DISNEY-FOX Deal: Valuation of an acquisiton

Author Tatiana Korenkova

Master of Science in Management UPF Barcelona School of Management

Academic Year 2018 – 2019

Mentor Luz Parrondo

upf. Barcelona School of Management

Project performed within the framework of the **Master of Science in Management** program taught by Barcelona School of Management, a centre associated with Pompeu

Abstract

The entertainment and media industry is a constantly changing and fast-growing industry. Thanks to the increasing number of M&A transactions and shifting consumer demand for high-quality content on Internet, media market has to reshape and companies are encouraged to transform their products by focusing on digitalization. This master thesis evaluates an acquisition of 21st Century Fox by the Walt Disney Company, the two media giants inside the US market and beyond.

First of all, the paper examines what an M&A deal is and what drives some companies to proceed these transactions. Also, the valuation methods for M&A are studied and applied in the research. In addition, the media industry and the companies are analyzed by focusing on trends, competition, and historical financial performance. After this, the fundamental analysis of both companies is provided and the economic reasoning of the acquisition of Fox by the Disney Company is determined by using Discounted Cash Flow method and the Data Envelopment Analysis. Both companies are valued independently and as a combined firm.

As a consequence, the acquisition deal seems to be the perfect strategic and economic fit. The transaction will increase a leading position of Disney in the movie and TV production and will decrease the approaching competition from streaming and online companies.

Besides, the purchasing price of $71,3 billion is going to be beneficial for Disney. Also, the deal will cause the efficiency score of Disney to grow from 41,6% to 47%. And, therefore, the estimated value of a synergy is going to be twice as high as the current Disney's EV ($1 281,568 billion as the best estimate), which promises the high potential for this media corporation. Moreover, the transaction will encourage Disney's Revenues and Income to grow by 35% and by 48% in 6 years, respectively, and will force its market share to increase from 15,6% in 2018 to 31,9% by 2024, which also will strengthen the company's position in the market.

Acknowledgements

To begin with, I would like to thank my thesis supervisor Luz Parrondo Tort for the continuous guidance and advice she has been providing throughout the entire process of writing this research paper. I have been extremely happy to work with a supervisor, who truly cared about my research, and who responded to my questions and doubts immediately.

Also, I would like to point out that the topic that I chose for my thesis was quite challenging for me, because I had never used any valuation method for M&A before. So, Luz Parrondo never denied helping me to figure this method out. I would say that I have learnt a lot from the whole process of creating my research paper and, of cause, from my wonderful supervisor who has been giving me continuous feedback.

Additionally, I would like to thank UPF Business School of Management for becoming one of the best experiences in my life and contributing to my self-improvement, not only professionally and academically, but also in personal side. I am glad that in this paper I managed to implement some tools from the Managerial Accounting course, the Applied Statistics and Corporate Finance classes and the Benchmarking course.

Finally, I would like to express my sincere gratitude to my parents and my sister for providing me with constant support and encouragement throughout the whole year of my study and through the process of writing this thesis. Especially, I am grateful to my father who motivated me to choose the topic for my paper and helped me with useful advice.

I also want to thank my uncle who did not refuse to share his ideas with me regarding the analysis part. This accomplishment would not have been possible without them. Thank you.

Table of Contents

1. Introduction

Mergers and Acquisitions are becoming drastically important for many companies, which target to obtain economic benefits from these actions. Moreover, the main purpose of M&A transactions is to create a higher shareholder value in a combination of two companies compared to a single firm. In recent years it might be observed that M&A activities, for instance, in North America have been intensifying significantly until 2017, when the number of M&A transactions reached its historical maximum and amounted to 18 576 in 2017 and still had a rather high value of 17 378 in 2018.

Notably, for such a fast evolutive sector as media industry, consolidation is becoming crucial for companies not only because of their willingness to gain more power in the market, but also because of their desire to quickly respond to the high competition of streaming and online services like Netflix or Amazon Prime. The customer demand inside the industry is shifting significantly to digitalization, forcing the entertainment industry to innovate its services and adjust to the fast-changing conditions.

In March 2019 media industry of the US experienced a huge deal of Disney acquiring 21st Century Fox, which, according to the Institute for Mergers and Acquisitions, was ranked the 8th largest M&A Transaction in the world. This reorganization means to increase the competitive ability of Disney against such leading streaming services as Netflix by acquiring 60% of stake in Hulu (a video streaming service) through purchasing the Fox company and extend its content library for a new streaming service Disney+ that Disney is going to launch in the near future.

Being one of the largest media giants in the world, Disney and Fox are very likely to reshape the whole media industry with their consolidation deal and this acquisition might have a great impact on the buyer-company itself. This is why the evaluation of an effect and possible consequences of the transaction between these media giants is drastically important for their current or potential investors and their management.

So, this paper is going to answer the following question:

Is the acquisition transaction going to be effective for Disney and generate more shareholders' value?

In this research we analyze each company separately in terms of its financials to examine companies' current financial state and implement valuation models to estimate their individual and joint potential; and, finally, we try to evaluate the transaction's impact on Disney's effectiveness and its performance against its competitors in the market. **This work seeks to prove that the acquisition is going to increase the shareholders' value and become effective for Disney.**

The remainder of this research is organized into four chapters. Firstly, the work provides an overview of what a merger and acquisition transaction is and what its motives are. Subsequently, Chapter 2 explains the methodology for the further analysis, including valuation models review, the discounted cash flow method, price to earnings model and the benchmarking approach. Chapter 3 gives an overview of the media industry as a whole, the companies overview and the deal rationale. Chapter 4 evaluates and interprets the results. Finally, conclusions are drawn and guidelines for future work are outlined.

1.1. M&A and its motives

Merger and Acquisitions are two business terms that are often confused or misinterpreted. This confusion might happen because the both words describe joining of two companies, however, there is a crucial difference between them.

A **Merger** is a result of two separate companies conjoining and forming a new independent entity, while an acquisition, according to Prateek Agarwal (2014), is the process where a target company is taken over and controlled by the purchasing company and becomes part of the acquirer-company.

An **Acquisition** implies that the acquirer takes all assets and liabilities of a purchased company. Besides, it is also worth mentioning that in frames of a merger new stocks are usually issued, while for an acquisition stocks are not issued.

So, what are the main drivers that encourage companies to perform M&A activities? The essential idea behind these processes is the improvement of a company's financial state in general which can be accomplished in the following ways (Prateek Agarwal, 2014):

Economy of Scale: This indicates that a joint company reduces its fixed costs by eliminating double standards in both companies, while maintaining the revenue stream the same which encourages the profit margin to grow.

Increase in Market Share: As the result of M&A the buyer acquire one of its key competitors and, eventually, gets a bigger market share and market power.

Tax Minimization: It is typical for a profitable company to take over a loss-making company to minimize the tax amount it has to pay.

Cross Selling: If merging entities come from different backgrounds it helps them to get each other's clients base and this mutual effect might stimulate the combined company's sales increase.

Diversification: This effect occurs when companies are willing to extend its operations and create their departments in a different industry, which also potentially leads to gaining higher profits.

Vertical Integration: A company can benefit from a vertical merger by solving the hold-up issues which leads to production and, consequently, sales increase.

According to Robert F. Bruner (2004) M&A is an instrument of macroeconomic renewal and one of the most important tools, thanks to which companies can react and respond to changing conditions. The authors underline that even if a company refuses to merge or acquire, most probably its competitors would do it instead to gain a financial or strategic advantage, and, eventually, it might appear to be devastating for the company in the long run. This is why simply rejecting M&A is not feasible from the author's standpoint.

2. Methodology

2.1. Review of Valuation models

Usually, a company's valuation process normally consists of the following steps (Barbara S. Petitt, 2013):

1. Analyzing the financial performance of a target firm from the historical scale to make sure that this company is a viable partner for an acquirer. Therefore, it is worth assessing the target's operations, its business model and capital structure to see if it might be a potential benefit for purchasing company.

2. Predicting the future performance of the target company by forecasting the financial statements for the next period. This step helps to understand the target's potential to generate value in the future that can be beneficial for an acquirer.

3. Using one or more valuation models to assess the target company's value

4. Checking the sensitivity of the forecasted statements and valuation assumptions on the target's value.

Valuation methods

There are some valuation methods, application ability of which might differ for a particular industry or a company's life stage (for instance, if it is a mature company or a start-up) or simply because of the analyst's preference.

These methods are divided in 2 large groups: the first one includes direct and indirect (relative) valuation methods; and the second one is composed of models that deal with cash flows and models based on other financial ratios like revenues, book value or earnings.

Direct valuation methods allow a direct assessment of a company's fundamental value to its market value. If a company's market value appears to be lower than its fundamental value it can be estimated as undervalued and if it is the opposite situation then a company can be named overvalued; the ideal situation when it is possible to say that a company is fair valued is when its market and fundamental values coincide.

Relative valuation methods, on the contrary, do not estimate whether a firm is fundamentally fairly priced or not; they only assess if a company is fairly priced relative to a particular benchmark or a group of benchmarks. This method is usually called a comparable approach.

The table presented below shows the classification of existing valuation methods.

	Direct Methods	Relative (Indirect) Methods
Valuation methods based on CF	**Discounted cash flow models:** Free cash flow to the firm model Free cash flow to equity model Adjusted present value model **Option-pricing models:** Real option analysis	**Price multiples:** Price-to-cash-flow ratio
Valuation methods based on other financial variables	**Economic income models:** Economic value analysis	**Price multiples:** Price-to-earnings ratios (P/E ratio, P/EBIT ratio, and P/EBITDA ratio) Price-to-sales ratio Price-to-book ratio **Enterprise value multiples:** EV/EBITDA multiple EV/Sales multiple

Table 1. Classification of valuation methods

However, the two most widely used valuation methods among those that are mentioned in the table are the Discounted Cash Flow model and the P/E ratio. According to Imam (2008) almost 60% of analysts that had been interviewed preferred cash flow–based valuation methods. For this reason, this paper is focused on the Discounted Cash Flow valuation method.

2.2. Discounted Cash Flow method

In this method, the value of an asset is measured based on the present value (PV) of future cash flows generated by this asset. These cash flows are discounted by applying their risk. Therefore, this approach is often used to value an entire company.

The model can be applied in **four steps**:

<u>Step 1: The calculation of free cash flow</u>

Free cash flows show the difference between cash inflows and outflows. We can find FCF indirectly based on the company's income statement:

$$Free\ Cash\ Flow = EBIT * (1 - Tax\ Rate) + Depreciation - Capital\ Expenditures$$
$$- Changes\ in\ Net\ Working\ Capital$$

<u>Step 2: Calculating the weighted average cost of capital (WACC)</u>

The weighted average cost of capital is the rate of return that investors anticipate from investing in a particular company instead of other companies with similar risk (Brealey & Myers et al., 2007). In frames of the DCF approach we usually Weighted Average Cost of Capital (WACC) to discount the free cash flow and is very crucial to the model, because even a small change in WACC can result in significant changes in a company's value (Steiger, 2010).

The WACC is calculated as follows:

$$WACC = k_e * \frac{E}{V} + k_d * \frac{D}{V} * (1 - Tax)$$

Where k_e is the cost of equity, E is the total equity, V is the enterprise value that is calculated as the sum of total equity and the total liabilities of a company, k_d stands for the cost of debt and D describes the total liabilities of a firm.

The cost of equity (k_e) is defined by using the Capital Asset Pricing Model (CAPM), which is computed as follows:

$$k_e = r_f + \beta * r_m$$

Where r_f stands for the risk-free rate, β is the systematic risk of the company and r_m is the market risk premium.

The beta (β) can be found using the regression of a company's stock returns against market returns for an estimated time period.

The cost of debt (k_d) is the rate that a company pays for obtaining the debt.

The formula for the after-tax cost of debt is (Damodaran, 2012):

After tax cost of debt = (Risk free rate + Default spread) (1- Tax rate)

The **risk-free rate** is the same as mentioned earlier regarding CAPM.

We can estimate the **default spread** in the following ways:

1) based on the current market interest rate (yield to maturity) on the company's long-term bonds if a company has outstanding bonds

2) based on the ratings (Steiger, 2010) in case if a company has bond ratings from rating agencies like Moody's or S&P

3) based on the company's interest coverage ratio ($\frac{EBIT}{Interest\ expenses}$) if the firm is not rated (Damodaran, 2012).

Step 3: Identifying the terminal value

We may calculate the terminal value of a company by increasing its last cash flow by the growth rate of the firm and dividing it by the difference of WACC and the perpetual growth rate.

$$Terminal\ Value = \frac{FCFF_n(1+g)}{WACC-g}$$

Step 4: Calculating the Enterprise Value

Then, we can find the enterprise value of a company by summing up the discounted free cash flows and the discounted terminal value:

$$Enterprise\ Value = \sum_{i=1}^{n} \frac{FCFF_i}{(1+WACC)^i} + \frac{Terminal\ Value}{(1+WACC)^n}$$

2.3. Benchmarking approach

There is also a benchmarking approach that allows to evaluate a merger by positioning it in the market in terms of efficiency. It might be assumed that the benchmarking approach belongs to the set of comparable valuation methods, because it is focused on measuring the performance of a company against a group of competitors in the market. The approach allows us to analyze best practice firms that form the efficiency frontier, so a company is able to position itself among them in a market and look at the potential ways to improve its progress.

Paul Nillesen, et al. (2001) proposed a valuation model that is meant to determine the cost savings and efficiency score development from a merger or an acquisition. So, this approach for companies' valuation includes identifying and qualifying the efficiency savings and enhanced strategic positioning of a particular merger.

The benchmarking method utilizes Data Envelopment Analysis (DEA) that combines different inputs and outputs from the production process that we can use for efficiency score estimation.

3. Industry and Companies Overview

3.1 Industry Overview

It is considered that the U.S. media and entertainment (M&E) industry is the largest in the world and according to the U.S. Department of Commerce it represents one third of the global M&E industry. Its market size is valued at $735 billion and includes television programs and advertisements, streaming content, music and audio recordings, broadcast, motion pictures, radio, book publishing, video games, and ancillary services and goods.

According to the most recent Entertainment & Media Outlook by Price Waterhouse Coopers (PwC) this sector is anticipated to reach more than $830 billion by 2022. Though the United States has a mature TV market, its competition degree is becoming more intense thanks to the new digital economy and the rapid growth of the streaming content.

Grand View Research in one of its report's states that the world's video streaming market size represents $36.64 billion in 2018 and is expected to expand at 19.6% pace from 2019 to 2025. Such upcoming innovations as Artificial Intelligence (AI) and Block-chain system are meant to enhance quality of video content, speed video production and accelerate the market growth.

The Deloitte report on the 2019 M&E Industry Outlook indicates that over the past year the 2 main trends appeared:
1) the accelerating growth of streaming and mobile video
2) a shift away from traditional pay TV

According to the latest Deloitte study, 55% of US households opt for paid streaming video services, and almost half (48 %) of all US consumers stream TV content each day or week in 2017.

Another interesting found is the fact that across different age groups the consumers are streaming more than ever before and are usually using smartphones and tablets for it. Nowadays, US consumers pay about $2 billion monthly for subscription-video services. At the same time subscribers that consume pay-TV report dissatisfaction with the service they use and 70% of them claim they do not receive enough value for money they pay for it.

The Deloitte reports that while media & entertainment companies plan their strategies for 2019, they should emphasize on the following **key-trends** that are going to reshape the whole industry:

Firstly, the increase of investments in original content production by steaming companies as a response reaction to content recalls by media companies who are the original content makers. For instance, Disney company is eliminating its movies from Netflix and is going to launch its own streaming service Disney+ in 2019. Therefore, such media streaming companies as Amazon and Prime and Netflix are investing more in their original content production.

Deloitte reports that Netflix's chief content officer claims that 85% of its $8 billion content investment in 2018 went toward original content making and, at the same time, Amazon also stated that it would invest approximately $5 billion in video content during 2018.

Secondly, Media and Entertainment industry will keep on reshaping in 2019 in the result of multiple mergers and acquisitions, while media companies try to extend their content libraries, content's quality, its distribution, and value delivering. Massive mergers will reduce the number of big-name companies that possess a greater share of TV programs and movies, potentially extending their content libraries.

Deloitte claims that the main drivers that force media companies to merge and acquire aggressively and strategically reposition are changing consumer mobile-data and consumers' streaming behavior.

In October 2016 the Wall Street Journal has published the diagram that portraits 6 "behemoths" in the media industry – the biggest companies by market capitalization, where the first place occupies Comcast company with $155.2 billion of capitalisation in 2016. However, Disney is up there with Comcast and occupies the second place in this rating with capitalization os $147,9 billion. Then we can observe a huge gap between Disney and other companies mentioned futher (Time-Warner, 21st Century Fox, CBS) in terms of market capitalization. Nevertheless, we can see that the Fox company composes the top-5 largest media behemoths in the US and is an important figure in the m&e industry.
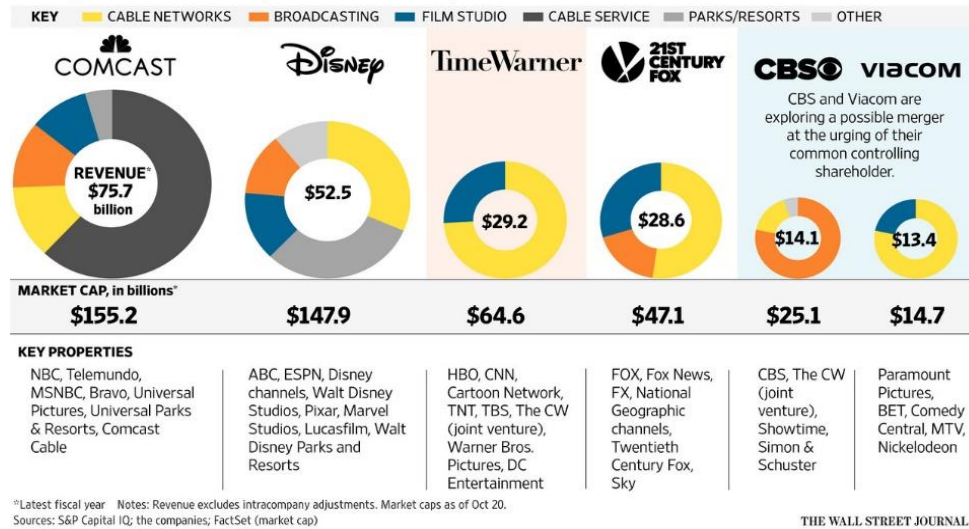
Figure 1. Largest Media Companies by Market Capitalization

If have a look at the media landscape that is shown below (Jeff Desjardins, 2018), we may conclude that the media industry is reshaping a lot. It is known that the biggest media streaming competitor for older media companies is Netflix. Netflix not only purchases content from the studios, but also makes its own and sells it directly to consumers. So, this becomes one of the reasons traditional media companies are attempting to compete by consolidating. For instance, Disney recently completed its acquisition of 21st Century Fox which also allows it to obtain a bigger stake of 60% in Hulu (a media streaming service); a telecommunication company AT&T bought Time Warner in 2018 and is becoming a media company as well.
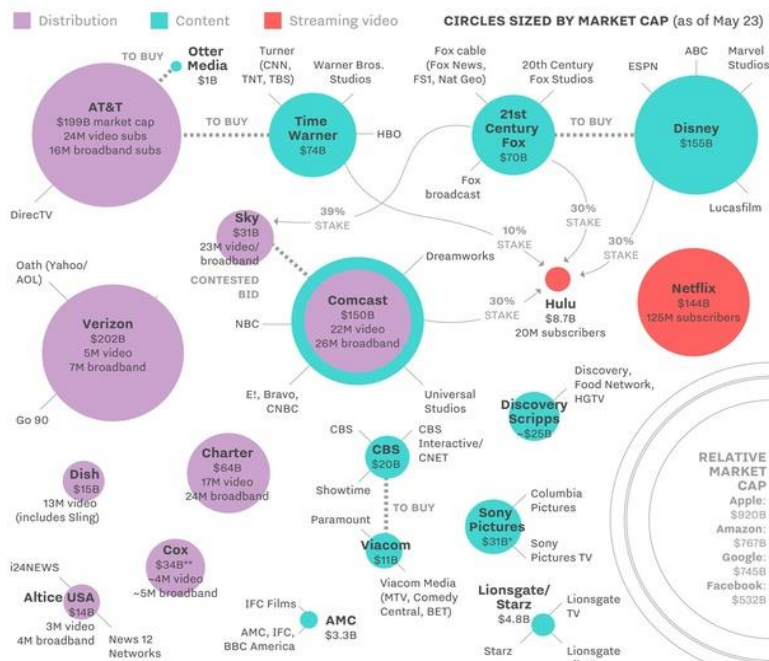
Figure 2. Media Landscape

3.2 Companies overview

The Walt Disney Company

The Disney Company is a globally diversified entertainment company that operates in 5 major sectors: Media; Parks, Consumer Products; Studio Entertainment; Disney Interactive. The company was established in 1923 by brothers Walt Disney and Roy O. Disney and nowadays, its headquarters are placed in the US, California.

Disney's annual revenue in the Fiscal Year 2018 amounts to $59.4 billion, where the major portion of $45 billion have been generated in the US and Canada. According to Statista the media networks and parks occupy a significant portion of Disney's total revenue at $24,5 billion and $20,3 billion, respectively in 2018.

Recently, Disney is shifting from the traditional content delivering method to media streaming services. Disney had a stake of 30% in Hulu until on March 20, 2019 Disney acquired 21st Century Fox and through this consolidation Disney obtained 60% stake. And, moreover, the company has announced its intentions to develop its own streaming service Disney+ (which is anticipated to be released in November 2019).

If we look at the Disney's share price graph we will find out that it has a positive growing trend over the last 10 years and, especially, in 2019 after its acquisition of 21st Century Fox the Disney's stock reached its historical maximum and now the price per share is estimated at the level of $133,36 (23d of April, 2019). So, we can state that investors reacted positively on the M&A news.

Figure 3. Disney's Stock Price (2008-2019)

21st Century Fox

Twenty-First Century Fox Inc. was a multinational mass media corporation founded by Rupert Murdoch in 1980 and was based in New York City, USA. The company owns 28 full power broadcast television stations in the U.S. which distribute entertainment, sports and other content, and overall produce almost 1,000 hours of local news every week according to the information on its official website.

21st Century Fox had been the 4th-largest media corporation in the US until it was purchased by Disney in 2019. The company's assets involved the Fox Entertainment Group, the Fox television network, and a significant stake in National Geographic Partners and other assets including some foreign channels like the prominent Indian television channel operator Star India.

According to the 2018 Fortune 500 list of the largest US companies by total revenue, the Fox Corporation was ranked number 109 reporting $28,500 million of its revenue in 2018.

In July, 2018 21st Century Fox shareholders made a final decision to sell its assets to the Walt Disney Company for $71.3 billion and this deal covered most of the company's entertainment assets. Disney's acquisition of 21st Century Fox was finished on March 20, 2019 after which the company's remaining assets were distributed between the departments of Disney.

If we have a look at the 21st Century Fox share price graph we will notice that its shares had an overall positive trend across 15 years, though it had some downfalls in 2008 and during the period of 2015-2017. However, we can observe that the share reached its historical maximum in March 18, 2019 (2 days before the company was finally acquired by Disney). Starting from 2017 and until this date we observe a rapid growth of the price share which might be caused by increased attractiveness of 21st Century Fox to acquirers and, consequently, to other investors.

Figure 4. FOX Company's Stock Price (2005-2019)

3.3 Deal Rationale

According to Disney's CEO Bob Iger, the idea of acquiring 21ˢᵗ Century Fox appeared after Disney purchased the streaming company BAMTech with intentions to upgrade its own streaming service Disney+ that was planned to be released in November 2019. The most important reason why 21ˢᵗ Century Fox was so attractive to Disney was not its production capacity but its own movie and TV libraries, because it could contribute a lot to the Disney's streaming content library expansion.

Together with 21st Century Fox's portfolio of businesses and content, Disney will be capable of providing higher quality of its content and entertainment options to respond to increasing consumers' demand, expand its international impact, and increase its direct-to-consumer offerings including ESPN+ for sports fans, the Disney+ streaming service and obtained 60% ownership stake in Hulu.

The acquisition includes 21st Century Fox's film production businesses, involving Twentieth Century Fox, Fox Searchlight Pictures, Fox 2000 Pictures, Fox Family and Fox Animation; Fox's television creative units, Twentieth Century Fox Television, FX Productions and Fox21; FX Networks; National Geographic Partners; Fox Networks Group International; Star India; and Fox's interests in Hulu, Tata Sky and Endemol Shine Group and other Networks.

Disney is aware of the fact that its audience is almost the same as the Netflix's audience. This is because Disney had an agreement with Netflix to share its content. However, at the moment the company is planning to leverage its brand profile and satisfy the consumers who grew up watching Disney's content which is highly competitive in terms of production and selection standpoint compared to its competitors in the market. So, having spent many years getting close to their customers and their needs, Disney might become a serious competitor for Netflix.

According to the Walt Disney Company and 21ˢᵗ Century Fox agreement:
- approximately $71 billion, including $35.7 billion in cash and nearly $35 billion in Disney Common Stock were paid to the former holders of 21 Century Fox Common Stock in the result of the merger;
- shares of 21CF Common Stock were exchanged for 0.4517 shares of Disney Common Stock;
- approximately $19.8 billion of cash and $19.2 billion of debt of 21 21 Century Fox were acquired by Disney;

- the acquisition price includes a total equity value of $71 billion and a total transaction value of $71 billion;

- the acquisition is anticipated to drive up Disney's Earnings Per Share (EPS) before the effect of purchase accounting for the second fiscal year after the close of the transaction, and to yield at least $2 billion in cost synergies by 2021 from operations implemented by the combination of businesses.

According to Statista analytics Disney-Fox deal is going to make a great impact on the movie industry in the US. If we look at the histogram below, we might find out that by 2017 Disney Company and 20th Century Fox (that was the 21st Century Fox property) occupied 15,38% and 12,75% of the market share respectively, which can make a highly competitive giant entity in the market out of their merger.

Disney-Fox Deal to Shake Up the Movie Industry
Domestic Box Office market share of the six major film studios from 1995 to 2017*

Walt Disney Studios	Owned by Disney	15.38%
Warner Bros.	Time Warner (Acquisition by AT&T still pending)	15.36%
20th Century Fox**	Formerly 21st Century Fox, now Disney	12.75%
Sony/Columbia Pictures	Sony	12.22%
Universal Pictures	Comcast	11.49%
Paramount Pictures	Viacom	10.89%

* as of December 2017; domestic box office includes the United States, Canada, Puerto Rico and Guam
** incl. Fox Searchlight
@StatistaCharts Source: The Numbers

Figure 5. Media Giants by Market Share

4. Results

4.1 Fundamental analysis of the companies

The Walt Disney Company

The results of the fundamental analysis indicate that the Walt Disney Company is profitable and its profits are increasing each year as well as the revenue. What is also interesting to notice is that the company's Net Profit reached its historical maximum in 2018 growing by 40% from 2017. What is also important to emphasize is that Net Income is growing at the faster pace than Revenues of the company. The average growth of Disney's revenue for last 8 years accounts to 5,8% while Income had been growing on average by 16%. Besides the profit margin of the company had been increasing from 10,4% in 2010 to 21,2% in 2018.
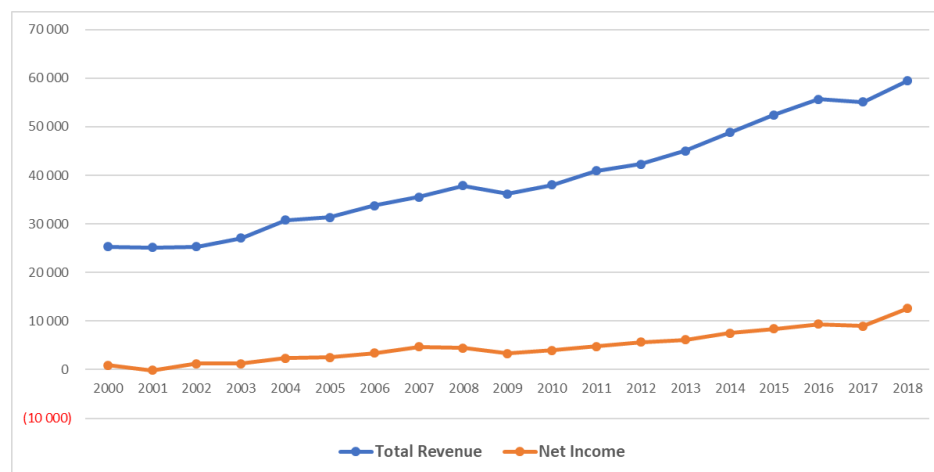
Figure 6. Disney's Revenue and Net Income historical values from 2000 to 2018

No wonder why such company's ratios as ROE, ROA and Margin ratio look more than satisfying and follow a positive trend, constantly growing from year to year. The results show that Disney's Assets and Equity are constantly generating more return.

Also, the financial leverage indicates that the company is able to cover its financial expenses (ROI is sufficiently higher than the cost of debt).

Ratio	Formula	2014	2015	2016	2017	2018	Optimal value
ROA	Net Profit/Total Assets	8,9%	9,5%	10,2%	9,4%	12,8%	>3%
Margin	Net Profit/Revenue	15,4%	16,0%	16,9%	16,3%	21,2%	>2%
ROE	Net Profit /Equity	16,7%	18,8%	21,7%	21,7%	25,8%	>6%
ROI	EBIT/Total Assets	13,6%	14,9%	15,4%	14,5%	15,1%	>i
i	Cost of debt	2,0%	1,5%	1,8%	2,0%	3,3%	

Table 2. Key metrics of Disney from 2014 to 2018

Disney's growth rate allows to conclude that the company is now at the stage of rapid growth and has reached its historical maximum of 17,1% in 2018.
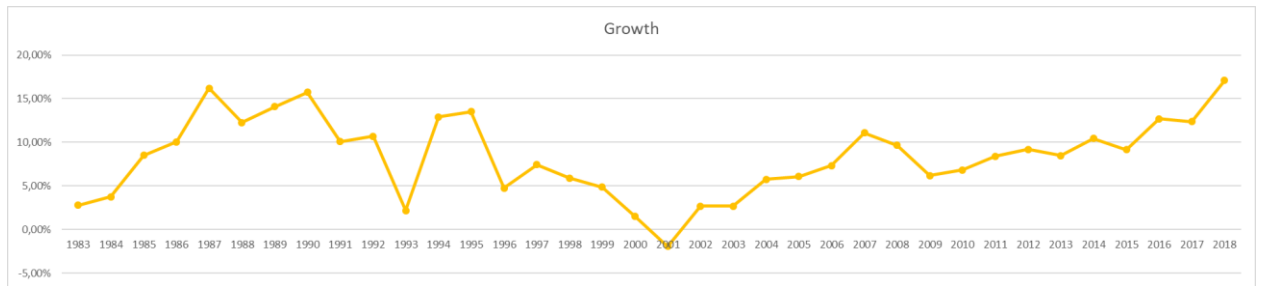
Figure 7. Disney's Growth rate from 1983 to 2018

And we also may conclude that this growth is balanced, since its assets are growing faster than its debt, sales grow at a faster pace than sales and, finally, its profits' increase exceed all of these growth rates as a result.

If we have a look at the Price to Earnings ratio of Disney, we will notice that it has been going down from 2015, which indicates that the company's investors are willing to pay less for $1 of current earnings in historical perspective. However, we may conclude that Disney is performing better compared to the whole market growth in 2018 and the company's investors anticipate higher growth from Disney in the market scale, because its P/E is much higher than the S&P index.
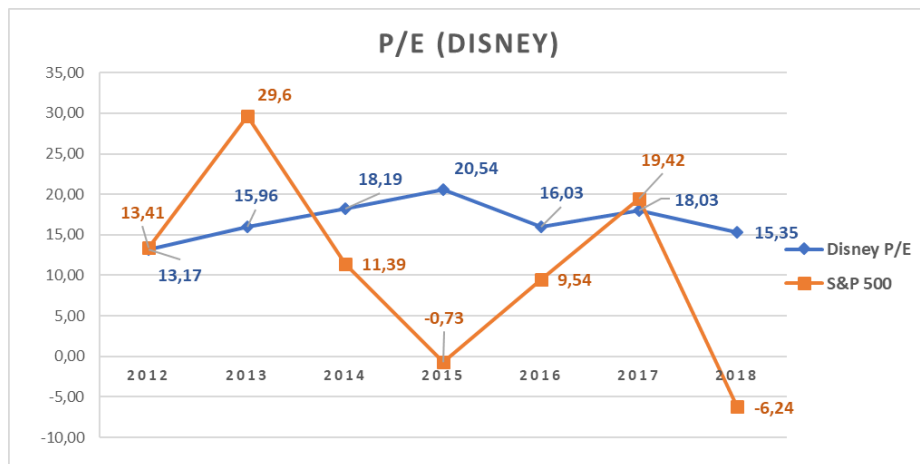
Figure 8. Disney's P/E ratio from 2012 to 2018

Next we would like to test Disney's solvency and for these we are going to implement the multidimensional Z - score that takes into account the ROE, ROA, Capitalization ratio and the Current Ratio of the company and must be non-negative for a solvent company. and uses the following equation (Amat, 2016):

$$Z = -3,9 + 1,28 \frac{Current\ Assets}{Current\ Liabilities} + 6,1 \frac{Equity}{Assets} + 6,5 \frac{Net\ Profit}{Assets} + 4,8 \frac{Net\ Profit}{Equity} \geq 0$$

Having a look at the results of the z-score we may conclude that Disney's Z-score is rather higher than 0, which indicates that it is financially healthy and does not have a bankruptcy risk. Moreover, it recovered significantly after its drop in 2017, which shows that the company is performing better.
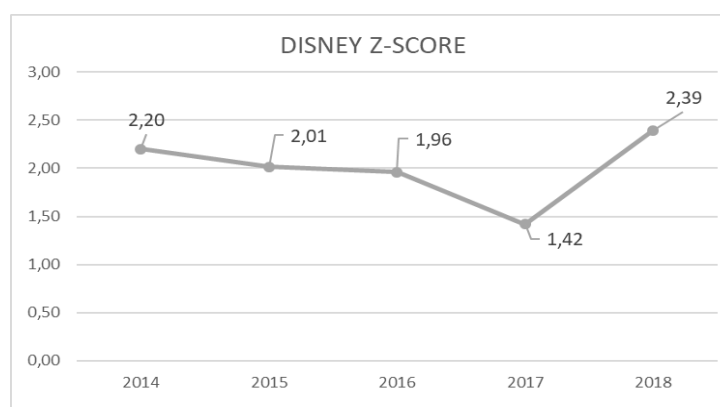
Figure 9. The Z-score of Disney from 2014 to 2018

If we consider the company's Equity it becomes clear that Disney is a company that is financially independent from the 3d parties, reporting 49,5% of equity in 2018. This means that almost half of Disney's financial resources are composed by its own financial resources.

Ratio	Formula	2014	2015	2016	2017	2018	Optimal Value
Capitalization	Equity/Total Assets	53,4%	50,5%	47,0%	43,1%	49,5%	≥40%

Table 3. Capitalization ratio of Disney from 2014 to 2018

Meanwhile, the company's debt is composed by 35,8% of its current liabilities in 2018, though the ratio is quite stable through years, this shows that the company attracts high quality debts. Besides, it is important to mention that Disney's capital return ability is improving a lot, especially in 2018, when the amount of generated net cash flow covered almost 75% of company's total loans.

Debt ratios	Formula	2014	2015	2016	2017	2018	Optimal value
Debt	Total Liabilities /Liabilities+Equity	46,6%	49,5%	53,0%	56,9%	50,5%	60%
Quality debt	Current Liabilities /Total Liabilities	33,9%	37,4%	34,5%	36,0%	35,8%	decreasing
Return Capacity	Cash Flow/Total Loans	66,0%	61,9%	59,1%	46,5%	74,8%	increasing

Table 4. Debt ratios of Disney from 2014 to 2018

The asset management of Disney is also performing well which can be confirmed by the growing assets turnover ratios, indicating that each year Disney's fixed and current assets are generating more revenue.

We can notice that the company has to wait around 2 months for its customers and other debtors to pay and this number has not been improving drastically for the last 5 years. At the same time the days payable were decreasing a bit and went to around 40 days in 2018.

Moreover, we can see that the stock days are constantly decreasing which is a positive trend, that shows that Disney is getting rid of its inventory faster, which can reduce its inventory costs.

Ratio	Formula	2014	2015	2016	2017	2018	Optimal Value
FA turnover	Sales/FA	70,7%	73,5%	74,1%	69,0%	72,7%	increasing
CA turnover	Sales/CA	321,6%	313,1%	327,9%	347,0%	353,2%	increasing
Stock Days	Inventory/ Sales/365	11,77	10,93	9,12	9,09	8,55	decreasing
Days Receivable	Receivables/ Sales/365	58,49	55,79	59,48	57,15	57,32	decreasing
Days Payable	Payables/ Sales/365	40,16	38,29	45,01	42,96	39,94	increasing

Table 5. Assets management metrics of Disney from 2014 to 2018

However, the liquidity ratios of Disney do not look as promising. The table presented below shows that for the last 4 years the company's liquidity ratios could not reach an optimal value. This might be a signal that Disney possessing not enough cash or other current assets to cover its current liabilities. This shortage of liquid assets can be explained by the aggressive investing activities of Disney that may produce high cash outflow.

Ratio	Formula	2015	2016	2017	2018	Optimal value
Current Ratio	CA/CL	1,03	1,01	0,81	0,94	**1,5**
Liquidity	(CA -Inventory)/CL	0,93	0,92	0,74	0,86	**1**
Acid Test	Cash/CL	0,26	0,27	0,21	0,23	**0,3**

Table 6. Liquidity ratios of Disney from 2015 to 2018

We can justify this assumption by looking at the Cash Flows of Disney. From the table below we can observe that Disney's Cash Flow from financing activities remains negative for the 4 analyzed years meaning that the company is paying more interests and returning loans than attracting

new financial resources. We can also notice that its Cash Flow from Investing activities remains negative and follows a decreasing trend. This indicates that the company is performing a lot of investments by acquiring different assets than gaining positive cash flow from selling them.

Though, the company is generating more positive CF from operations each year, the combined cash outflow from investing and financing activities exceed the inflow from operations until 2017 and in 2018 these values are almost equal. This tells us that cash that Disney generates from its main operating activities can hardly cover its financial expenses and investing outflow.

Cash Flow	2014	2015	2016	2017	2018
CF from Operating Activities	9780	11385	13136	12343	14295
CF from Investing Activities	-3345	-4245	-5758	-4111	-5336
CF from Financing Activities	-6710	-5801	-7220	-8959	-8843

Table 7. Disney's Cash Flows values from 2014 to 2018

Moreover, the company has a working capital deficit. So, we can conclude that the funds from current liabilities have been utilized for acquiring fixed assets, which can be proven by the aggressive behavior of Disney in terms of acquiring businesses lately.

Ratio	2015	2016	2017	2018	Optimal Value
Working Capital Balance	-7931	-8081	-11239	-9408	If ≥0 – WC Surplus If ≤0 – WC Deficit

Table 8. WC Balance of Disney from 2015 to 2018

In sum, Disney is a profitable and fast-growing company that is doing a lot of investments and, consequently, has a lack of liquidity. However, it is generating more and more return on its activities and its shareholders' return.

21st Century Fox

What can be observed in the first place is that the growth rate of 21st Century Fox is more volatile than the Disney's and, therefore, it is visible that the growth rate reached its best historical values in 2013 and 2015 and then decreased drastically in 2016 and the graphic returned to its previous growth pace. The growth rate of Fox Company in 2018 is estimated at 14,79%.
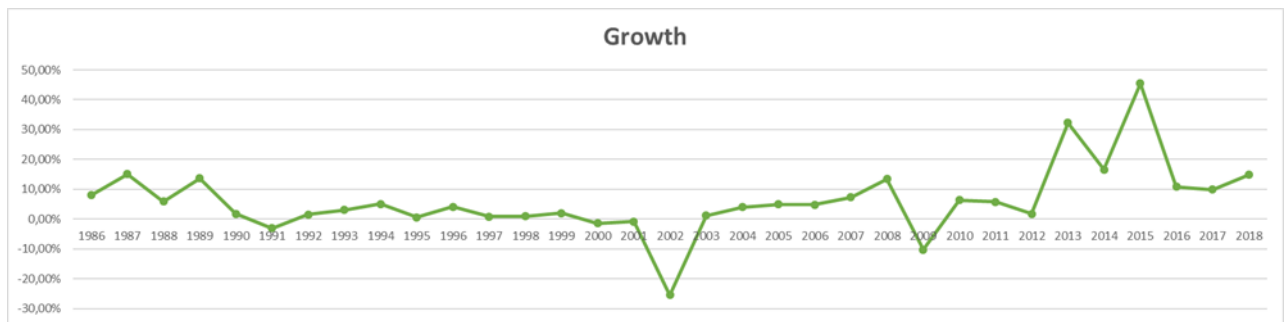
Figure 10. Growth rate of Fox from 1986 to 2018

However, we may notice that in 2018 the growth rate of Fox is balanced which implies that its assets are growing faster than its debt, sales grow at a faster pace than sales and, consequently, its profits' growth surpass all of the growth rates mentioned before.

We can observe that the Net Income and Revenue of the company follow a positive growth trend, but their values are more volatile than those of Disney. We can also say that the Fox's Revenue is growing at a slower pace than its Income and its Profit Margin has increased from 7,7% in 2010 to 14,7% in 2018.
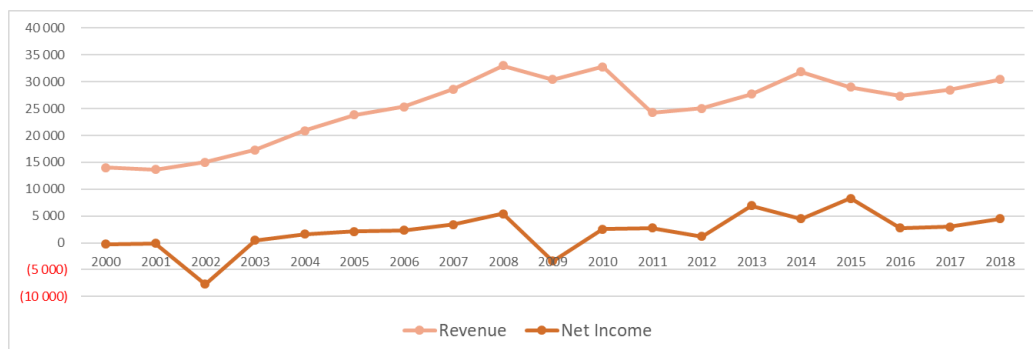
Figure 11. Revenue and Net Income historical values of Fox from 2000 to 2018

Having a look at the ROE and ROA ratios it becomes clear that the company's equity and assets ability to generate net return is increasing. The Margin ratio of the Fox company is also rather high for the 5 analyzed years and shows that the company is getting 15% of Net Income out of its Revenues in 2018.

Ratio	Formula	2014	2015	2016	2017	2018	Optimal value
ROA	Net Profit/ Total Assets	8%	17%	6%	6%	8%	>3%
Margin	Net Profit/ Revenue	14%	29%	10%	10%	15%	>2%
ROE	Net Profit /Equity	26%	48%	20%	19%	23%	>6%

Table 9. Key metrics of Fox from 2014 to 2018

Also, we can notice that from the historical perspective it might be stated that investors are willing to pay more for $1 of Fox's current earnings expecting growth of their investments in the future. Comparing the Fox's P/E ratio with the S&P 500 Index, it can be noticed that in 2018 the company's P/E became much bigger than the overall market index. This indicates that investors expect higher growth from the company compared to the entire market.
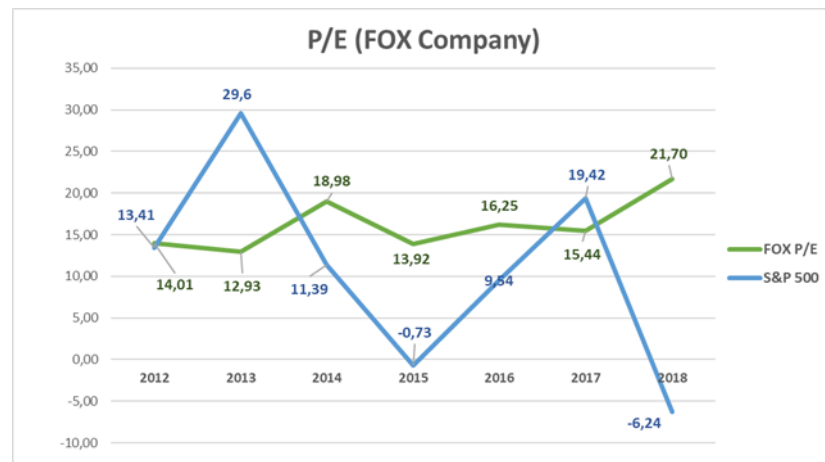
Figure 12. Fox's P/E ratio from 2012 to 2018

Regarding the solvency score of the Fox company, the Z-score shows that the company is solvent and currently is in the financially healthy condition, though it experienced a significant drop in 2016. We can say that so far Fox does not have a bankruptcy risk and its Z-score is following a positive trend.
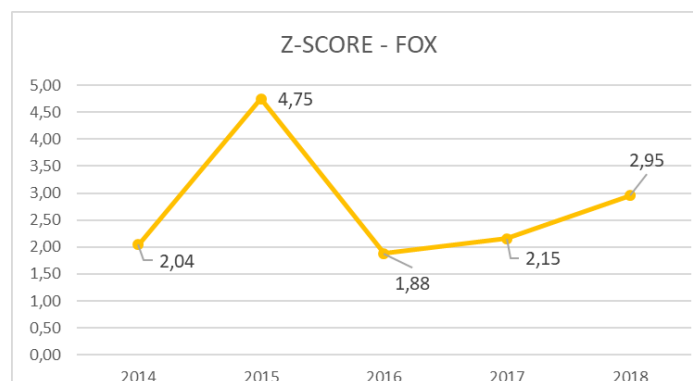
Figure 13. Fox's Z-Score from 2014 to 2018

We can also state that the company's equity occupies less than 40% of its total liabilities. This indicates that Fox is mostly financed by external financial resources and has a lack of Equity, so it depends a lot on the 3d parties that provide it with these resources. However, the positive financial leverage tells us that so far Fox is able to cover its financial expenses with its earnings.

Ratio	Formula	2014	2015	2016	2017	2018	Optimal value
Capitalization	Equity/Total Assets	31,8%	34,4%	28,4%	31,0%	36,3%	≥40%
ROI	EBIT/Total Assets	9,5%	19,7%	8,6%	9,2%	8,2%	>i
i	Cost of debt	5,9%	6,3%	6,1%	6,1%	6,4%	

Table 10. Financial leverage of Fox from 2014 to 2018

So, we can see that 21st Century Fox has more than 60% of debt in its liabilities, though after 2016 the company has been reducing it successfully. Also, the debt quality has a negative trend of increasing its current liabilities and the return capacity of Fox is very low, compared to Disney's return capacity. This means that the Cash Flow amount that Fox generates is not enough to cover its total loans.

Debt ratios	Formula	2014	2015	2016	2017	2018	Optimal value
Debt	Total Liabilities /Liabilities+Equity	68,2%	65,6%	71,7%	69,0%	63,7%	60%
Quality debt	Current Liabilities /Total Liabilities	23,7%	21,5%	20,5%	20,7%	24,1%	decreasing
Return Capacity	Cash Flow/Total Loans	28,4%	44,3%	22,6%	30,9%	39,0%	increasing

Table 11. Debt ratios of Fox from 2014 to 2018

Moreover, the increasing Revenue ratio is encouraging the Fox's Fixed Assets turnover to grow, however, it works oppositely with the Current asset turnover. This is because the Current assets are growing with a faster pace than the company's revenue.

It might also be noted that the Inventory and Receivables days are increasing through years and days payable, on the contrary, have decreased up to 6 days in 2018 which are not positive signals for the company. These trends tell us that Fox is waiting more days to receive payments from its clients and has to pay to its creditors much faster.

Besides, we can see that the company's inventory days are increasing, which can influence company's inventory costs to increase.

Ratio	Formula	2014	2015	2016	2017	2018	Optimal Value
FA turnover	Sales/FA	80,8%	88,7%	82,2%	82,8%	88,1%	increasing
CA turnover	Sales/CA	207,3%	167,1%	182,8%	175,0%	157,2%	increasing

Stock Days	Inventory/ Sales/365	35,42	34,61	43,96	39,71	44,05	decreasing
Days Receivable	Receivables/ Sales/365	74,08	74,44	83,59	82,95	85,49	decreasing
Days Payable	Payables/ Sales/365	47,91	46,80	42,49	5,20	5,32	increasing

Table 12. Assets management metrics of Fox from 2014 to 2018

What we can conclude from the liquidity ratios of Fox is that the company's current assets exceed its current liabilities and the company has enough cash and other liquid assets to cover its current liabilities. So, unlike Disney, Fox is not suffering from with liquidity issues.

Ratio	Formula	2014	2015	2016	2017	2018	Optimal value
Current Ratio	CA/CL	1,74	2,46	2,12	2,25	2,35	**1,5**
Liquidity	(CA -Inventory)/CL	1,39	2,07	1,65	1,82	1,90	**1**
Acid Test	Cash/CL	0,61	1,20	0,63	0,85	0,92	**0,3**

Table 13. Liquidity ratios of Fox from 2014 to 2018

We can also prove it by looking at the Cash Flow statement. We are able to state that the company is generating positive CF from its operating activities and it surpasses the combined negative CF from financing and investing activities. This indicates that the Fox company is buying more assets, investing more and repaying back its loans in higher amounts than obtaining new loans and selling its assets.

Cash Flow	2014	2015	2016	2017	2018
CF from Operating Activities	3535	3568	3028	3757	4166
CF from Investing Activities	-935	6736	-1638	-752	-1177
CF from Financing Activities	-3776	-7102	-5330	-1281	-1464

Table 14. Cash Flow values of Fox from 2014 to 2018

Therefore, the Fox company has a working capital deficit, which implies that the working capital needs exceed the real working capital of the company.

Ratio	2015	2016	2017	2018	Optimal Value
Working Capital Balance	-433	44	-3537	-3763	If ≥0 – WC Surplus If ≤0 – WC Deficit

Table 15. WC Balance of Fox from 2015 to 2018

In sum, Fox is a solvent and profitable company. Its metrics are more volatile than those of Disney, however it is generating positive overall cash flows and does not keep such an aggressive

investment policy as Disney. Nevertheless, Disney is more financially independent from the 3d parties than Fox. We may also notice from the P/E ratio of companies, that investors are ready to pay more for $1 of Fox's earnings ($21,7 in 2018) than for $1 of Disney's earnings ($15,35 in 2018).

4.2 Benchmarking approach

Presentation of the sample

For the competitive analysis of the media industry a data sample of 215 public companies is taken from the Thomson Reuters EIKON database for examination. The dataset contains mostly quantitative and some qualitative variables about the financial, environmental, social and governance performance of the companies from the year 2018. The table shows a numeric analysis of the examined variables. Due to the fact that some companies might not have updated the 2018 data to the database yet, there are some datasets lacking some variables.

Variable	Obs	Mean	Std. Dev.	Min	Max
TotalRevenue	215	2.03e+09	8.66e+09	0	9.45e+10
TotalAssets	215	4.76e+09	2.17e+10	0	2.52e+11
Employees	113	9014.593	28813.98	0	201000

Table 16. Description of the sample

DEA analysis

The competitive analysis of the media industry will be based on the data envelopment analysis methodology (DEA). Before running the DEA analysis, statistically significant variables have to be determined as inputs and outputs to measure the industry's performance frontiers. Therefore, a couple of regressions have been run with the company's revenues as the dependent variable. In this case, revenues can be considered a reasonable choice to measure output because it gives an idea about the value a company has been able to generate to the market exploiting its assets.

While looking at potential input-variables, a strong and statistically significant correlation between the company's revenues and the number of employees has been observed. Undoubtedly, the employees are one of the crucial assets of the company and should - in this case - be included in the DEA as an input variable.

Regression on Revenues					
	Coefficient	Std.Error	t-ratio	p-value	R-squared
Number of employees	370600	15896,47	23,31	0,000	83,04%

Table 17. Regression results of Revenues vs Number of Employees

Additionally, another statistically highly significant correlation has been observed between the revenues and the total asset variable. Besides, the statistical significance of this variable represents that this is a crucial variable for the companies.

Regression on Revenues					
	Coefficient	Std.Error	t-ratio	p-value	R-squared
Total Assets	0,386	0,00689	56,02	0,000	93,64%

Table 18. Regression results for Revenues vs Total Assets

The figures above provide an overview about the statistical regression data of the determined inputs on the revenues as the output-variable.

For the efficiency measurement 42 companies that generate more than 1 billion revenues were selected from the sample in order to increase the accuracy of the estimation.

The following table shows a list of companies by their efficiency scores obtained through the DEA analysis with constant returns to scale and an input orientation. The most efficient companies in generating revenues from its assets as well as the number of employees are Netflix and TV Tokyo Holfings Corp. The Fox Corporation occupies the 6th place with its efficiency score of 76,94%. It can be stated that the Walt Disney Company is performing worse in terms of efficiency than 21st Century Fox, and is ranked the 24th among its competitors having an efficiency score of 41,61%.

	Company Name	CRS IO Score	Total Assets	Total Revenue	Employees	Country of Headquarters
1	Netflix Inc	100,00%	25 974 400 000,00	15 794 341 000,00	7 100,00	USA
2	TV TOKYO Holdings Corp	100,00%	1 156 437 041,22	1 384 368 530,02	1 539,00	Japan
3	Mediaset Espana Comunicacion SA	83,41%	1 371 879 300,85	1 117 622 029,54	1 258,00	Spain
4	CBS Corp	80,14%	21 859 000 000,00	14 514 000 000,00	12 770,00	USA
5	Kabel Deutschland Holding AG	79,71%	3 757 922 020,16	3 049 331 830,17	3 699,00	Germany
6	Fox Corp	76,94%	53 831 000 000,00	30 400 000 000,00	22 400,00	USA
7	AMC Networks Inc	76,20%	5 278 563 000,00	2 971 929 000,00	2 234,00	USA
· · ·						
22	Comcast Corp	42,42%	251 684 000 000,00	94 507 000 000,00	184 000,00	USA
23	Cyfrowy Polsat SA	42,31%	7 973 799 879,34	2 823 580 108,59	4 810,00	Poland
24	Walt Disney Co	41,61%	98 598 000 000,00	59 434 000 000,00	201 000,00	USA
25	Cumulus Media Inc	41,36%	2 027 319 000,00	1 135 662 000,00	3 515,00	USA
· · ·						
38	Liberty Media Corp	22,73%	10 957 000 000,00	1 827 000 000,00	4 555,00	USA
39	Hunan TV & Broadcast Intermediary Co Ltd	21,21%	3 649 969 397,35	1 343 541 210,83	12 807,00	China
40	Gray Television Inc	18,92%	4 213 445 000,00	1 084 132 000,00	7 371,00	USA
41	MNC Investama Tbk PT	13,92%	4 166 886 177,66	1 001 125 617,40	14 312,00	Indonesia
42	Jiangsu Broadcasting Cable Information Network (	13,90%	4 949 585 554,00	1 244 194 792,74	20 354,00	China

Table 19. Rating of companies by their efficiency score

The table shows the huge variance within the industry: the last five companies amount to a CRS input orientation score of less than 14%.

What can be seen after calculating the efficiency measurements pre- and post-merger is that the Walt Disney Company is going to benefit from the transaction in terms of increasing its efficiency from 41,6% to 47% in CRS terms and from 96,5% to 100% efficiency in VRS terms. Initially, 21st Century Fox is placed close to the efficiency frontier and is one of the best performers in the market considering VRS Scores. The table indicates that this acquisition is going to be effective for Disney, because it is going to improve its efficiency position and become closer to the efficiency frontier.

PRE-MERGER COMPANIES	Efficiency		Inputs		Potential Savings		Scale
	CRS Score	VRS Score	Employees	Assets	Employees	Assets	Effciency
Walt Disney	41,6%	96,5%	201000	98598000000	6994,8	3431210400	43,11%
21st Century Fox	76,9%	100%	22400	53831000000	0	0	76,94%
TOTAL SUM			223400	152429000000	6994,8	3431210400	
POST-MERGER							
Disney + Fox	47,0%	100%	223400	152429000000	0	0	46,97%

Table 20. Changes in the Efficiency Score and Potential Saving of Disney after the Acquisition

The following picture presents the efficiency maps of the 26 most efficient companies including 21st Century Fox and Disney Company before and after the merger. For a more demonstrative visualization the Y-axis shows the ratio of Total Assets/Revenues and the X-axis contains Employees/Revenues ratio. The map is structured the way that the most efficient companies, who maximize their Output (Revenue) by minimizing their Inputs (Assets and Employees), are situated close to the (0;0) point.

It can be stated that the most efficient companies are Netflix, TV TOKYO Holdings Corporation, CBS and Kabel Deutschland Holding AG that was also observed earlier in the ranking list. Besides, the map clearly portraits that the Fox company is a more efficient entity compared to the Walt Disney Company, because it is placed much closer to 0 than Disney. Therefore, it is worth noting that Disney is more efficient in managing its Total Assets than the number of Employees.

At the same time, the map gives an idea about the efficiency position of the Disney-Fox Synergy. The merger would allow Disney to move closer to the best performers that are placed close to 0. It becomes obvious that the acquisition might improve Disney's efficiency Score and its position against the competitors.
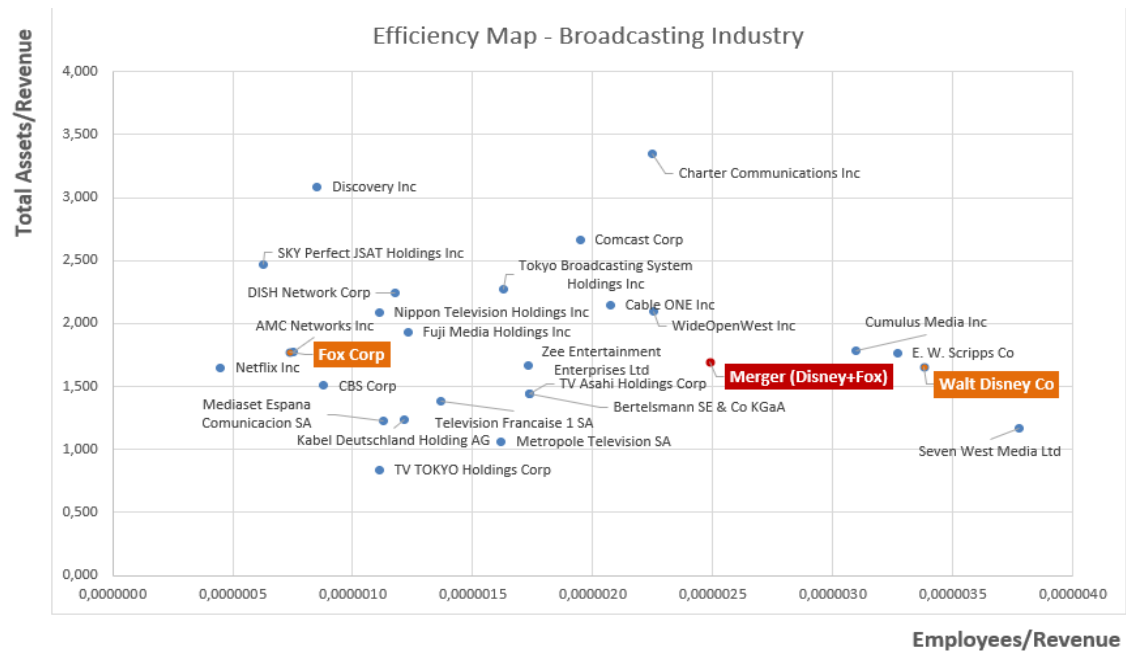
Figure 14. Efficiency map of broadcasting industry

4.3 Valuation of companies

Discounted Cash Flow method

The discounted cash flow valuation of Fox and Disney is based on data from the companies' annual reports and the Thomas Reuter Eikon database for the years 2013 to 2018.

First of all, we should estimate the **Weighted Average Cost of Capital (WACC)** for both companies. The default spread of both firms is borrowed from the Moody's Bond Rating System, where Disney is given Aa2 rating which corresponds to the default spread of 0,5% and FOX received Baa1 rating that corresponds to 1,5% for the default spread.

Besides, for the further analysis the US Treasury Bond yield rate is taken as the risk-free rate, which according to Bloomberg, is estimated as 2,2% for 5 years. Expected rate of return on market portfolio (Market Risk Premium) is considered to be 11,99% and the companies' betas are estimated to be 1,23 for FOX company and 1,3 for Disney.

	FOX	DISNEY
Cost of Equity	16,96%	17,80%
E/V	32,5%	49,9%
Cost of Debt	2,9%	1,8%
D/V	67,5%	50,1%
Tax Rate	22,6%	31,8%
β-beta	1,23	1,3
Risk-free rate	2,2%	2,2%
Default spread	1,5%	0,5%
Market Risk Premium	11,99%	11,99%
WACC	**7,0%**	**9,52%**

Table 21. WACC calculations for both companies

As it can be observed from the companies' WACC, Disney has a bigger WACC than Fox which indicates that Disney must earn more (minimum 9,52%) return on its assets to satisfy its creditors, owners, and other providers of capital. This difference of WACC appear mainly due to the difference between companies' Equity proportion and the Cost of Equity. So, it is possible to conclude that Disney is financed more with its Equity than Fox and it also has to pay a higher percent for its Equity than Fox.

Given that the purchasing of FOX company is viewed as Disney's long-term investment, for the future estimation the FOX's Future Cash Flows will be discounted at a Disney's WACC (9,25%) and the opportunity cost (14,24%) that Disney gets out of this acquisition.

The **opportunity cost** will give us an idea about the potential return of the Disney's investment. In order to estimate the opportunity cost we implement the CAPM formula using the Fox's beta.

Ratio	
Risk-free rate	2,2%
beta (FOX Company)	1,23
Market Risk Premium	11,99%
CAPM	**14,24%**

Table 22. CAPM calculations for Fox

Moreover, three types of **growth rates** were used for determining the terminal value of both companies:

1. The growth rates of companies' revenues which were calculated as the average growth rate for 5 last years (from 2013 to 2018)

2. The growth rate of the industry revenues for last 3 years (from 2016 to 2018)

3. The average growth rate of companies' assets for 2013-2018

The following table represents the **forecasted free cash flow** of both firms using different growth rates for the period from 2018 to 2024:

Free Cash Flow	Growth rate		2018	2019	2020	2021	2022	2023	2024
FCF - DISNEY	Revenue growth for the company	g = 5,9%	9 830	11 022	11 671	12 358	13 086	13 856	14 672
	Revenue growth for the industry	g = 6%	9 830	11 045	11 708	12 410	13 155	13 944	14 781
	Assets growth for the assets	g = 4,7%	9 830	10 776	11 283	11 814	12 370	12 952	13 561
FCF - FOX	Revenue growth for the company	g = 3,6%	3615	3883	4024	4170	4322	4479	4642
	Revenue growth for the industry	g = 6%	3615	4062	4306	4564	4838	5128	5436
	Assets growth for the assets	g = -0,6%	3615	3573	3552	3531	3510	3489	3469

Table 23. Forecasted Free Cash Flow from 2018 to 2024

We can notice that Disney, being a bigger company that gets larger revenues, is generating more FCF than Fox. And it is also worth noting that the revenue growth rate for the industry gives the highest estimates for future FCF, because the entire industry's revenues are growing faster than both companies' revenues and assets individually.

And, finally, we estimate the Enterprise Value by summing up the discounted free cash flows and the discounted terminal value:

1) The Valuation of Fox from Disney's (buyer) standpoint

To valuate Fox from the buyer's standpoint we need to discount Fox's FCF by Disney's WACC. Our goal here is to look at the Fox Company as at Disney's investment and estimate the "cost" of such investment be evaluating Fox's Enterprise Value.

2) The Valuation of Fox from Fox's (seller) standpoint

For this valuation we want to see how Fox evaluates its own company as a seller. In this case we are going to use Fox's WACC and Fox's Opportunity cost to discount its Free Cash Flow and calculate the Enterprise value.

Comparison of the results:

The calculations allow us to see the results of the Fox company evaluation using the seller and buyer approach and different growth rates:

EV		r		
		WACC (FOX)	**Opp cost (FOX)**	**WACC (Disney)**
		7,0%	**14,24%**	**9,5%**
g	**3,6%**	110 567,93	62 720,40	184 385,40
	6,0%	375 182,61	88 707,53	85 904,45
	-0,6%	47 253,59	38 355,25	351 313,82

Table 24. Enterprise Value of Fox in different scenarios

We can state that the seller ranges the Enterprise Value of Fox between $38 355 million and $375 183 million, while the buyer ranges it between $85 904 billion and $351 314 million taking different scenarios into account. We can tell that Disney's lowest estimate of Fox's EV is almost twice as higher than the lowest estimate of EV from the side of Fox.

It is also worth mentioning that the EV estimated using the expected grow of the industry and opportunity cost for Fox is around $88 707 million which is very close to the buyer's estimate, which accounts to $85 904 million. In this case we may conclude that both companies agree on the takeover price of Fox.

Since Fox's purchase price for Disney accounts to $71 300 million and the Fox's EV is estimated in the range of $88 707 million - $85 904 million, we can conclude that Disney has acquired the Fox company cheaper compared to the lower bound of EV estimates. This tells us that the deal was beneficial for Disney.

Synergy effect

We can also estimate the consequences and effects of the acquisition deal on the buyer-company Disney. For that we will look at how the revenue structure changes: discover the impact on expenses, costs of goods sold and net income; estimate the shift in a market share of Disney and its EV after the deal.

Revenue structure – Synergy Effect

First of all, we want to forecast potential revenues, net income and costs' shift after the acquisition.

Income statement - Synergy effect	2018	2019	2020	2021	2022	2023	2024
Revenue	89 834	94 428	99 268	104 367	109 739	115 399	121 364
growth rate		5,1%	5,1%	5,1%	5,2%	5,2%	5,2%
COGS	52 495	55276	58206	61292	64545	67971	71581
%	58,4%	58,5%	58,6%	58,7%	58,8%	58,9%	58,98%
Selling/General/Admin. Expenses	12528	12693	12862	13034	13210	13388	13571
%	13,9%	13,4%	13,0%	12,5%	12,0%	11,6%	11,2%
Depreciation/Amortization	3 595	3814	4048	4299	4569	4857	5166
%	4,0%	4,0%	4,1%	4,1%	4,2%	4,2%	4,3%
Total Operating Expense	16 123	16507	16910	17334	17778	18246	18737
%	18%	17%	17%	17%	16%	16%	15%
EBIT	20708	22645	24152	25741	27416	29183	31046
%	23,1%	24,0%	24,3%	24,7%	25,0%	25,3%	25,6%
Total Extraordinary Items	2 988	3 134	3 289	3 451	3 621	3 800	3 989
%	3,3%	3,3%	3,3%	3,3%	3,3%	3,3%	3,3%
Net Income	18228	19511	20863	22290	23795	25382	27057
%	20,3%	20,7%	21,0%	21,4%	21,7%	22,0%	22,3%

Table 25. Forecasted Income statement - Synergy effect

From the table above we are able to observe the potential growth of revenues from $89 834 million in 2018 to $121 364 million in 2024. It is also noticeable that the share of Costs of Goods Sold in Total Revenues is not expected to change a lot, nevertheless, Selling, General and Administrative expenses will occupy a lower share in total revenues (from 13,9% in 2018 to 11,2% in 2024) despite its growth in absolute values. As a result, Net Income of Disney is expected to grow and the Profit Margin will increase from 20,3% to 22,3% after 6 years. These results show that the acquisition will force Disney's Revenue and Income to grow, which makes the deal seem more attractive.

Market Share

If we have a look at the market share before the deal, we would see that Disney occupied the share of 15,6% in 2018 and Fox had a market share of 8%. So, after the deal Disney is able to increase its market share to 26,3% in 2018 and has a potential to reach 32% of a market share in 2024 if the media market keeps growing at a pace of 6% each year and the company maintains its current revenue growth rate.

Market Share	2018	2019	2020	2021	2022	2023	2024
Disney	15,6%						
Fox	8,0%						
Synergy	23,6%	21,8%	26,1%	27,4%	28,9%	30,3%	31,9%

Table 26. Forecasted Market Share for Disney after the deal

Synergy Valuation

Next we would like to see the difference between the valuation of both companies individually as if there is no acquisition deal and the valuation of Disney after the deal considering the synergy effects.

EV		No deal			Deal
		Disney	**Fox**	**Sum**	**9,5%**
	3,6%	488 124,23	110 567,93	**598 692,17**	**911 973,87**
g	**6,0%**	505 672,63	375 182,61	**880 855,24**	**1 281 567,40**
	-0,6%	352 374,94	47 253,59	**399 628,53**	**440 816,79**

Table 26. Disney's EV before and after the acquisition

From the table above we can observe that potential takeover price of Disney is larger compared to Fox and varies in a range from $352 375 million to $505 673 million, while Fox Enterprise Value is estimated in a range from $47 254 million to $375 183 million. However, after the deal the combined firm will be valuated much higher and can vary from $440 817 million to $1 281 568 million. These results allow us to assume that purchasing of Fox will increase the Enterprise Value and investment attractiveness of Disney.

5. Conclusion

Summing up the results we obtained, we can say that despite the doubtless benefits that Disney is going to get out of the acquisition deal, which are: increasing its influence in the market, extending its content library and increasing the facilities for introducing its own streaming service, the company is going to get some efficiency and financial benefits.

Firstly, we can see that in the sale of efficiency the Walt Disney Company is not performing its best among its competitors. However, after the acquisition deal it is able to increase its efficiency score (from 41,6% to 47%) and generate more return using less assets and workforce.

Secondly, it is important to emphasize that the price of the acquisition ($71,3 billion) seems reasonable for Disney and this deal is beneficial from the purchasing standpoint, because it does not exceed much the estimated Enterprise Value of Fox.

Thirdly, the deal will encourage Disney's Revenues and Income to grow in future (by 35% and by 48% in 2024 respectively) and it also will influence its expenses to reduce.

In addition, purchasing of Fox will encourage Disney's market share to grow from 15,6% in 2018 to 31,9% in 2024, which will strengthen the company's position in the media market.

Finally, we are able to assume that the Enterprise Value of Disney will increase sufficiently (more than twice as the best estimate).

In conclusion, the acquisition of 21st Century Fox by the Walt Disney Company seems reasonable with regards to the business scope of both companies, efficiency improvement, increase of market share and the value created through the deal. So, we can say that the hypothesis that we stated in the introduction (that the deal is going to create positive value for Disney's shareholders and its investors) can be confirmed.

Limitations

In this paper the discounted cash flow method is applied using only 3 types of growth rates: the companies' revenues growth rates, their assets' growth rates and the media industry's growth

rate. For the more accurate analysis a larger number of growth rates could be used to estimate the enterprise values of companies more accurately. For example, a growth rate of Earnings Per Share could be used, or the US GDP growth rate etc.

Also, to establish the relationship in the regression between Revenues and such inputs as Assets and Number of Employees we took 113 companies. So, for a more precise estimation a larger sample can be used in future.

Besides, for the efficiency score estimation we used 42 companies that generate more than $1 billion of Revenues. In future more companies could be taken into account to make the results more robust.

Moreover, we forecasted the synergy results assuming that the growth rates of both companies are maintaining the same until 2024. However, in reality we cannot guarantee that the growth rates will not change. So, for the future estimates some random variable can be introduced or different scenarios could be taken into account for more accurate estimations.

Finally, in frames of this thesis we applied only one valuation method – the Discounted Cash Flow Model. For the further research more methods could be implemented to value both companies, such as Price multiple methods.

List of Abbreviations and Acronyms

CA – Current Assets

CAPM - Capital Asset Pricing Model

CF – Cash Flow

CL – Current Liabilities

CRS – Constant Return to Scale

DCF – Discounted Cash Flow

DEA - Data Envelopment Analysis

EBIT – Earnings Before Interests and Taxes

EBITDA - Earnings Before Interests, Taxes, Depreciation and Amortization

EPS - Earnings Per Share

EV – Enterprise Value

FA – Fixed Assets

FCF – Free Cash Flow

M&A – Mergers and Acquisitions

M&E – Media and Entertainment

P/E – Price per Earnings

ROA – Return on Assets

ROE – Return on Equity

ROI – Return on Investments

VRS - Variable Return to Scale

WACC – Weighted Average Cost of Capital

WC – Working Capital

References:

Barbara S. Petitt, Kenneth R. Ferris (2013). Valuation for Mergers and Acquisitions. v.2, p. 256

Bert M. Balk (2003). The Residual: On Monitoring and Benchmarking Firms, Industries, and Economies with Respect to Productivity, Journal of Productivity Analysis, 20, pp. 5-47

Betas by Sector (US) (January, 2019). Available from: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/Betas.html

Bloomberg, Murdoch Billionaires Multiply After Disney Closes Fox Deal (March 19, 2019). Available from: https://www.bloomberg.com/news/articles/2019-03-19/murdoch-billionaires-to-multiply-after-disney-completes-fox-deal

Bloomberg, United States Rates & Bonds. Available from: https://www.bloomberg.com/markets/rates-bonds/government-bonds/us

Brandon Katz (December 14, 2017). Disney vs. Netflix: How the Fox Sale Turns the Tide of the Streaming Wars Forever. Available from: https://observer.com/2017/12/disney-fox-sale-netflix-marvel-x-men-hulu-streaming-wars-details/

Capital Asset Pricing Model (CAPM) for 21st Century Fox. Available from: https://www.stock-analysis-on.net/NASDAQ/Company/Twenty-First-Century-Fox-Inc/DCF/CAPM

Capital Asset Pricing Model (CAPM) for Disney. Available from: https://www.stock-analysis-on.net/NYSE/Company/Walt-Disney-Co/DCF/CAPM

Damodaran, A. (2012). Investment Valuation: Tools and Techniques for Determining the Value of Any Asset, 3rd Edition, John Wiley & Sons.

Deloitte Report (2019). 2019 Media & Entertainment Industry Outlook. Available from: https://www2.deloitte.com/us/en/pages/technology-media-and-telecommunications/articles/media-and-entertainment-industry-outlook-trends.html

Disney and 21st Century Fox Announce per Share Value in Connection with $71 Billion Acquisition. Available from: https://www.thewaltdisneycompany.com/disney-and-21st-century-fox-announce-per-share-value-in-connection-with-71-billion-acquisition/

Disney and 21st Century Fox Announce per Share Value in Connection with $71 Billion Acquisition (March 19, 2019). Available from: https://www.thewaltdisneycompany.com/disney-and-21st-century-fox-announce-per-share-value-in-connection-with-71-billion-acquisition/

Disney's Acquisition of 21st Century Fox Will Bring an Unprecedented Collection of Content and Talent to Consumers Around the World (March 19, 2019). Available from: https://www.thewaltdisneycompany.com/disneys-acquisition-of-21st-century-fox-will-bring-an-unprecedented-collection-of-content-and-talent-to-consumers-around-the-world/

Florian Steiger (2010). The Validity of Company Valuation Using Discounted Cash Flow Methods, p. 21

Imam, S., Barker, R. and Clubb, C. (2008). The use of valuation models by UK investment analysts, European Accounting Review, 17(3), 503-535.

Institute of Mergers, Acquisitions and Alliances (IMAA): M&A Statistics (2019). Available from: https://imaa-institute.org/mergers-and-acquisitions-statistics/

Jeff Desjardins, Visualizing the Changing Landscape of Big Media (January 30, 2018). Available from: https://www.visualcapitalist.com/changing-landscape-big-media

Jenifer Piesse, Cheng Few Lee, Lin Lin, Hsien Chang K Uo (November, 2013). Merger and Acquisition: Definitions, Motives, and Market Responses, Lee Alice: Encyclopedia of Finance, chapter 27, pp. 541-554

Kevin Plumen (2015). Mergers & Acquisitions: An Entertainment and Media Conglomerate, Universidade Catolica Portuguesa, p. 71

Michael E. E. Frankel, Larry H. Forman (2005). Mergers and Acquisitions Basics, John Wiley & Sons, Inc., Second Edition, p. 308

Moody's assigns A2 rating to Disney's new revolving credit facilities (March, 2018). Available from: https://www.moodys.com/research/Moodys-assigns-A2-rating-to-Disneys-new-revolving-credit-facilities--PR_380726

Moody's places 21st Century Fox's Baa1 ratings on review for upgrade (December, 2017). Available from: https://www.moodys.com/research/Moodys-places-21st-Century-Foxs-Baa1-ratings-on-review-for--PR_377115?cy=easterneur&lang=ru

Oriol Amat, Maria Jesus Soriano (2016). Finance and Accounting, p. 207

Paul Nillesen, Michael Pollitt and Kim Keats (2001). Identifying and qualifying the gains from m&a. Strategic Benchmarking

Peter Bogetoft, Lars Otto (2011). Benchmarking with DEA, SFA, and R. Vol. 157, p. 351

Prateek Agarwal, Rahul Mittal (Month: April 2014 - September 2014). Mergers and Acquisitions analysis with the case study method, International Journal of Management and Commerce Innovations. Vol. 2, Issue 1, pp: 236-244

PricewaterhouseCoopers (PWC) (2017). Perspectives from the Global Entertainment and Media Outlook 2017–2021. Available from: https://www.pwc.com/gx/en/entertainment-media/pdf/outlook-2017-curtain-up.pdf

Robert F. Bruner (2004). Applied Mergers and Acquisitions. John Wiley & Sons, p. 1056

Statista Research Department, Revenue of the Walt Disney Company 2010-2018, by region (November 27, 2018). Available from: https://www.statista.com/statistics/193263/revenue-of-the-walt-disney-company-in-different-regions/

Stock Price of Disney. Available from: https://www.investing.com/equities/disney

Stock Price of Fox. Available from: https://simplywall.st/stocks/us/media/nasdaq-foxa/fox

The Media and Entertainment Industry in the United States. Available from: https://www.selectusa.gov/media-entertainment-industry-united-states

The Wall Street Journal, Media Behemoths (December 7, 2016). Available from: https://www.wsj.com/livecoverage/att-timewarner-senate-hearing/card/1481127262

Thomas Reuters Eikon Database (March 15,2019). Companies' metrics in Media Industry by company from 2016 to 2018

Thomas Reuters Eikon Database (March 15,2019). The Walt Disney Company Balance sheet (1983-2018)

Thomas Reuters Eikon Database (March 15,2019). The Walt Disney Company Income Statement (1983-2018)

Thomas Reuters Eikon Database (March 15,2019). The Walt Disney Company Cash Flow Statement (1984-2018)

Thomas Reuters Eikon Database (March 15,2019). Twenty-First Century Fox Balance sheet (1986-2018)

Thomas Reuters Eikon Database (March 15,2019). Twenty-First Century Income Statement (1986-2018)

Thomas Reuters Eikon Database (March 15,2019). Twenty-First Century Cash Flow Statement (1987-2018)

TWDC Enterprise Merger Agreement, Form 8-K (March 20, 2019). Available from: https://www.sec.gov/Archives/edgar/data/1744489/000095015719000301/form8k-12b.htm

Video Streaming Market Size, Share & Trends Analysis Report by Streaming Scope, By Solution Scope, By Platform Scope, By Revenue Model, By Service, By Deployment, By User, And Segment Forecasts, 2019 – 2025 (February, 2019). p. 100. Available from: https://www.grandviewresearch.com/industry-analysis/video-streaming-market

Appendices

Twenty-First Century Fox Inc - Balance Sheet - from 2014 to 2018 - Thomson Reuters Eikon

Balance Sheet	2014	%	2015	%	2016	%	2017	%	2018	%
Assets ($ Millions)										
Cash and Short Term Investments	5 415	9,9%	8 428	16,8%	4 424	9,2%	6 163	12,2%	7 622	14,2%
Accounts Receivable - Trade, Net	6 468	11,8%	5 912	11,8%	6 258	13,0%	6 477	12,8%	7 120	13,2%
Total Receivables, Net	6 468	11,8%	5 912	11,8%	6 258	13,0%	6 477	12,8%	7 120	13,2%
Total Inventory	3 092	5,6%	2 749	5,5%	3 291	6,8%	3 101	6,1%	3 669	6,8%
Other Current Assets, Total	401	0,7%	259	0,5%	976	2,0%	545	1,1%	922	1,7%
Total Current Assets	**15 376**	**28,1%**	**17 348**	**34,7%**	**14 949**	**31,0%**	**16 286**	**32,1%**	**19 333**	**35,9%**
								0,0%		0,0%
Property/Plant/Equipment, Total - Gross	8 231	15,0%	4 188	8,4%	4 292	8,9%	4 494	8,9%	4 887	9,1%
Accumulated Depreciation, Total	(5 300)	-9,7%	(2 466)	-4,9%	(2 600)	-5,4%	(2 713)	-5,3%	(2 931)	-5,4%
Goodwill, Net	18 052	32,9%	12 513	25,0%	12 733	26,4%	12 792	25,2%	12 768	23,7%
Intangibles, Net	8 072	14,7%	6 320	12,6%	6 777	14,1%	6 574	13,0%	6 101	11,3%
Long Term Investments	2 859	5,2%	4 529	9,1%	3 863	8,0%	3 902	7,7%	4 112	7,6%
Other Long Term Assets, Total	7 049	12,9%	7 213	14,4%	7 790	16,2%	8 846	17,4%	8 837	16,4%
Total Assets	**54 793**	**100,0%**	**50 039**	**100,0%**	**48 193**	**100,0%**	**50 724**	**100,0%**	**53 831**	**100,0%**
Liabilities ($ Millions)										
Accounts Payable	1 638	3,0%	1 001	2,0%	1 283	2,7%	1 093	2,2%	1 368	2,5%
Payable/Accrued	4 183	7,6%	3 717	7,4%	3 181	6,6%	406	0,8%	443	0,8%
Current Port. of LT Debt/Capital Leases	799	1,5%	244	0,5%	427	0,9%	457	0,9%	1 054	2,0%
Other Current liabilities, Total	2 236	4,1%	2 080	4,2%	2 177	4,5%	2 850	5,6%	2 940	5,5%
Total Current Liabilities	**8 856**	**16,2%**	**7 042**	**14,1%**	**7 068**	**14,7%**	**7 238**	**14,3%**	**8 244**	**15,3%**
		0,0%		0,0%		0,0%		0,0%		0,0%
Total Long Term Debt	18 259	33,3%	18 795	37,6%	19 126	39,7%	19 456	38,4%	18 469	34,3%
Total Debt	**19 058**	**34,8%**	**19 039**	**38,0%**	**19 553**	**40,6%**	**19 913**	**39,3%**	**19 523**	**36,3%**
Deferred Income Tax	2 729	5,0%	2 290	4,6%	2 888	6,0%	2 782	5,5%	1 892	3,5%
Minority Interest	4 024	7,3%	1 587	3,2%	1 772	3,7%	1 910	3,8%	1 998	3,7%
Other Liabilities, Total	3 507	6,4%	3 105	6,2%	3 678	7,6%	3 616	7,1%	3 664	6,8%
Total Liabilities	**37 375**	**68,2%**	**32 819**	**65,6%**	**34 532**	**71,7%**	**35 002**	**69,0%**	**34 267**	**63,7%**
Shareholders Equity ($ Millions)										
Common Stock, Total	22	0,0%	20	0,0%	19	0,04%	19	0,04%	19	0,04%
Additional Paid-In Capital	15 041	27,5%	13 427	26,8%	12 211	25,3%	12 406	24,5%	12 612	23,4%
Retained Earnings (Accumulated Deficit)	2 389	4,4%	5 343	10,7%	3 575	7,4%	5 315	10,5%	8 934	16,6%
Other Equity, Total	(34)	-0,1%	(1 570)	-3,1%	(2 144)	-4,4%	(2 018)	-4,0%	(2 001)	-3,7%
Total Equity	**17 418**	**31,8%**	**17 220**	**34,4%**	**13 661**	**28,3%**	**15 722**	**31,0%**	**19 564**	**36,3%**
Total Liabilities & Shareholders' Equity	**54 793**	**100%**	**50 039**	**100%**	**48 193**	**100,0%**	**50 724**	**100,0%**	**53 831**	**100,0%**

Twenty-First Century Fox Inc – Income Statement -- from 2014 to 2018 Thomson Reuters

Eikon

Income Statement ($ Millions)	2014	%	2015	%	2016	%	2017	%	2018	%
Revenue	**31 867**	**100,0%**	**28 987**	**100,0%**	**27 326**	**100,0%**	**28 500**	**100,0%**	**30 400**	**100,0%**
Cost of Revenue, Total	21 108	**66,2%**	18 561	**64,0%**	17 129	**62,7%**	17 775	**62,4%**	19 769	**65,0%**
Gross Profit (EBITDA)	**10 759**	**33,8%**	**10 426**	**36,0%**	**10 197**	**37,3%**	**10 725**	**37,6%**	**10 631**	**35,0%**
Selling/General/Admin. Expenses, T	4 129	**13,0%**	3 784	**13,1%**	3 675	**13,4%**	3 617	**12,7%**	3 668	**12,1%**
Depreciation/Amortization	1 142	**3,6%**	736	**2,5%**	530	**1,9%**	553	**1,9%**	584	**1,9%**
Interest Expense, Net - Operating	1 121	**3,5%**	1 198	**4,1%**	1 184	**4,3%**	1 219	**4,3%**	1 248	**4,1%**
Interest/Investment Income - Opera	(821)	**-2,6%**	(842)	**-2,9%**	8	**0,0%**	5	**0,0%**	53	**0,2%**
Unusual Expense (Income)	10	**0,0%**	(4 291)	**-14,8%**	566	**2,1%**	578	**2,0%**	516	**1,7%**
Other Operating Expenses, Total	(11)	**0,0%**	(6)	**0,0%**	80	**0,3%**	64	**0,2%**	152	**0,5%**
Total Operating Expense	26 678	**83,7%**	19 140	**66,0%**	23 172	**84,8%**	23 811	**83,5%**	25 990	**85,5%**
Net Income Before Taxes (EBT)	**5 189**	**16,3%**	**9 847**	**34,0%**	**4 154**	**15,2%**	**4 689**	**16,5%**	**4 410**	**14,5%**
Provision for Income Taxes	1 272	**4,0%**	1 243	**4,3%**	1 130	**4,1%**	1 419	**5,0%**	936	**3,1%**
Net Income After Taxes	3 917	**12,3%**	8 604	**29,7%**	3 024	**11,1%**	3 270	**11,5%**	3 474	**11,4%**
Minority Interest	(132)	**-0,4%**	(231)	**-0,8%**	(261)	**-1,0%**	(274)	**-1,0%**	(298)	**-1,0%**
Net Income Before Extra. Items	3 785	**11,9%**	8 373	**28,9%**	2 763	**10,1%**	2 996	**10,5%**	3 176	**10,4%**
Discontinued Operations	729	**2,3%**	(67)	**-0,2%**	(8)	**0,0%**	(44)	**-0,2%**	(12)	**0,0%**
Total Extraordinary Items	729	**2,3%**	(67)	**-0,2%**	(8)	**0,0%**	(44)	**-0,2%**	1 288	**4,2%**
Net Income	**4 514**	**14,2%**	**8 306**	**28,7%**	**2 755**	**10,1%**	**2 952**	**10,4%**	**4 464**	**14,7%**

Twenty-First Century Fox Inc – Cash Flow Statement -- from 2014 to 2018 - Thomson Reuters

Eikon

Cash Flow ($ Millions)	2014	2015	2016	2017	2018
Net Income/Starting Line	4 646,0	8 537,0	3 016,0	3 226,0	4 762,0
Depreciation/Depletion	1 142,0	736,0	530,0	553,0	584,0
Deferred Taxes	--	171,0	466,0	89,0	(903,0)
Non-Cash Items	(869,0)	(4 919,0)	531,0	890,0	984,0
Changes in Working Capital	(1 384,0)	(957,0)	(1 515,0)	(1 001,0)	(1 261,0)
Accounts Receivable	(790,0)	(261,0)	(1 060,0)	(401,0)	(801,0)
Inventories	(1 057,0)	(825,0)	(806,0)	(991,0)	(422,0)
Payable/Accrued	105,0	(223,0)	0,0	152,0	401,0
Other Operating Cash Flow	358,0	352,0	351,0	186,0	235,0
Cash from Operating Activities	**3 535,0**	**3 568,0**	**3 028,0**	**3 757,0**	**4 166,0**
Capital Expenditures	(678,0)	(424,0)	(263,0)	(377,0)	(551,0)
Purchase of Fixed Assets	(678,0)	(424,0)	(263,0)	(377,0)	(551,0)
Other Investing Cash Flow Items, Total	(257,0)	7 160,0	(1 375,0)	(375,0)	(626,0)
Acquisition of Business	(692,0)	(142,0)	(916,0)	(75,0)	(7,0)
Sale of Fixed Assets	518,0	8 627,0	0,0	0,0	365,0
Purchase of Investments	(83,0)	(1 325,0)	(459,0)	(300,0)	(984,0)
Cash from Investing Activities	**(935,0)**	**6 736,0**	**(1 638,0)**	**(752,0)**	**(1 177,0)**
Financing Cash Flow Items	(137,0)	(652,0)	(290,0)	(64,0)	(68,0)
Other Financing Cash Flow	(137,0)	(652,0)	(290,0)	(64,0)	(68,0)
Total Cash Dividends Paid	(792,0)	(878,0)	(821,0)	(943,0)	(993,0)
Cash Dividends Paid - Common	(792,0)	(878,0)	(821,0)	(943,0)	(993,0)
Issuance (Retirement) of Stock, Net	(3 706,0)	(5 888,0)	(4 892,0)	(619,0)	0,0
Repurchase/Retirement of Common	(3 772,0)	(5 939,0)	(4 904,0)	(619,0)	0,0
Common Stock, Net	(3 706,0)	(5 888,0)	(4 892,0)	(619,0)	0,0
Issuance (Retirement) of Debt, Net	859,0	316,0	673,0	345,0	(403,0)
Total Debt Issued	1 155,0	3 161,0	1 360,0	918,0	1 469,0
Total Debt Reduction	(296,0)	(2 845,0)	(687,0)	(573,0)	(1 872,0)
Cash from Financing Activities	**(3 776,0)**	**(7 102,0)**	**(5 330,0)**	**(1 281,0)**	**(1 464,0)**
Free Cash Flow	**2 857,0**	**3 144,0**	**2 765,0**	**3 380,0**	**3 615,0**

Twenty-First Century Fox Inc – Ratios- from 2014 to 2018

Fox Ratios	Formula	2014	2015	2016	2017	2018	Optimal value
Liquidity							
Current Ratio	CA/CL	1,74	2,46	2,12	2,25	2,35	>1,5
Liquidity	(CA-Inventory)/CL	1,39	2,07	1,65	1,82	1,90	>1
Acid Test	Cash/CL	0,61	1,20	0,63	0,85	0,92	>0,3
Debt							
Debt	Total Liabilities/ (Liabilities+Equity)	0,68	0,66	0,72	0,69	0,64	>0,6
Quality debt	CL/ Total Liabilities	0,24	0,21	0,20	0,21	0,24	decreasing
Return capacity	CF/Total Loans	0,28	0,44	0,23	0,31	0,39	increasing
Asset man							
FA turnover	Sales/FA	0,81	0,89	0,82	0,83	0,88	increasing
CA turnover	Sales/CA	2,07	1,67	1,83	1,75	1,57	increasing
Stock Days	Inventory/Sales/365	35,42	34,61	43,96	39,71	44,05	decreasing
Days Receivables	Receivables/Sales/365	74,08	74,44	83,59	82,95	85,49	decreasing
Days Payable	Payables/Sales/365	47,91	46,80	42,49	5,20	5,32	increasing
RATIOS							
Capitalization	Equity/Total Assets	0,32	0,34	0,28	0,31	0,36	>0,4
ROA	Net Profit/Assets	0,08	0,17	0,06	0,06	0,08	>0,03
Margin	Net Profit/Sales	0,14	0,29	0,10	0,10	0,15	>0,02
ROE	Net Profit/Equity	0,26	0,48	0,20	0,19	0,23	>0,06
Z		2,04	4,75	1,88	2,15	2,95	>0
Financial Leverage		3,15	2,91	3,53	3,23	2,75	>1 (positive) =1(neutral)
Financial Expenses		0,06	0,06	0,06	0,06	0,06	i
ROI	EBIT/Total Assets	0,09	0,20	0,09	0,09	0,08	>i
GROWTH		0,17	0,45	0,11	0,10	0,15	
WC							
Working Capital (real)		6520	10306	7881	9048	11089	
Work Capital Needs		7608	10739	7837	12585	14852	
Work Cap Balance		-1088	-433	44	-3537	-3763	<0- WC Deficit >0- WC Surplus
Free Cash Flow		2857	3144	2765	3380	3615	

Walt Disney - Balance Sheet- from 2014 to 2018 - Thomson Reuters Eikon

Balance Sheet	2014	%	2015	%	2016	%	2017	%	2018	%
Assets ($ Millions)										
Cash and Short Term Investments	3 421	4,1%	4 269	4,8%	4 610	5,0%	4 017	4,2%	4 150	4,2%
Accounts Receivable - Trade, Net	7 274	8,6%	7 456	8,5%	8 305	9,0%	7 826	8,2%	8 076	8,2%
Total Receivables, Net	7 822	9,3%	8 019	9,1%	9 065	9,8%	8 633	9,0%	9 334	9,5%
Total Inventory	1 574	1,9%	1 571	1,8%	1 390	1,5%	1 373	1,4%	1 392	1,4%
Prepaid Expenses	425	0,5%	469	0,5%	449	0,5%	445	0,5%	476	0,5%
Other Current Assets, Total	1 934	2,3%	2 430	2,8%	1 452	1,6%	1 421	1,5%	1 473	1,5%
Total Current Assets	**15 176**	**18,0%**	**16 758**	**19,0%**	**16 966**	**18,4%**	**15 889**	**16,6%**	**16 825**	**17,1%**
Property/Plant/Equipment, Total - Gross	47 054	55,9%	50 023	56,7%	54 198	58,9%	57 443	60,0%	60 304	61,2%
Accumulated Depreciation, Total	(23 722)	-28,2%	(24 844)	-28,2%	(26 849)	-29,2%	(29 037)	-30,3%	(30 764)	-31,2%
Goodwill, Net	27 881	33,1%	27 826	31,6%	27 810	30,2%	31 426	32,8%	31 269	31,7%
Intangibles, Net	12 759	15,2%	13 355	15,1%	13 288	14,4%	14 476	15,1%	14 700	14,9%
Long Term Investments	2 735	3,2%	2 730	3,1%	4 280	4,7%	3 202	3,3%	2 899	2,9%
Note Receivable - Long Term	1 485	1,8%	1 589	1,8%	1 651	1,8%	1 688	1,8%	1 928	2,0%
Other Long Term Assets, Total	818	1,0%	745	0,8%	689	0,7%	702	0,7%	1 437	1,5%
Total Assets	**84 186**	**100,0%**	**88 182**	**100,0%**	**92 033**	**100,0%**	**95 789**	**100,0%**	**98 598**	**100,0%**
Liabilities ($ Millions)										
Accounts Payable	5 371	6,4%	5 504	6,2%	6 860	7,5%	6 490	6,8%	6 503	6,6%
Accrued Expenses	1 769	2,1%	1 797	2,0%	1 747	1,9%	1 819	1,9%	2 189	2,2%
Current Port. of LT Debt/Capital Leases	2 164	2,6%	4 563	5,2%	3 687	4,0%	6 172	6,4%	3 790	3,8%
Other Current liabilities, Total	3 988	4,7%	4 470	5,1%	4 548	4,9%	5 114	5,3%	5 378	5,5%
Total Current Liabilities	**13 292**	**15,8%**	**16 334**	**18,5%**	**16 842**	**18,3%**	**19 595**	**20,5%**	**17 860**	**18,1%**
		0,0%		0,0%		0,0%		0,0%		0,0%
Total Long Term Debt	12 676	15,1%	12 773	14,5%	16 483	17,9%	19 119	20,0%	17 084	17,3%
Total Debt	**14 840**	**17,6%**	**17 336**	**19,7%**	**20 170**	**21,9%**	**25 291**	**26,4%**	**20 874**	**21,2%**
Deferred Income Tax	4 098	4,9%	4 051	4,6%	3 679	4,0%	4 480	4,7%	3 109	3,2%
Minority Interest	3 220	3,8%	4 130	4,7%	4 058	4,4%	4 837	5,0%	5 182	5,3%
Other Liabilities, Total	5 942	7,1%	6 369	7,2%	7 706	8,4%	6 443	6,7%	6 590	6,7%
Total Liabilities	**39 228**	**46,6%**	**43 657**	**49,5%**	**48 768**	**53,0%**	**54 474**	**56,9%**	**49 825**	**50,5%**
Shareholders Equity ($ Millions)										
Common Stock, Total	34 301	40,7%	35 122	39,8%	35 859	39,0%	36 248	37,8%	36 779	37,3%
Retained Earnings (Accumulated Deficit)	53 734	63,8%	59 028	66,9%	66 088	71,8%	72 606	75,8%	82 679	83,9%
Treasury Stock - Common	(41 109)	-48,8%	(47 204)	-53,5%	(54 703)	-59,4%	(64 011)	-66,8%	(67 588)	-68,5%
Unrealized Gain (Loss)	100	0,1%	13	0,0%	26	0,0%	8	0,0%	15	0,0%
Other Equity, Total	(2 068)	-2,5%	(2 434)	-2,8%	(4 005)	-4,4%	(3 536)	-3,7%	(3 112)	-3,2%
Total Equity	**44 958**	**53,4%**	**44 525**	**50,5%**	**43 265**	**47,0%**	**41 315**	**43,1%**	**48 773**	**49,5%**
Total Liabilities & Shareholders' Equity	**84 186**	**100,0%**	**88 182**	**100,0%**	**92 033**	**100,0%**	**95 789**	**100,0%**	**98 598**	**100,0%**

Walt Disney - Income Statement - from 2014 to 2018 - Thomson Reuters Eikon

Income Statement ($ Millions)	2014	%	2015	%	2016	%	2017	%	2018	%
Revenue	**48 813**	**100,0%**	**52 465**	**100,0%**	**55 632**	**100,0%**	**55 137**	**100,0%**	**59 434**	**100,0%**
Cost of Revenue, Total	26 420	54,1%	28 364	54,1%	29 993	53,9%	30 306	55,0%	32 726	55,1%
Gross Profit (EBITDA)	**22 393**	**45,9%**	**24 101**	**45,9%**	**25 639**	**46,1%**	**24 831**	**45,0%**	**26 708**	**44,9%**
Selling/General/Admin. Expenses, Total	8 565	17,5%	8 523	16,2%	8 754	15,7%	8 176	14,8%	8 860	14,9%
Depreciation/Amortization	2 288	4,7%	2 354	4,5%	2 527	4,5%	2 782	5,0%	3 011	5,1%
Depreciation	2 288	4,7%	2 354	4,5%	2 527	4,5%	2 782	5,0%	3 011	5,1%
Unusual Expense (Income)	140	0,3%	53	0,1%	156	0,3%	20	0,0%	(8)	-0,01%
Other Operating Expenses, Total	(35)	-0,1%	0	0,0%	0	0,0%	0	0,0%	0	0,00%
Total Operating Expense	37 378	76,6%	39 294	74,9%	41 430	74,5%	41 284	74,9%	44 589	75,0%
Operating Income (EBIT)	11 435	23,4%	13 171	25,1%	14 202	25,5%	13 853	25,1%	14 845	25,0%
Interest Expense, Net Non-Operating	(294)	-0,6%	(265)	-0,5%	(354)	-0,6%	(507)	-0,9%	(682)	-1,1%
Interest/Invest Income - Non-Operating	1 028	2,1%	962	1,8%	1 020	1,8%	442	0,8%	6	0,0%
Net Income Before Taxes (EBT)	**12 246**	**25,1%**	**13 868**	**26,4%**	**14 868**	**26,7%**	**13 788**	**25,0%**	**14 729**	**24,8%**
Provision for Income Taxes	4 242	8,7%	5 016	9,6%	5 078	9,1%	4 422	8,0%	3 363	5,7%
Net Income After Taxes	**8 004**	**16,4%**	**8 852**	**16,9%**	**9 790**	**17,6%**	**9 366**	**17,0%**	**11 366**	**19,1%**
Minority Interest	(503)	-1,0%	(470)	-0,9%	(399)	-0,7%	(386)	-0,7%	(468)	-0,8%
Net Income Before Extra. Items	7 501	15,4%	8 382	16,0%	9 391	16,9%	8 980	16,3%	10 898	18,3%
Total Extraordinary Items	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1 700	2,9%
Net Income	**7 501**	**15,4%**	**8 382**	**16,0%**	**9 391**	**16,9%**	**8 980**	**16,3%**	**12 598**	**21,2%**

Walt Disney - Cash Flow- from 2014 to 2018 - Thomson Reuters Eikon

Cash Flow ($ Millions)	2014	2015	2016	2017	2018
Net Income/Starting Line	8 004	8 852	9 790	9 366	13 066
Depreciation/Depletion	2 288	2 354	2 527	2 782	3 011
Deferred Taxes	517	(102)	1 214	334	(1 573)
Non-Cash Items	(757)	(37)	813	(29)	628
Changes in Working Capital	(272)	318	(1 208)	(110)	(837)
Accounts Receivable	(480)	(211)	(393)	107	(720)
Inventories	(81)	1	186	(5)	(17)
Other Assets	(151)	223	(443)	(52)	(927)
Payable/Accrued	536	(49)	40	(368)	235
Taxes Payable	(96)	354	(598)	208	592
Cash from Operating Activities	**9 780**	**11 385**	**13 136**	**12 343**	**14 295**
Capital Expenditures	(3 311)	(4 265)	(4 773)	(3 623)	(4 465)
Other Investing Cash Flow Items, Total	(34)	20	(985)	(488)	(871)
Acquisition of Business	(402)	0	(850)	(417)	(1 581)
Other Investing Cash Flow	(27)	20	(135)	(71)	710
Cash from Investing Activities	**(3 345)**	**(4 245)**	**(5 758)**	**(4 111)**	**(5 336)**
Financing Cash Flow Items	288	323	(607)	(1 125)	(378)
Total Cash Dividends Paid	(1 508)	(3 063)	(2 313)	(2 445)	(2 515)
Issuance (Retirement) of Stock, Net	(6 123)	(5 766)	(7 240)	(9 092)	(3 367)
Common Stock, Net	(6 527)	(6 095)	(7 499)	(9 368)	(3 577)
Options Exercised	404	329	259	276	210
Issuance (Retirement) of Debt, Net	633	2 705	2 940	3 703	(2 583)
Short Term Debt, Net	50	2 376	(920)	1 247	(1 768)
Long Term Debt Issued	2 231	2 550	6 065	4 820	1 056
Long Term Debt Reduction	(1 648)	(2 221)	(2 205)	(2 364)	(1 871)
Long Term Debt, Net	583	329	3 860	2 456	(815)
Cash from Financing Activities	**(6 710)**	**(5 801)**	**(7 220)**	**(8 959)**	**(8 843)**
Free Cash Flow	**6 469**	**7 120**	**8 363**	**8 720**	**9 830**

Walt Disney – Ratios from 2014 to 2018

Disney Ratios	Formula	2014	2015	2016	2017	2018	Optimal value
Liquidity							
Current Ratio	CA/CL	1,14	1,03	1,01	0,81	0,94	>1,5
Liquidity	(CA-Inventory)/CL	1,02	0,93	0,92	0,74	0,86	>1
Acid Test	Cash/CL	0,26	0,26	0,27	0,21	0,23	>0,3
Debt							
Debt	Total Liabilities/ (Liabilities+Equity)	0,47	0,50	0,53	0,57	0,51	>0,6
Quality debt	CL/ Total Liabilities	0,34	0,37	0,35	0,36	0,36	decreasing
Return capacity	CF/Total Loans	0,66	0,62	0,59	0,47	0,75	increasing
Asset man							
FA turnover	Sales/FA	0,71	0,73	0,74	0,69	0,73	increasing
CA turnover	Sales/CA	3,22	3,13	3,28	3,47	3,53	increasing
Stock Days	Inventory/Sales/365	11,77	10,93	9,12	9,09	8,55	decreasing
Days Receivables	Receivables/Sales/365	58,49	55,79	59,48	57,15	57,32	decreasing
Days Payable	Payables/Sales/365	40,16	38,29	45,01	42,96	39,94	increasing
RATIOS							
Capitalization	Equity/Total Assets	0,53	0,50	0,47	0,43	0,49	>0,4
ROA	Net Profit/Assets	0,09	0,10	0,10	0,09	0,13	>0,03
Margin	Net Profit/Sales	0,15	0,16	0,17	0,16	0,21	>0,02
ROE	Net Profit/Equity	0,17	0,19	0,22	0,22	0,26	>0,06
Z		2,20	2,01	1,96	1,42	2,39	>0
Financial Leverage		2,01	2,09	2,23	2,31	2,01	>1 (positive) =1(neutral)
Financial Expenses		0,02	0,02	0,02	0,02	0,03	i
ROI	EBIT/Total Assets	0,14	0,15	0,15	0,14	0,15	>i
GROWTH		**0,10**	**0,09**	**0,13**	**0,12**	**0,17**	
WC							
Working Capital (real)		1884	424	124	-3706	-1035	
Work Capital Needs		7446	8355	8205	7533	8373	
Work Cap Balance		-5562	-7931	-8081	-11239	-9408	<0 - WC Deficit >0 - WC Surplus
Free Cash Flow		**6469**	**7120**	**8363**	**8720**	**9830**	

Growth Rates of Disney and Fox from 2014 to 2018

Company	Ratio	2014	2015	2016	2017	2018
Disney	g-SALES	8%	7%	6%	-1%	8%
	g-ASSETS	4%	5%	4%	4%	3%
	g-DEBT	2%	17%	16%	25%	-17%
	g-PROFIT	22%	12%	12%	-4%	40%
Fox	g-SALES	15%	-9%	-6%	4%	7%
	g-ASSETS	8%	-9%	-4%	5%	6%
	g-DEBT	16%	0%	3%	2%	-2%
	g-PROFIT	-35%	84%	-67%	7%	51%

Full Rating list of companies by the efficiency score

	Company Name	CRS IO Score	Total Assets	Total Revenue	Employees	Country of Headquarters
1	Netflix Inc	100,00%	25 974 400 000,00	15 794 341 000,00	7 100,00	USA
2	TV TOKYO Holdings Corp	100,00%	1 156 437 041,22	1 384 368 530,02	1 539,00	Japan
3	Mediaset Espana Comunicacion SA	83,41%	1 371 879 300,85	1 117 622 029,54	1 258,00	Spain
4	CBS Corp	80,14%	21 859 000 000,00	14 514 000 000,00	12 770,00	USA
5	Kabel Deutschland Holding AG	79,71%	3 757 922 020,16	3 049 331 830,17	3 699,00	Germany
6	Fox Corp	76,94%	53 831 000 000,00	30 400 000 000,00	22 400,00	USA
7	AMC Networks Inc	76,20%	5 278 563 000,00	2 971 929 000,00	2 234,00	USA
8	Metropole Television SA	73,67%	1 731 236 810,72	1 630 195 430,77	2 639,00	France
9	Television Francaise 1 SA	70,90%	3 620 859 711,90	2 624 438 021,84	3 591,00	France
10	SKY Perfect JSAT Holdings Inc	69,16%	3 381 733 483,91	1 369 292 301,90	858,00	Japan
11	TV Asahi Holdings Corp	61,06%	4 098 324 863,54	2 846 894 409,94	4 938,00	Japan
12	Fuji Media Holdings Inc	60,93%	11 728 072 651,99	6 084 472 049,69	7 484,00	Japan
13	Nippon Television Holdings Inc	59,61%	8 329 550 159,98	3 987 041 219,65	4 425,00	Japan
14	Zee Entertainment Enterprises Ltd	57,23%	1 709 368 760,56	1 026 831 515,90	1 776,00	India
15	DISH Network Corp	55,75%	30 587 012 000,00	13 621 302 000,00	16 000,00	USA
16	Discovery Inc	53,01%	32 550 000 000,00	10 553 000 000,00	9 000,00	USA
17	Seven West Media Ltd	50,49%	1 400 755 001,89	1 199 578 087,18	4 528,00	Australia
18	Tokyo Broadcasting System Holdings Inc	50,01%	7 733 267 457,18	3 406 305 288,91	5 552,00	Japan
19	Cable ONE Inc	46,25%	2 303 234 000,00	1 072 295 000,00	2 224,00	USA
20	WideOpenWest Inc	44,58%	2 419 600 000,00	1 153 800 000,00	2 600,00	USA
21	Shanghai Oriental Pearl Group Co Ltd	43,45%	5 737 856 434,53	2 499 294 446,92	5 500,00	China
22	Comcast Corp	42,42%	251 684 000 000,00	94 507 000 000,00	184 000,00	USA
23	Cyfrowy Polsat SA	42,31%	7 973 799 879,34	2 823 580 108,59	4 810,00	Poland
24	Walt Disney Co	41,61%	98 598 000 000,00	59 434 000 000,00	201 000,00	USA
25	Cumulus Media Inc	41,36%	2 027 319 000,00	1 135 662 000,00	3 515,00	USA
26	E. W. Scripps Co	40,70%	2 130 061 000,00	1 208 425 000,00	3 950,00	USA
27	Tegna Inc	40,46%	5 276 842 000,00	2 207 282 000,00	5 336,00	USA
28	Bertelsmann SE & Co KGaA	39,91%	28 436 559 062,39	20 621 153 776,95	119 089,00	Germany
29	Sinclair Broadcast Group Inc	38,28%	6 572 092 000,00	3 055 081 000,00	9 000,00	USA
30	Cogeco Communications Inc	36,69%	5 507 434 992,71	1 858 977 525,50	4 574,00	Canada
31	Cogeco Inc	35,27%	5 626 713 967,94	1 946 901 127,56	5 199,00	Canada
32	Nexstar Media Group Inc	35,01%	7 062 030 000,00	2 766 696 000,00	8 249,00	USA
33	Charter Communications Inc	34,56%	146 130 000 000,00	43 634 000 000,00	98 000,00	USA
34	Entercom Communications Corp	33,55%	4 020 358 000,00	1 462 567 000,00	4 428,00	USA
35	Liberty Global PLC	28,84%	53 154 600 000,00	11 957 900 000,00	26 000,00	UK
36	Tribune Media Co	27,82%	8 251 391 000,00	2 009 734 000,00	5 800,00	USA
37	ABS CBN Corp	26,72%	1 503 198 051,10	814 339 476,16	11 068,00	Philippines
38	Liberty Media Corp	22,73%	10 957 000 000,00	1 827 000 000,00	4 555,00	USA
39	Hunan TV & Broadcast Intermediary Co Ltd	21,21%	3 649 969 397,35	1 343 541 210,83	12 807,00	China
40	Gray Television Inc	18,92%	4 213 445 000,00	1 084 132 000,00	7 371,00	USA
41	MNC Investama Tbk PT	13,92%	4 166 886 177,66	1 001 125 617,40	14 312,00	Indonesia
42	Jiangsu Broadcasting Cable Information Network	13,90%	4 949 585 554,00	1 244 194 792,74	20 354,00	China

DCF Valuation of Fox using Disney's WACC

FOX COMPANY	Purchase Price	2018	2019	2020	2021	2022	2023	2024			g (Fox Revenue)	
FCF (g-Fox Revenue)	-71300	3 615,0	3882,68	4023,86	4170,17	4321,81	4478,96	4641,82			Terminal Value	82 038,78
FCF (g-Industry Revenue)	-71300	3 615,0	4061,81	4305,52	4563,85	4837,69	5127,95	5435,62			Enterprise Value	184 385,40
FCF (g - Fox Assets)	-71300	3 615,0	3572,64	3551,64	3530,77	3510,02	3489,39	3468,89				
WACC (Disney's)		9,5%						average			g (Fox Assets)	
g (revenue)		10,5%	15,1%	-9,0%	-5,7%	4,3%	6,7%	3,6%			Terminal Value	34 185,37
g (industry revenue)		6,0%									Enterprise Value	85 904,45
g (assets)		-10,1%	7,6%	-8,7%	-3,7%	5,3%	6,1%	-0,6%				
											g (Industry Revenue)	
Discounted CF		1	2	3	4	5	6	7	Σ		Terminal Value	164 621,74
DCF (g-revenue)		3301,37	3238,19	3064,79	2900,66	2745,33	2598,32	2459,17	82038,78	102 346,62	Enterprise Value	351 313,82
DCF(g-industry revenue)		3301,37	3387,60	3279,32	3174,50	3073,03	2974,81	2879,72	164621,74	186 692,08		
DCF(g-assets)		3301,37	2979,62	2705,12	2455,91	2229,66	2024,26	1837,77	34185,37	51 719,08		
rf (US treasury bonds)		2,2%										
b (company)		1,23										
rm		11,99%										
CAPM		14,24%										

DCF Valuation of Fox using Opportunity Cost

FOX COMPANY	Purchase Price	2018	2019	2020	2021	2022	2023	2024			g (Fox Revenue)	
FCF (g-Fox Revenue)	-71300	3 615,0	3882,68	4023,86	4170,17	4321,81	4478,96	4641,82			Terminal Value	45369,28736
FCF (g-Industry Revenue)	-71300	3 615,0	4061,81	4305,52	4563,85	4837,69	5127,95	5435,62			Enterprise Value	62720,40
FCF (g - Fox Assets)	-71300	3 615,0	3572,64	3551,64	3530,77	3510,02	3489,39	3468,89				
Opportunity cost (Disney's)		14,2%						average			g (Fox Assets)	
g (revenue)		10,5%	15,1%	-9,0%	-5,7%	4,3%	6,7%	3,6%			Terminal Value	23258,17543
g (industry revenue)		6,0%									Enterprise Value	38355,25
g (assets)		-10,1%	7,6%	-8,7%	-3,7%	5,3%	6,1%	-0,6%				
											g (Industry Revenue)	
Discounted CF		1	2	3	4	5	6	7	Σ		Terminal Value	69929,37337
DCF (g-Fox Revenue)		3164,41	2975,08	2698,95	2448,44	2221,19	2015,03	1828,00	17351,11		Enterprise Value	88707,53
DCF (g-Industry Revenue)		3164,41	3112,35	2887,87	2679,59	2486,33	2307,00	2140,61	18778,16			
DCF (g - Fox Assets)		3164,41	2737,52	2382,22	2073,03	1803,97	1569,84	1366,09	15097,07			
rf (US treasury bonds)		2,2%										
b (company)		1,23										
rm		11,99%										
CAPM		14,24%										

DCF Valuation of Fox using WACC of Fox

FOX COMPANY	Purchase Price	2018	2019	2020	2021	2022	2023	2024			g (Fox Revenue)	
FCF (g-Fox Revenue)	-71300	3 615,0	3882,68	4023,86	4170,17	4321,81	4478,96	4641,82			Terminal Value	142 131,79
FCF (g-Industry Revenue)	-71300	3 615,0	4061,81	4305,52	4563,85	4837,69	5127,95	5435,62			Enterprise Value	110 567,93
FCF (g - Fox Assets)	-71300	3 615,0	3572,64	3551,64	3530,77	3510,02	3489,39	3468,89				
WACC		2013	2014	2015	2016	2017	2018				g (Fox Assets)	
E		16 998	17 418	17 220	13 661	15 722	19 564				Terminal Value	45 324,65
V		50 944	54 793	50 039	48 193	50 724	53 831				Enterprise Value	47 253,59
D		33 946	37 375	32 819	34 532	35 002	34 267	average				
Tax		19,7%	24,5%	12,6%	27,2%	30,3%	21,2%	22,6%			g (Industry Revenue)	
Default spread (Baa1 rating)		1,5%									Terminal Value	564 440,66
kd		3,0%	2,8%	3,2%	2,7%	2,6%	2,9%	2,9%			Enterprise Value	375 182,61
ke		17,0%										
rf (US treasury bonds)		2,2%										
b (industry)		1,0202493										
b (Fox Company)		1,23										
rm		11,99%										
Fox WACC		7,0%						average				
g (Fox Revenue)		10,5%	15,1%	-9,0%	-5,7%	4,3%	6,7%	3,6%				
g (Industry Revenue)		6,0%										
g (Fox Assets)		-10,1%	7,6%	-8,7%	-3,7%	5,3%	6,1%	-0,6%				
Discounted CF		1	2	3	4	5	6	7	Σ			
DCF (g-Fox Revenue)		3377,85	3389,96	3282,75	3178,93	3078,40	2981,04	2886,76	22175,69			
DCF (g-Industry Revenue)		3377,85	3546,37	3512,54	3479,04	3445,85	3412,99	3380,43	24155,07			
DCF (g - Fox Assets)		3377,85	3119,27	2897,51	2691,52	2500,17	2322,42	2157,31	19066,04			

DCF Valuation of Disney using Disney's WACC

DISNEY	2018	2019	2020	2021	2022	2023	2024			g (Disney Revenue)	
FCF (g- Disney Revenue)	9 830	11 022	11 671	12 358	13 086	13 856	14 672			Terminal Value	428386,7925
FCF (g - Industry Revenue)	9 830	11 045	11 708	12 410	13 155	13 944	14 781			Enterprise Value	488124,23
FCF (g - Disney Assets)	9 830	10 776	11 283	11 814	12 370	12 952	13 561				
	2013	2014	2015	2016	2017	2018				g (Industry Revenue)	
E	45 429	44 958	44 525	43 265	41 315	48 773				Terminal Value	445699,5258
V	81 241	84 186	88 182	92 033	95 789	98 598				Enterprise Value	505672,63
D	35 812	39 228	43 657	48 768	54 474	49 825	average				
Tax	31,0%	34,6%	36,2%	34,2%	32,1%	22,8%	31,8%			g (Disney Assets)	
Default spread (Aa2 rating)	0,5%									Terminal Value	295082,4815
kd	1,9%	1,8%	1,7%	1,8%	1,8%	2,1%	1,8%			Enterprise Value	352374,94
ke (company)	17,80%										
rf (US treasury bonds)	2,2%										
b (industry)	1,02024928										
b (company)	1,3										
rm	11,99%										
							average				
WACC	10,5%	10,0%	9,5%	9,0%	8,4%	9,6%	9,5%				
g (revenue)	6,5%	8,4%	7,5%	6,0%	-0,9%	7,8%	5,9%				
g (industry revenue)	6,0%										
g (assets)	8,5%	3,6%	4,7%	4,4%	4,1%	2,9%	4,7%				
Discounted CF	1	2	3	4	5	6	7	Σ			
DCF(g-revenue)	8967,36	9189,72	8885,40	8591,15	8306,65	8031,57	7765,59	59 737,44			
DCF(g-industry revenue)	8967,36371	9209,0731	8913,4764	8627,3679	8350,4431	8082,4071	7822,9746	59 973,11			
DCF(g-assets)	8967,36371	8985,1827	8590,4045	8212,9714	7852,1215	7507,126	7177,2885	57 292,46			

Market Share forecast – Synergy effect

Ratios	2018	2019	2020	2021	2022	2023	2024
	0	1	2	3	4	5	6
Total Industry Revenue	380250	403065	380250	380250	380250	380250	380250
Synergy Revenue	89834	94428	99268	104367	109739	115399	121364
g (industry revenue)	6,0%						
Disney's market share	15,6%						
Fox's market share	8,0%						
Combined market share	23,6%	23,4%	26,1%	27,4%	28,9%	30,3%	31,9%

DCF Valuation of a combined firm – Synergy effect

Free Cash Flow		2018	2019	2020	2021	2022	2023	2024		g (revenue)	
FOX	FCF (g-revenue)	3615	3883	4024	4170	4322	4479	4642		Terminal Value	467216
	FCF (g-industry revenue)	3615	4112	4386	4678	4989	5322	5676		Enterprise Value	327611
	FCF (g - assets)	3615	3573	3552	3531	3510	3489	3469			
DIS	FCF (g-revenue)	9830	11022	11671	12358	13086	13856	14672		g (assets)	
	FCF (g-industry revenue)	9830	11182	11927	12721	13567	14471	15434		Terminal Value	269277
	FCF (g - assets)	9830	10776	11283	11814	12370	12952	13561		Enterprise Value	217525
COMBINED	FCF (g-revenue)	13445	14904	15695	16528	17408	18335	19314		g (industry revenue)	
	FCF (g-industry revenue)	13445	15295	16313	17399	18557	19792	21110		Terminal Value	791942
	FCF (g - assets)	13445	14349	14835	15345	15880	16441	17030		Enterprise Value	503575

WACC (Disney)		9,5%	
g (revenue)	FOX	3,6%	
	DISNEY	5,9%	
	Synergy	5,2%	
g (industry revenue)		6,7%	
g (assets)	FOX	-0,6%	
	DISNEY	4,7%	
	Synergy	3,0%	

Discounted CF		1	2	3	4	5	6	7	
DCF(g-revenue)		12278,54	12430,48	11953,90	11496,61	11057,77	10636,60	10232,35	80086,25
DCF(g-industry revenue)		12278,54	12755,90	12424,71	12102,12	11787,90	11481,84	11183,73	84014,73
DCF(g-assets)		12278,54	11967,31	11299,12	10673,47	10087,26	9537,66	9022,07	74865,42