

November, 17, 2017

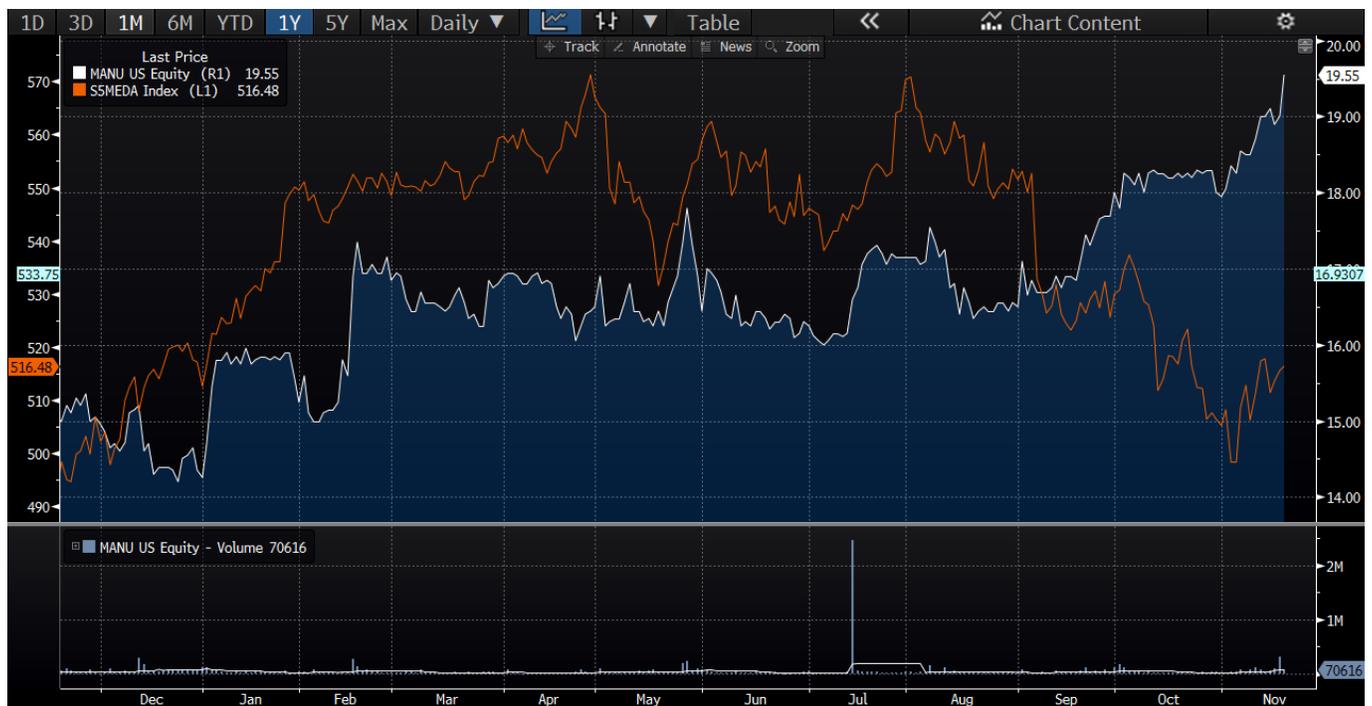
**Manchester United plc (MANU)**  
Tommaso Centemero

**Sector: Consumer Discretionary**  
**Industry: Media**  
**Current Price: \$19.55**  
**Target Price: 21.76**

**Manchester United Plc. Operates as a professional sports club. The company manages the soccer team and all affiliated club activities of the Manchester United Football Club, that includes the media network, foundation, fan zone, news and sports features, and team merchandise. Manchester United is based in Manchester, England and**

## BUY

Current Price: \$19.55  
Target Price: \$21.76  
Market Cap: 3.2B  
Avg. Volume: 0.7M  
Revenue Growth: 17.6%  
EBITDA Margin, Adj.: 34.1%  
ROIC: 7.77%  
WACC: 6.5%



**Thesis:** Manchester United is finally back to the elite of soccer as, after going through a negative period after the retirement of Alex Ferguson, the team is finally back to the Champions League and is forecasted to have an outstanding season. From a financial perspective, the team will capitalize on this wave of high expectations, as their current performance will drive up the three main sources of income, those being commercial, broadcasting and match day. A high performance on the field will result in an increase in games played, influencing matchday revenue and commercial revenue as sale of merchandise is highly correlated with the success of the team. In addition, there are several bonus associated with team performance on all tournaments in which the team participates and which would generate and incremental revenue to the club. Furthermore, Manchester United enjoys the highest sponsorship contracts worldwide and its always looking for new partners to join their successful business. Current contracts will soon come to an end and the company will capitalize on their renewals as, as history has proven, the second contracts tend to be of higher value. Lastly, a second sponsor for the team’s jersey is very likely to be incorporated for next season, which will increase substantially revenues generated from sponsorships.

**Catalysts:**

- Short Term: Team performance driving up all three sources of income.
- Mid Term: Addition of a new sponsor to be showcased in the sleeves of the team’s jersey.
- Long Term: Renewal of sponsorship contracts and broadcasting deals.



**Business Overview:**

Manchester United is a sports powerhouse worldwide, with the largest global fan base among all sports. The team was founded in 1878 as Newton Heath and L&YR football club and has been operating for over 138 years. In 1892, the team’s name changed to Manchester United and, in 1910, it began performing at Old Trafford, which is the team’s home to this day. MANU performs in the Premier League, in England, the most viewed league in the world and is the most successful team in the history of the league. The company generates revenues from three areas,

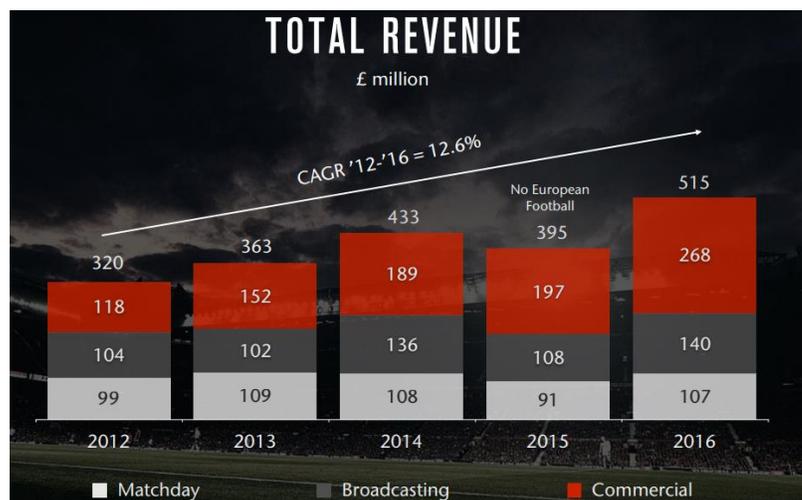


those being commercial, broadcasting and matchday. The commercial segment is subdivided between sponsorships; retail, merchandising, apparel and product licensing; and mobile content and it currently represents 47.4% of the company's total revenue. The broadcasting segment currently makes up for 33.4% of the firm's revenue and is split between domestic TV rights of the Premier League, international Premier League TV rights, UEFA Champions League TV rights and the team's global broadcasting platform MUTV. Lastly, the matchday segment generates the remaining 19.2% of the revenue, which is sourced from the attendance of games, held in the legendary Old Trafford, located in the city of Manchester, UK with a total capacity of 75,653 seats. The team enjoys worldwide popularity as it can be seen through its large fan base. Old Trafford has been sold out for every game since 1998 and over 2M fans attend the game per year. In addition, the team's games have generated a cumulative audience of over 3B per year in 200 territories around the world. The company's popularity can also be noticed online, being the leader of followers among all sports teams on Facebook, Twitter and Asian social media pages such as Sina Weibo and Tencent Weibo.



## 2017 Fiscal Year:

After years characterized of volatility, Manchester United plc seems to have gotten on track and finished its 2017 fiscal year on a positive note, with its stock price up 25.58% from a year ago. Throughout the year, revenues grew at 12.8% and Adjusted EBITDA grew at 4.1%, achieving an Adjusted EBITDA Margin of 34.4%. The success of the company throughout the year is strongly associated with the performance of the team, which, after years under the shadow of its competitors, was able to step back into the scene and

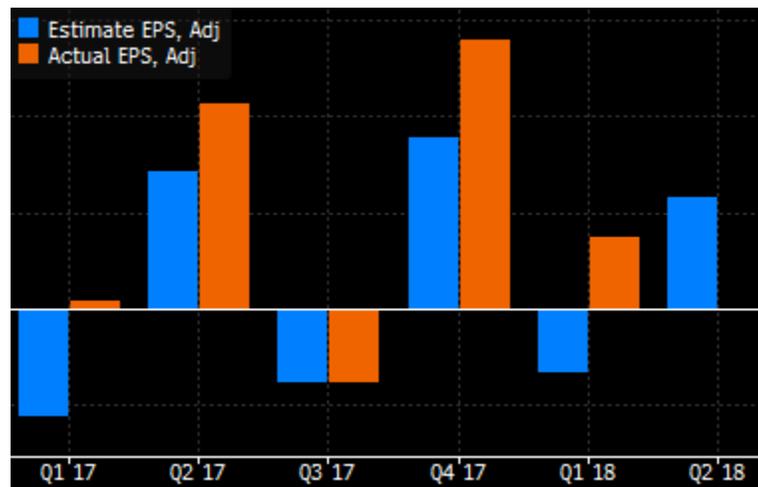


conquer three trophies, qualifying again to the UEFA Champions League. The main driver of growth throughout the year was the broadcasting segment, which expressed a substantial growth of 38.2% from last

year. This growth was conditioned by the new agreement reached by the Premier League with BT Sports for the next 3 seasons, resulting on an increase in revenue derived from broadcasting for each team participant in the league. Following this segment, matchday revenue grew by 4.6 % compared to last year while the commercial revenue grew at a rate of 2.68% during the same period. Operational expenses increased significantly due to bonuses in players contracts that were achieved throughout the season by clinching a UEFA Champions League spot. However, such achievement will result in an incremental revenue income driven by all segments. More games will be played, therefore enhancing matchday revenues and growing the popularity of the team.

## Q1 Earnings and Guidance:

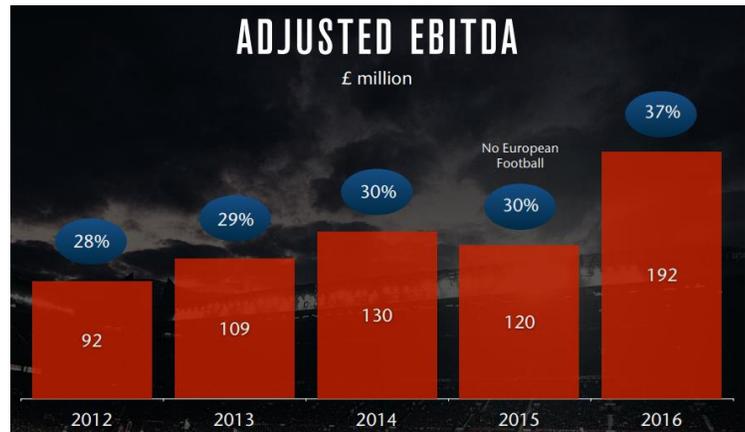
The first quarter of 2018 fiscal year turned out as a great beginning for MANU, as the team saw revenue and EBITDA growing at a rate of 17.3% compared to a year ago. All segments of the company increased in revenue, with the main driver of such increase being the broadcasting segment, due to the presence in Champions League and the playing of the UEFA Super Cup. On a downside, wages were up by 12.2% due to the increase in players' salaries as clauses in their contracts predicted a raise in case of the



achievement of Champions League qualification. However, such increase is expected to be offset by revenue gains throughout the season, as there are many benefits associated with the team performance that will outweigh the increase in wages. Additional highlights of the quarter were the increase in social media interactions, up by 11% from a year ago across Facebook, Twitter and Instagram. Manchester United currently enjoys a social media interaction 80% greater than all of its competitors. Moreover, within this first four months of the season, the club has generated an amount of likes and retweets equivalent to the same metric of two top European teams combined, therefore highlighting the popularity of the team worldwide. Lastly, the rollover of MUTV continues to progress as planned. The app has allowed the team to diversify even more its audience, currently streamed to 140 territories across the world. Several changes have been adopted, enhancing the content of the app and making the customer experience more enjoyable. Among these changes, the pre-match coverage has been increased from 1 to 2 hours and in-house original productions have been increased, achieving substantial popularity. Among such productions are the behind the scenes documentaries of Mkhitarian, Rashford and Bailey. After a successful quarter, the company's management reiterated the fiscal year predictions, assuring that the metrics achieved so far are in line with the final goal of achieving £585 in revenues and £185 in EBITDA.

## Team Performance and its Impact on Revenues:

After years of struggles following the retirement of legendary Alex Ferguson, Jose Mourinho was able to bring the team back to high standards, placing the team once again on the top tier of teams worldwide. During his first season, which ended in July 2017, Mourinho was able to conquer three trophies, those being the community shield, the EFL Cup and, most importantly, the UEFA Europa League, which allowed the team to secure a spot in the 2017-2018 UEFA Champions League, which the team is currently disputing. Manchester United had a strong start in this season, currently placed second in the Premier League and first in its UEFA Champions League group. The success of the team has several positive repercussions within the financials of the institutions, as all segments revolve around the team's performance. By securing the Champions League spot and passing the first round, which is mathematically clinched at this point, the team guaranteed at least four additional home games, therefore contributing to an increase in Matchday revenue. In addition, as Old Trafford has been sold out for over ten years, the presence of fans at the stadium has an impact on commercial revenues as well, as attendance to the Megastore located at the stadium increases. Throughout Q1, the Megastore has traded well, with revenue and profit in line with the



company's predictions, guided mainly by the popularity of the new black away kit. Broadcasting revenues are also influenced by the good moment that the team has been experiencing in the past months. With the qualification to Champions League, broadcasting revenues will increase throughout this fiscal year as the income generated by the broadcast of Champions League is higher than

	Champions League ("UCL") €million		Europa League ("UEL") €million	
Bonus for group stage participation (UCL—32 teams; UEL—48 teams)	€	12.70	€	2.60
Bonus for each group stage win (maximum 6)	€	1.50	€	0.36
Bonus for each group stage draw(1)	€	0.50	€	0.12
Bonus for group runners-up		N/A	€	0.30
Bonus for group winners		N/A	€	0.60
Bonus for round of 32 participation		N/A	€	0.50
Bonus for round of 16 participation	€	6.00	€	0.75
Bonus for quarter-final participation	€	6.50	€	1.00
Bonus for semi-final participation	€	7.50	€	1.60
Runner-up bonus (inclusive of ticketing revenue share)	€	11.00	€	3.50
Winner bonus (inclusive of ticketing revenue share)	€	15.50	€	6.50
Maximum total of the above	€	57.20	€	15.71

the income from Europa League. In addition, broadcasting aside, the income enjoyed by Champions League participants is equivalent to almost four times the incremental revenues generated by participating in the Europa League. Obviously, such income is also based on performance but, as an example, Champions League participants receive a flat rate of £12.7M just for reaching the group stage in comparison to a much lower rate of £2.6M received by Europa League participants for the same achievement. Sponsorship aside, which have a substantial impact on the clubs revenues with the most recent contracts, the team saw its highest revenues in 2014, when it participated in the Champions League, with its broadcasting and matchday revenues benefiting from it. The following year, the company experienced a revenue downfall due to the lack of European soccer during the season, but experienced a massive revenue hike again when the team achieve Europa League classification in 2016. Therefore, taking into account the 12.6% CAGR that the company has experienced in

the income from Europa League. In addition, broadcasting aside, the income enjoyed by Champions League participants is equivalent to almost four times the incremental revenues generated by participating in the Europa League. Obviously, such income is also based on performance but, as an example, Champions League participants receive a flat rate of £12.7M just for reaching the group stage in comparison to a much lower rate of £2.6M received by Europa League participants for the same achievement. Sponsorship aside, which have a substantial impact on the clubs revenues with the most recent contracts, the team saw its highest revenues in 2014, when it participated in the Champions League, with its broadcasting and matchday revenues benefiting from it. The following year, the company experienced a revenue downfall due to the lack of European soccer during the season, but experienced a massive revenue hike again when the team achieve Europa League classification in 2016. Therefore, taking into account the 12.6% CAGR that the company has experienced in

the past four years combined with the entrance to the prestigious UEFA Champions League, I can predict substantial growth in revenues throughout the next fiscal year, overachieving the goals previously established by the team's management.

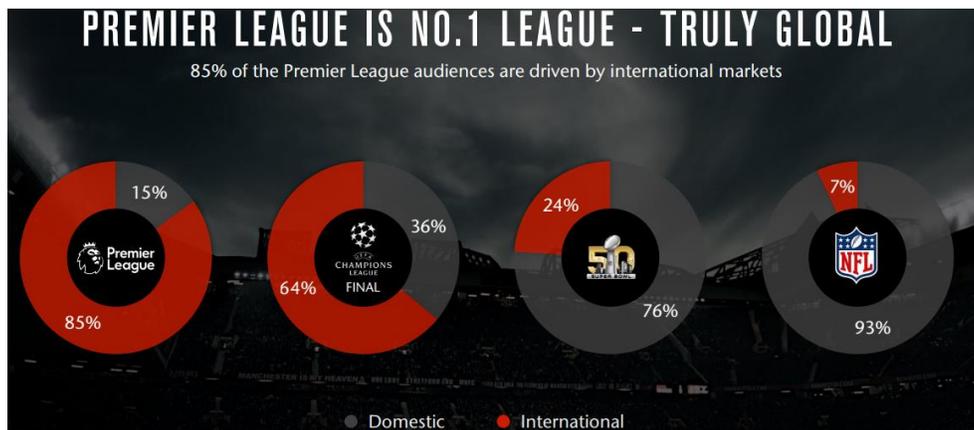
## Media / Broadcasting:

Despite being out of the Manchester United's control, the broadcasting revenue has had a positive impact in the finances of the company. Broadcasting deals are crafted by the institutions organizing the leagues, Premier League and UEFA in this case, and sold to telecommunication companies interested in providing the service. Broadcasting revenues have increased by 38.2% over the last year, due mainly by the new agreement reached between the Premier League and BT Sports for the streaming of games in the UK and between the Premier League and NBCSN for broadcasting rights in the US. Previous Premier League domestic deal was of approximately £5.1B, ending in 2016. For



the next three seasons, a new agreement has been reached, with an increase of roughly 60% in comparison to the existing one. The next agreement reached with BT sports is of roughly £8.4B, to be split among all participant of the league. Such increase will benefit the revenue of Manchester United, as although the percentage of revenue out of the total deal might remain the same, this income will result in a higher amount. In addition, concerning the revenue generated from international broadcasting rights, representatives of all teams have been in talks to redraft the current distribution method of the total amount incurred by the Premier League. Currently, all participant teams enjoy an equal share of income out of the total deal. The new proposal would entail that 35% of the total amount will be distributed according to positions in the standing. Manchester United is particularly pushing to such deal, as its likelihood of finishing in the top tier of the league is usually high. The argument used to propose such deal is that the increasing value of international deals is strongly attracted by the performance of top teams and therefore they should enjoy higher benefits in comparison to smaller teams that do not provide such influence to the international fan base. In case such distribution renovation goes through, Manchester United would see its broadcasting revenue once again expressing significant growth, as it did throughout the last fiscal year. Furthermore, aside from the luxurious Premier League deals, the current broadcasting rights agreement of the UEFA Champions League is also reaching an end, expiring in 2018. As of now, income generated through Champions League TV rights may not sound so significant to Premier League teams due to its billionaire domestic deals. However, the renewal of the deal is expected to suffer an increase of about 49%, becoming once again extremely attractive to Premier League teams, who enjoy a large slice of such amount due to UEFA's policy of distribution based on "market pool". In conclusion, combining the increase in Premier League domestic and international deals and the UEFA Champions League contract, also taking into account the assumption of a potential restructuring in the

distribution of the total amount, Manchester United can expect an increase in its revenue from this segment throughout the next few years.



### Sponsorships:

Manchester United is the number one marketing platform among sports teams worldwide, enhancing its partner’s marketing strategies by granting them unique access to game and training kits, media visibility and association with success as the particular brand will be constantly associated with the team’s name. Such attracting opportunities have enabled Manchester United to reach outstanding deals with sponsor partners in the past years. The company recently announced a new Director of Partnerships, Sean Jefferson, with a vast experience in the field of marketing, and the company has inked 12 new sponsorship deals in 2017, including an agreement with Uber where, among several other benefits, a designated pick-up/drop off area will be established at Old Trafford.



Sponsorships are currently a large portion of MANU’s income. The team recently broke the record for both the kit sponsor and shirt main sponsor contracts, computing values twice as high as their top competitors. Manchester United’s latest kit sponsorship deal with Adidas grants MANU with a revenue of £75M per year, valid until 2025. Additionally, the main shirt sponsor, Chevrolet, also reached a record deal with the team, granting them with a total of £49.2M per year until 2021. The deal with Adidas is significantly higher than any other sports sponsorship deal across the world, generating a revenue twice as large as Real Madrid, who currently owns the second largest deal, also with Adidas. Lastly, Manchester United currently has a deal in place with Aon, American insurance company, for the naming rights of its training complex and for the sponsorship of coaches and players’ training kit. Such contract generate a per year revenue of roughly £15M per year to Manchester United, with the contract in place until 2021. Historically, the renewal of contracts has had positive impacts to the club as, on the past four renewals of shirt sponsorships, the value of deal was significantly raised. With both Chevrolet and Aon’s deal coming to an end in 2021, Ed Woodward and MANU’s management will soon begin negotiations for either the renewal or the change of their sponsorship, which will undoubtedly express an increase in value. The team has finally reestablished itself in the top tier of professional soccer and

therefore, has brought back the enthusiasm of fans around the world. Consequently, the interest of current and potential sponsors will be even higher than it has been, contributing to an increase in the current value of the contracts, which are already leading the industry.



Furthermore, starting this season, the Premier League allowed teams to feature sponsors on their left sleeve. Teams such as Chelsea, Liverpool and Manchester City have already inked deals of that sort, adding sponsors to their jerseys and generating an additional sponsorship revenue. Such deals are of high value for teams as, for example, Liverpool’s sleeve deal with Western Union generated an incremental revenue of £25M to the club.



Manchester United spend the first semester of the year in negotiation with Tinder, a dating app, working on a deal that would have displayed the flame logo of the brand on the left sleeve of the clubs jersey, in exchange for a per-year amount of £12M. For unknown reasons, the deal was interrupted and both companies did not reach a final agreement. Looking forward towards next season, it is very likely that Manchester United will ink a deal with a sponsor to their sleeves, given that nine Premier League competitors have already secured theirs. With a potential new sponsor, Manchester United could see its commercial revenues grow by roughly 3%, a conservative estimate given the unknown value of the potential deal. Combining a potential new sponsor with the likelihood of an increase in current sponsorship deals as their renewals approach and the constant look from the new Director of Partnerships for

new global and regional sponsors, it is clear that the margin of growth within this segment is very high, with the potential of achieve double digits growth within the next two fiscal years.

## Industry Outlook:

Manchester United operates a sports team currently playing the most popular sport in the world, proved by several surveys. Despite its established fame worldwide, soccer continues to expand its fan base, especially in countries such as United States, China and India, as their domestic leagues are slowly emerging. As a consequence, the value of sports content continues to rise, and its popularity and demand has been driving broadcasting contracts to the sky. For instance, Premier League value of domestic TV rights have been growing at a CAGR of 19.4%, in comparison to a mere 5.4% CAGR expressed by the American NFL. Second to Premier League domestic TV rights comes Premier League international TV rights, also outpacing NFL, MLB and NBA at a CAGR of 12.2%, therefore proving the increase in the value of the content and the demand of such products over the past few years. The constant growth of the sport as a lucrative business is

seen in the attendance statistics of the Premier League over the past few years. All 20 teams have over 80% attendance for every home game throughout the season, with 15 out of the 20 teams surpassing the 90% mark. Also, as proof of the success and growth of the soccer industry in the past decade, the revenue of all big five leagues (Italy, England, Germany, Spain and France) has at least doubled in the last years and, in the case of England, Spain and France, it has more than tripled. Looking forward, there is plenty of room to grow as soccer continues to constantly innovate and as the level of playing arises, attracting more and more fans. In addition, as technology continues to upgrade, more fans are connected to their respective teams, with teams leveraging their ability to generate revenues from their fan base.

If compared to its competitors, MANU's metrics demonstrate its strength among the market, proving to be one of the industry leaders in the sports industry. In the soccer industry specifically, Arsenal may be the one organization chasing Manchester, who provides significantly higher revenues and have been growing at a similar pace. In terms of returns, the company is ahead of the median by far and ahead of most competitors, second only to WWE, which, although being in the entertainment business, may not be considered a direct competitor. Only behind MSG, MANU generates the highest revenue among all other competitors and, with the largest fan base of all and the highest sponsorship contracts, is set to continue its march to increase even more its market share and continue to expand its fame internationally.

Name	Mkt Cap (USD)	Sales Growth (%)	EBITDA Growth (%)	EBITDA Margin	Operating Income Margin	Net Profit Margin	Return on Invested Capital	Return on Equity
Median	2.11B	18.75%	51.28%	13.21%	-0.21%	0.68%	1.73%	0.98%
100) MANCHESTER UNITED PLC...	3.12B	17.57%	13.03%	34.09%	10.82%	9.15%	7.77%	11.61%
101) WORLD WRESTLING ENTE...	2.11B	11.96%	36.89%	13.21%	9.10%	5.30%	14.03%	17.61%
102) ARSENAL HOLDINGS PLC	2.18B	19.92%	65.67%	34.18%	12.36%	7.14%	6.55%	8.76%
103) BORUSSIA DORTMUND GM...	713.56M	21.95%	246.27%	12.53%	-0.63%	0.68%	1.73%	0.98%
104) MADISON SQUARE GARDE...	5.16B	20.51%	403.37%	8.51%	-0.21%	-2.10%	-1.07%	-1.19%
105) LIBERTY MEDIA CORP-BR...	1.11B	--	--	-3.57%	-16.56%	-10.86%	-6.45%	-23.97%
106) JUVENTUS FOOTBALL CLU...	886.87M	8.87%	-32.92%	14.73%	-8.28%	-8.64%	-8.43%	-58.45%

## Ownership:

The company's shares are primarily owned by Investment Advisors, who currently hold 52.69% of the shares. Following, Hedge Funds are the second highest owners, with a percentage of 32.9%. The remaining shares are split among corporations, individuals, pension funds and others. There is no insider ownership currently present in the company. On a positive note, if compared with the percentage of ownership from a year ago, the percentage of shares owned by Hedge Fund Managers increased by 15.86%, reflecting on the belief of a potential growth to capitalize on in the future.

Compare Current Stats Against	11/12/16	11/06/16	Curr ↓	Change
Ownership Type				
11) Investment Advisor		61.86	52.69	-9.17
12) Hedge Fund Manager		16.75	32.61	+15.86
13) Corporation		21.22	8.68	-12.54
14) Individual			4.04	
15) Other		0.00	1.67	+1.67
16) Pension Fund		0.12	0.10	-0.02
17) Bank		0.01	0.08	+0.07
18) Insurance Company		0.00	0.08	+0.08
19) Brokerage		0.04	0.05	+0.01

## What-If Analysis:

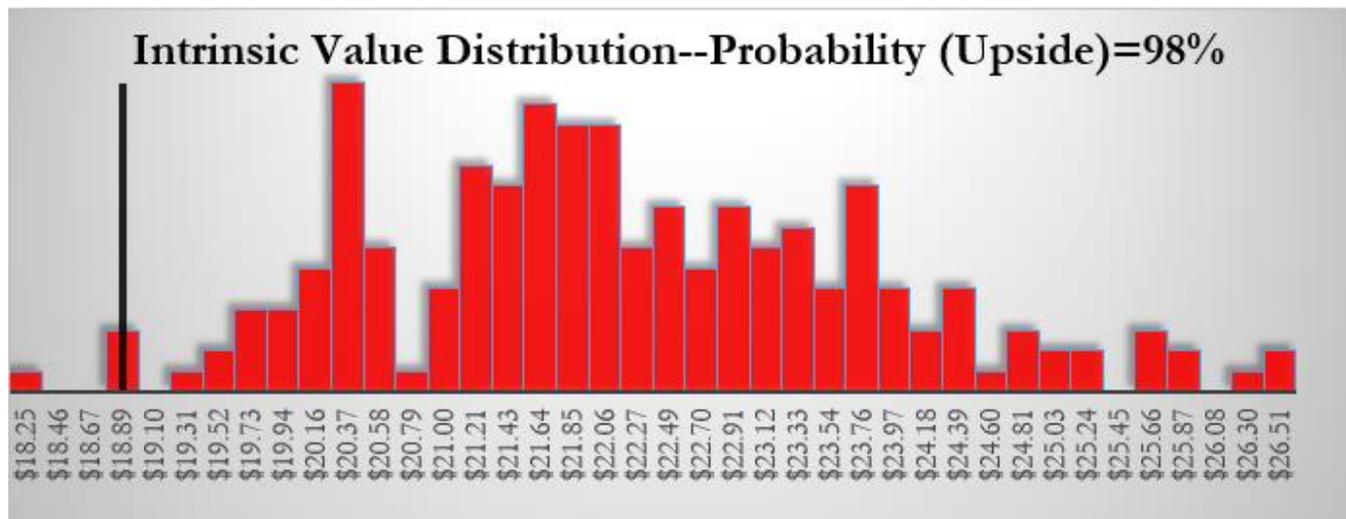
Here follows a What-If Analysis, portraying the probability of achieving the target return if my assumptions for realistic, best case or worst-case scenario are met. The realistic scenario assumes the current estimates of revenue growth of the company. The worst-case scenario would still involve no downside, but simply a smaller return. The main sources of revenue for Manchester United are fixed, given that sponsorship income is pre-established in the contract, the broadcasting contracts are out of the team's control as Premier League directly deals with it and Old Trafford, the club's stadium, is already sold out for the rest of the season. Therefore, on a worst-case scenario, revenues may not increase but there is little to none chance that they would actually decrease. Lastly, my best case scenario is associated with a strong performance of the team, accumulating incremental revenue from an outstanding season, where the team would finish in a top position within the Premier League and would advance to the finals of Champions League, potentially winning the tournament. Such successful season would bring additional revenue to the company as there are several bonus included in the compensation system of both tournaments based on performance. In addition, revenues may increase substantially by reaching a deal with a third sponsor to be showcased in the sleeve of their jersey and by renewing their sponsorship contracts in 2021 with a premium in the contract.

### Realistic Case Scenario - Assumptions:

Revenue Growth: According to estimates

Target Price: \$21.81

Return: 15.20%

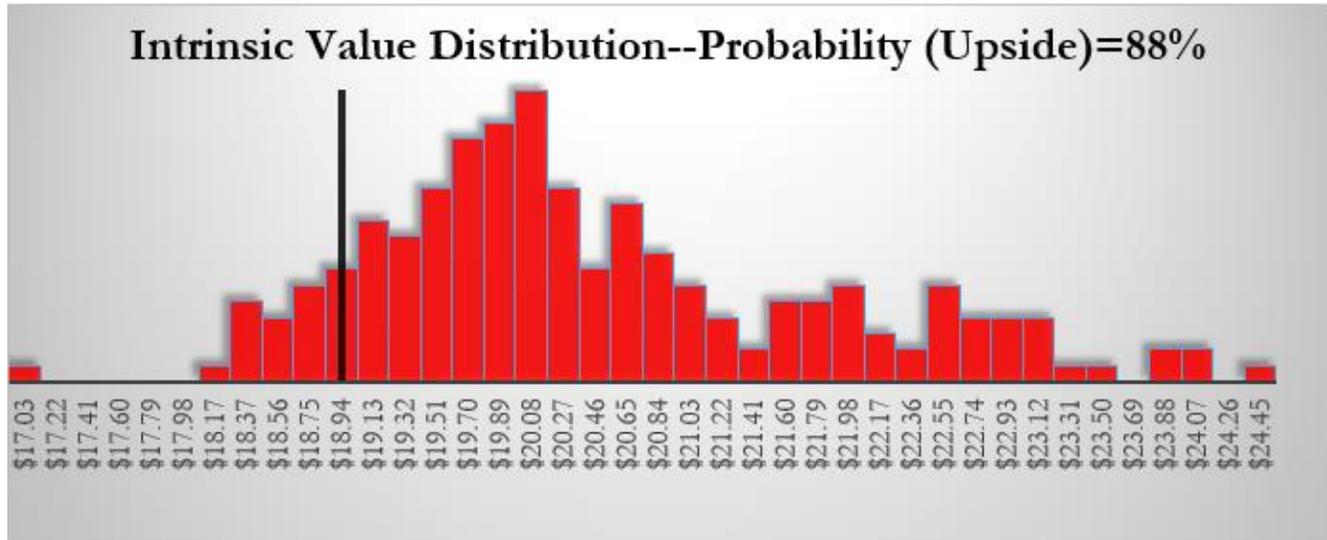


### Worst Case Scenario - Assumptions:

Revenue Growth: -4.1% deviation from the estimates on the next 3 years.

Target Price: \$20.04

Return: 6.45%

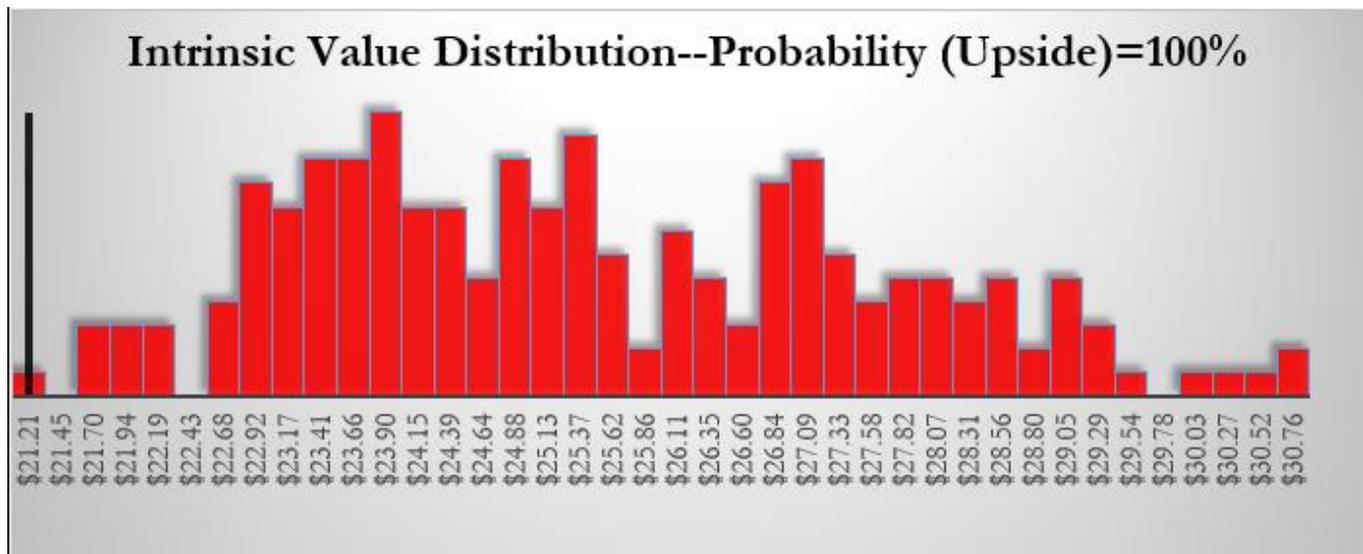


Best Case Scenario - Assumptions:

Revenue Growth: +7% deviation from the estimates on the next 3 years.

Target Price: \$24.80

Return: 31.6%



**Conclusion:**

Manchester United will continue the strong momentum they have undertaken throughout this year, relying on their large fan base worldwide and on the increasing popularity of the Premier League in “soccer emerging” countries. In addition, the team will capitalize on the strength of the broadcasting contracts worldwide

involving UEFA and the Premier League. Such contracts have been growing at an impressive CAGR in comparisons to other sports and tend to grow even more as contracts come to an end. Lastly, with a positive renewal of the current sponsorship contracts and the addition of a third major sponsor for their kit, revenues would increase by a considerable amount, continuing the growth that the company has been experiencing. The investment would have very little downside, as the main current sources of income are fixed and can only increase based on the team's performance. In this case, it would justify the buy as there is little risk associated with it and substantial potential gains to be realized.

**Manchester United plc**  
(manu)

**CENTER FOR GLOBAL FINANCIAL STUDIES**

**NEUTRAL**

Analysis by Tommaso

11/17/2017

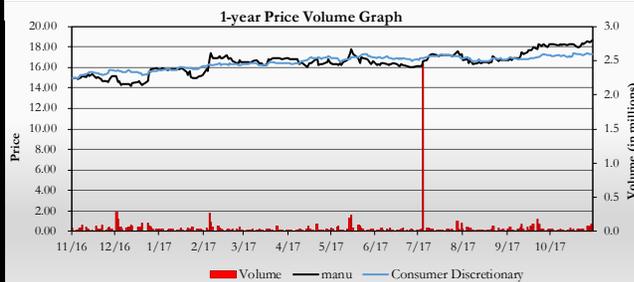
Current Price: **\$19.00**

Divident Yield: **1.0%**

Intrinsic Value: **\$18.98**

Target Price: **\$21.76**

Target 1 year Return: 15.54%  
Probability of Price Increase: 98%

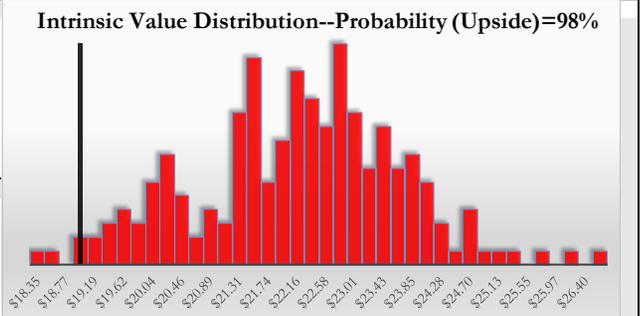


Description	
Manchester United plc, together with its subsidiaries, owns and operates a professional sports team in the United Kingdom.	
General Information	
Sector	Consumer Discretionary
Industry	Media
Last Guidance	November 3, 2015
Next earnings date	November 16, 2017
Estimated Country Risk Premium	5.15%
Effective Tax rate	19%
Effective Operating Tax rate	19%

Market Data	
Market Capitalization	\$3,119.66
Daily volume (mil)	0.08
Shares outstanding (mil)	164.19
Diluted shares outstanding (mil)	164.49
% shares held by institutions	116%
% shares held by investments Managers	18%
% shares held by hedge funds	4%
% shares held by insiders	77.36%
Short interest	0.23%
Days to cover short interest	9.14
52 week high	\$19.00
52-week low	\$14.10
Volatility	24.71%

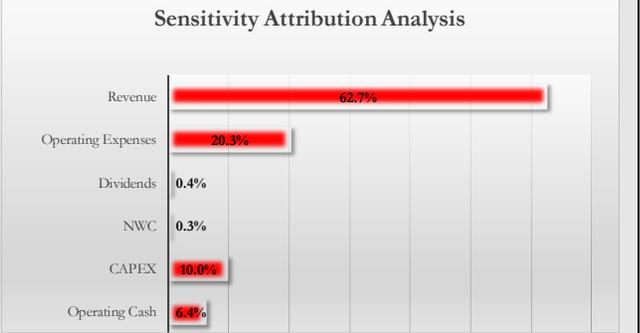
Quarter ending	Revenue	EBITDA
6/30/2016	6.10%	-4.60%
9/30/2016	4.82%	18.59%
12/31/2016	5.23%	10.68%
3/31/2017	5.85%	-7.43%
6/30/2017	9.19%	15.45%
Mean	6.23%	6.54%
Standard error	0.8%	5.3%

Peers	
Formula One Group	



Management	Position	Total compensations growth	Total return to shareholders
Glazer, Joel	Executive Co-Chairman & Prin	N/M	N/M
Glazer, Avram	Executive Co-Chairman	N/M	N/M
Woodward, Edward	Executive Vice Chairman	N/M	N/M
Baty, John	Chief Financial Officer	N/M	N/M
Townsend, Philip	Director of Communications	N/M	N/M
Arnold, Richard	Group MD & Director	N/M	N/M

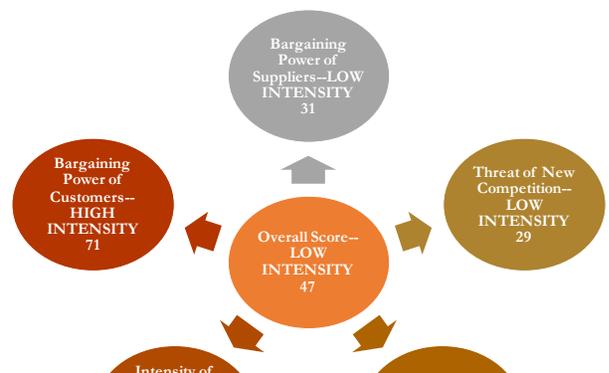
Profitability	manu (LTM)	manu (5 years historical average)	Peers' Median (LTM)
Return on Capital (GAAP)	21.0%	7.46%	0.75%
Operating Margin	25%	8.07%	-0.77%
Revenue/Capital (GAAP)	0.83	0.92	-0.97
ROE (GAAP)	9.0%	12.6%	20.8%
Net margin	6.6%	9.9%	8.3%
Revenue/Book Value (GAAP)	1.36	1.27	2.50



Invested Funds	manu (LTM)	manu (5 years historical average)	Peers' Median (LTM)
Cash/Capital	30.0%	14.9%	12.4%
NWC/Capital	-26.0%	-22.9%	-19.4%
Operating Assets/Capital	96.0%	57.7%	98.0%
Goodwill/Capital	0.0%	50.3%	9.0%

Capital Structure	manu (LTM)	manu (5 years historical average)	Peers' Median (LTM)
Total Debt/Market Capitalization	0.50	0.52	0.71
Cost of Existing Debt	3.2%	8.2%	8.2%
CGFS Rating (F-score, Z-score, and default Probability)	BBB	BBB	A
WACC	7.1%	12.4%	11.6%

Porter's 5 forces (scores are out of 100)



Period	Revenue Growth Forecast
Base Year	18%
9/30/2018	4%
9/30/2019	7%
9/30/2020	8%
9/30/2021	10%
9/30/2022	8%
9/30/2023	7%
9/30/2024	6%
9/30/2025	5%
9/30/2026	4%
9/30/2027	3%
Continuing Period	2%

Valuation	Revenue to Capital Forecast
Base Year	0.42
9/30/2018	0.37
9/30/2019	0.38
9/30/2020	0.43
9/30/2021	0.49
9/30/2022	0.53
9/30/2023	0.57
9/30/2024	0.60
9/30/2025	0.61
9/30/2026	0.61
9/30/2027	0.60
Continuing Period	0.57

Period	Return on Capital Forecast
Base Year	11.5%
9/30/2018	7.4%
9/30/2019	7.7%
9/30/2020	8.8%
9/30/2021	10.1%
9/30/2022	11.8%

WACC Forecast	Price per share Forecast
Base Year	\$18.90
9/30/2018	\$21.59
9/30/2019	\$22.40
9/30/2020	\$23.23
9/30/2021	\$24.09
9/30/2022	\$25.00