A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

Equity Research Report on AT&T - Finding the value of a company within an overexploited sector

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04-01-2021

Abstract

This report aims at depicting the past and future performance of both the Telecommunications and Media & Entertainment industries so that this analysis is embedded in determining AT&T's intrinsic value by the end of 2021.

Keywords

AT&T, Telecommunications, Media & Entertainment, Industry Value

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

This report is part of the … report (annexed) and should be read has an integral part of it.

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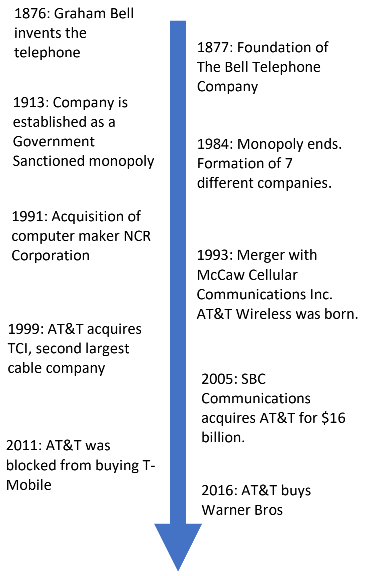

Figure 1 – Company's Main Historical Events
Source: Own Representation

Revenue per geography		
In Millions	2019	%
United States	$162 344	89.6%
Europe	$6 137	3.4%
Mexico	$3 198	1.8%
Brazil	$2 761	1.5%
All Other Latin America	$3 219	1.8%
Asia/ Pacific Rim	$2 651	1.5%
Other	$883	0.5%

Figure 2 – AT&T's Reported Revenue per Geography
Source: AT&T's Annual Reports

AT&T is an American business conglomerate operating in both the telecommunications and the media & entertainment sectors. The company has expanded vertically more pronouncedly in June 2018. At the time they integrated WarnerMedia in the holding, leveraging from an already diversified offer in Mobile, TV, and Wireless products, and scaling up to a renewed product mix within OTT and streaming services.

Company Description

Aged over 140 years in the business, AT&T is a historical company in the telecom industry responsible for numerous technological advances. Its headquarters are located in Dallas, Texas. The CEO, John Stankey assumed his responsibilities last April. His predecessor, Randal Stephenson was in charge for the last 12 years, and his retirement had been planned since he was able to reach the company's objectives regarding the shareholders' long-term value. AT&T' is the most valuable telecom brand around the world accounting for over $108,000 Million[1] in 2019. This is also a priority for the new director.

The company operates worldwide being the United States the market responsible for nearly 90% of the revenues - Figure 2. Asia and Europe are the revenue sources that have presented the most significant increases.

Products

Focusing on the US business operations, AT&T's products are divided according to the business units (figure 3), meaning pure telecom offer which consists of *phones&devices, wireless, internet, TV, prepaid, and bundles* being often complemented with media & entertainment services offered by the Warner Media segment. Currently, the multi-service offers advertised on the commercial website consist of *TV package + internet* which may include a 1-year HBO Max subscription for free. There are 3 different offers with prices of $89.98, $94.98, $104.98 per month, respectively. The differences in the price charged derive mainly from the number of channels available, and for the cheapest bundle, the 1-year HBO Max subscription for free which is not available. All in all, the company aims to increase the offer-based, to attract new customers in a competitive

[1] Brandz, (2019/2020). Top 100 most Valuable Global Brands, retrieved from https://www.brandz.com/admin/uploads/files/BZ_Global_2019_WPP.pdf, on 12 September

landscape, and to leverage from its telecom nature to capitalize on the subscriptions of the brand-new HBO Max.

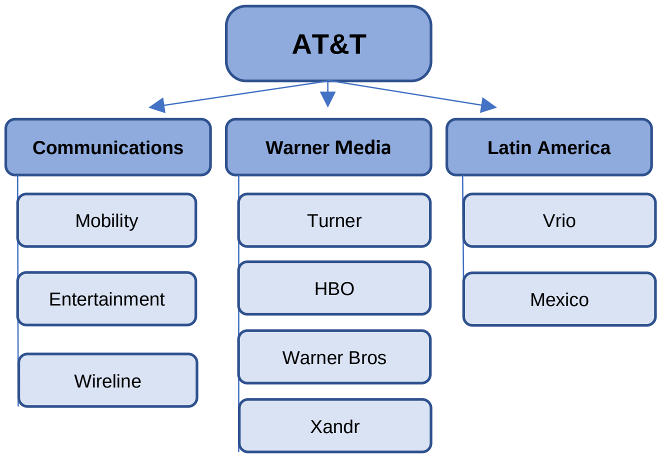

Figure 3 – AT&T's Business Units Organisation
Source: Own Representation

Company Growth Evolution

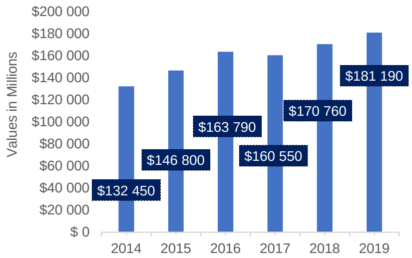

Figure 4 – AT&T's Reported Annual Revenues (2014-2019)
Source: AT&T's Annual Reports

AT&T's Revenues per Business Unit (BU)		
In Billions	**2019**	**%Total**
Communications	$142 359	78.6%
Warner Media	$35 521	19.6%
Latin America	$6 963	3.8%
Xandr	$2 022	1.1%

Figure 5 – AT&T's Reported Annual Revenues per Business Unit (BU) in 2019
Source: AT&T's Annual Reports

Mobility Segment				
In Billions	**2016**	**2017**	**2018**	**2019**
Subscribers (In Millions)	134.45	139.99	151.92	165.89
Revenue	$72 587	$70 259	$70 521	$71 056

Figure 6 – AT&T's Reported Annual Revenues and Subscribers of the Mobility Segment (2016-2019)
Source: AT&T's Annual Reports

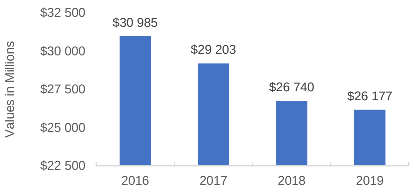

Figure 7 – AT&T's Reported Annual Revenues of the Business Wireline Segment (2016-2019)
Source: AT&T's Annual Reports

Revenues have been continuously positive since 2014 except in 2017 where a slight decline of 1.98% was registered. On average revenues improved 3.5% since 2017, totaling $181 Bn last year. The company is in a mature stage of its life cycle which in some of the business units might mean that they have achieved maximum demand saturation and revenues are stagnated. In order to overcome this issue and sustained business growth, the company engaged in strategic acquisitions. The company is now divided in 3 business units: Communications; Warner Media; Latin America and Xandr (hereafter included on the Warner Media). Regarding the first, which represents the largest share of revenues, 78%, it is subdivided in Mobility, Entertainment and Business Wireline. The extensive division allows us to make conclusions regarding the revenue growth. In the mobility subsection, the total subscribers have increased yearly over 4%, while total revenue had ups and downs offsetting the consistently decreasing revenue of the entertainment group, which is driven by the loss of paid TV subscribers. The Business Wireline revenues have also a negative growth caused by the change of services to more advanced solutions. Looking at figure 7, revenues decreased from $30 Bn in 2016 to $26 Bn in 2020. In summary, the revenue trend of the Communications unit is negative (fig. 8).

The Warner Media segment is the emerging one being subdivided in Turner, Home Box Office and Warner Bros. The revenue path is difficult to depict given the short time existence though, this segment comprises almost 20% of the total revenue while the communications segment loses share.

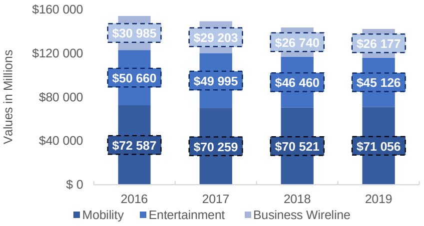

Figure 8 – AT&T's Reported Annual Revenues per of the Communications BU, per Segment (2016-2019)
Source: AT&T's Annual Reports

Revenues of the Latin America BU				
In Billions	2016	2017	2018	2019
Vrio	$4 910	$5 456	$4 784	$4 094
Mexico	$2 373	$2 813	$2 868	$2 869

Figure 9 – AT&T's Reported Annual Revenues of the Latin America BU, per Segment (2016-2019)
Source: AT&T's Annual Reports

The following sector, Latin America, comprises 3.8% of total revenues of last year and includes telecommunication sales in Mexico (Mexico) and paid TV in Latin America (Vrio). In Mexico cash flows have increased in a decreasing rate, accounting for $2.813 Bn in 2017 and $2.869 last year. Vrio is responsible for $4.1 Bn revenues and these fluctuate more registering a decline of 13%, on average, since 2018. The least significant source of revenues is the Xandr segment reporting the revenues of advertising services provided by AT&T. Its expression was 0.81% in 2016 and 1.12% in 2019 for the global picture, corresponding to $2 Bn. In the following reports this unit will make part of Warner Media as already mentioned.

Corporate and other include revenues from operations no longer actively managed; items associated with the merger and integration of business; employees related adjustments and operations between their segments. These captions are not constant as presumed, but they represent between -2% and 1% of each year income and therefore are difficult to predict. Nevertheless, the value is not significant.

Stock Performance

Figure 10 – AT&T vs. S&P500 Cumulative Returns (2017-2020)
Source: Analysts' Computations

AT&T is publicly traded on the NYSE under the ticker "T" since the moment of the Initial Public Offering in July 1984, in which each stock was sold for $1.25. As of January 3rd, the 52-week price ranged from a $39.55 high and a $26.08 low, with 7,125 million shares outstanding and trading at $28.76. The Shareholder structure is characterized by a predominance of institutional investors, with an overall ownership of 55%, where the **Vanguard Group Inc.** holds the greatest ownership, with 564.9 million shares, and a 8.4% representation. In the last 4 years, AT&T's stock performance was weaker than the S&P index, with consecutive lower cumulative returns.

Stock Performance Ratios				
	2016	2017	2018	2019
P/E	16.73	6.66	9.86	12.09
EPS	2.52	5.62	3.05	3.11

Figure 11 – Stock Performance Rations, P/E and EPS (2016-2020)
Source: Analysts' Computations

Quarterly Dividends				
	2016	2017	2018	2019
Dividends paid	0.48	0.49	0.50	0.51

Figure 12 – Quarterly Dividends Paid from AT&T to Shareholders (2016-2020)
Source: Bloomberg

Price to earnings ratio has been characterized by ups and downs from 2015 onwards due to both stock price and earnings per share movements. The earnings per share ratio have been steady around 2-3, apart from the 5.62 in 2017, in which a tax act[2] artificially increased net income in that year. The dividend distribution has been increasing 1 p.p. on a year-on-year basis, evolving from $0.48 in 2016 to $0.51 in 2019. The quarterly payments are expected to keep up their path, as the current payment of $0.52 remained unchanged after the pandemic outbreak, contrarily to what happened in the great majority of businesses worldwide.

[2] In 2017, AT&T benefited from a $20,271 reduction on its tax burden, which resulted from adjustments of previous periods.

The quarterly dividend will potentially increase in 2021[3], as a result of the dividend payment strategy of high payout ratios.

Capital Structure

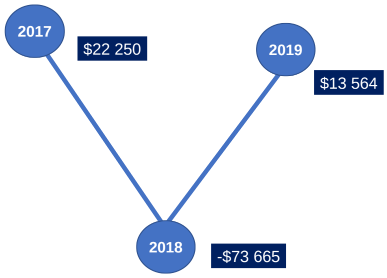

Figure 13 – AT&T's Free Cash Flow (FCF) from 2017 to 2019
Source: Analysts' Computations

Net Debt to Market Capitalization Ratio	D/E 2019	D/E Current
AT&T	62.9%	94.8%
Verizon Communications Inc.	51.4%	53.2%
T-Mobile US, inc	60.7%	58.5%
Telus Corp	59.3%	54.8%
BCE Inc	48.1%	59.5%
Rogers Communications Inc	55.4%	61.3%
US Cellular Corp	70.5%	86.3%

Figure 14 – Net Debt to Market Capitalization of AT&T and Selected Peers
Source: Bloomberg

Cash Conversion Cycle	Q-1
AT&T	-21.9
Verizon Communications Inc.	29.33
T-Mobile US, inc	-62.27
Telus Corp	21.82
BCE Inc	-11.5
Rogers Communications Inc	-
US Cellular Corp	55.43
Median	5.16

Figure 15 – Cash Conversion Cycle (CCC) of AT&T and Selected Peers
Source: Bloomberg

Liquidity Ratios 2019	Current Ratio	Quick Ratio	Cash Ratio
AT&T	0.8	0.50	0.18
Verizon Communications Inc.	0.84	0.62	0.06
T-Mobile US, inc	0.74	0.27	0.12
Telus Corp	0.78	0.45	0.1
BCE Inc	0.56	0.31	0.01
Rogers Communications Inc	0.86	0.47	0.08
US Cellular Corp	2.1	1.64	0.38
Peers Median	0.81	0.46	0.09

Figure 16 – 2019 Liquidity Rations of AT&T and Selected Peers
Source: Bloomberg

FCF of AT&T decreased from $22 Bn in 2017 to $13 Bn in 2019, reaching over minus $70 Bn in 2018 driven by the Time Warner's Acquisition. The Net-Debt-to-market-capitalization Ratio of AT&T is larger than competitors, for instance 62.9% in 2019 is one of the largest as observable in figure 14. The ratio is calculated with market values in spite of book values. This way the analysis is able to capture the market feelings and the implicit information on stock price. It would not make sense to use book value of equity since it would not take in consideration overall market fluctuations caused by pandemic in 2020. The current D/E is 0.89, the highest between selected competitors. Net debt goes from 114 $ bn in 2017 to 192 $bn in 2019. Considering the ratio above competitors and the liquidity risks implicit, AT&T financed the purchase of Time Warner through a mix of debt and equity. Regarding equity, shares were issued to compensate their shareholders, totaling to a 16% stake in AT&T common stock. The company intends to retire 100% of debt used in this acquisition as well as 70% of the shares issued until 2022. The credit rating of AT&T is now Baa2, after the downgrade announced in June 2018. According to Moody's review AT&T has limited liquidity after dividends paid, and low EBITDA growth perspectives. They suggest selling their assets to accelerate debt repayment, which has been highly considered. For instance, Direct TV and video game segment of Warner Bros were possible choices for the sale. It is expected that some of its units are sold in the next years in order to meet debt repayment deadlines. Although *Interest Coverage ratio* has been decreasing, driven by an increase in interest expenses and EBIT fluctuation, it is still able to meet those obligations. The ratio is equal to that of median competitors. The team has deleted companies from the comparison given their very high debt levels or size asymmetry. Even though, the median is used with the objective of reducing outliers impact. Verizon the closest competitor in terms of market capitalization and sales has the largest ratio and lowest D/E one, meaning that the direct competitor of AT&T is managing better their proportion of debt and equity, facilitating future debt loans for investments or basic needs. The closest competitors are currently better positioned for an eventual need of external financing.

[3] Randall Stephenson, former CEO of AT&T Inc., stated in the *2019 Annual Report* that "We (the company) will continue to grow our quarterly dividend, as we've done for 36 straight years – ever since I joined the company." In 2020 the quarterly dividend increased $0.01.

Operating Ratios

Profitability from Investments 2019	Asset Turnover	ROA	ROE
AT&T	0.33	2.57%	7.55%
Verizon Communications Inc.	0.47	6.92%	33.64%
T-Mobile US, inc	0.56	4.35%	12.96%
Telus Corp	0.41	4.92%	16.78%
BCE Inc	0.41	5.44%	18.19%
Rogers Communications Inc	0.44	5.93%	23.22%
US Cellular Corp	0.52	1.65%	3.08%
Peers Median	**0.46**	**5.18%**	**17.49%**

Figure 17 – 2019 Profitability from Investments of AT&T and Selected Peers
Source: Bloomberg

Profitability from Investments of AT&T		
Year	ROA	ROE
2017	6.94%	21.19%
2018	3.95%	10.84%
2019	2.80%	8.13%

Figure 18 – Profitability from Investments of AT&T (2017-2019)
Source: Analysts' Computations

Looking at activity ratios, AT&T presents a cash conversion cycle of -22 days, shorter when comparing with its peers' median. It is a very good signal concerning cash flow management and liquidity, meaning the company's suppliers are financing its operations and, therefore, they minimize risk and pressure on liquidity. Moreover, liquidity ratios are quite similar to its competitors. Within its peers current ratio, most of them do not comply the current ratio[4], being their median 0.81. Overall conclusion about liquidity is favorable for AT&T and it is not expected to see short term liquidity problems. Regarding profitability, AT&T does not outperform its competitors' median. The company is less profitable than peers, and we conclude that it is not being as efficient managing its costs, nor converting sales into EBITDA or profit. The company states on its report the ambition to enlarge its operating margins, yet, there is no defined objective neither have they give much importance. Hence, great changes from the current state are not expected considering the low ambition. Regarding its assets profitability, AT&T is also behind its peers median, accounting for 2.8% ROA against 5.18%, the median. The general conclusion is that for the same asset value, the largest Telecom is generating less profit. It may be explained by the lower profit margin and large amount of assets exposed to different industries. The WarnerBros segment contributes negatively for the returns calculations, as their assets are not being used effectively due to the pandemic. The current year should not be used as benchmark for their performance. Last years performance may be observed in figure 18, in which the values for ROA lie within 2.8% and 7%. As a matter of example, Walt Disney currently generates -1.4% of ROA. AT&T does not deliver even half of the return its peers do to their shareholders (8.1% vs 17.5%) explained by the lower Profit margins. This ratio discourages potential investors since they may be able to obtain higher returns in other investment opportunities.

Industry Overview – Considerations on AT&T's segments

Telecommunications segment

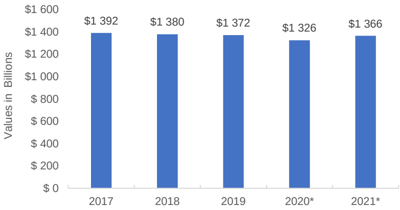

Figure 19 – Information Technology (IT) spending on Telecommunications Services Worldwide (2017-2021)
Note: (*) Years Forecasted
Source: Statista

The telecommunications industry is composed by fixed-network services and mobile and wireless services. It is constantly pressured by technological advances, consumer shifts, and increased competition. The sector is heavily controlled by the

[4] A general minimum acceptable level for this ratio is 1, meaning current assets can at least cover current liabilities.

Federal Communication Commission[5], aiming to assure competitivity, for instance controlling existing licenses and organizing their auctions. Overall, the consumer spending on telecoms services worldwide has been slightly decreasing over the last 3 years, evolving from $1,392 Bn in 2017, to $1,372 Bn in 2019 **(Figure 19)**, which results in a CAGR of -0.72%. Prior to the COVID-19, the industry entered into a path of stagnation with YoY decreases in revenue generation. It is expected to negatively impact revenue growth, with a 3,35% down in 2020, and recover in 2021 by 3,02%. Hence, by the end of 2021 the pre covid-19 industry value is expected to be restored.

Regarding the telecommunications sector, the team analyzed individually, each AT&T's segment: *Mobility, Business Wireline,* and *Mexico*, respectively, at an industry level. That is, the main implications for each segment are going to be stressed out, according to their respective business performance, market trends, so that an overall overview is depicted on each segment.

- Mobility

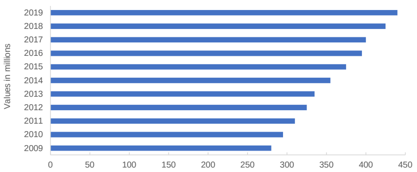

Figure 20 – Number of Mobile Wireless Subscriber Connections in the US (2009-2019)
Source: Statista

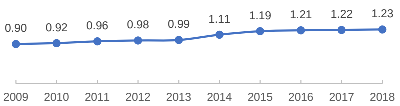

Figure 21 – Penetration Rate of Mobile Cellular Subscriptions in the US (2009-2018)
Source: Statista

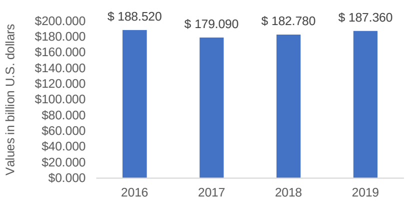

Figure 22 – Mobile Wireless Industry Total Service Revenues in the US (2016-2019)
Source: Statista

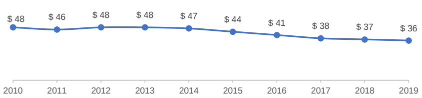

Figure 23 – Monthly ARPU from Mobile Wireless Services in the US (2010-2019)
Source: Statista

The *mobility* segment provides customers with wireless service and equipment. In the US it is responsible for satisfying the needs of over 435 million mobile subscribers in 2019 **(Figure 20)**. The number of subscriber connections has been growing consecutively in the last 10 years, corresponding to a CAGR[6] of over 5%. The emergence of the wireless technology in the beginning of the century is quite expressive, with a current penetration rate of 1.23 **(Figure 21)**, meaning for each 100 inhabitants in the US, there are over 120 subscriptions. And it is the main source of value for the telecos, contributing with more than 50% of revenue generation. Total revenue amounted to $187.36 Bn in 2019 **(Figure 22)**, which represented an annual growth of 2.51%. However, the monthly *average revenue per user* (ARPU) has been decreasing over the last 5 years, evolving from $47 in 2014 to $36 in 2019. Being a high concentrated market, currently with three main players (*AT&T, Verizon,* and *T-Mobile* which recently acquired *Sprint*) each with >30% market share **(Figure 24)**, leads to more competition as each company has power to influence the price at an industry level, which pretty much explains the drop in the ARPU, jeopardizing their ability to keep increasing their revenue stream.

All in all, the growth of subscriber connections is expected to be offset by the ARPU downward trend, and as a result, we observe low YoY revenue growth rates. The

[5] FCC is a governmental institution entitled to controlled US communication Sector and his activity in accordance with the sector regulation. The entity may adjust prices and provide financing.
[6] Compounded annual growth rate

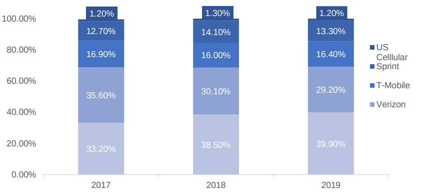

Figure 24 – Wireless Subscriptions Market Share by Carrier in the US (2017-2019)
Source: Statista

2016-2019 CAGR vindicates this phenomenon, with a 0.21% decrease in this statistic. If 2019 was characterized by an presumably low growth environment, the beginning of 2020 is all about expectations, largely from the follow up of 5G coverage, initiated in 2019 but still with little expression. In other words, 2020 is the year marking the launch of the new technology, which is expected to have a widespread coverage in the U.S. territory accompanying the development of mobile devices which accommodate it.

The effect of the pandemic on the 5G launch is still ambiguous, since worldwide attentions are focused on fighting the virus, meaning the current investments undertaken by governments, business, households, have been directed to handle an unprecedent time full of uncertainty and instability. Following this, consumers are going to be more reluctant than expected as in the pre-covid times, and the telecommunications sector is going to be harmed, after years of high capital expenditures to make it available to the public, a not so successful performance will be responsible for value destruction. In 2020, the percentage of expected mobile connections through 5G connections is 4% of the overall amount, which is not as significant as desired since in 2019 it was 1%. The greatest boost takes place from 2021 onwards with 14% that year and almost half of mobile connections by 2025 will be done with 5G. **(Figure 25)**

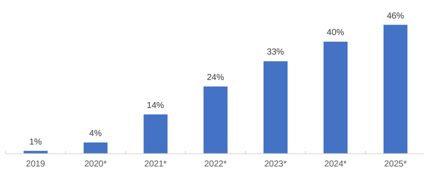

Figure 25 – Mobile Connections Share of 5G Adoption in North America (2019-2025)
Note: (*) Years Forecasted
Source: Statista

The current economic situation is one of those transformation events that are going to have a huge impact on society, and likewise, things are not expected to remain unchanged by the time covid-19 is beaten once and for all. As such, analyzing the current trends which volunteered a forced digital transformation in what concerns how things cannot be get done on-site, is the best starting point to evaluate behaviors of the years to come. The week of March 11th-18th, was marked by the beginning of lockdown, a time where people were sent home, thus increasing online interactions. Remote work shifted *enterprise voice* and *data load* from business to home networks, and social distancing has forced relatives to socialize online through phone and video calls. The *average daily broadband data usage* in the U.S. is being heavily impacted by the coronavirus pandemic, it has increase from 4.4 to 6.3 GB in working hours, and from 12.19 to 15.46 GB overall. As for the peak hours this increase was not as significant, with less than 1 GB increase, meaning covid-19 has not had that much of an impact in those hours when internet usage was already high prior to the coronavirus outbreak, while there is evidence of an increasing impact in what concerns the daily routine of internet consumption.

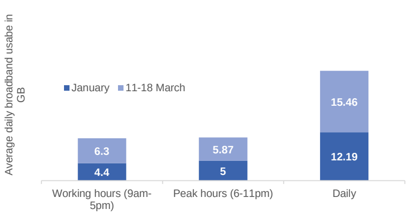

Figure 26 – Impact of Coronavirus on Average Daily Broadband Data Usage in the US, 2020
Source: Statista

Although data needs have increased to a level never observed before, they are not expected to materialize into higher revenues. Those needs have arisen from existing customers who expect well-functioning telecos networks free of congestions and speeding issues. Tackling new customers is a predominant challenge, as economic deterioration and higher unemployment rates will have to main outcomes: contraction of non-essential services which implicate the downgrade of existing plans, and consequently, a decrease in revenues; and inability to attract new customers which will most likely stick to their current operator, as older telecommunications plans tend to be less expensive because they did not tackle technological improvement, and changing service operators would implicitly mean that those outdated (=cheaper) plans would not be available for new customers.

- ### Business Wireline

Business Wireline Revenues			
In Millions	**2017**	**2018**	**2019**
Strategic and managed services	$13 880	$14 660	**$15 440**
Legacy voice and data services	$13 791	$10 674	**$9 180**
Other service and equipment	$1 532	$1 406	**$1 557**
Total	**$29 203**	**$26 740**	**$26 177**

Figure 27 – Business Wireline Segment Reported Revenues, by Source (2017-2019)
Source: AT&T's Annual Reports

The *business wireline* segment provides advanced internet protocol (IP) based services, as well as traditional voice and data services to businesses. The analysis of this segment will evolve from the individual, AT&T's service offer, to the overall offer in the US by competitors. The revenue stream of this business unit can be broken down in two main sources: *strategic and managed services,* and *legacy voice and data service.* The former is the broadest and consists of (1) data services including VPN *(Virtual Private Network),* internet services through broadband and ethernet; (2) voice services within VoIP *(Voice over Internet Protocol)* and cloud-based solutions; and (3) security and cloud solutions. The latter has been slowing down due to the emergence of more advanced IP-based offered. IP is more efficient and ends up being cheaper to users since it works over several networks, from wireline and fiber to Wi-fi and radio. By contrast, traditional voice and data services require end-to-end connections on the same network.

(YoY growth rates)			
	2018	**2019**	**CAGR 17-19**
Strategic and managed services	5.62%	5.32%	**5.47%**
Legacy voice and data services	-22.60%	-14.00%	**-18.41%**
Total	**-8.43%**	**-2.11%**	**-5.32%**

Figure 28 – Business Wireline Segment YoY Growth Rate of Reported Revenues, by Source (2017-2019)
Source: Analysts' Computations

The revenues from the different sources have been evolving on opposite directions: *strategic and managed services* have increased from $13,880Bn to $15,440Bn in 2017 vs. 2019 (CAGR of 5.47%), and *legacy voice and data service* observed a contraction of 18.41% on the same time frame ($13,791Bn vs. $9,180). All in all, the revenues from this segment have decreased from $29,203Bn to $26,177Bn, representing a CAGR of -5.32% **(Figures 27 & 28)**. The *business wireline* industry has also backed up AT&T's trend, with decreased connections in *switched access lines*[7], amounting to a loss of 10,000,000 between 2015 and 2018, with a respective CAGR of -10%. And increased connections in

Business Wireline Retail Voice Telephone Service Connections in the US				
(Values in thousands)	**2015**	**2016**	**2017**	**2018**
Switched Access Lines	38 330	36 338	32 252	**28 123**
Interconnected VoIP	17 659	20 081	24 347	**26 906**
Total	**55 989**	**56 419**	**56 599**	**55 029**

Figure 29 – Business Wireline Retail Voice Telephone Service Connections in the US, by Source (2015-2018)
Source: Voice Telephone Services - Industry Analysis Division Office of Economics and Analytics, Federal Communications Commission (FCC), March 2020

[7] A service connection between an end user and the local telephone company's switch; the basis of plain old telephone service (POTS).

interconnected VoIP[8] above 9,000,000 net additions from 2015 to 2018, yielding a CAGR of 15% **(Figure 29)**. Overall, this segment is expected to keep up the downward trend at decreasing rate until 2022 (CAGR -1%), and from then on achieving growth with three different moments: (1) 2023-2026 at 1.3%; (2) 2027-2029 at 3%; and (3) 2030-2035 at 4%. This abnormal trend is explained by the opposite directions of the two intra-units of the *business wireline,* as the negative impact of the *legacy voice and data services* will be offset by the *strategic and managed services* as at 2022, and from then on the behavior of the BU will be explained by this intra-unit increasing relevance[9].

Moreover, business solutions are expected to also incorporate the 5G technology in the years to come. This is likely to create value to shareholders of telecos, however, given the current segmentation of AT&T reporting, the analysts will assess that contribution through the *mobility* business unit. From a reporting point of view, it is expected that AT&T does a rearrangement of their segments in order not to show off the downward trend of the current business wireline services. Valuation wise the way business units are segmented will not have an impact on the overall enterprise value assessment.

- Mexico

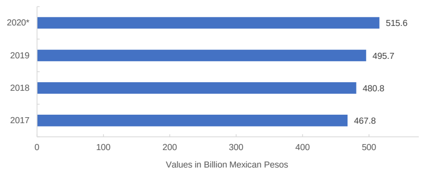

Figure 30 – Mexico Telecommunications Revenues (2017-2019)
Note: (*) Years Forecasted
Source: Statista

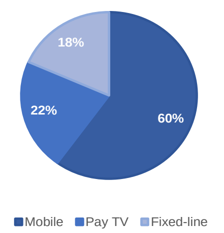

Figure 31 – Share of Telecommunications Segments in Mexico, 2020
Source: Statista

The *Latin America* segment englobes wireless services offering across Mexico country. The telecommunications industry in Mexico has been notably marked by YoY growth rates of 3%-4% in the past 3 years, representing a CAGR of 3,30% **(Figure 30)**. In 2019, revenue generation almost reached the 500Bn *Mexican pesos* frontier, which is expected to be surpassed in 2020, with a growth rate of 4% **(the forecast is prior *covid-19*)**. Within telecommunications there are three main segments: mobile, pay TV, and Fixed line. The focus will relapse on the *mobile services* since this is the "niche" under AT&T's positioning in Mexico. This segment represents over 60% of the overall, against 22% and 18% of the *Pay-TV* and *Fixed-line* segments, respectively **(Figure 31)**.

This upward trend is largely explained by the continuous improvement of the region in terms of Gross Domestic Product (GDP) and GDP per capita growth in the last 4 years. The GDP has evolved from $1.08 trillion in 2016 to $1.23 trillion in 2019 (CAGR of 5.3%), resulting into a higher production level per Mexican, as GDP per capita increased more than $1,000 in the time frame under analysis (CAGR of

[8] A service that enables real-time, two-way voice communications; requires a broadband connection from the user's location; requires Internet protocol compatible customer premises equipment; and permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.
[9] A deeper analysis is performed in the "Revenue breakdown", a sub-chapter of "Intrinsic Valuation" chapter.

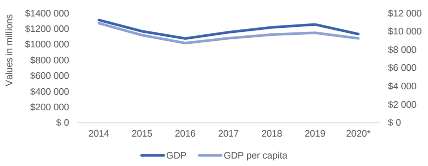

Figure 32 – GDP and GDP per Capita in Mexico, in Current Values
Note: (*) Years Forecasted
Source: World Bank

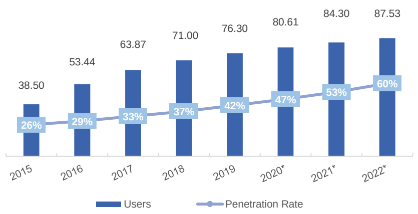

Figure 33 – Mobile Phone Internet Users (in Millions) and Penetration Rate, in Mexico (2015-2022)
Note: (*) Years Forecasted
Source: Statista

4.1%) **(Figure 32)**. This path towards a more developed country has allowed tackling those life conditions of advanced economies.

The telecos have significantly benefited from this trend since the desire for communication services (which are an essential good in developed countries) has been on consumers spending list through mobile *phones,* and *mobile internet plans*. The number of Mexicans using mobile phones has evolved rapidly, with 38.5 million users in 2015, this value has doubled within the next 4 years, achieving the 76.3 million barrier in 2019 **(Figure 33)**. Nowadays, not owning a mobile phone is almost unthinkable, as such the share of mobile internet users has increased from 26% to 42%, in 2015 and 2019, respectively. By 2022, the number of *mobile phone internet users* is forecasted to be 87.53 million, with penetration of 60%.

In conclusion, the *Mexico* segment represents huge potential to create value in the long-term. Recent statistics show abnormal growth rates: (1) GDP; And the usage of mobile phones, and consequently mobile services has still a lot of room to improvement: (2) penetration rates still far below than those of developed economies. The current outbreak will represent a short-term pause in this huge growth momentum, the *Mexico country* is going to contract 9.8% in 2020[10], and recover in 2021, with a YoY growth of 3.7%.

Therefore, a CAGR of 2% is expected from 2021 to 2022, a growth rate which going to remain constant until 2028. And afterwards it is expected to decrease due to more competition and prices adjusting, resulting in a CAGR of 1.5% from 2029 onwards.

Media & Entertainment Sector

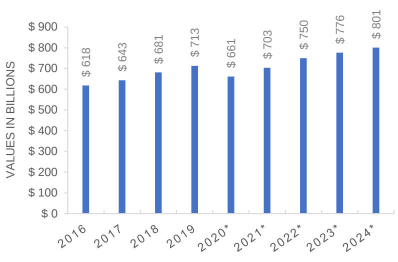

Figure 34 – Media and Entertainment Industry Value, in US (2016-2024)
Note: (*) Years Forecasted
Source: Statista

The media and Entertainment sector have registered an increasing importance inside our company analysis and therefore, is subject to a careful analysis. The objective is to understand patters on each geographical location capable to depict future evolvement of the sector, which is directly related to our company performance and revenue path. After an introduction about the sector overall and implications for the company, the analysis is made considering company's business segments. The team focuses on past relations but also future implications and ideas for what may drive those segments revenues.

This sector comprises the consumption of films, print, radio, television content, music, and video games. In the US, which is the most relevant geography, it accounts for 713 $ billion in 2019 and it is expected to achieve 801$ billion in 2024,

[10] According to the OCDE – Economic Outlook – impact of the covid-19 pandemic on the global GDP, retrieved from https://www.oecd.org/economic-outlook/

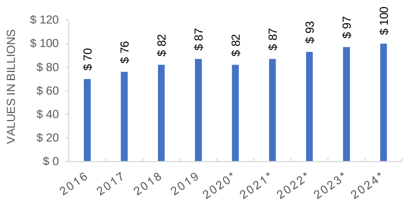

Figure 35 – Media and Entertainment Industry Value, in Latin America (2016-2024)
Note: (*) Years Forecasted
Source: Statista

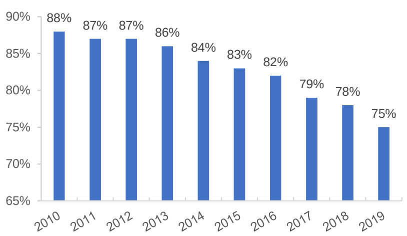

Figure 36 – Pay TV Penetration rate, in US (2010-2019)
Source: Statista

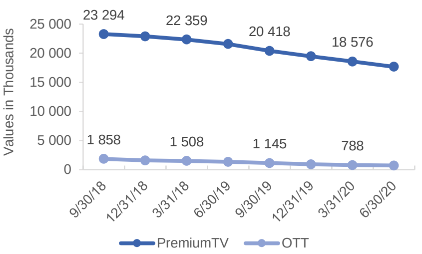

Figure 37 – Premium TV and OTT Video Connections, in US (2018-2020)
Source: Statista

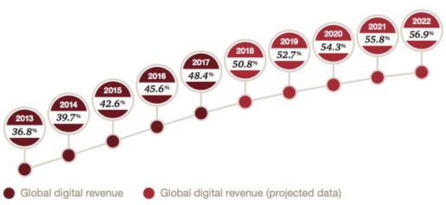

Figure 38 – Share of Digital Revenue of Total Revenues (Global Revenues of Media & Entertainment)
Source: PwC Global Entertainment & Media Outlook (2018-2022), www.pwc.com/outlook

representing a CAGR of 2.35%. This rate includes the fluctuation embodied by the pandemic situation, which is expected to negatively influence the overall market value by 7.3% in comparison to the current one, thus 52$ billions. Latin America market goes in line with US behavior registering an estimated CAGR of 2.82% between 2019 and 2024. The impact of Coronavirus in Latin America media industry is less expressive, causing a decline of 5.7% in the sector, 82 $ billions.

Company's Implications

Both regions' impacts are going to negatively impact AT&T revenue source since our exposure to this sector has increased last years, especially in the Warner Bros segment where films production is included. On the other hand, HBO Max is expected to push revenues of entertainment up once these platforms have risen popularity in pandemic times. The revenue path has roots to survive as long as Warner Bros can start producing new and exclusive content for AT&T's platform. Regarding sector trends, several insights are going to shape industry development. Firstly, and already observable in AT&T history, the tendency for content producers to distribute their production, or in AT&T's case, acquire the content producer and share the content. In the same line of thinking cable networks providers to be acquired by video programming distributors, and publishers to start creating content. The most challenging in our view is the pace of technological advance and ability to develop and implement those efficiently and desirably way for the client. Internet of things, 5G, virtual reality and voice assistants are some of those. AT&T is in a good path to be the pioneer in technology advances, for instance, 5G as already mentioned. The share of digital revenues in the sector is forecasted to maintain its growth, for instance, in 2020, 57% of global revenues are forecasted to be digital ones, representing a YoY of 3.4%. For AT&T the trend is optimistic since the majority of the operation does not involve physical sale except for the theatrical product of Warner Media which must be analyzed further into detail.

- Entertainment Group Segment

This segment is the second most representative for AT&T sales, generating $45 bn last year, 25% of total sales. It has been slowing down within the company, driven by the decreasing premium TV penetration rate but partially offset by AT&T TV NOW subscriptions increase caused by pricing campaigns[11]. According to recent surveys[12] the share of people subscribing streaming video is already larger

[11] Annual Report AT&T 2019
[12] Deloitte, Digital Media Trends. Retrieved from https://www2.deloitte.com/us/en/insights/industry/technology/digital-media-trends-consumption-habits-survey.html

	AT&T TV NOW	Best overall YouTube TV	Best value Hulu + Live TV	Best for kids Sling TV
Price	$65–$135/mo.	$49.99/mo.	$44.99–$50.99/mo.	$30.00–$45.00/mo.
Star rating	3.52 / 5.00	4.50 / 5.00	4.22 / 5.00	3.89 / 5.00
Free trial	7 days	7 days	7 days	3 days
Live channels*	45–125+	85+	60+	30–50+
Streams	3	3	2	1–4
Cloud DVR	500 hrs.	Unlimited	50 hrs.	10 hrs.

Figure 39 – AT&T TV NOW Comparison with Other Streaming Services
Source: *https://www.cabletv.com/streaming/att-tv-now*

than the one of traditional pay-tv subscription by 4%. The graph illustrates the negative trend of the penetration rate for pay-TV suggesting once again declines further on. Consequently, revenues for this segment will keep the trend. This opens room for Over-the-top services such as the AT&T TV NOW, created in 2015 after the purchase of DIRECT TV. The service has been introduced in the video on demand market with a subscription-based system (SVOD) giving access to a limited free trial. Consumers enjoyed at first and paid for it. However, the growth rates of each type of connection drawn in the graph, transmit the reality of product satisfaction: after September 2018, growth rates are negative and there is no information backing up a possible upward trend in AT&T TV NOW popularity. The product does not take the opportunity window in the OTT market and the cause may be the similar prices to cable tv packages and the inexistence of NFL sports channel (offered by previous DIRECT TV), check **figure 39** for a small comparison. Unless AT&T innovates his OTT service this trend should continue as the competition in the OTT market rises. Covid-19 is not creating additional pressure on revenues. Furthermore, within this Business Unit, there is also High-Speed Internet revenues. These customers are increasing over year, aligned with entertainment need (HBO subscriptions and consequently better internet for content streaming). It has been decided to use Internet Access values for the US as the revenue driver. This does not represent the high-speed internet market perfectly, however, we expect that in the next years high speed becomes so demanded, that the forecasts would apply. The CAGR for the market in the US from 2019 to 2024 is 4.6%.

- ## Warner Media Business Unit

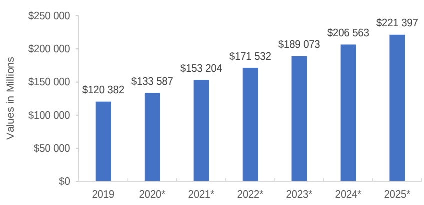

Figure 40 – Revenues of the US Broadcasting Industry (2019-2025)
Note: (*) Years Forecasted
Source: Statista

This BU has few working times inside AT&T and therefore, revenues growth is not meaningful. It is subdivided into three units, which create premium content for own share. Turner is responsible for entertainment, sports, news and kids programming. Home Box Office is an OTT product licensed to share content in more than 150 countries. Whereas Warner Bros is a film and television programming producer.

- ## Turner Segment

Regarding the prementioned it operates within an industry experiencing revenue growth yearly, registering a CAGR of 2.96%[13] from 2016 to 2018. The continuing development of content and his distribution through TV and OTT channels induces sector growth. While paid TV subscriptions and viewers are weakening, advertising

[13] Source: Statista; own calculations

revenues have grown steadily and are expected to keep growing. At the same time, Turner and another American television benefit from the transition to digital distribution. The impact of COVID 19 in the industry is negative caused by advertisement fall and programs reduction. The industry is expected to fall by 5.91% in 2020 and to grow by 4.7% in 2021 in line with GDP. In the following years, even with reducing viewers, cash flows are expected to grow as the trend to digital streaming foster audiences. Moreover, the American media sector is characterized by large conglomerates of media contributing to resources sharing and lower operating costs. In numerical terms, the CAGR for the forecasted period of 2019 to 2024 is 2.35%[14].

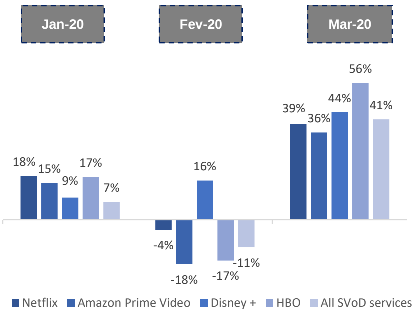

Figure 41 – Coronavirus Increase in SVoD Viewing Compared to the Previous Month, in US (Jan-Mar 2020)
Source: Statista

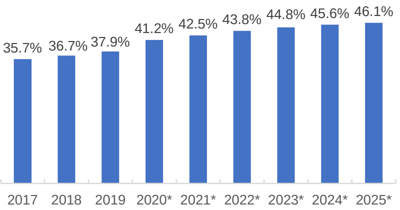

Figure 42 – Penetration Rate of the SVoD Market, in US (2017-2025)
Note: (*) Years Forecasted
Source: Statista

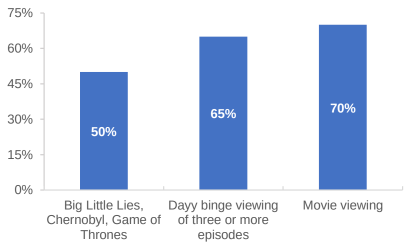

Figure 43 – Increase in SVoD Content Viewing on HBO Compared to the Average in the Previous Four Weeks, in US as of March 24
Source: Statista

- OTT

HBO competes in the OTT market and more specifically in the SVoD (subscription video on demand). The OTT (over-the-top) market is characterized by distributing the material over the internet, without any equipment need. SvoD is a subset of the market which is traded through a subscription system with any contract. The market has experienced growth since 2017 and it is expected to maintain the trend (figure 37) being the CAGR from 2019 to 2024 forecasted to be 9%. The opportunity has been taken by many companies and therefore, many competitors are trying to increase his share on the market. Netflix, Disney +, Amazon Prime Video, Hulu and Apple TV are the ones. During the coronavirus outbreak, this service's popularity has risen substantially (info). HBO also gained from the situation being the biggest winner in previous month comparison. Pricing competition is expected to drive next years' prices down at the same time the penetration rate increases. After 2024, numerous companies in the market may suffer from client base saturation. In summary, the CAGR for 2019-2024 is 11%[15]. The companies' survivorship will depend on content. For instance, Netflix lost content which is now shared through HBO (series Friends) increasing Netflix's pressure to develop their content. HBO is well-positioned since Warner Bros studios produce very recognized series and films. HBO in the future shall become one of the most successful players in the market.

- Studio Entertainment Industry

The last segment comprises one of the most popular studios in the entertainment industry. The most important studios are concentrated in North America, being their productions shared around the globe. The market is dominated by Walt

[14] PWC, Entertainment and Media Outlook. Retrieved from https://www.pwc.com/gx/en/industries/tmt/media/outlook.html
[15] Own calculations based on the Streaming Video-on-Demand Market Revenue

Disney Studios, with a 33% market share as of 2019, whereas the remaining studios represent at most 14% (figure _). The 7 studios represent 89% of the market. These values are historically similar and it is not anticipated significant box office to subscriptions base. The box office revenue is concentrated on US/Canada, China and Japan, figure_. Even though the first is the largest market by revenue, the largest market by tickets sold is China and India, the world's largest countries by population. These studios are dependent on exportation yet, China is not a liberal market and does not allow every movie. Therefore, the market is so relevant that films are created to cater to their audience.

Regarding Warner Bros studio, revenues are subdivided in the theatrical product, television and games. The analyst decided to analyze it separately.

- Theatrical Product

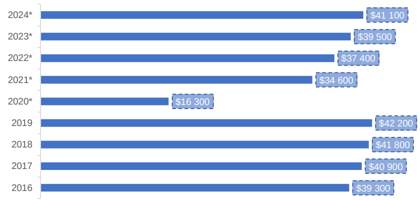

Figure 44 – Global Box Office Revenues Worldwide, Values in Millions (2016-2024)
Note: (*) Years Forecasted
Source: Statista

Concerning the global box office revenue, it has evolved positively and consistently. The industry overall is under considerable changes. Studios are now producing content for own distribution through SVoD platforms. The revenue driver is changing from ticket sold to subscriptions. It is expected that the big studios continue to perform well. Cinemas will become more dependent on blockbusters as the total number of films may decrease. For 2020, the corona virus global impact will be huge since nor cinemas were playing nor studios were producing. The global box office for 2020 is forecasted to decrease from US $42 bn[16] to $ 16 bn, an over 60% decrease. After the largest negative impact on the movie industry it is expected to growth with a CAGR of 17.5%[17] until 2025.

- Television Product

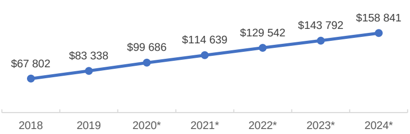

Figure 45 – OTT TV and Video Revenues Worldwide, Values in Millions (2016-2024)
Note: (*) Years Forecasted
Source: Statista

The segment represents the second most important revenue source for Warner Bros. The evolution is forecasted to follow the OTT and video revenues trend. The segment accounts for the content made available for television sharing or OTT services[18]. The industry is expected to grow significantly, being the CAGR for 2019-2024, 13.8%. The television product is one of the content offers of OTT platforms, and, following the popularity of the services, also content needs increase. Although, pandemic comes to interrupt some content licensing and production it seems not to influence sector revenues nor perspectives.

[16] Statista. Impact of Coronavirus on Global Box office. Retrieved from https://www.statista.com/statistics/1170721/impact-coronavirus-global-box-office-revenue/
[17] Own calculations through market forecast
[18] Annual report 2019

▪ Games and Other

Gaming industry is a very promising one which has observed increasingly interest specially from teenagers. The number of active video gamers was 2.42 millions in 2018 and 2.69 for 2020, a growth of 11% in two years. Regarding Covid-19's impact on the industry, it is also positive since people has been at home and spend more time in the internet. According to Statista, 37%[19] of young people (18-29) expect to spend more time on games whereas 28% of people aged between 30 to 44 also expect to spend more time. These are most important ages, even though older ages also expect so spend more time. The CAGR for 2019 to 2024 is 3.98%[20]. It is expected to see steadily continuous growth as the population become more digitalized and kids start playing earlier and earlier.

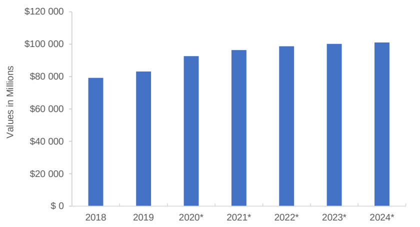

Figure 46 – Games Market Revenues Worldwide, (2016-2024)
Note: (*) Years Forecasted
Source: Statista

▪ Advertising

In second quarter of 2020 Xandr segment, which used to be a separate segment is for now onwards included inside warner media. It has been decided to discriminate it separately since the move is recent. It has suffered a rebranding for the launch of the new platform involving data-driven technology for advanced advertising services. The industry is in a growing trend (figure 44), however, the current sanitarian crisis as impacted his evolvement. The sector does not have specific expectations, therefore it has been decided in accordance to what has been research that following the GDP growth would be a good estimation. The new brand of Xandr has partner up already with leading companies such AMC Networks, Disney and Warner Media. Accounting for the new changes and partnerships, the potential of the segment is significant. The area of exploitation is large and great potential is anticipated. According to the quarterly results, for 2020 the results will be similar to 2019, and therefore the covid impact is minimum. Afterwards it is expected to follow GDP movements. However, the low operating time does not allow to understand the revenue source and feasibility of the new Xandr Invest.

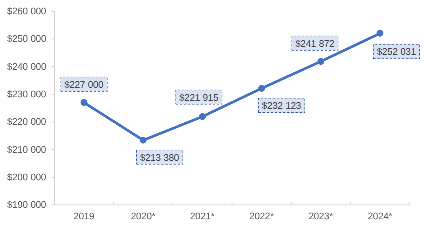

Figure 47 – US Advertising Market Revenues, Values in Millions (2016-2024)
Note: (*) Years Forecasted
Source: Statista

▪ Vrio

Comprising video services in Latin America and Caribbean, it is responsible for 3.4% of total AT&T's revenues. The industry for the segment analysis is Traditional TV, Home Video and OTT video in Latin America. Overall the industry is performing well, and it is forecasted a CAGR of 2% for 2019-2024. The OTT video as discussed before is driving the growth in this segment and by opposite, traditional

[19] Statista. Corona Virus impact on gaming Industry. Retrieved from https://www.statista.com/study/72150/coronavirus-impact-on-the-video-game-industry-worldwide/
[20] Statista. Video Game industry. Retrieved from https://www.statista.com/topics/868/video-games/

tv is influencing negatively. AT&T's revenues in Latin America are decreasing and they will decrease further on. AT&T disclosed last quarter the loss of 2.5 million subscribers. The negative trend is expected to continue since the operating margins decrease even when subscribers increase. The company constantly indicate hyperinflation pressures as the reasoning.