BUSINESS SCHOOL – Assessment 1 Feedback Front sheet
SECTION A:

Please complete Section A			
Student Number:	U1732968		
Programme:(e.g. Accounting)	Accounting and Finance		
Module Title: (e.g. Studying for Business)	The Business Professional	Seminar Group	
Module Code:	HR6004	Word Count	5948

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SECTION B: *(to be completed by the tutor marking assignment)*

Assessment Criteria:	**Weighting**	**Criteria based Feedback**	**Mark Achieved**
Problem Identification and critical thinking • Effective framing of a research topic • Specific, meaningful, and original accounting oriented aim and objectives. • A clear justification for the project in terms of its contribution to an organisation or industry • Critical thinking should be evident in the literature review	35%	**Supervisor** **2nd Marker**	
Research design or method of inquiry • Discussion of qualitative or quantitative research, sampling, reliability and validity, analysis of data	15%	**Supervisor**	

and limitations of the research methods used • A consideration of the complexity of ethical issues in researching and managing a project		**2nd Marker**	
Analysis of data and conclusions/recommendations Analysis and interpretation of data, presented in a clear and logical manner. Findings should be meaningful and contribute to the literature and/or business problem, address the research question and objectives, leading to relevant conclusions/ recommendation	30%	**Supervisor** **2nd Marker**	
Writing Skills and referencing Structure and presentation, and referencing must be in the Harvard style – see cite them Right	10%	**Supervisor** **2nd Marker**	
Reflection on Professional competency skills	10%	**Supervisor** **2nd Marker**	
TOTAL MARKS	100%		

Good practice demonstrated:

Aspect to consider for improvement:			
Tutor's Name:			
Date Received:		**PROVISIONAL MARK**	

General Grading Criteria Used to assess individual project

Grade	*Level 6*
First **(70% or above)**	Critical work evidencing excellent synthesis and application of ideas. Work is exceptionally well constructed and presented.
Upper Second **(60-69%)**	Ideas are critically applied and coherently presented. Evidence of wide reading and some originality. Well referenced
Lower Second **(50-59%)**	Clear grasp of concepts and some critical application. Appropriately referenced and relevant argument. Reasonable structure and syntax. Well presented
Third **(40-49%)**	Evidence of good understanding of issues, but crudely applied. Work indicates some critical thinking, but tends towards description. Argument may be unbalanced. Poor structure and presentation
Fail **(below 40%)**	Poorly referenced and suggests inadequate exploration of relevant literature. Chaotic structure and generally badly written.

Assessment criteria for the 1000 word reflection on employability skills

70% +: Overall the 1000 word reflection will be highly evaluative and critical, be substantiated, and lead to significant targets for future development.

60%: Reflection will be mostly analytical and evaluative, with only a minority of a descriptive nature. There will be very few unreflective or unsubstantiated aspects

50%: Although several reflections will be analytical and evaluative some will be of a more descriptive nature. There will be some unreflective or unsubstantiated aspects.

40%: Reflections will be descriptive rather than analytical and evaluative. Overall, the 1000 word reflection will be descriptive rather than evaluative.

< 40%: Aspects of tasks will be inadequate – showing little or no engagement with the assignment. Will show little understanding or evidence of undertaking assessment to develop in terms of career management skills.

Accounting & Finance

University of East London

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EVALUATION OF THE FINANCIAL CONSEQUENCES OF ACQUISITION: A CASE STUDY OF CISCO

BY DEA SATKO

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ABSTRACT

Although the formation of mergers and acquisitions helps firms attain higher management efficiency, reduce costs, and maximise profitability, the strategic alliances may have adverse effects. The primary aim of this study is to investigate the effect an acquisition has on a firm, using the case of Cisco. On 1 October 2018, Cisco Systems Inc. completed the acquisition of Duo Security. Based on existing literature, the strategic alliance entailing the acquisition of Duo Security was expected to have either positive or negative effects on different aspects of Cisco's financial and non-financial performance. Quantitative data was collected from the SEC and the firm's annual reports to help explore the effect of the strategic event on performance. The key findings of this study reveal that the strategic alliance resulted in 5.22% revenue increase and a 6.73% rise in gross profits. Besides the positive impact of Duo's acquisition on profitability, Cisco also realised a reduction in operating costs, an increase in management efficiency, and a rise in the firm's market value. Additionally, the acquisition led to insignificant changes concerning board size and composition, while a few of the acquired firm's employees were not retained. Overall, Cisco's financial and non-financial performances showed short-term improvements after the acquisition. Further research should be conducted to resolve the inconsistencies observed in the existing literature and the current study.

Keywords: acquisitions; financial performance; mergers; profitability; shareholders

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

Acquisitions help companies expand and enhance their competitiveness (Ahsan, Sinha, and Fuad, 2018). The main principle behind acquisitions is to increase shareholder value, which is greater than that of individual firms combined (Romero, 2017). Therefore, acquisitions are carried out when two firms are seen as being more valuable together than they are individually. When the business environment is tough, acquisitions are alluring to firms as they strive to create cost-effective and competitive companies (Hassan, Ghauri, and Mayrhofer, 2018).

The study analyses the financial impacts of Cisco's acquisition of Duo Security in 2018. It identifies the advantages and disadvantages encountered by various stakeholders after the acquisition. It also considers the effects of the acquisition on the firms' goodwill and stock prices. Moreover, it contains the motives for the acquisition and the effects of the acquisition on various stakeholders.

1.2 STUDY BACKGROUND Y

Duo Security, the target company in this study, provided various security solutions, such as secure login tools, endpoint remediation, and two-factor authentication (Duo Security, 2020). On the other hand, Cisco was primarily a computer networking firm (Cisco, 2020). Cisco acquired Duo Security to leverage its security capabilities for Cisco's multi-cloud models and intent-based networking portfolio in a bid to complement its operations. Cisco aimed to bring security and networking together and create a unified security and networking posture for its customers. The acquisition took place in October 2018 for $2.35 billion (Duo Security, 2020).

1.3 PROBLEM STATEMENT

While some mergers and acquisitions (M&A) have helped many firms grow fast, maximise their profits, increase management efficiency, and even enhance public and private welfare (Jayaraman, 2011), others have adversely affected the welfare of various stakeholders. This study will, therefore, identify the financial impact of acquisitions on various stakeholders by dwelling on the case of Cisco's acquisition of Duo Security. It will identify the financial consequences of the acquisition by considering the impacts on goodwill and stock price changes.

1.4 RESEARCH OBJECTIVES

The study aims to accomplish the following objectives:

1. Identify how acquisitions affect the firms' financial performance by paying close attention to the goodwill and stock prices of the firms
2. Determine the benefits and adverse effects of acquisitions for shareholders
3. Identify the impacts of acquisitions on the firms' employees and management

1.5 RESEARCH QUESTIONS

1. Did Cisco's acquisition of Duo Security enhance the financial positions of the companies?
2. How did Cisco's acquisition of Duo Security impact the companies' shareholders?
3. How did the acquisition affect the market price of Cisco's shares?

1.6 STUDY SIGNIFICANCE

Different stakeholders, including companies, managers, and investors, will benefit from the findings of this investigation concerning the role of strategic alliances in the corporate world. Incidentally, shareholders will identify the impact of acquisitions on share prices, and employees will determine how acquisitions impact their jobs.

1.7 STUDY LIMITATIONS

The study will dwell on the impacts of Cisco's acquisition of Duo Security only. It will not analyse other mergers and acquisitions, which may have varying results. Additionally, this study will hugely rely on secondary data, which has many weaknesses, including the risk of vagueness, inaccuracy, and old and outdated information.

CHAPTER 2: LITERATURE REVIEW

The literature review contains a discussion of various concepts related to the objectives. Key areas covered under the literature review include the effects of M&A and benefits of acquisitions for various stakeholders. Moreover, a theoretical review is provided.

2.1 THE EFFECTS OF ACQUISITIONS ON COMPANIES' FINANCIAL PERFORMANCE

Both scholars and financial economists have analysed the relationship between acquisitions and financial returns over the years with conflicting results. Azhagaiah and Kumar (2011) researched the impacts of acquisition on companies' financial returns in the short-term. They show that in the short-term, acquiring firms perform better than they did during the pre-acquisition period. The study, therefore, concludes that companies record an improvement in their financial performance after acquisitions due to the increased efficiency in operations. Ramaswamy and Waegelein (2003) agree with these findings in their research on the impacts of M&A on companies' long-term performance. Their study states that companies record higher financial returns after acquisitions when compared to the pre-acquisition returns. Similarly, Joash and Njangiru (2015), and Ransariya and Ajmera (2011) argue that after acquisitions, companies' returns increase when compared to their returns before acquisitions. Several studies (Chen et al., 2019; Hawaldar et al., 2017; Malik, Khan and Ilyas, 2019) show that after acquisitions, companies' short-term and long-term returns increase.

However, Ma, Whidbee, and Zhang (2019) argue that before acquisitions, companies' stocks are just below their 52-week highs, but after acquisitions, their prices decrease significantly. Rasool and Raychaudhuri (2019), as well as Nurfauziah and Nuzul (2018), also contradict these findings. They indicate that over the short-haul, the stockholders of the target companies experience high returns, while those of the acquirers face a decrease in their stock prices.

Nurfauziah and Nuzul (2018) also argue that this trend continues for several months after the acquisition process is completed; there is usually no increase in wealth. Similarly, a study by Tuncay (2019) on the acquisitions of Turkish banks showed that M&A negatively impact the acquirer's financial results.

Yeh and Hoshino (2002) researched the effects of M&A on companies' growth, efficiency, and profitability. Their study shows that after acquisitions, companies record reduced sales, loss of jobs, reduced profitability, and slow growth. Overall, they argue that acquisitions negatively affect companies' financial performance. However, Saboo and Gopi (2009) contradict these findings. They argue that acquisitions positively affect companies' growth, efficiency, and profitability. Another study carried out by Ramzan Mehar (2018) had contradicting results. It aimed to determine the financial impact of bank acquisitions by using four measures to determine financial performance: EPS, ROE, ROA, and net profit margin (NPM). The study shows that most banks record a decrease in EPS, NPM, ROA, and ROE, and only a few have recorded a small rise in ROE after the completion of the acquisitions. Kaplan (2000) also shows that M&A does not affect the acquirer's financial returns, which is similar to the observation that Abdulwahab and Ganguli (2017) make. Similarly, a study by Ndura (2010) establishes that M&A does not result in noticeable financial gains for firms.

This literature review has shown significant inconsistencies about the role of M&A in the financial performance of a firm. This study, therefore, seeks to close this gap by providing a clear picture of how acquisitions impact firms' returns. Additionally, it explored two theories: the differential efficiency theory and the size and returns to scale theory.

2.1.1 DIFFERENTIAL EFFICIENCY THEORY

The theory explains that firms that have low-efficiency levels and, thus, do not utilise their resources optimally have higher chances of being acquired by other companies that have higher levels of efficiency (Leepsa and Mishra, 2016; Prakash, 2017). The theory states that after the acquisition is completed, the combined company will operate more efficiently than the individual companies (Wang, 2014). According to Boateng and Bi, 2013, this result is due to the company having economies of scale, which enhance its performance.

2.1.2 SIZE AND RETURNS TO SCALE THEORY

All factors of production continue changing due to the increase in company size (Hughes and Mester, 2013). Economies of scale normally depict the impact of a rise in output levels on the unit costs, while returns to scale show the relationship between inputs and outputs (Sahoo, Mehdiloozad, and Tone, 2014). When one firm acquires another, the acquirer experiences a net gain in size. The shareholders of the acquirer gain the value of the increase due to the created synergy (Střeleček, Lososová, and Zdeněk, 2010). Therefore, after a merger or acquisition, the combined firm has a higher value than the individual companies.

According to Martin (2018), the value or worthiness of a strategic alliance can be determined using the net present value (NPV) approach. After a merger or acquisition, it is expected that the two firms together will record higher cash flows than those of the individual entities. If there is no value created by the combination of the two companies, then it becomes a zero-sum game, and the average costs, as well as the economies of scale, are likely to decrease over time (Martin, 2018). The average costs and the economies of scale are expected to decline over time for successful mergers and acquisitions.

2.2 THE ADVANTAGES AND DISADVANTAGES OF ACQUISITIONS ON VARIOUS STAKEHOLDERS

2.2.1 SHAREHOLDERS

The financial performance of companies significantly impacts the returns on equity, which is what shareholders look for in the firms in which they invest. Increasing the profitability of a firm has positive implications for shareholders, who can receive higher dividends. However, as it was shown in the last section, M&A can result in either a decline or an increase in the profitability of a firm.

2.2.2 EMPLOYEES

The majority of M&A financial models contain a retention plan (Brooks, Chen, and Zeng, 2017). According to Fich, Nguyen, and Officer (2018), firms provide retention incentives in a bid to persuade employees to stay on after the acquisitions. Therefore, acquisitions favour employees in cases where the acquiring companies provide retention incentives. However, according to a study by Shleifer and Summers (1988), M&A usually involve a wealth transfer from employees to shareholders because the majority of acquirers fail to honour contracts with employees regarding their benefits and wages. Therefore, in such cases, M&A are disadvantageous to employees. Similarly, Vijaywargia (2016) argues that M&A cause employees to lose their jobs as firms seek to minimise their operational costs.

Kazík (2012) argues that M&A also lead to counterproductive behaviour and anxiety among the employees of both the target companies and the acquirers due to the uncertainty experienced. Employees may suffer from job dissatisfaction, stress, low trust in their firms, and decreased levels of commitment to their work. According to studies by Huang et al. (2017) and Imam (2018), job insecurity is a major factor associated with counterproductive behaviours among employees. Debus, Unger, and Konig (2019) list acquisitions as one of the major causes of the feeling of job insecurity among employees. Also, after an acquisition, employees are expected to take on extra workloads, which may be overwhelming and cause high levels of fatigue (Kazík, 2012).

2.2.3 BOARD OF DIRECTORS

Based on the company's size, M&A may take years to complete. The board of directors of the firm acquired may lose their position based on the agreement. After acquisitions are completed, there is an increased importance for strategic decisions that require highly specialised skills, such as asset management, consultation, publicity, and system design, as well as financial and legal services. The immediate need that the firms may have to decrease costs may cause them to eliminate certain board members and bring in new ones (Kazík, 2012). However, as Datta, Basuil, and Agarwal (2020) argue, post-merger or acquisition board size or composition plays a crucial role in determining the performance. Similarly, Redor (2016) agrees with Datta, Basuil, and Agarwal that post-merger or acquisition performance greatly depends on the composition of the board.

Evidently, mergers and acquisitions affect various stakeholders in different ways. They may enable shareholders to enjoy capital gains or suffer when the share price declines. They may also make employees lose their jobs or enjoy increased salaries. Finally, board members may either lose their positions or have their roles changed based on the skills required.

2.3 REASONS FOR ACQUISITIONS

Various motives make companies get involved in M&A. First, according to Lakicevic, Shachmurove, and Vulanovic (2013), the most common motive is the creation of synergy. Rabier (2017) specifically points out that financial synergy is a major acquisition motive for firms. Silvano (2019) and Choto (2017) also agree that synergy is a major reason why firms consider M&A.

M&A aid in the elimination of duplicate costs by replacing identical processes in the two companies. Consequently, this replacement increases the profitability of the acquirer and reduces the costs incurred. Second, M&A allow firms to reduce their taxes. Incidentally, according to Sanchez-Ruiz and Blanco (2019), acquiring companies can claim back their losses when they are used to offset taxable income when they obtain a given target company. Third, the need to cut costs is another key motive for M&A. According to Chatterjee (2019), the existence of a diversified production strategy aids in the decrease in operational costs. Fourth, mergers and acquisitions increase company liquidity. Incidentally, the acquirer may sell some of the assets from the target company, which may be outdated or surplus, and realise capital gains (Hýblová, 2014). Additionally, acquisitions help firms enhance their gearing capacity because they can borrow funds on an increased asset backing. Finally, firms may carry out acquisitions to eliminate competition and expand their markets. In such instances, the acquirer may increase profitability by growing prices and having a larger customer base (Hýblová, 2014).

Firms make decisions about M&A depending on the goals they aim to achieve and the expected outcomes from the process. However, as Butler (2011) argues, the company’s initiatives to form mergers and acquisitions may be impeded by several factors, including persistent insecurity and uncertainties associated with geopolitics.

CHAPTER 3: RESEARCH METHODOLOGY

This section contains the research design employed in the study and a discussion of the methods to be used in gathering and analysing data in a bid to determine how Cisco's acquisition of Duo Security affected the acquirer's financial results.

3.1 RESEARCH DESIGN

The study made use of a descriptive research design to determine the impact of Cisco's acquisition of Duo Security. The strategy for this research is based on the style of a case study. The researcher performed an in-depth inquiry into Cisco's acquisition of Duo Security and an analysis of the effects of this acquisition on various elements. Through the use of a descriptive research design, the study depicted whether acquisitions improve or adversely impact the acquirers' financial results. The study dwelled mainly on the firms' share prices and goodwill. Additionally, it determined the impact of the acquisition on the shareholders, employees, and boards of directors.

3.2 QUANTITATIVE DATA

The study made use of quantitative data to answer the research questions. Quantitative data, which is primarily financial performance indices or elements of financial statements, was highly useful in determining the impact of M&A on financial performance. Profitability, the effectiveness of management, debt, and key financial ratios were the major quantitative data collected. Other type of data was particularly useful in exploring the boards of directors changes due to acquisitions. Collecting and analysing the data was highly instrumental in producing a comprehensive answer to the research questions.

The study also made use of secondary data by looking at financial statements, press releases, and company reports only. In the literature review, secondary data was collected for both the empirical and theoretical reviews. Data was sourced from the internet, books, previous studies, journal articles, and statistical reports. Multiple existing research studies surrounding the concept of mergers and acquisitions and their impacts were also used, together with data that directly links to the current markets.

3.3 DATA COLLECTION METHODS

The descriptive study was based solely on secondary data obtained from various financial statements of both Cisco and Duo Security before and after the acquisition period. The study, therefore, analysed data over four years. It analysed data from 2016, two years before the acquisition, to 2019, one year after the acquisition. Only data collected from one year before and after the strategic alliance was used in evaluating its impact. The data on the companies' financial statements was retrieved from the SEC website because Cisco is listed on the stock market, which requires the firm to provide its data after every quarter.

The study also used data from Duo Security's website to determine its returns before the acquisition. Annual company reports were also important sources of data, especially concerning the opinions and effects of the strategic alliance on stakeholders. Finally, the study used data from the Yahoo Finance (2020) to determine the changes in Cisco's share prices over the years from 2016 to the end of 2019. This data aided in showing the impacts of the acquisition on Cisco's share prices to determine whether there is an observable trend.

One of the major strengths of financial data and other types of information collected in this study is that they have low levels of bias because companies must follow national, international, and corporate guidelines on reporting. Additionally, it has fewer ethical considerations than primary data, which made it easier to collect and analyse.

3.4 DATA ANALYSIS METHOD

The secondary data collected in this study was analysed using quantitative method of data analysis. Quantitative data and results were interpreted and supported by existing academic literature. Using Microsoft Excel was particularly important for organising and analysing the collected data due to its robust mathematic functions and capacity to perform formula-based calculations. Other benefits that Microsoft Excel provided include the opportunity to graphically present findings using tables and graphs.

The data followed a process that is both unified and methodical to guarantee consistency over the available information. Financial data, including goodwill, share prices, profitability ratios, management effectiveness ratios, and debt or leverage data, were input and analysed using Microsoft Excel. It was then presented using graphs and charts.

3.5 LIMITATION OF THE RESEARCH APPROACH

The research method used in this study has two limitations due to the utilisation of secondary data alone. First, some data required for this study was unavailable, especially because Duo Security was not a publicly listed company. Second, the data provided by Cisco may be biased and, therefore, fail to provide a true reflection of the company’s financial standing.

This chapter has provided a description of the research methodology followed in answering the research questions. Specifically, the design, approach, data collection, as well as data interpretation strategies and their justification were provided. It has also listed the limitations of this research method.

CHAPTER 4: FINDINGS AND DATA ANALYSIS

The study involved an analysis of Cisco's annual reports over a four-year period; the reports were retrieved from the SEC website.

4.1 IMPACTS ON CISCO'S FINANCIAL PERFORMANCE

Data obtained from the SEC was used in analysing the impact of Cisco's acquisition of Duo Security on the company's financial performance. As observed in Figure 1 and Table 1, revenue decreased from 2016 to 2017 by 2.52%. Then it rose in 2018 by 2.76%, and further rose by 5.22% in 2019. This trend reveals that the acquisition of Duo Security increased Cisco's financial returns.

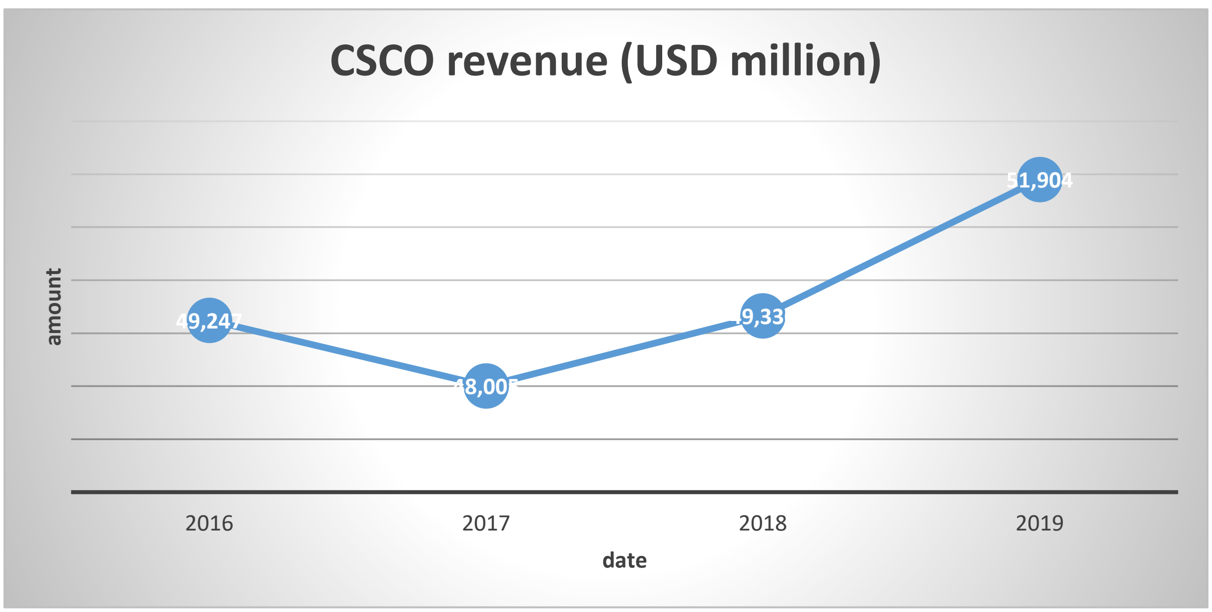

Figure 1. Revenue (source: SEC, 2020).

Years	Revenue (Million USD)
2016	49,247
2017	48,005
2018	49,330
2019	51,904

Table 1. Revenue (source: SEC, 2020).

The company's gross profit changes over the four years are depicted in Figure 2 and Table 2. In 2017, the company's gross profit decreased by 2.38%, then increased by 1.26% in 2018, and increased again in 2019 by 6.73%. This result implies that the acquisition of Duo Security improved Cisco's profitability, which is one of the major key indicators of financial performance.

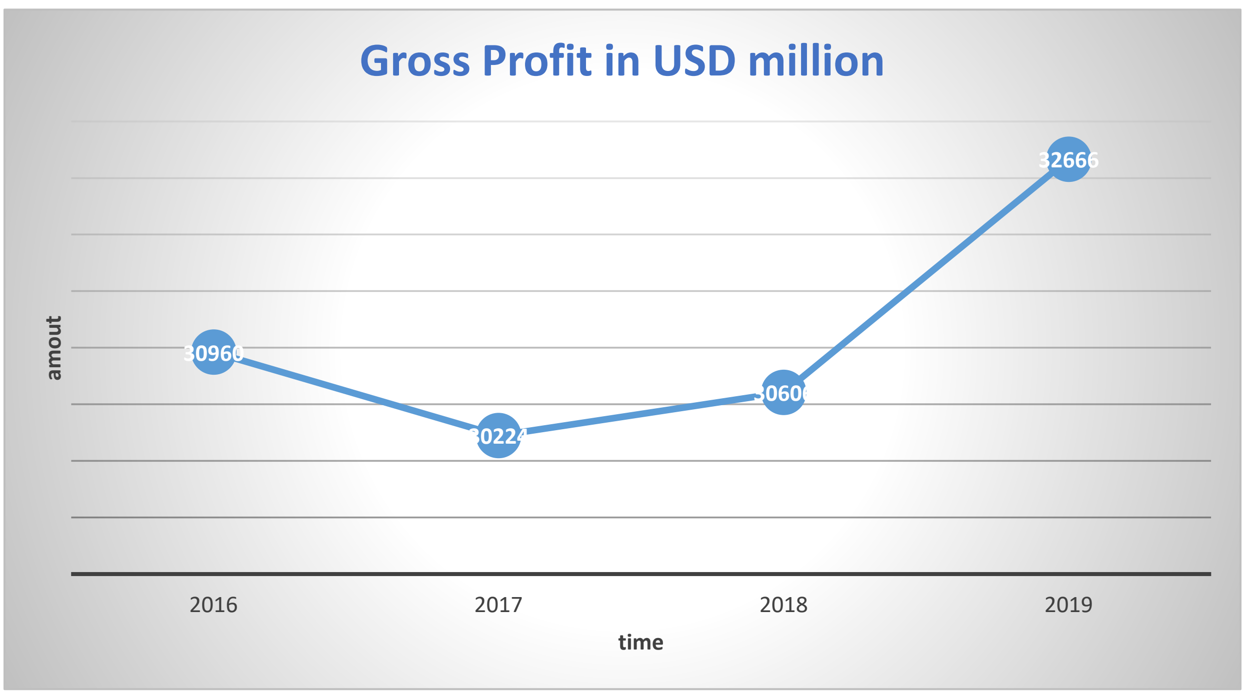

Figure 2. Gross profit (source: SEC, 2020).

Years	Gross profit (USD million)	
2016	30,960	
2017	30,224	-2.38%
2018	30,606	1.26%
2019	32,666	6.73%

Table 2. Gross profit (source: SEC, 2020).

The trends in Cisco's net profit are depicted in Figure 3 and Table 3. There is a high increase in the firm's net profit after having declined over the two years before the acquisition. Therefore, it is evident that the company's profitability rose after the acquisition.

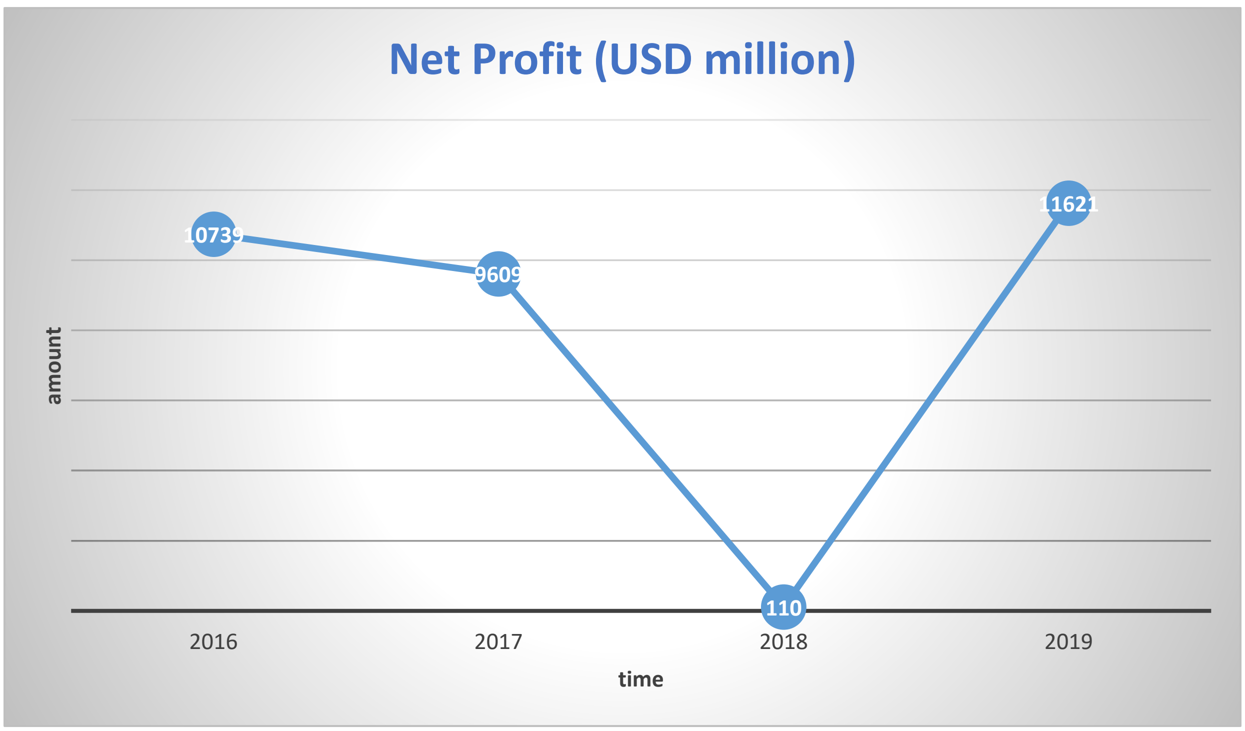

Figure 3. Net profit (source: SEC, 2020).

Years	Net profit (USD million)	
2016	10,739	
2017	9,609	-10.52%
2018	110	-98.86%
2019	11,621	10464.55%

Table 3. Net income (source: SEC, 2020).

Figure 4 and Table 4 below show the changes in costs before and after the acquisition. The operating expenses decreased by 2.98% in 2017 and then increased in 2018 by 2.54%. Finally, they increased in 2019 by 1.4%. However, the increase after the acquisition is much smaller than that before the acquisition. An increase in operating costs post- acquisition is expected due to the rise in the level of the firm’s production.

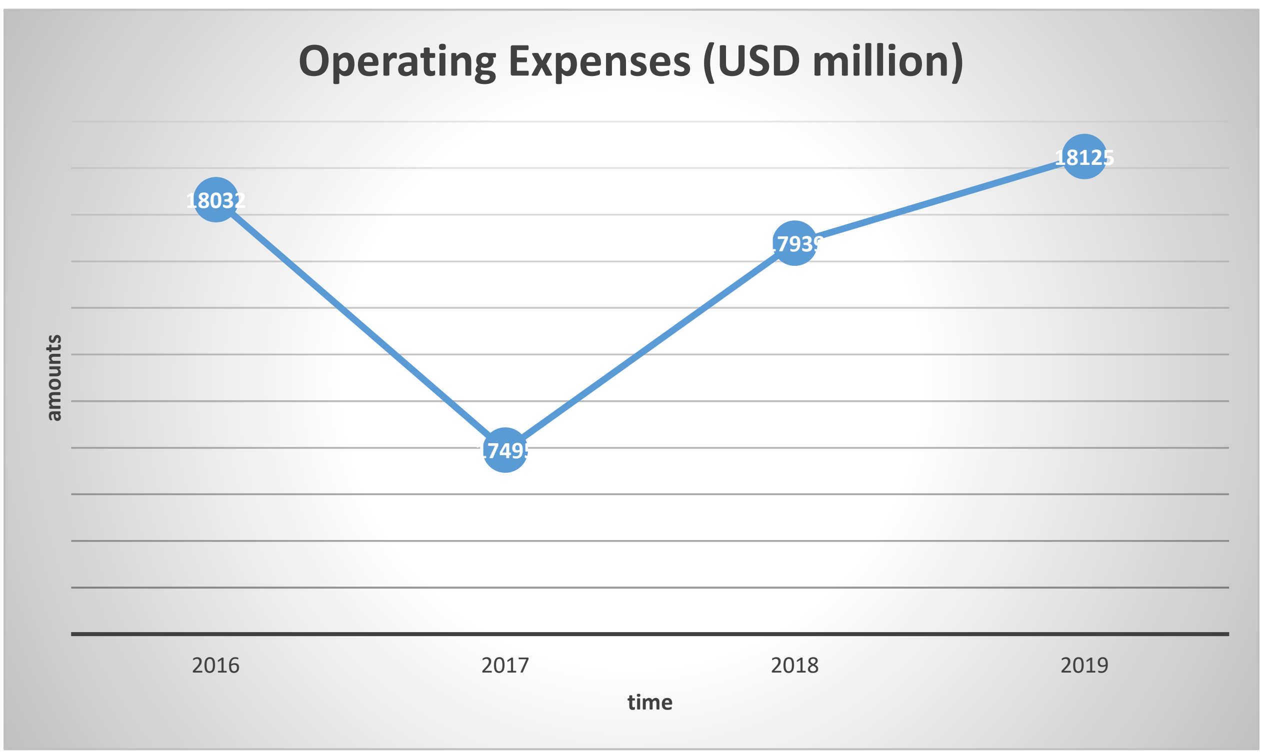

Figure 4. Operating expenses (source: SEC, 2020).

Years	Operating Expenses (USD million)
2016	18,032
2017	17,495
2018	17,939
2019	18,125

Table 4. Operating expenses (source: SEC, 2020).

Further analysis involved a consideration of the various financial ratios depicted in Table 5 and Figure 5. This analysis shows that Cisco's financial results improved after the company acquired Duo Security due to the increased profitability and reduced costs.

Years	2016	2017	2018	2019
EBIT margin	25.7072	24.9412	24.9524	27.3948
EBITDA margin	30.0729	29.7032	29.3959	31.0496
Pre-tax profit margin	26.2351	25.5953	26.4322	28.073
Net profit margin	21.8064	20.0167	0.223	22.3894
Return on assets	8.8276	7.4019	0.1011	11.8833
Return on investmen	12.1940	10.4603	0.1731	24.1872
Asset turnover	0.4048	0.3698	0.4535	0.5308
Gross margin	62.8700	62.96	62.04	62.94

Table 5. Profitability ratios (source: SEC, 2020).

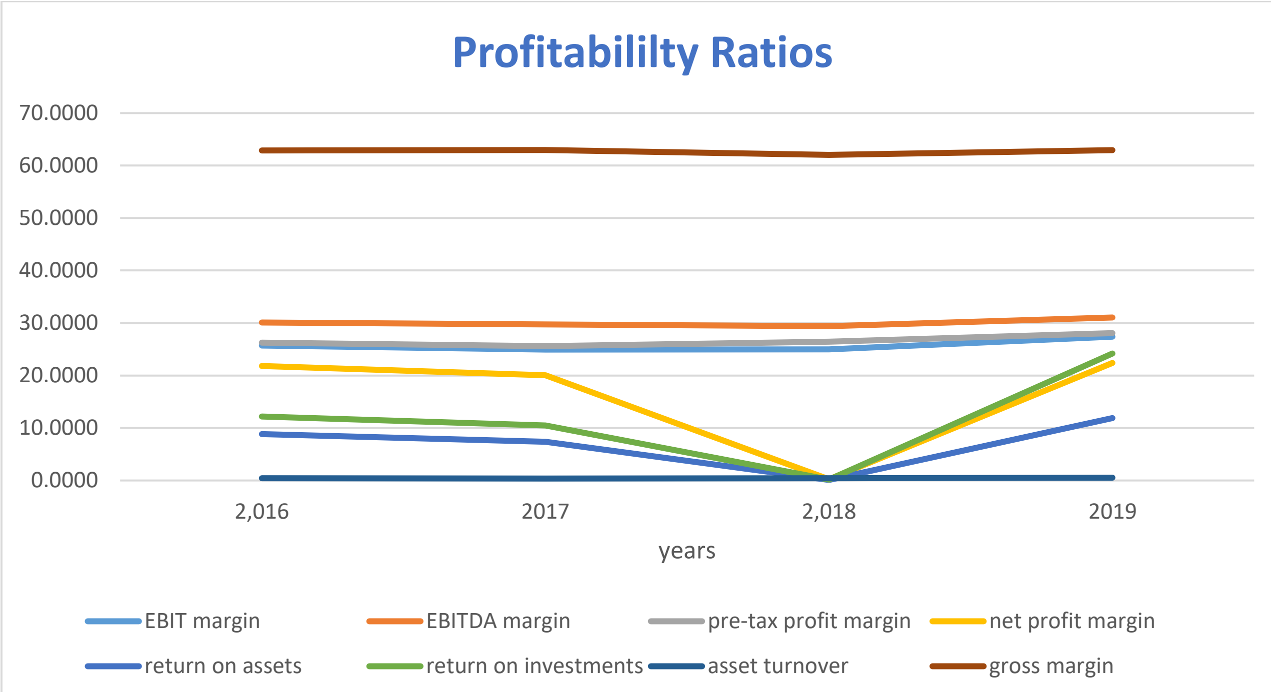

Figure 5. Profitability ratios (source: SEC, 2020).

4.2 THE IMPACT OF THE ACQUISITION SHARE PRICE AND STOCKHOLDERS

Cisco's share price has changed over the years. At the beginning of 2016, the firm's share price opened at $26.39 and closed at $26.41, with an adjusted close of $23.27. In 2017, the company's share price began at $27.63, and at the end of the year, the adjusted close of the share price had reached $35.88517. At the beginning of 2018, the share price was at $36.70, and by the end of the year, it had increased to $41.29. Immediately after the acquisition, there was no significant change to the share price. However, as depicted in Figure 6, the company's share price (which had been on a general upward trend) saw a significant rise after the acquisition.

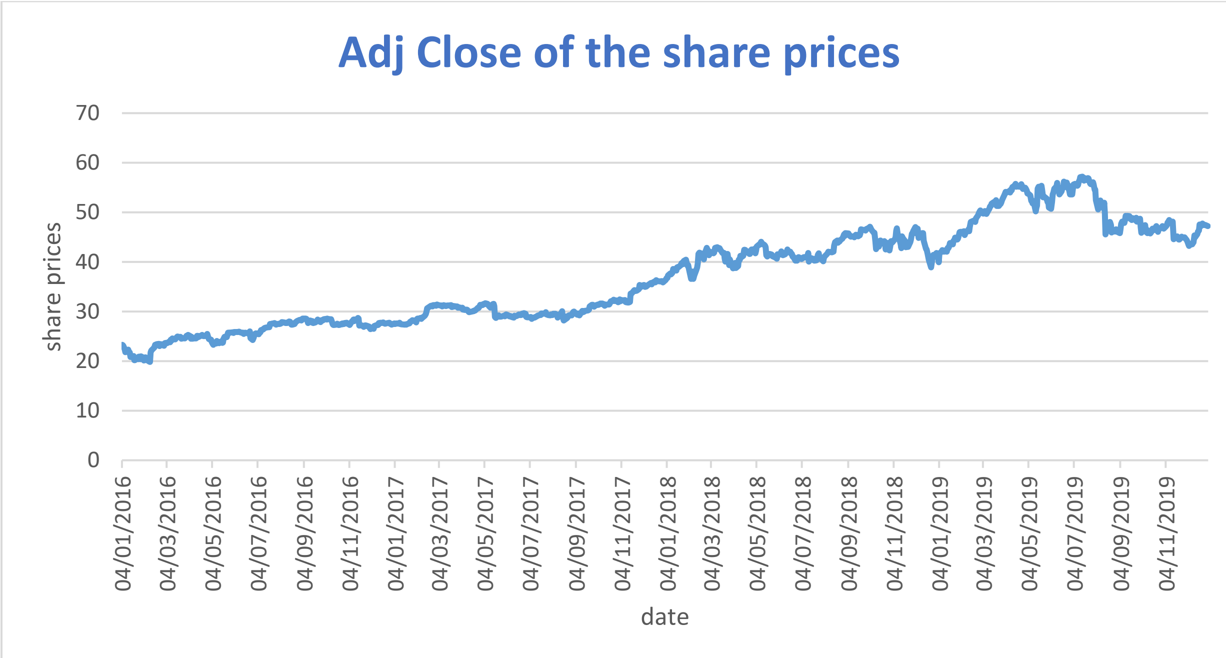

Figure 6. Share price movements (source: SEC, 2020).

The Cisco shareholders experienced a rise in the firm's share price after the acquisition. Changes in the firm's goodwill over the four years were also analysed, and the results are depicted in Table 6 and Figure 7. The rise in the firm's share price and goodwill can be associated with higher synergies, efficiency, and levels of production.

Years	Goodwill (Million USD)
2016	26,625
2017	29,766
2018	31,706
2019	33,529

Table 6. Goodwill (source: SEC, 2020).

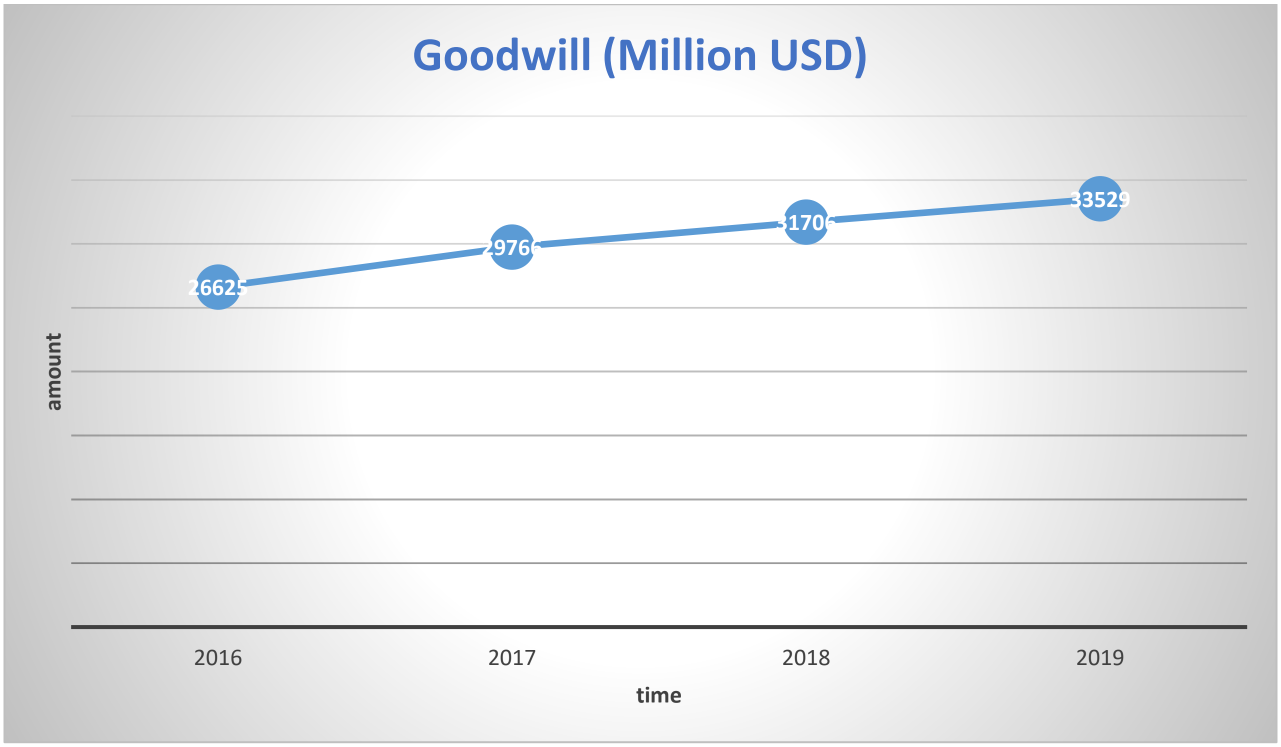

Figure 7. Goodwill (source: SEC, 2020).

The company's goodwill was on an upward trend before the acquisition and kept rising after the acquisition, when it rose by a margin of 5.75%. The rising goodwill was, therefore, an advantage to shareholders because it increased the company's intrinsic value, which may have also contributed to the rise in the share price.

Finally, the pay-out ratio was analysed. The results are depicted in Table 7 and Figure 8.

Years	Pay-out Ratio
2016	44.1
2017	54.3
2018	0
2019	46.6

Table 7. Pay-out ratio (source: SEC, 2020).

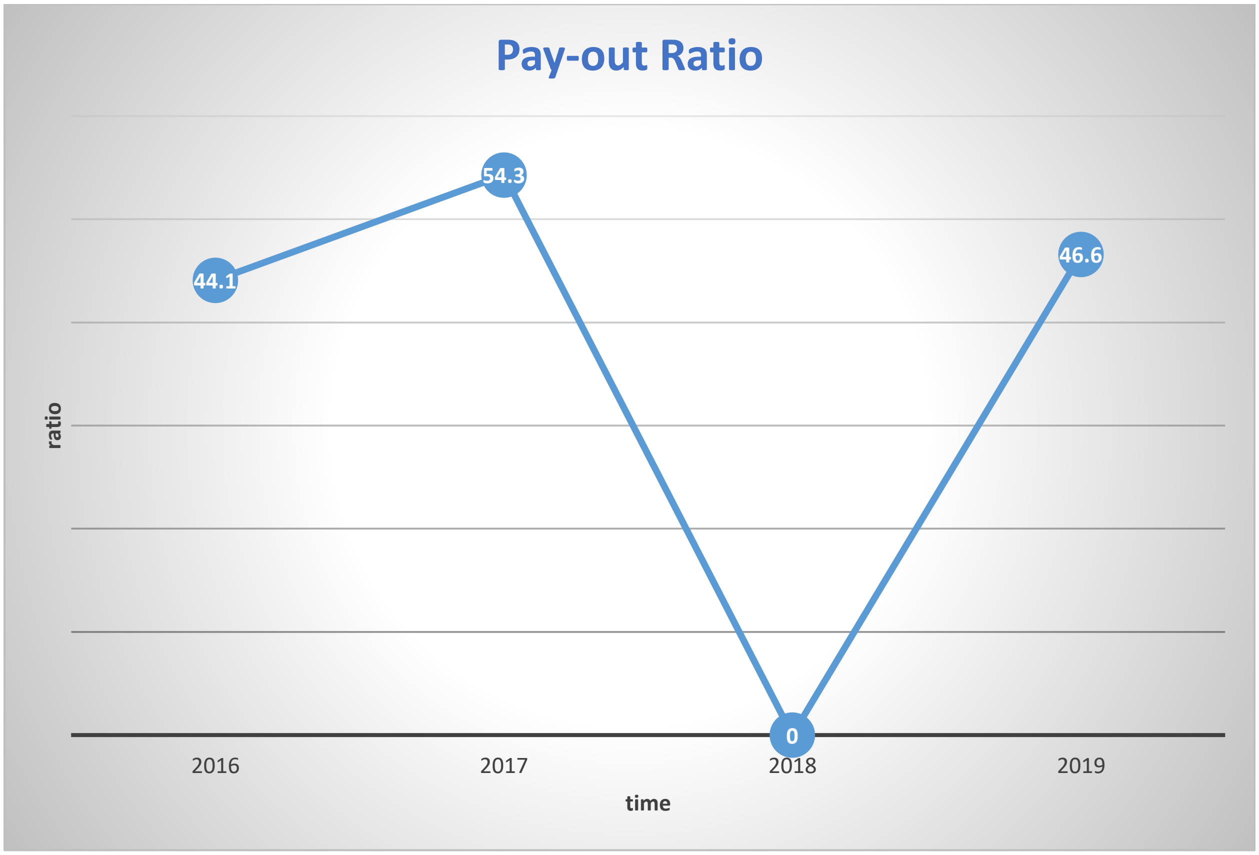

Figure 8. Pay-out ratio (source: SEC, 2020).

The pay-out ratio increased from 2016 to 2017, then fell to zero in 2018, and then increased significantly in 2019 after the acquisition. These findings imply that the acquisition had a positive impact on shareholder value. One of the primary aims of strategic alliances such as acquisitions is to increase shareholder value.

4.3 THE IMPACT OF THE ACQUISITION ON EMPLOYEES

After the acquisition was completed, Duo Security's CEO and co-founder, Dug Song, joined Cisco along with his team. He stayed on as a general manager under the acquirer's networking and security department (SEC, 2020). Jon Oberheide, Duo Security's other co-founder, also stayed with the firm, although his role was undetermined at first (SEC, 2020). Cisco also took on more than 700 Duo Security employees, which was the majority of the company's employees

(SEC, 2020). Therefore, after the acquisition, only a few employees lost their jobs; thus, the acquisition minimally affected the employees' job security.

4.4 THE IMPACT OF THE ACQUISITION ON THE BOARD OF DIRECTORS

The acquisition of Duo Security was not associated with significant changes in the size and composition of the board. The only changes were due to the retirement of two board members in 2018 and the change in the role of one board member. In 2019, an additional member joined the board (SEC, 2020). The composition of the board over the two years is depicted in Table 8.

Name	Role
Charles H. Robbins	Chairman and CEO
Wesley G. Bush	Independent Director
M. Michael Burns	Independent Director
Michael D. Capellas	Lead Independent Director
Mark Garrett	Independent Director
Arun Sarin, KBE	Independent Director
Dr Kristina M. Johnson	Independent Director
Benton L. Saunders	Independent Director
Roderick C. McGeary	Independent Director
Steven M. West	Independent Director

Table 8. Source; (SEC, 2020). Board of directors

4.5 DISCUSSION

The analysis of the results confirms that strategic alliances have a positive impact on financial and non-financial performance. These findings agree with Azhagaiah and Kumar's (2011) observations, which indicate that firms attain better performance after acquisitions than during the pre-acquisition period. According to Silvano (2019), synergies are one of the major reasons for an increase in financial returns after an acquisition.

However, the observation that the acquisition improved Cisco's financial performance was contrary to Yeh and Hoshino (2002) findings. They show that growth rates, profitability, jobs, and sales, tend to decline immediately after and acquisition. Ramzan Mehar (2018) shows that the earnings per share, ROE, ROA, and profit margins of firms tend to decline significantly immediately after acquisition. In the case of Cisco, however, the key financial indices after the completion of the acquisition reveal an increase in profitability. The net profit margin, ROA, and ROE increased significantly from 0.22, 0.10, and 0.17 to 22.39, 11.88, and 24.18, respectively. Some of the factors that may have increased Cisco's profitability in the short-term include technology enhancements, increased quality control, tax consequences, and the concept of synergies versus upfront investment. Increased synergies are major sources of post-merger or acquisition profitability (Wang, 2014).

The study shows that Cisco's acquisition of Duo improved the relationship between Cisco and its shareholders. When the profitability of a firm increases due to M&A, shareholders are likely to receive more dividends due to the higher share prices (Střeleček, Lososová, and Zdeněk, 2010). The changes in share prices, dividends, and earnings per share provide valuable insights into the effect of strategic alliances on shareholders. The dividends shareholders receive at the end of the agreed period is determined by the per-share value. The amount of dividends directly depends on the profitability of the firm, and the company decides to give out some of the excess profit to its shareholders instead of re-investing it. In 2018, Cisco did not pay any dividends due to the firm using most of its earnings for the acquisition. However, in 2019, Cisco’s payout ratio rose to 46.6. The payout ratio indicates the fraction of earnings that can be paid out to shareholders as dividends. According to Nurfauziah and Nuzul (2018), stakeholders experience higher returns on their investments after an acquisition, and such was the case with Cisco one year after taking over Duo.

Cisco’s market capitalisation increased significantly after the acquisition. The market share refers to the proportion of a given sector or market that is controlled by a given firm. As Hýblová (2014) indicates, one of the major reasons why firms consider the formation of strategic alliances is to gain a higher market share. The sharp increase of Cisco’s share price from $36.70 at the beginning of the 2019 fiscal year to $41.30 at the end of the year can hugely be attributed to the strategic alliance formation. Several factors may have resulted in the sharp rise in Cisco’s market share after the acquisition, such as an increase in synergies (Rabier, 2017), higher efficiency (Leepsa and Mishra, 2016), or rise in output levels (Sahoo, Mehdiloozad, and Tone, 2014).

In addition to the impact on shareholders, market price, and financial performance, the research also revealed that Cisco’s acquisition of Duo also had implications for employees and the board of directors. A few employees, especially those of the acquired firm lost their jobs, which is an observation Vijaywargia (2016) made in her study. However, firms implement a diverse range of strategies and measures to convince both employees and directors to stay after an acquisition (Fich, Nguyen, and Officer, 2018). The number of directors remained constant, with Cisco retaining most of its directors.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

The primary aim of this investigation was to examine the impact of Cisco's acquisition of Duo Security on its financial and non-financial performance. Literature was reviewed during the study to determine the results of various studies on the topic and to compare these results with the study's findings. Four years of data were retrieved from the SEC website to determine the changes in Cisco's different financial elements. The study analysed data from three years before the acquisition and one year after the acquisition. The acquisition occurred in October 2018; therefore, the study involved an analysis of various financial values from 2016 to 2019. After the acquisition, only one year of data was analysed because at the time of the study, that was the only available data.

The financial analysis involved a review of the changes in revenue, gross profit, net profit, and operational expenses. It was discovered that after the acquisition, the revenue, gross profit, and net profit all increased significantly. The benefit of economies of scale helped Cisco reduce its operational costs significantly. Additionally, several profitability ratios, including the net profit margin, ROE, ROI, the gross margin, asset turnover, EBIT margin, and the EBITDA margin, were also analysed as quantitative data to determine the impact that the strategic alliance had on the performance of the firm. After the acquisition, the value of all these ratios increased, revealing a positive impact on financial performance. Moreover, the company's goodwill and market capitalisation increased significantly, showing that strategic alliance had an overall positive effect on Cisco's finances.

The acquisition also directly impacted the shareholders because it led to a change in share prices. The stock prices rose significantly after the acquisition, thus increasing the shareholders' capital gains. Additionally, the payout ratio increased after the acquisition, which increased the dividends received by the shareholders. Therefore, they gained in terms of capital gains and dividend returns.

Duo Security's employees were also affected by the acquisition. After the acquisition was completed, most employees, including the founders, moved to Cisco. The acquisition had no impact on Cisco's board of directors. The analysis showed that the board maintained all board members after the acquisition, except two who retired in 2018. The shift in roles was the only major change to the board. However, in terms of composition and size, the board remained relatively the same after the completion of the acquisition.

Based on the findings of this study, the key recommendation is for firms to opt for acquisitions to improve their financial and non-financial performances. However, companies must adopt and implement effective communication strategies with all the stakeholders, especially employees, to address potential barriers to success, including low morale after the strategic alliance and job dissatisfaction associated with high levels of uncertainties after the acquisition. Finally, further research should be conducted concerning the factors that contribute to or hinder the success of companies after strategic alliances. The need for further research is due to the inconsistent observations in both the existing literature and the current investigation.

CHAPTER 6: REFLECTION

Carrying out this research has helped me hone both my hard and soft skills. It has also helped me gain practical skills, as opposed to merely understanding various concepts in theory. One of the main lessons in accounting is learning to analyse various financial statements to determine a company's financial performance over a given time in a bid to make the right investment decisions. I have learned the significance of analysing balance sheets, income statements, cash flow statements, and statements of equity.

During this study, I needed to analyse various financial statements to determine the impacts of Cisco's acquisition of Duo Security. Therefore, I started by analysing the balance sheets to determine the return on equity, the return on assets, and the return on investments. I then analysed income statements to determine the values of various profitability ratios, such as the gross margin, the net profit margin, the operating margin, and the pre-tax profit margin. I also used the income statements to determine how the revenue, net profit, and gross profit had changed before and after the acquisition. Cashflow statements were not utilised in this study because it aimed to analyse the firm's financial returns. However, the research helped me understand how to analyse various cashflow statement components, such as changes to financial, operating, and investment cashflows. Finally, I used the company's statement of equity to determine the firm's market capitalisation and observe its changes over the years, as well as changes in the company's ownership.

The study also allowed me to understand how to calculate a firm's intrinsic value by using the firm's financial statements to determine its fundamental value. Additionally, through the research carried out in this study, I understood how to perform a relative valuation to determine the most optimal stock investment. The study made use of secondary data alone, which was used in both the literature review and the data analysis. This work is vital, especially in the information age, when a large amount of data is available, and one must determine the most accurate sources. Additionally, one also needs to be able to escape the noise and use the right sources of data only. These data collection skills will be essential in the workplace because the business environment is continuously changing. Therefore, I must collect the most relevant data and use it to generate actionable insights.

I was also able to put my data analysis skills to the test during this research by using Microsoft Excel. The software is easy to use, and it helps with the presentation of charts and graphs. Consequently, it aids in understanding the results and generating insights. I was able to calculate the changes in data over different periods and identify trends, which is crucial, especially in the field of finance. The study made use of quantitative data, which has enabled me to make informed decisions using various data types. I learned that in some cases, quantitative data alone cannot be used because there may be reasons for different changes are not explained by merely analysing the data. Therefore, I learned the significance of combining quantitative data to make well-thought-out decisions that will have the highest probability of success.

One vital factor that I had to consider during the project was proper time management to ensure that I completed it on time. Time management is critical, especially in the workplace. This study helped me determine the best methods to use to ensure that I complete all my tasks on time. In this case, I divided the work into five chapters and created a timeframe for each chapter to ensure that I completed the work target on time. I also used the critical path method of project management to organise the work. This method helped me identify the tasks that had to be completed before I began researching another task and those that had to be completed by a particular date to avoid disruptions to the set schedule.

The research project also helped me to learn that things do not have an absolute solution and that they are dependent on the circumstances that surround them. Incidentally, when carrying out the literature review, different studies had varying results that were dependent on the case studies analysed. This finding helped me learn that each business should be analysed individually, and the factors that make one firm successful may not necessarily lead to success for another firm. This lesson was vital because I aim to start a business in the future.

During the data analysis process, I learned the importance of critical and analytical thinking to determine the root cause of a given phenomenon. Additionally, I learned that IT skills are crucial in the workplace today; they make work easier and increase efficiency and productivity. Incidentally, the use of Excel allowed me to analyse a wide range of data in a short amount of time by using different functions that worked on the whole data set.

My career path is in the field of finance, where I would like to become an investment analyst. This study helped me gain the skills required to analyse various securities and make decisions to either buy, sell, or hold. Additionally, it helped me to determine methods that can be used to help clients compare the returns of various companies and determine the optimal investment based on their goals and needs. The time management skills I gained, as well as the critical-thinking skills, will also help me plan, be organised, and critically analyse information to generate the correct insights. The academic writing skills used in this research are also vital because they will help me when writing reports to present to various stakeholders and when making presentations. Finally, the skill of data analysis will help me analyse data quickly and accurately and, thus, make the best investment decisions.

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APPENDIX A: EXCEL CALCULATIONS (FINANCIAL RATIOS)

Years	2016	2017	2018	2019
Revenue (USD million)	49,247	48,005	49,330	51,904

Years	Revenue (USD million)	
2016	49,247	
2017	48,005	-2.52%
2018	49,330	2.76%
2019	51,904	5.22%

Years	2,016	2017	2,018	2019
EBIT margin	25.7072	24.9412	24.9524	27.3948
EBITDA margin	30.0729	29.7032	29.3959	31.0496
pre-tax profit margin	26.2351	25.5953	26.4322	28.073
net profit margin	21.8064	20.0167	0.223	22.3894
return on assets	8.8276	7.4019	0.1011	11.8833
return on investments	12.1940	10.4603	0.1731	24.1872
asset turnover	0.4048	0.3698	0.4535	0.5308
gross margin	62.8700	62.96	62.04	62.94

Year	net profit (USD million)	
2016	10739	
2017	9609	-10.52%
2018	110	-98.86%
2019	11621	10464.55%

Years	Gross Profit (USD million)	
2016	30960	
2017	30224	-2.38%
2018	30606	1.26%
2019	32666	6.73%

Years	Operating Expenses (USD million)	
2016	18032	
2017	17495	-2.98%
2018	17939	2.54%
2019	18125	1.04%

Years	EBIT margin	EBITDA margin	Pre-tax profit margin	Net profit margin
2016	25.7072	30.0729	26.2351	21.8064
2017	24.9412	29.7032	25.5953	20.0167
2018	24.9524	29.3959	26.4322	0.223
2019	27.3948	31.0496	28.073	22.3894

Years	Return on assets	Return on inves	Asset turnover	Gross margin
2016	8.8276	12.1940	0.4048	62.8700
2017	7.4019	10.4603	0.3698	62.96
2018	0.1011	0.1731	0.4535	62.04
2019	11.8833	24.1872	0.5308	62.94

APPENDIX B: EXCEL CALCULATIONS (CHANGES IN PRICE, PARTIAL SAMPLES)

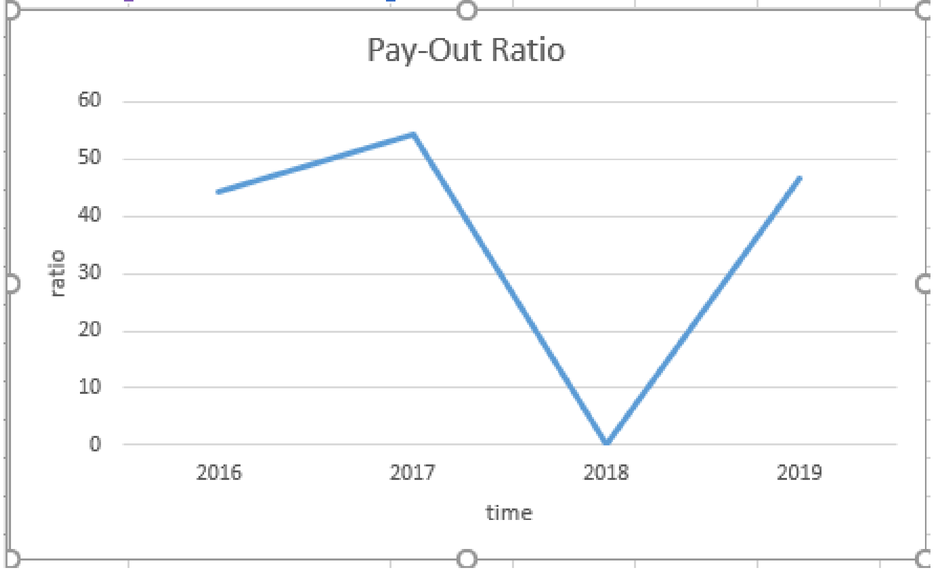
Date	Open	High	Low	Close	Adj Close	Volume
04/01/2016	26.39	26.42	25.88	26.41	23.26819	35827100
05/01/2016	26.54	26.66	26.18	26.29	23.16246	22024900
06/01/2016	26.08	26.14	25.82	26.01	22.91577	30799800
07/01/2016	25.49	25.74	25.12	25.41	22.38715	43235400
08/01/2016	25.55	25.63	24.72	24.78	21.8321	28609700
11/01/2016	24.93	25.35	24.93	25.27	22.26381	32346900
12/01/2016	25.51	25.57	25.03	25.35	22.33429	30122400
13/01/2016	25.42	25.52	24.57	24.6	21.67351	33431600
14/01/2016	24.69	24.9	24.46	24.66	21.72637	42902400
15/01/2016	23.93	24.43	23.57	23.62	20.8101	64092800
19/01/2016	23.8	24.03	23.59	23.85	21.01273	52533500
20/01/2016	23.4	23.51	22.47	22.9	20.17575	83632400
21/01/2016	23.09	23.45	22.87	22.9	20.17575	46267900
22/01/2016	23.6	23.64	22.99	23.37	20.58984	55049000
25/01/2016	23.38	23.52	23.14	23.17	20.41363	64066100
26/01/2016	23.24	23.85	23.24	23.72	20.8982	25162200
27/01/2016	23.69	23.9	23.3	23.43	20.6427	24654000
28/01/2016	23.73	23.79	22.98	23.11	20.36077	31833500
29/01/2016	23.4	23.8	23.2	23.79	20.95987	39692600
01/02/2016	23.46	23.57	23.23	23.48	20.68675	24006400
02/02/2016	23.23	23.25	22.73	22.83	20.11408	36203700
03/02/2016	23.09	23.18	22.58	23.1	20.35196	32231400
04/02/2016	23.17	23.57	22.93	23.54	20.73961	29280500
05/02/2016	23.51	23.66	22.81	22.89	20.16693	32641000
08/02/2016	22.63	23.02	22.48	22.93	20.20218	38842100
09/02/2016	22.6	22.86	22.53	22.65	19.95549	30767200
10/02/2016	23.13	23.13	22.46	22.51	19.83215	36896100
11/02/2016	24.09	24.97	24.09	24.68	21.744	92696000
12/02/2016	24.89	25.36	24.52	25.11	22.12284	49753600
16/02/2016	25.27	25.98	25.19	25.84	22.766	40401700
17/02/2016	26.17	26.59	26.08	26.46	23.31224	36904700
18/02/2016	26.44	26.58	26.28	26.43	23.28581	31288200
19/02/2016	26.27	26.56	26.25	26.55	23.39153	28791700
22/02/2016	26.87	26.91	26.42	26.63	23.46202	24608100
23/02/2016	26.54	26.54	26.06	26.12	23.01269	28097500
24/02/2016	25.89	26.33	25.65	26.32	23.1889	22960800
25/02/2016	26.49	26.6	26.2	26.6	23.43559	18655100
26/02/2016	26.8	26.85	26.32	26.41	23.26819	18113000
29/02/2016	26.42	26.65	26.15	26.18	23.06555	24763100
01/03/2016	26.45	26.93	26.24	26.83	23.63822	25245400
02/03/2016	26.8	26.91	26.6	26.9	23.6999	19020100
03/03/2016	26.95	26.97	26.59	26.87	23.67347	19002200
04/03/2016	26.92	26.96	26.67	26.8	23.61179	19429900
07/03/2016	26.58	27.18	26.33	27.14	23.91134	21500100
08/03/2016	26.97	27.3	26.69	27.05	23.83205	23821300
09/03/2016	27.24	27.8	27.12	27.61	24.32544	38890200
10/03/2016	27.76	27.98	27.03	27.38	24.12279	33327300
11/03/2016	27.82	27.91	27.67	27.86	24.54569	21873100
14/03/2016	27.82	27.86	27.6	27.7	24.40472	18291700
15/03/2016	27.48	27.69	27.45	27.66	24.36948	16917200
16/03/2016	27.52	27.95	27.51	27.88	24.56331	19087800
17/03/2016	27.92	28.44	27.87	28.19	24.83644	28501900

APPENDIX C: BOARD OF DIRECTORS

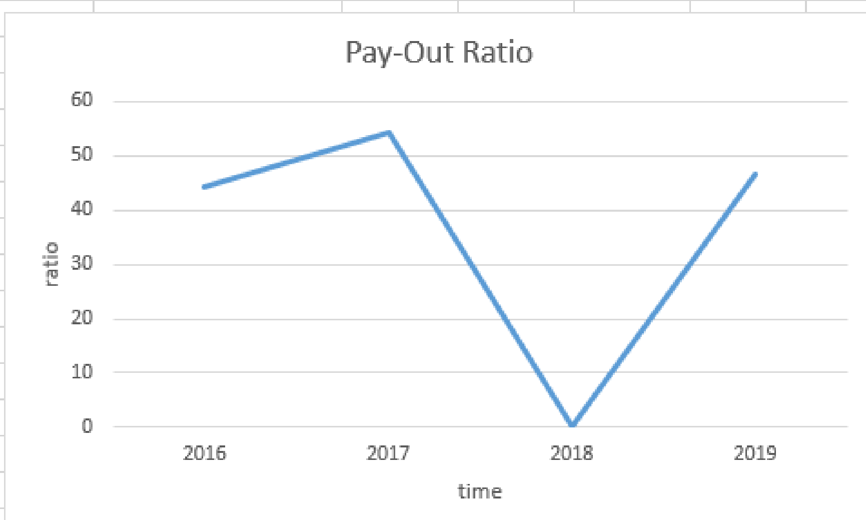
2019			2018		
Name	**Role**		**Name**	**Role**	
Charles H. Robbins	chairman and ceo		Charles H. Robbins	chairman and ceo	
Wesley G. Bush	**independent director**		Carol A. Bartz	lead independent director	retired in 2018
M. Michael Burns	independent director		M. Michael Burns	independent director	
Michael D. Capellas	**lead independent director**		Michael D. Capellas	independent director	
Mark Garrett	independent director		Mark Garrett	independent director	
Arun Sarin, KBE	independent director		Dr. John L. Hennessy	independent director	retired in 2018
Dr. Kristina M. John	independent director		Dr. Kristina M. Johnson	independent director	
Brenton L. Saunder	independent director		Roderick C. McGeary	independent director	
Roderick C. McGear	independent director		Arun Sarin, KBE	independent director	
Steven M. West	independent director		Brenton L. Saunders	independent director	
			Steven M. West	independent director	

APPENDIX D: GOODWILL CHANGES

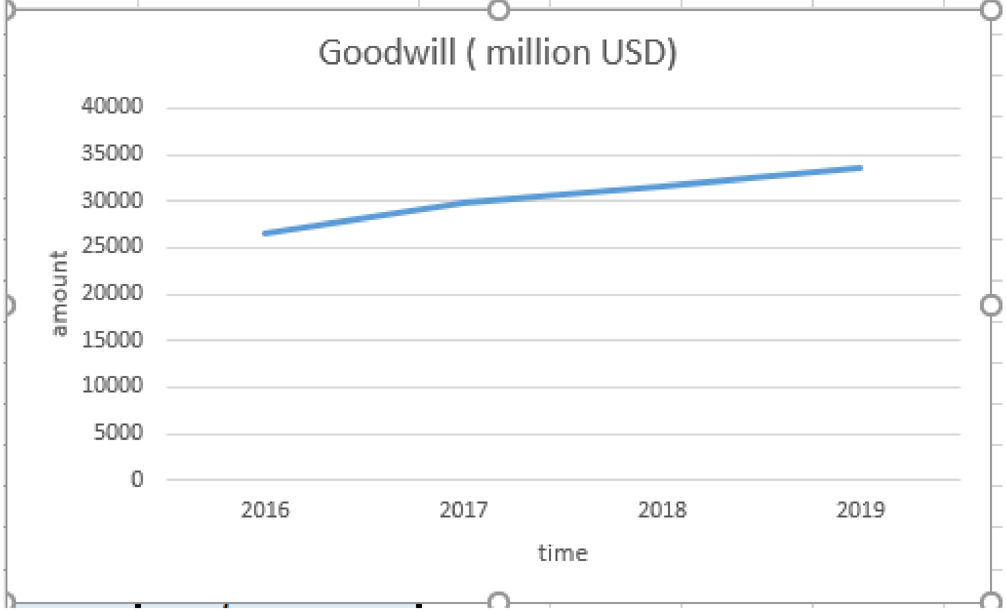
Years	Pay-Out Ratio
2016	44.1
2017	54.3
2018	0
2019	46.6



Years	Pay-Out Ratio
2016	44.1
2017	54.3
2018	0
2019	46.6



Years	Goodwill (million USD)	
2016	26625	
2017	29766	11.80%
2018	31706	6.52%
2019	33529	5.75%



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