek , 2018, p. 176) .

II.2Motives for Acquisitions:

There are a lot of different motives that motivate companies to acquire another company (Patel , 2022) (Corporate finance institute , 2022), such as:

1) **Value creation:** companies seek to generate more revenues and, eventually, increase the wealth of their shareholders. Therefore, two companies might undertake a merge in order to create higher synergy than the sum of the synergy of two individual companies.
2) **Acquire new technology:** companies may merge with or acquire another company which give them new technologies and expertise.
3) **Diversification:** it happens that companies might need to expand their business by penetrating a new market. Therefore, they may undertake acquisition to diversify their operations and offering new products or services.
4) **Incentives for managers**: the decision of acquisition is taken by managers as they are willing to build the biggest company in the industry in terms of size. The larger the company is, the more costs it would save and the more competitive advantages it would get.

II.3 Approaches to measure the efficiency of acquisitions:

According to (Malik , 2014, pp. 523-526), scholars use many different approaches to estimate the effectiveness of acquisitions, these methods are:

- **Event studies:** this approach in not like any other approach that uses monthly or annual information, rather it uses daily returns to estimate the normal return before the event. After estimating the normal return, the event study continues to measure the cumulative abnormal return only for the study window.
- **Accounting returns:** these studies focus on analyzing the accounting performance of the joint entity. Return on assets and return on equity are measured for two to three years before the acquisition.
- **Economic value added (EVA):** this method aims to measure the financial performance of the company by deducting cost of capital from operating profits. It is widely used to estimate actual versus expected acquisition performance.
- **Residual income approach:** this approach focuses on determining the true fundamental valuation of an acquisition which accounting returns and event study fail to determine. It is similar to EVA, as it aims to estimate the fundamental value of acquirers.
- **Data envelopment analysis (DEA):** it is a linear programming technique more common in operations research for comparing the relative efficiency of decision-making units. The efficiency of each unit is measured in terms of a ratio of output to input variables.
- **Questionnaire method:** this method is used when the objective methods of assessing performance are not obtained, as accounting and market measures are affected by external variables. It is directed to managers of the acquiring company or external experts such as stock market forecaster or analysts.
- **Innovative performance:** it is used to measure the impact of acquisition on novelty or modernism as measured by the patenting frequency of the acquiring firm.
- **Case study approach:** it is used in order to figure out the factors that

(Alexander, 2018, p. 137) agrees that companies always seek to generate more value for its shareholders. But it is crucial to know that value creation is driven by some value indicators which are included in the business's processes and activities. The main drivers of shareholder's value are described as follows:

1. Revenue/sales growth
2. Relative pricing strength
3. Operating effectiveness
4. Capital effectiveness
5. Cost of capital
6. The intangibles

The management of the company should consider the identified drivers to be able to build and sustain its shareholder's value. It is remarkable to know that the importance of these six drivers is different from business to another, likewise, it might vary for the same business over time.

(Reddy, Nangia , & Agrawal , 2012, pp. 1-6) believes that, estimating the impact of acquisition on the company's value can be measured in two distinct ways. First method is, scholars conduct an event study on the company's stock price behavior of the acquirer company around the announcement date of the merger or acquisition. Second method is, developing a financial ratio analysis on the company's accounting information in order to examine the difference in the company's performance prior and post its acquisition. Some of these analyses are: T-Statistic, correlation and regression.

According to (Grant, 2016, pp. 35-40), 'McKinsey & company' argues that there are three indicators for company's value: Return on Capital Employed (ROCE), Weighted Average Cost of Capital (WACC), and growth of operating profits. So, if a company wants to increase its value it should increase its ROCE as well as the rate of growth of profits while decreasing its WACC.

Thus, increasing shareholder's value of a company is driven by growing the company's revenue and improving profitability as well. Moreover, shareholder's value increases when the mergers or acquisitions are contributing to the company's profitability.

Last but not least, the value of shareholders refers to the cash generated by the company. Therefore, companies should make more cash in the future to increase its shareholder's value. The created value is the difference between generated cash and the cost of the investment, indicating that if a company wants to generate value to its shareholders, it has to generate more cash flows than its cost of capital (Koller , Goedhart, & Wessels , 2015, p. 17).

Therefore, growth is one of the decisions a company, sooner or later, might make. Hence, the management of the company should be prepared to take the risks associated with growth decision, they might incur the company loss, damage, or even some unwanted outcome to the decision makers. (Mankiw , Taylor, & Ashwin , 2019, pp. 46-48).

III. THE PRACTICAL SIDE OF THE STUDY

The applied study reviews the Methodology of the study, then the statistical treatment of the data, then the analysis and discussion of the results in light of the hypotheses put forward. But before that, it is necessary to introduce the acquiring company ARAMCO

III.1 ARAMCO AND ITS ACQUISITION OF SABIC:

ARAMCO is a Saudi Arabian public petroleum and natural gas company. It was founded in Dhahran in 1933 as it was firstly named CASOC, which stands for California Arabian Standard Oil Company. later in 1944 CASOC renamed the Arabian American Oil Company ARAMCO. ARAMCO is one of the largest integrated energy and chemicals companies in the world. Aramco's operations include exploration, production, refining, chemicals, distribution and marketing. The company's operating segments also include upstream and downstream. ARAMCO's vision is to be the world's preeminent integrated energy and chemicals company, operating in safe, sustainable and reliable manner. It is worth mentioning that ARAMCO was listed in the Saudi's stock market on December 11th 2019 (www.Saudiexchange.sa, 2020) .

According to (ARAMCO annual reports, 2020) on June 16th 2020, Aramco completed its acquisition of a 70% equity interest in SABIC with purchase price of 69.1$ billion paid in cash, this acquisition is considered as the biggest in ARAMOC's history.

The acquisition of the equity interest in SABIC is consistent with Saudi Aramco's long-term Downstream strategy to grow its integrated refining and petrochemicals capacity and create value from integration across the hydrocarbon value chain. The completion of its transaction enhances ARAMCO's presence in the global petrochemicals industry, a sector expected to record rapid growth in oil demand in the years ahead.

Aramco's majority stake in SABIC and its strong petrochemical portfolio present opportunities to create more sustainable low carbon materials.

III.2 METHODS AND MATERIALS:

In the current study, has been used the data has been collected from ARAMCO's annual reports from year 2017 to 2021. Event study and past performance of the company have been conducted in order to reach the research objective. Regarding the event study, a 40-day window study has been performed on ARAMCO's stock return, 20 days prior to the acquisition and 20 days after it, with estimating its Abnormal returns. The used data in the event study, regarding the company's stock prices and returns, was collected from (investing.com Saudi Aramco Historical Price Data (2222), 2020). the data used collected for the company's stock prices for 40 days. The collected data would be analyzed to reach the objectives of the research. Following the event study, past performance has been also measured in order to examine the company's profitability and ability to generate value to its shareholders after the acquisition. The used data in the financial analysis was collected from ARAMCO's annual reports. Both financial and theoretical data were used in order to measure the performance of the company as well as justifying the received information after the analysis. The main source of data were Balance sheet and Income statement since they provide the most important numerical data needed to complete the analysis. Different Key Performance Indicators (KPIs) have been measured. In terms of profitability, Return on Assets, Return on Equity and Return on Sales were estimated; while the used leverage ratios were, Debt-To-Equity and Debt-To-Capital ratios were estimated; moreover, Return on Average Capital Employed has been compared to the company's Weighted Average Cost of Capital to determine its ability to increase its shareholder's wealth. The main assumption of the comparison is that the level of WACC is fixed for all years to enable the comparability between ROACE and WACC. Since the used approach in the current study is comparing the current performance and the past performance of the company, tabular method will be used to reflect the analytical information in the case of data preparation for analysis and processing the analysis results. Analytical data will be descried in tables and figures to demonstrate the received results. In order to measure and interpret the received values, E-Views and Excel formulas have been used to get precise results. As well as, Excel has been used in order to create the diagrams used for the interpretation.

II. DATA ANNALYSES AND HYPOTHESES TEST

1. Event study:

An event study is an analysis carried out in order to determine the significance of a certain event or action on the company's security, such as stocks. Event study illustrates how a security might react to that specific event. Which means determining the influence or impact of that event on the value of the security, the event is acquisition for instance (Song, Kueh, Abdul Rahman , & Chu , 2011, p. 221). The authors also stated that, conducting an event study relies on examining the price of stock for a range from few days to few months before and after the announcement. Hence, the event window of the current study would be 40-day window.

1.1. Stock prices

The below figure shows the impact of the announcement of acquiring SABIC on the stock price of ARAMCO.

Figure (1): Stock prices 20 days before the acquisition and 20 days after.

The source: (www.Saudiexchange.sa, 2020).

The price of its stock until June 17th, the date of the announcement, was decreasing to 26,69$, while on June 18th, the day following to the announcement, had a sharp increase to 30,10$. This indicates a positive impact of this acquisition on the stock price of ARAMCO, as the date of the announcement was like a turning point from declining trend line to increasing values in ARAMCO's stock prices.

1.2. Abnormal Return and Cumulative Abnormal Return:

The below table 1 and figures 2 and 3, demonstrate the results of the event study. A 40-day event study, 20 days prior to the acquisition and 20 days after, has been conducted in order to determine the impact of the acquisition announcement on the company's stock return. The figures 2 and 3 show graphically the trend lines of the values of Abnormal Return and Cumulated Abnormal Return to each day of the event window. Following the figures, table 1 includes a day-by-day value of the Abnormal Return, Cumulative Abnormal Return and T-Statistic of the event window. The abnormal return of the company is actual less expected return on the share company over the period of the stud, as in the following formula (Perepeczo, 2007, pp. 109,112) :

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

Where:

AR_{it}: abnormal return for the company over the period t;

R_{it}: return for the company over the period t;

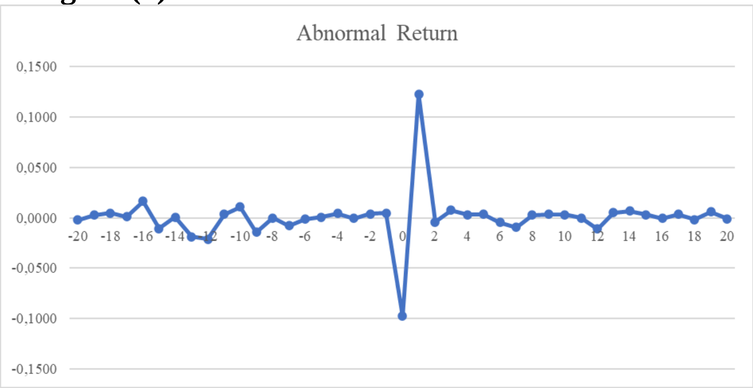
$E(R_{it})$: expected normal return for the company over the period t;

t: is the period of the event study window.

$$E(R_{it}) = R_{Mt}$$

Where: R_{Mt} : return on the market index over period t./ (TASI)

Figure (2): Abnormal Return of the event window.



The source: output Excel

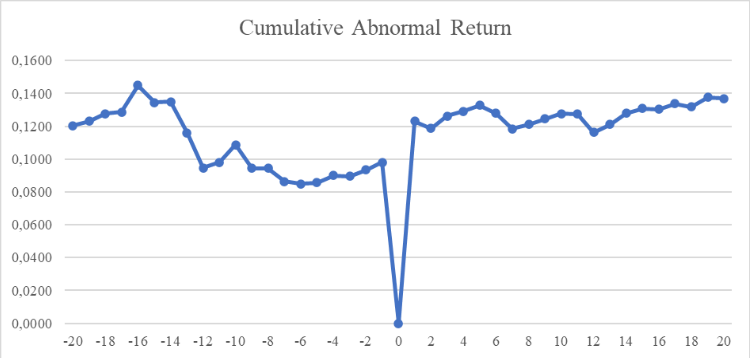
The above chart clarifies the fluctuations in the value of Abnormal Return before the acquisition, as it was going between negative and positive values. Even though the value of Abnormal Return was negative and at its lowest on the day of the announcement which is considered as period 0, on the day right next to the announcement, this value had a remarkable increase and turned to positive. Post to the acquisition on day 2, the value of the abnormal return declined again but the value had more stability as it was before the acquisition. According to (Petersen & Mosegaard , 2015, p. 109), Acquisition create value for shareholders when the combined transaction has a positive abnormal return.

Cumulative abnormal return is measured as the sum of daily returns over the event window. Cumulative abnormal returns for the company over the period is calculated as follows (Perepeczo, 2007, p. 109) :

$$CAR_{iT} = \sum_{t=1}^{T} AR_{it}$$

Where: CAR_{it}: cumulative abnormal return for the company over the period; T: observation period, time period measured in days; AR_{it}: abnormal return.

Figure (3): Cumulative Abnormal Return of the event window.



The source: output E-Views and Excel

Regarding figure 3, it shows the Cumulative Abnormal Return of the event widow. It shows a declining trend line until the day of the acquisition as this value was 0 on the day of the announcement. However, the value started increasing on day 1 as this value recovered and started increasing again.

The above figures, 1, 2 and 3, illustrate the significance of the announcement since stock returns, abnormal returns and cumulative abnormal returns were declining before the day of the acquisition then three of them had crucial increase from the first day after the announcement. Which indicates the critical reaction of the market in terms of acquiring SABIC.

Table (1): Estimating 40-day period Abnormal Return and T-Statistic of the event window.

Period	Stock R	Values of Abnormal R	Cumulative Abnormal R	T-Statistic
-20	0.002	-0.0023	0.1203	-0.23768
-19	0.002	0.0028	0.1231	0.28831
-18	0.018	0.0045	0.1276	0.45504
-17	0.012	0.0010	0.1286	0.09989
-16	0.031	0.0164	0.1450	1.66071
-15	-0.011	-0.0107	0.1344	-1.08021
-14	0.000	0.0005	0.1349	0.05045
-13	0.000	-0.0189	0.1159	-1.91689
-12	-0.013	-0.0213	0.0946	-2.15980
-11	0.002	0.0033	0.0979	0.33780
-10	0.003	0.0109	0.1088	1.10224
-9	-0.017	-0.0145	0.0943	-1.47020
-8	0.006	0.0000	0.0943	-0.00074
-7	-0.005	-0.0080	0.0863	-0.80924
-6	0.001	-0.0014	0.0849	-0.14470
-5	0.000	0.0007	0.0856	0.07149
-4	0.002	0.0044	0.0899	0.44266
-3	-0.003	-0.0005	0.0894	-0.05104
-2	0.000	0.0039	0.0934	0.39586
-1	0.009	0.0046	0.0979	0.46293
0	-0.098	-0.0979	0.0000	-9.91592
+1	0.128	0.1230	0.1230	12.45492
+2	-0.006	-0.0043	0.1187	-0.43522
+3	-0.003	0.0074	0.1261	0.75252
+4	0.003	0.0030	0.1291	0.30303
+5	-0.003	0.0036	0.1327	0.36181
+6	-0.003	-0.0047	0.1280	-0.47458
+7	-0.003	-0.0095	0.1185	-0.96422
+8	0.001	0.0025	0.1210	0.25423
+9	-0.004	0.0035	0.1245	0.35755
+10	0.006	0.0032	0.1277	0.32620
+11	0.006	-0.0003	0.1275	-0.02664
+12	-0.003	-0.0113	0.1162	-1.14172
+13	0.005	0.0050	0.1212	0.50730
+14	0.007	0.0068	0.1280	0.68450
+15	0.002	0.0029	0.1309	0.29671
+16	0.001	-0.0007	0.1302	-0.06934
+17	0.005	0.0035	0.1337	0.35233
+18	-0.005	-0.0018	0.1319	-0.18629
+19	0.002	0.0058	0.1377	0.59193
+20	0.003	-0.0008	0.1369	-0.08070
Average CAR			1.43%	

The source: output E-Views and Excel

In order to analyze the Abnormal Return, the case study assumes that June 17th, the day of the announcement, is period 0. Consequently, estimating the impact of the acquisition on ARAMCO's stock price. The cumulative Abnormal Return for the 40-day window shows a value of 1.43%. According to (King, Dalton, Daily , & Covin , 2004, pp. 188-190) (Song, Kueh, Abdul Rahman , & Chu , 2011), a positive value of the cumulative abnormal return indicates a positive reaction of the market value of the company. While the number of this value indicates the significance of the M&A. In case of ARAMCO, the value of cumulative Abnormal Return was 1.43%, which reflects a relatively good relationship between the acquisition and the market value of the stock price. Furthermore, the value of T-Statistic shows positive values after the acquisition which indicates a positive impact of the acquisition announcement on the stock prices.

Expected return on the shares of company i over period t is estimated with the following equation (Perepeczo, 2007, p. 113):

$$E(R_{it}) = \alpha_i + \beta i\, R_{M_t}$$

Where: α_i: intercept coefficient for the market model; β_i: risk coefficient for share i.

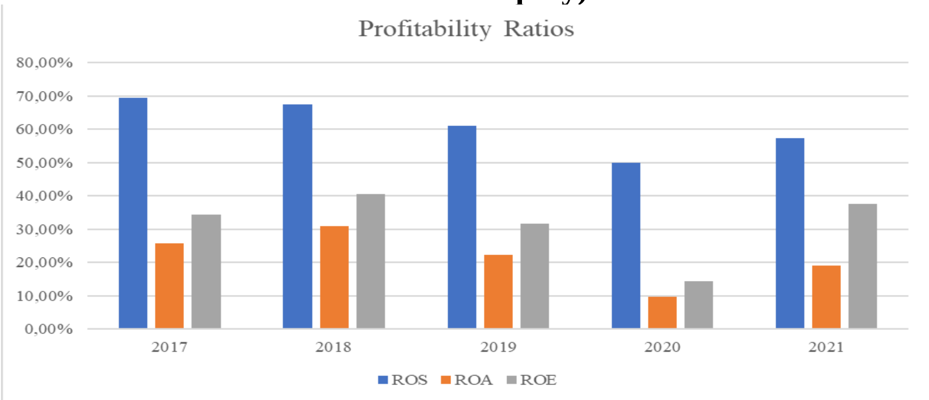
Moreover, the calculated intercept showed a value of 0.00057 and the slope value was 0.87797. Since the values of the intercept and slope are positive, this indicates a positive relationship between these two variables, the acquisition and the stock prices. In addition to estimating the value of R^2 which shows a high percentage 78.26% indicating a strong relationship between the announcement and stock returns. It is worth mentioning that intercept, slope and R^2 were measured using Excel formulas to get more reliable values.

II. Performance in terms of financial ratios:

2.1. Profitability Ratios:

In order to estimate the impact of the acquisition on ARAMCO's performance, a comparison was conducted on its pre- and post-acquisition performance from year 2017 (ARAMCO annual reports, 2018) to 2021. The ratios, Return On Assets (ROA), Return On Sales (ROS), Return On Equity (ROE), Return On Average Capital Employed (ROACE), indicate the profitability of the company. In order to estimate the company's risk assessment, Debt-to-Equity and Debt-to-Capital ratios were measured to reveal the risks that shareholders are taking to invest in ARAMCO.

Figure (4): profitability Ratios (Return On Sales, Return On Assets and Return on Equity).



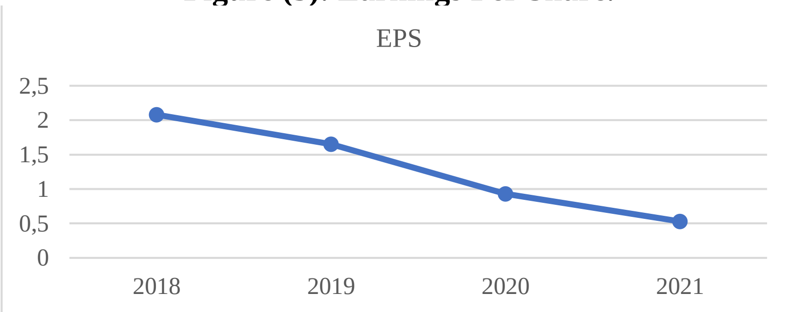
The source: ARAMCO annual reports, 2017-2021.

The above chart shows a decreasing value of those three ratios, which determines that the company is not using its sales, assets and equity as efficiently as the way it did previously to generate profits regarding those three years prior to its acquisition. While in 2021, one-year post to its acquisition, the values started to recover. Which indicates that the company started using its sales, assets and equity efficiently to generate more profits. In terms of Return on Assets and Return On Equity, the company was able to almost double this ratio in 2021 as it was in 2020. As in 2020 the value of ROA was 9.60% and ROE was 14.35%, while in 2021 they increased to 19.07% and 37.45% respectively. In year 2020, the company had the lowest values due to its low income caused by its SABIC acquisition. As well as, the company reported that if the acquirement of SABIC had happened on January 1, 2020, it would have contributed to ARAMCO's revenues by SAR 809,204 and net loss by SAR 179,168. Instead, SABIC contributed revenues of SAR 64,659 and net loss of SAR 2,426 to Saudi Aramco for the period from June 16, 2020 to December 31, 2020.

2.2. Earnings Per Share (EPS):

The decrease in the company's profit had also an effect on its Earnings Per Share (EPS). The below figure shows how this value was also decreasing across the years from 2018 to 2021.

Figure (5): Earnings Per Share.



The source: ARAMCO annual reports, 2018-2021.

The chart demonstrates a declining trend line in terms of EPS due to the company's low profits after its SABIC's acquisition. As the company reported that it had lower net income due to its higher borrowings in order to complete the acquisition. ARAMCO is paying the purchase price over several installments pursuant to a seller loan provided by PIF, which justifies the lower net income that ARAMCO has.

2.3. Financial Leverage Ratios (Debt-to-Equity ratio and Debt-to-Capital ratio):

when a company makes a decision to borrow money from external sources, it has to pay that money back in addition to a series of interest payments. So, shareholders value is affected by good investment decisions and profitable operations (Brealey, Myers, & Marcus , 2012). Therefore, companies take the measures of financial leverage into account as they determine the risk that a company has taken from borrowing money. The below table illustrates the changes in the company's long- and short-term borrowing after SABIC acquisition.

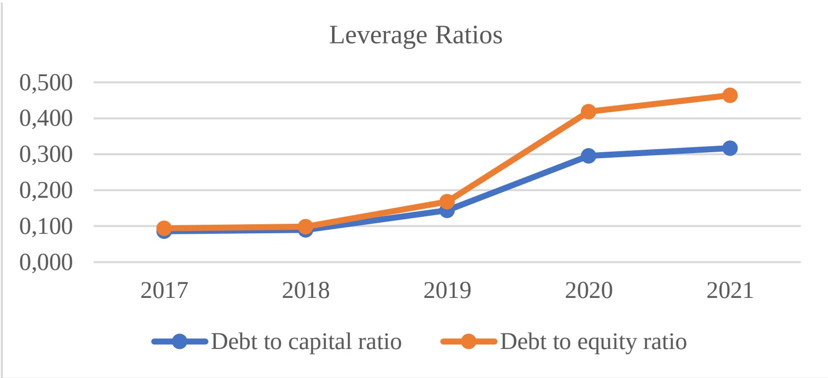
Table (2): Estimating leverage ratios (Debt to Capital, Debt to Equity).

leverage ratios	2017	2018	2019	2020	2021
Short-term debt	2,375	7,997	6,639	26,442	19,880
Long-term debt	18,318	19,021	40,184	116,512	116,366
Total debt	20,693	27,018	46,823	142,954	136,246
Total equity	220,350	274,249	278,996	341,512	293,625
Total Liabilities	73,664	84,729	119,438	216,845	235,206
Debt to capital ratio	0.086	0.090	0.144	0.295	0.317
Debt to equity ratio	0.094	0.099	0.168	0.419	0.464

The source: ARAMCO annual reports, 2017-2021.

In terms of short-term borrowings, they increased from 6,639$ in 2019 to 26,442$ in 2020. Nevertheless, long-term borrowings had high increase between 2019 and 2020, as they went from 40,184$ to 116,512$. Therefore, debt-to-capital ratio and debt-to-equity ratio increased after the acquisition in 2020. Which indicates that the company started using more of its borrowings to run its operation. Regarding the values of these two ratios, it is clear that ARAMCO is using more equity as borrowings to run its own operations. Generally, ARAMCO has been able to cover its debts only by its equity even after its acquisition. However, since the company's debt-to-equity and debt-to-capital ratios are increasing, that means the company is taking more risks by using more and more borrowings to run its operations. It is worth mentioning that all companies use a combination of both debt and equity to finance their operations (Corporate finance institute (2015 - 2020): Leverage ratios,, 2020). But, increasing value of these ratios across the years, means the company is taking more risks. Nevertheless, the suitable debt-to-capital ratio for a company can be decided based on its operations and the industry in which it operates. The below figure illustrates how Debt-to-Capital and Debt-to-Equity ratios have been increasing after the acquisition, indicating the higher risks ARAMCO is taking due to its acquisition.

Figure (6): Debt-to-Equity and Debt-to-Capital Ratios.

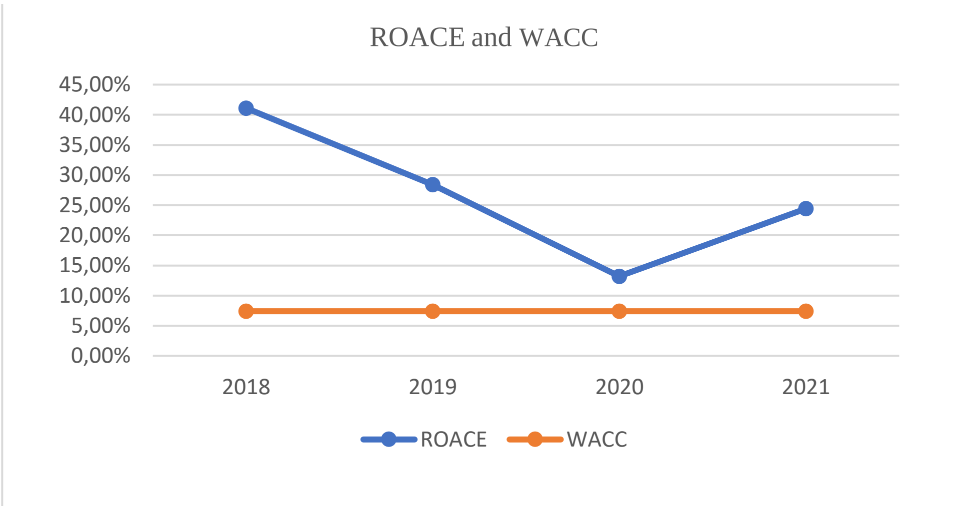


The source: ARAMCO annual reports, 2017-2021.

2.4. Return on Average Capital Employed and Weighted Average Cost of Capital:

Return on Average Capital Employed determines the company's ability to generate more value to its shareholders. While Weighted Average Cost of Capital indicates to which extent the company is being financed by its equity and its borrowings. The lower this number is, the less borrowings the company is using to run its operation, which indicates lower risks.

Figure (7): Return On Average Capital Employed and Weighted Average Cost of Capital.



The source: ARAMCO annual reports, 2018-2021.

In order to get a precise estimation about the effectiveness of the company's ROACE, it has to be compared with the company's Weighted Average Cost of Capital (WACC), since companies generate value to their shareholders by generating ROIC greater than the company's WACC (Koller , Goedhart, & Wessels , 2015, p. 17) Moreover, the higher a company can increase its return on invested capital (ROIC), and the longer it can maintain its rate of return on that capital greater than its cost of capital, the more value it will generate. As it was mentioned earlier, the value of WACC cannot be measured based on the available data in the company's financial statements. Therefore, it was necessary to use the value of WACC of previous research done on ARAMCO due to the lack of available information needed to determine the level of WACC of the company. ARAMCO's WACC is equal to 7.4% as of (AL Rajhi Capital, 2020). However, the comparison between ROACE and WACC was conducted based on the following assumption, the level of WACC is fixed over these four years as the value of WACC of ARAMCO in the past was not available. First of all, in terms of ROACE, the chart reveals decreasing value of return on average capital employed between 2018 (ARAMCO annual reports, 2018) and 2020, which is the date of acquiring SABIC. According to the company (ARAMCO annual reports, 2019), ROACE decreased with 12.7% due to lower net income, principally driven by lower crude oil prices, coupled with declining refining and chemical margins, and higher borrowings resulting from the issuance of the Senior Unsecured Notes and the recognition of additional lease liabilities upon the adoption of IFRS 16 in 2019. While the lower value of ROACE in 2020, as the company reported (ARAMCO annual reports, 2020), was mainly because of higher borrowing as a result of the SABIC acquisition, lower net income and the issuance of senior unsecured notes. However, in 2021 this value went back up to 24.40% as a result of higher earnings and the consolidation of SABIC's full-year results. The company reports that the higher average capital employed resulted from the acquisition of SABIC in June 2020 (ARAMCO annual reports, 2021). In fact, despite the decreasing value of ROACE across the years, ARAMCO was able to maintain a higher level of ROACE than WACC. Thus, the company has been able to generate value to its shareholders.

III. RESULTS AND DISCUSSION :

The examined above data, shows a strong relationship between ARAMCO's market value and its SABIC's acquisition. Despite some negative values that occurred after the announcement, the market had a positive reaction in terms of stock returns and Abnormal returns; moreover, the Average Cumulated Abnormal Return of the event window was 1.43% which indicates a positive impact on ARAMCO's stock prices; this joints to the R^2 which has 78.26% indicating a strong relationship between the stock market value and the acquisition; as well as the intercept and slope which showed values of 0.00057 and 0.87797 respectively, which determines the positive relationship between the two variables of the event study. (Mei & Sun , 2007) and (Petersen & Mosegaard, 2015) have stated that positive values of the abnormal and cumulative abnormal returns indicate a positive impact of the acquisition on the company's value, which eventually, creates more value to the shareholders. In terms of ARAMCO's financial performance, the company had a remarkable improve in its profitability in 2021, one-year post to its acquisition, after having decreasing values in terms of ROA, ROE and ROS prior to its SABIC's acquisition. (Petersen & Mosegaard, 2015, pp. 44-46). in the case of ARAMCO, it was obvious that the company started performing better after its acquisition in terms of profitability. Regarding the company's risk assessment, table 2 showed that ARAMCO's borrowing increased since its acquisition, as it borrowed money in order to complete its acquisition. But this is usual to any company since all companies use a combination of both debt and equity to finance their operations. In terms of leverage ratios, Debt-to-equity ratio and Debt-To-Capital ratio were below 1 indicating that the company use more equity than debts to run its operations (Brealey, Myers, & Marcus , 2012, p. 80). In order to estimate the company's ability to generate value to its shareholders, ROACE has been compared to the company's WACC. This comparison indicated a greater value of ROACE in 2021 than it was in 2020 as well as higher than its WACC. according to (Koller , Goedhart, & Wessels , 2015, p. 17) companies generate value to their shareholders only when they have higher ROIC than their WACC. That means ARAMCO in 2021 is able to generate more value to its shareholders, determining a positive sign. As a result of the completed study, the financial analysis showed a significant impact of the acquisition on ARAMCO's value as well as its performance in terms of profitability and value creation. while the event study showed the impact of the acquisition on ARAMCO's stock returns since the event study showed positive values of abnormal and cumulative abnormal returns, in addition to high value of R^2. Therefore, Hypothesis 1 and Hypothesis 3.

IV. CONCLUSION AND RECOMMENDATIONS

IV.2 Conclusion

To conclude all the above findings, obviously the market had a positive reaction regarding SABIC acquisition as the event study showed an increase in the stock returns, abnormal returns and T-Statistic. Moreover, the calculated R^2, intercept and slope, determined a strong positive relationship between the acquisition and stock prices. Having done the financial analysis on ARAMCO's financial statements, it turned out that the acquisition boosted ARAMCO's performance in terms of profitability and value creation. Despite the higher borrowings that ARAMCO incurred after the acquisition, the company is not risky for its current or potential shareholders since it can maintain a low value of its leverage ratios. Regarding year 2020, when the acquisition took a place, the company had the least profitability caused by its low net income due to high borrowing to complete its acquisition; as well as its Return on Average Capital Employed was lower than the other years for the same reasons. Which is considered as evidence of the significant impact of M&As, on one hand, on the company's financial performance, and on the other hand, on the shareholder's wealth. Therefore, the current study approves the hypothesis 1and 3.

Overall, by applying event study to acquisition, this research enhances the understanding of the impact of acquisitions on the market value of the company and how the market would react to the announcement of the acquisition. Nevertheless, the study pointed out how M&A may affect the company's risk assessment due to the higher borrowings that the company incurs when it acquires another company.

IV.2 Recommendations

Adopting proper planning and carrying out detailed studies on the reality of the companies to be controlled and the nature of their operational performance, noting the economic conditions witnessed by the country. Carrying out further studies on the acquisition of shareholding companies in different sectors to identify the impact of acquisition in other sectors

Bibliography

Reddy, K., Nangia , V., & Agrawal , R. (2012). Corporate mergers and financial performance: A new assessment of Indian cases,. *Indian Institute of Technology (IIT) Roorkee*, 1-28. Retrieved from https://mpra.ub.uni-muenchen.de/60425/2020

Patel Kison: The 10 Biggest Moties for an M&A Deal, 10 Reasons for Companies Merge With or Acquire Other Companies (dealroom.net),

Al Hayek , M. (2018). The effect of acquisition on income statement items in acquired company (Subsidiary company) – case study. *International Journal of Economics and Finance, 10,* 173-183. doi:10.5539/ijef.v10n5p173

AL Rajhi Capital2020*Saudi Arabian Oil Co., Saudi Aramco* https://argaamplus.s3.amazonaws.com/41c8dfa0-4b1e-470f-bcc1-f83328d06765.pdf

ARAMCO annual reports. (2018). Retrieved from printmgr file (aramco.com).

*ARAMCO annual reports*2019. Retrieved from printmgr file (aramco.com).

ARAMCO annual reports. (2020). Retrieved from saudi-aramco-ara-2020-english.pdf,.

*ARAMCO annual reports*2021. Retrieved from saudi-aramco-ara-2020-english.pdf,.

Atrill, P., & Mclaney, E. (2012). *Management accounting for decision makers, Person Education Limited,* (7th ed.). England: Pearson Education Canada.

Corporate finance institute 2022*Motives for Mergers, Motives for Mergers - Overview and Examples (c),*

*Corporate finance institute (2015 - 2020): Leverage ratios,*2020

Coyle , B. (2000). *Mergers and Acquisitions* . (C. Fitzroy Dearborn, Ed.) .

*Creating shareholder value through M&A activities – An assessement of B&O's strategic outlook*2015Copenhagen business school

*Event analysis of the impact of mergers and acquisitions on the financial performance of the U.S. forest products industry, university of Georgia, US. pp. 287-290*2007

*Financial planning & analysis and performance management*2018

Finkelstein , S., & Haleblian , J. (2002). Understanding acquisition performance: The role of transfer effects. *Organization Science, 13*, 36-47. doi:10.1287/orsc.13.1.36.539

Fridson, M., & Alvarez , F. (2011). *Financial statement analysis a practitioner's guide,* (4th ed.). USA: New Jersey, John Wiley & Sons, Inc.

*Fundamentals of corporate finance*2012New York McGraw-Hill/Irwin

Grant, R. M. (2016). *Contemporary strategy analysis Text and Cases* (9th ed.). John Wiley & Sons, Hoboken.

investing.com Saudi Aramco Historical Price Data (2222). (2020). Retrieved 09 01, 2022, from investing.com: https://www.investing.com/equities/saudi-aramco-historical-data

King, D., Dalton, D., Daily , C., & Covin , J. (2004). Meta-analysis of post-acquisition performance: Indication of unidentified moderators. *Management Faculty Research and Publications, 25*. doi:10.1002/smj.371

Koller , T., Goedhart, M., & Wessels , D. (2015). *Valuation: measuring and managing the value of companies* (7th ed.). John Wiley & Sons, Inc., Hoboken, New Jersey.

Malik , M. (2014). Mergers and Acquisitions. *International Journal of Accounting and Financial Reporting, 04*, 520-533. doi:10.5296/ ijafr.v4i2.6623

Mankiw , N., Taylor, M., & Ashwin , A. (2019). *Business economics* (3rd Edition ed.). UK: Cengage Learning, EMEA.

Patel , K. (2022, October 19). *The 10 Biggest Moties for an M&A Deal, 10 Reasons for Companies Merge With or Acquire Other Companies*. Retrieved from DealRoom: https://dealroom.net

Perepeczo, A. (2007). EVENT STUDY IN THE EVALUATION OF EFFECTS. *Folia Oeconomica Stetinensia, 06*, 107-122. doi:10.2478/v10031-007-0007-2

Petersen , M., & Mosegaard , E. (2015). *Creating shareholder value through M&A activities – An assessement of B&O's strategic outlook,(Master's thesis).* Copenhagen business school. Copenhagen Business School. Retrieved from https://research-api.cbs.dk/ws/portalfiles/portal/58461409/marc_steen_petersen_og_esben_monrad_mosegaard.pdf

Robert , A., & Nell Minow. (2008). *Corporate governance* (4th ed.). (J. W. Ltd., Ed.) England: wiley-Blackwell.

Song, s.-I., Kueh, D. C., Abdul Rahman , R., & Chu , E.-Y. (2011). Wealth effects and financial performance of cross-border mergers and acquisition in five East Asian countries. *Finance and Accounting, 02*, 219-240.