



MARCH 31, 2023
UNDERGRADUATE SMF – JORDAN FERRO & SAM RUPFF
LONG ANALYST REPORT

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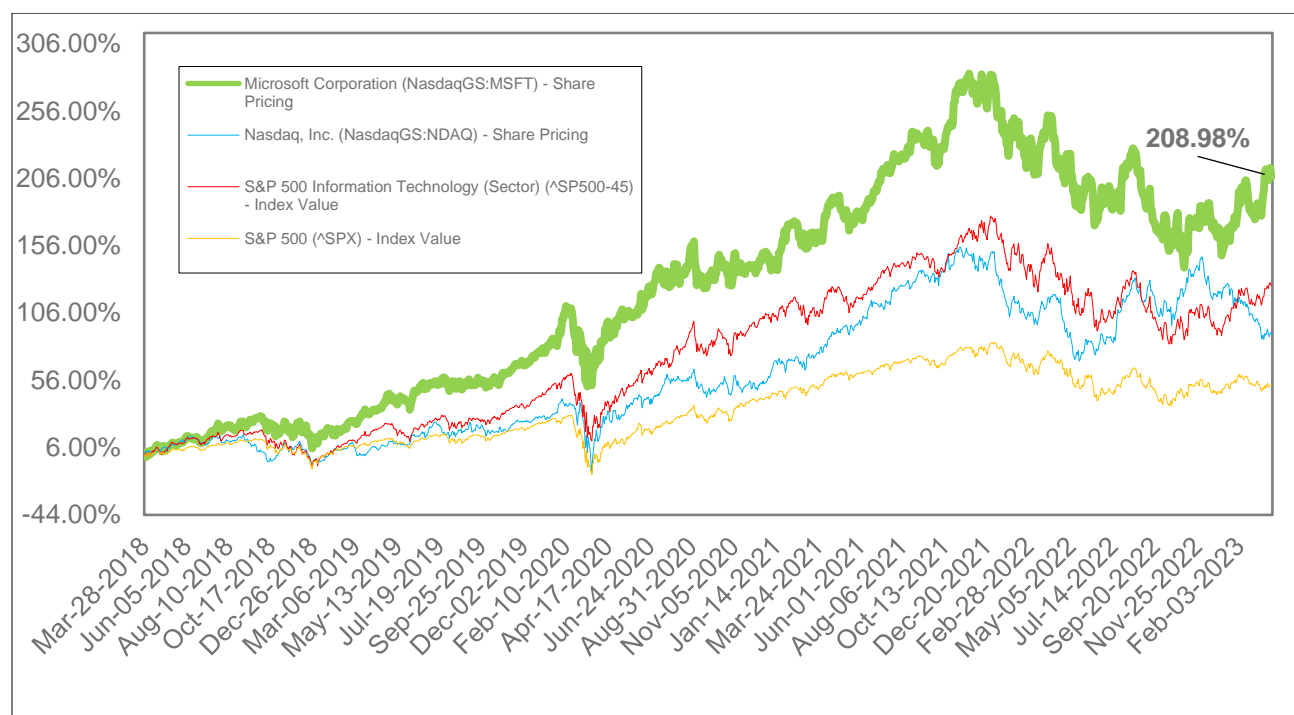
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RECOMMENDATION OVERVIEW

REPORT HIGHLIGHTS:

Ticker	Purchase Price (11/14/22)	EOD Price (03/30/23)	Revenue FY 2022	Credit Rating	ROIC FY 2022	Recommendation
Nasdaq: MSFT	\$242.08	\$284.05 (+17.34%)	\$198B	AAA	22.2%	Long – Maintain Position

Figure One: Microsoft Five Year Chart Versus SPX, Nasdaq, & Technology Sector



COMPANY OVERVIEW:

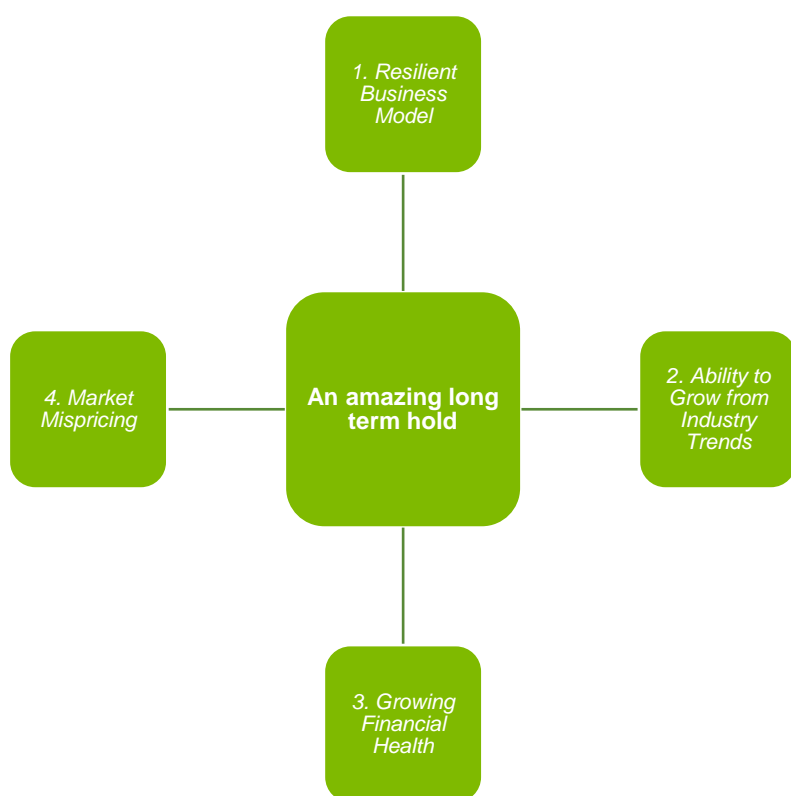
Microsoft Corporation is a dominant software company that provides productivity solutions, software, and computer products to businesses and consumers. Bill Gates and Paul Allen founded Microsoft in 1975. Bill Gates attended Harvard University but dropped out to pursue his entrepreneurial dreams. While in school, Gates wrote a programming language for Altair's first microcomputer. After dropping out of school, he began "Micro-soft" in New Mexico by modifying BASIC for computers. In 1979, Gates

moved to Seattle and began developing more software with Paul Allen. IBM chose Microsoft to write its computer language for its new machines. The duo purchased a “quick and dirty” operating system for \$50,000 from a Seattle-based programmer and renamed it Microsoft Disk Operating System. His partner, Allen, became sick and left Microsoft in 1983. Shortly after, Microsoft introduced Windows and IPO’d in 1986.

Microsoft is listed under NASDAQ with the ticker symbol MSFT and has over 221,000 employees worldwide. The company has three business segments: Productivity and Business Processes, Intelligent Cloud, and More Personal Computing. Productivity and Business Processes consist of Microsoft’s productivity software Office 365, LinkedIn, and CRM software Dynamics 365.

INVESTMENT THESIS:

Figure Two: Investment Thesis

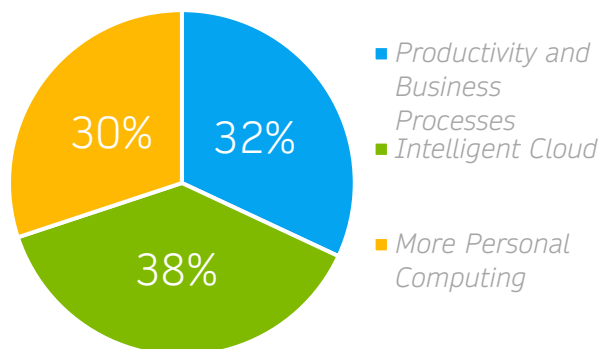


Microsoft is a powerhouse in the technology industry that offers products, services, and cloud computing capacities for consumers and businesses worldwide. Microsoft is a strong long-term buy that fits within our investment philosophy because of four main points (see *Figure Two*):

1. Microsoft’s offering of highly integrated software products, a recurring subscription revenue base, and high customer switching costs, combine to form a resilient business model positioned for long-term dominance.
2. The company can capture industry trends in gaming, cloud computing, and AI.
3. In the last five years, Microsoft has demonstrated its financial dominance with growing operating margins and ROIC, debt repayment, dividend growth, and share buybacks.
4. Finally, we saw a great entry point to purchase a company that offered a quality equity investment.

REVENUE STREAMS:

Figure Three: Revenue Breakdown FY 22

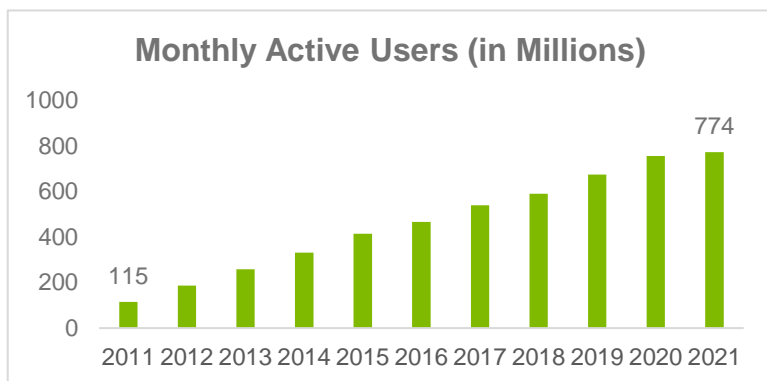


Productivity and Business Processes:

Revenue from this segment comes from Microsoft's most familiar products. Office 365 derives revenue from commercial and consumer subscriptions. There continues to be a shift from licensed Office 365 to a subscription program for enterprises and consumers. Growth comes from reaching new markets, consumers, and businesses.

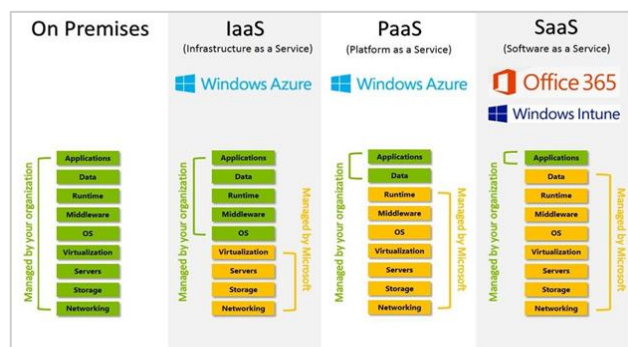
Growth in LinkedIn is rapid and growing. LinkedIn is the premier social media platform for professionals with over 875 million members in Q1 FY '23. Monthly active users grew by a 21.01% CAGR from 2011 to 2021 (see Figure Four). FY Q1 '23 earnings call also noted a 17% YoY growth in sales and international expansion, which is growing at 2x the pace of the United States. LinkedIn generates revenue from monetized solutions, marketing solutions, sales solutions (LinkedIn sales navigator), and premium subscriptions.

Figure Four: LinkedIn Monthly Active Users



The final portion of revenue from this business segment comes from Dynamics 365, which is Microsoft's cloud-based CRM and customer insights program.

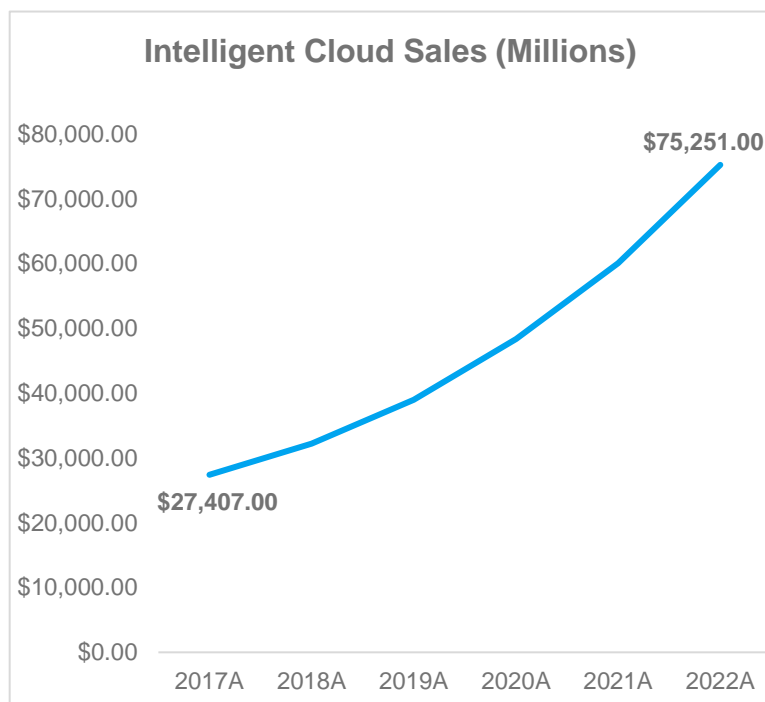
Figure Five: SaaS, PaaS, and IaaS



Green: Managed by enterprise
 Yellow: Managed by Microsoft

Intelligent Cloud: Azure is Microsoft's comprehensive set of cloud services that offer developers, IT professionals, and enterprises the freedom to build, deploy, and manage applications on its cloud-based platform. Microsoft Azure offers SaaS, PaaS, and IaaS capacities (see Figure Five). In addition, some enterprises still use on-premises services which Microsoft offers through SQL databases. Growth is fueled by consumption and the shift from on-premises operations to higher margin cloud services. The last six fiscal years, the intelligent cloud has grown an average of 22% YoY (see Figure Six).

Figure Six: Intelligent Cloud Growth



More Personal Computing: More Personal Computing comprises Windows OEM licensing, operating systems, Surface Laptop, PC accessories, gaming (Xbox), and advertisement services from Bing and Xandr, Inc.

Microsoft uses three sales channels to reach its customers: original equipment manufacturers (OEMs), direct, and distributors/resellers. There are multiple OEM licensing agreements Microsoft has with companies such as Dell, Hewlett-Packard, Lenovo, and other local and regional brands. The Windows operating system is pre-installed in these companies' products and sold through each company's respective distribution arm. Microsoft also offers experience centers, driving revenue direct to consumers and commercial customers. A lot of enterprise agreements come from direct purchase agreements. A smaller portion of sales come from licensed solutions partners, value-added resellers, and retailers.

MANAGEMENT:

Microsoft's executive management team is comprised of highly experienced professionals who have made significant contributions to the company's success.



Satya Nadella – CEO

Nadella joined Microsoft in 1992 and has held various leadership positions, including Executive Vice President of the Cloud and Enterprise Group. He became CEO in 2014, leading Microsoft to significant growth in cloud computing, artificial intelligence, and other cutting-edge technologies.



**Brad Smith – President and Chief
Legal Officer**

Smith joined Microsoft in 1993 and served as General Counsel and Executive Vice President of Legal and Corporate Affairs before assuming his current role. He is known for his strong advocacy for privacy and cybersecurity and has led Microsoft's efforts in advocating for the responsible use of technology.



Amy Hood – Chief Financial Officer

Hood joined Microsoft in 2002 and held various finance and strategy roles before becoming CFO in 2013. She has been instrumental in driving Microsoft's financial growth, including overseeing the acquisition of LinkedIn and integrating Nokia's Devices and Services business.

COMPETITIVE ADVANTAGE:

A wide economic moat is necessary to survive as a company in the highly competitive information technology industry. Microsoft has several competitive advantages that have contributed to its success (*See Figure Seven*).

Figure Seven: Competitive Advantage

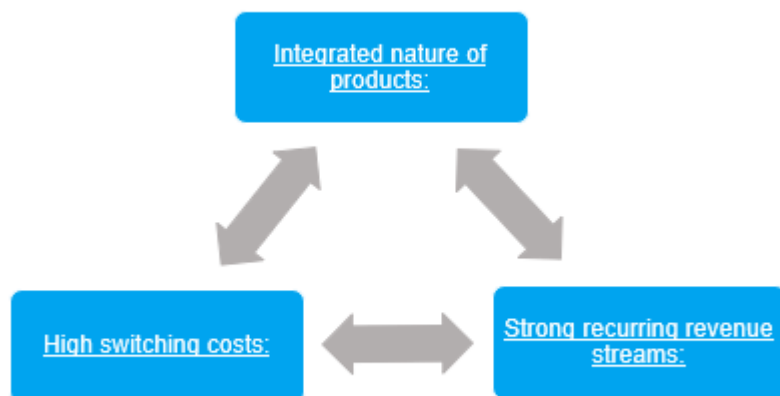
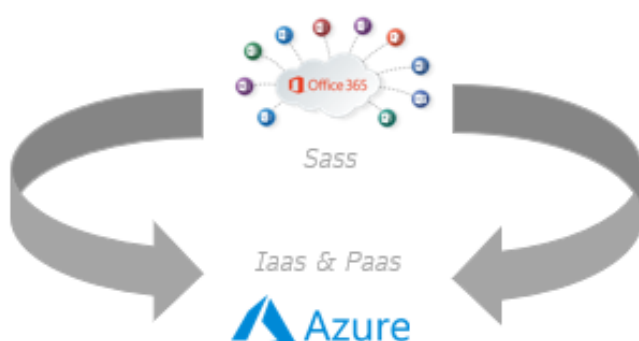


Figure Eight: One-stop Shop



Microsoft's 2022 Earnings & Cash Flow Overview



Integrated nature of products: Microsoft has built an ecosystem of products and services that work seamlessly together. This integration allows users to work more efficiently and effectively across multiple devices and platforms. For example, Microsoft is able to capture revenue from each type of cloud computing service. As a one stop shop, Microsoft offers software as a service, infrastructure as a service, and platform as a service capacities. Shown in *Figure Eight*, Microsoft 365 grows revenue through overall users and drives revenue on the cloud through consumption of Microsoft's cloud hosting service Azure. The company holds a strong portfolio of brands with Office alone used by more than one million companies worldwide. In addition, 95% of Fortune 500 companies utilize Microsoft Azure.

High switching costs: Microsoft's products are deeply embedded in many businesses and organizations, making it costly and time-consuming to switch to an alternative provider. For example, migrating from Microsoft Office to another productivity suite would require significant retraining, as well as the transfer of files and data. Similarly, transitioning away from Microsoft's cloud computing services, such as Azure, would require significant investment in new infrastructure and software. These high switching costs make it challenging for competitors to gain market share, particularly in enterprise settings.

Strong recurring revenue streams: Microsoft has built a business model around recurring revenue streams, which provides stability and predictability in its financial performance. Its cloud computing services, such as Azure and Microsoft 365, are sold on a subscription basis,



generating steady, ongoing revenue. Additionally, Microsoft's focus on enterprise customers ensures that it has a dependable customer base, as businesses and organizations tend to have long-term relationships with technology providers. This recurring revenue model has allowed Microsoft to invest heavily in research and development, which has helped to drive innovation and keep the company at the forefront of the industry.

RECENT UPDATES:



Activision Blizzard Acquisition: In early 2022, Microsoft announced its intention to acquire Activision Blizzard, one of the world's largest video game companies, for a staggering \$68.7 billion. The potential acquisition would be one of the largest in the history of the technology industry and Microsoft's largest acquisition to date (see Figure Nine).

There are several reasons why Microsoft is interested in acquiring Activision Blizzard. Firstly, the gaming industry has seen significant growth in recent years, with the pandemic driving increased demand for video games and related products. By acquiring Activision Blizzard, Microsoft would be able to further strengthen its position in the gaming market and gain access to a portfolio of highly popular video game franchises, including Call of Duty, World of Warcraft, and Candy Crush (see Figure Ten). Additionally, the acquisition would provide Microsoft with access to Activision Blizzard's vast network of experienced game developers and could potentially enable the

Figure Nine: Microsoft Acquisitions
Microsoft's Largest Acquisitions of All Time

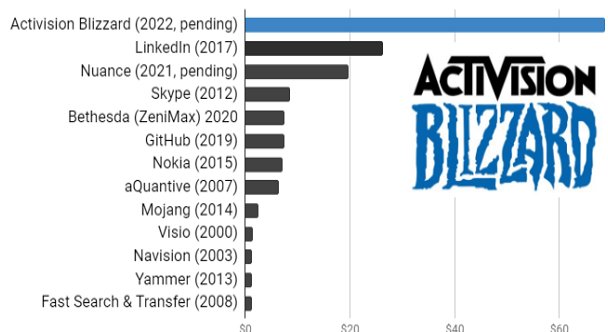


Figure Ten: Well-known Activision Games



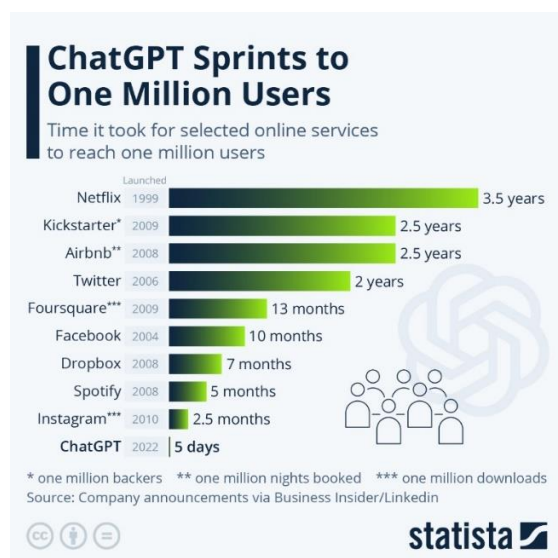
development of new and innovative gaming experiences. This could also further bolster Microsoft's cloud computing and artificial intelligence capabilities, as the company looks to integrate these technologies into its gaming offerings.

The potential acquisition has not yet been finalized, and there are several hurdles that Microsoft will need to overcome to complete the deal. The acquisition will need to be approved by regulatory bodies in both the United States and Europe, which will be difficult, as evidenced by the FTC suing to block the deal. Despite this, Microsoft has expressed confidence in the potential of the deal and the benefits it could bring to the company's gaming and overall business strategies. If the acquisition is successful, it could significantly alter the landscape of the gaming industry and position Microsoft as a dominant player in this space.



[OpenAI](#): Microsoft has continued its push into AI through a renewed partnership with OpenAI. The new investment was made with the goal of advancing Microsoft's capabilities in AI and machine learning and accelerating the development of cutting-edge technologies that can drive innovation across multiple industries.

Figure Eleven: ChatGPT Record Growth



One of the most notable technologies that Microsoft has acquired through its investment in OpenAI is ChatGPT, a large language model that can generate human-like text. ChatGPT gained traction instantly and became the fastest software to reach one million users (*see Figure Eleven*). Microsoft plans to integrate ChatGPT into its various products and services to improve natural language processing capabilities, enabling more intuitive and effective interactions between humans and technology.

In addition to ChatGPT, Microsoft has also gained access to other technologies and research areas from OpenAI, including deep reinforcement learning, robotics, and computer vision. These areas of expertise can be leveraged by Microsoft to enhance its existing products and services, such as the Azure cloud platform, and to develop new and innovative technologies that can drive business growth and enhance the customer experience.

Overall, Microsoft's investment in OpenAI represents a significant step forward in the company's efforts to become a leader in AI and machine learning. By acquiring cutting-edge technologies and talent from OpenAI and integrating them into its existing products and services, Microsoft is well-positioned to drive innovation and growth across a wide range of industries in the years ahead.

Examples	Capabilities	Limitations
"Explain quantum computing in simple terms" →	Remembers what user said earlier in the conversation	May occasionally generate incorrect information
"Got any creative ideas for a 10 year old's birthday?" →	Allows user to provide follow-up corrections	May occasionally produce harmful instructions or biased content
"How do I make an HTTP request in Javascript?" →	Trained to decline inappropriate requests	Limited knowledge of world and events after 2021

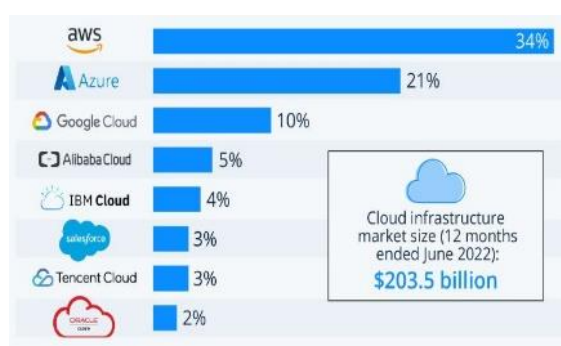
J What is ChatGPT

Hello! I am ChatGPT, a large language model developed by OpenAI based on the GPT-3.5 architecture. I am an AI-powered chatbot designed to interact with humans in natural language, responding to their queries, providing information, and engaging in conversation on a wide range of topics. I have been trained on a vast corpus of text from the internet and other sources, which enables me to generate coherent, contextually appropriate responses to a wide variety of questions and prompts. I am designed to learn and improve over time as I interact with more people and receive feedback on my responses.

INDUSTRY OUTLOOK

CLOUD:

Figure Twelve: Cloud Market Share



For the cloud, industry trends are tied to growth in software offerings, cloud platforms, and hardware products. Companies and consumers are transitioning their data from physical on-premises locations to digital, cloud hubs. The cloud does rely on physical areas to store the data, called servers, which are owned on the company level. The growth of cloud storage and the domination of this new segment by some companies will help drive the growth of the information technology industry. The cloud industry is dominated by three major players: Amazon, Microsoft, and Google (see *Figure Twelve*).

Figure Thirteen: Azure V.S. AWS



The battle of the cloud is largely between Microsoft's Azure and Amazon's AWS platform. There is a large advantage for Microsoft given it can capitalize on being a one-stop shop. By having SaaS, PaaS, and IaaS capacities, Microsoft will experience revenue growth across all business segments. Azure and AWS also differ in target markets and pricing (See Figure Thirteen). The main difference in their cloud computing models is that Azure is better suited for enterprises. It is not uncommon for enterprise customers to use Microsoft as a one stop shop, utilizing Office 365 (SaaS) and Azure as a cloud host for their servers.

Terminology:

**Availability regions: Data center(s) in a region that are separate from others in the area*

**Edge centers: Smaller, decentralized facilities that provide computing and storage in high traffic areas to reduce latency*

GAMING:

Microsoft is a major player in the video game industry. Microsoft offers a variety of gaming products, including Xbox consoles, games, and services such as Xbox Live and Game Pass. Microsoft's gaming segment has seen growth in revenue because of the Covid pandemic. Microsoft has also taken an aggressive M&A approach by acquiring boutique video game companies to expand its business. The revenue of this segment is impacted by various factors, such as subscriptions, sales of first- and third-party content, and advertising. The launch of cloud gaming has also created new

opportunities for Microsoft to engage with consumers both on and off consoles. Despite the rise of cloud gaming, Microsoft has continued to invest in gaming hardware and the invention of new gaming experiences, showcasing its commitment to the gaming industry.

Microsoft faces stiff competition from other major players in the gaming industry, including Sony and Nintendo. Sony's PlayStation consoles are among the most popular gaming devices, and they have a strong lineup of exclusive titles. Nintendo, on the other hand, has a loyal fanbase and iconic franchises like Mario and Zelda. These companies also offer their own services, such as Sony's PlayStation Now and Nintendo Switch Online.

The competition between these companies has been fierce, with each trying to outdo the other in terms of hardware, software, and exclusive titles. In recent years, the rise of mobile gaming and cloud gaming has also brought new competitors into the mix, such as Google and Amazon. Thus far, Microsoft's aggressive approach to M&A and investment in new gaming experiences has allowed them to remain competitive in the gaming market. As the gaming industry continues to evolve, Microsoft and its competitors will need to adapt and innovate to remain relevant and successful.

OPERATING SYSTEMS AND OEMS:

Microsoft's operating systems and OEM segment is designed to deliver a consistent personal computing experience for users by enabling consistency of experience, application, and information across devices. The revenue of this segment is strongly impacted by the number of operating system licenses purchased by OEMs. A surge in demand generates a higher requirement for operating systems to perform tasks. Microsoft's operating systems are suitable for a range of users, including consumers, small and medium businesses, and large enterprises. The focus on consistency and user experience has allowed Microsoft to establish a strong presence in the personal computing market, with its operating systems being some of the most widely used in the world.

However, Microsoft faces intense competition from other major players in the operating systems market, including Apple and Linux. Apple's macOS offers a similar personal computing experience to Microsoft's operating systems but is limited to Apple hardware. Linux, on the other hand, is an open-source operating system that can be customized by users and developers, making it a popular choice for tech enthusiasts and businesses with specialized needs.

Despite this competition, Microsoft's operating systems and OEM segment continues to be a major player in the personal computing market, with a strong focus on user experience and consistent performance.

FINANCIAL ANALYSIS

KEY FINANCIAL METRICS:

Figure Fourteen: Debt Repayment, ROE, and ROA

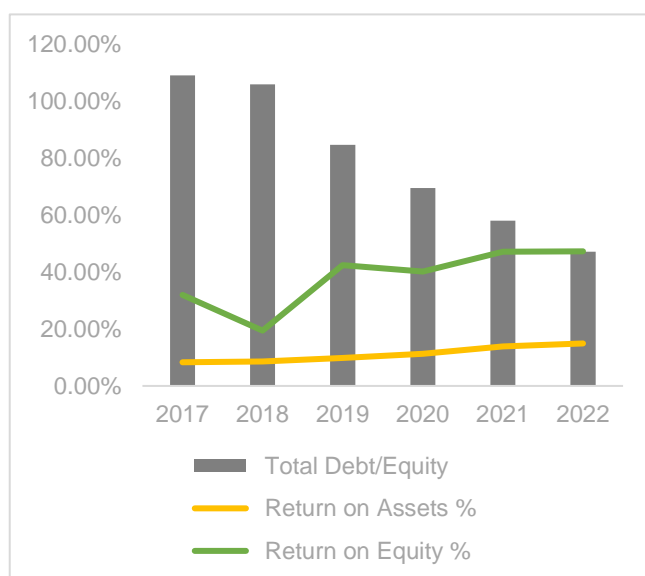
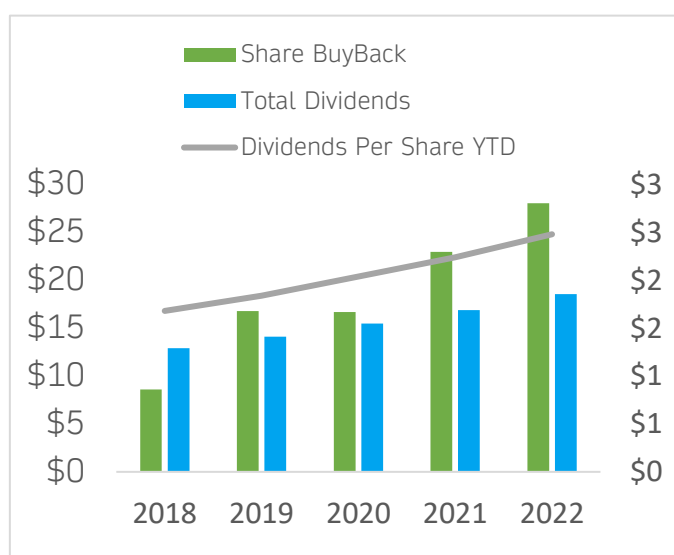


Figure Fifteen: Share Buybacks and Dividends (\$ in billions expect for dividends per share)



Microsoft returns value to shareholders by growing its financial strength. The shift to a subscription model and focus on the cloud has accelerated operating margins from 34% in FY 2019 to 41% in FY 2022.

Furthermore, increased profitability has led to higher ROE, even with consistent debt repayment (see Figure Fourteen). As inflation remains persistent, it is impressive to see Microsoft's ability to maintain higher topline margins. In addition, as the economy moves into a period where the cost of debt will be higher, Microsoft's commitment to reduce leverage reflects sound strategy.

Microsoft has an elite credit rating of AAA from Moody's, which is shared with only two other companies – Johnson and Johnson and Apple. The company's short-term and long-term debt obligations are easily covered. Microsoft's current ratio, according to CapIQ, is 1.93, which means the company has nearly 2x the current assets to its current short-term liabilities. In addition, Microsoft also has an impressive EBITDA/interest expense of 50.75x, according to CapIQ.

Another way Microsoft creates value for shareholders is through dividends. Microsoft is devoted to raising its dividend and maintaining a low dividend payout ratio. Finally, the company continues to buy back shares, creating additional value for shareholders (see Figure Fifteen).

DISCOUNTED CASH FLOW ANALYSIS:

The shift to the cloud will continue to grow Microsoft's margins. In fiscal year 2023, CapIQ estimates margins will decrease due to pressures in OEM and gaming margins but recover by the next year. Revenue will remain in double digits but begin to slow as enterprises and consumers fully shift to the cloud. Our revenue and margin predictions do not consider the acquisition of Activision Blizzard.

Microsoft Corporation (MSFT)											
Fiscal Year	2017A	2018A	2019A	2020A	2021A	2022A	2023E	2024E	2025E	2026E	2027E
<i>In millions of USD</i>											
Revenue	96571	110360	125843	143015	168088	198270	221446	254877	293882	331514	361626
Rev Growth		14%	14%	14%	18%	18%	12%	15%	15%	13%	9%
EBIT	29331	35058	42959	52959	69916	83383	74937.4	107023	126105	135921	148267
EBIT Margin	30%	32%	34%	37%	42%	42%	33.8%	42.0%	42.9%	41.0%	41.0%
COGS	34261	38353	42910	46078	52232	62650	73527.4	84109.5	96980.9	109399	119337
COGS % of Rev.	35%	35%	34%	32%	31%	32%	33%	33%	33%	33%	33%
Income Tax Expense	4412	19903	4448	8755	9831	10978	14238.1	15732.5	18915.7	20388.1	22240
Tax Rate on EBIT	15%	57%	10%	17%	14%	13%	19%	15%	15%	15%	15%
Net Working Capital	-7427	-7627	-7168	-10981	-12595	-10264	-10021	-9942	-9819	-10140	-9767
Capex	-8129	-11632	-13925	-15441	-20622	-23886	-24040.1	-28036	-32327	-36466	-39779
Capex % of Rev.	8%	11%	11%	11%	12%	12%	11%	11%	11%	11%	11%
Depreciation and Amortization	7800	9900	11600	12300	10900	14600	17979.3	20390	23511	26521	28930
DnA % of Rev.	8%	9%	9%	9%	6%	7%	8%	8%	8%	8%	8%

CapIQ Est

Microsoft Presentation

Microsoft Corporation (MSFT)												
Fiscal Year	2017A	2018A	2019A	2020A	2021A	2022A	2023E	2024E	2025E	2026E	2027E	Terminal Value
EBIT		35,058	42,959	52,959	69,916	83,383	74,937	107,023	126,105	135,921	148,267	
(-) Tax on Ebit		(19,903)	(4,448)	(8,755)	(9,831)	(10,978)	(14,238)	(15,733)	(18,916)	(20,388)	(22,240)	
(+) DNA		9,900	11,600	12,300	10,900	14,600	17,979	20,390	23,511	26,521	28,930	
(-) CAPEX		(11,632)	(13,925)	(15,441)	(20,622)	(23,886)	(24,040)	(28,036)	(32,327)	(36,466)	(39,779)	
(+/-) Change in NWC		(200)	459	(3,813)	(1,614)	2,331	243	79	123	(321)	373	
FCF		13,623	35,727	44,876	51,977	60,788	54,396	83,565	98,249	105,908	114,805	2160429.168

WACC	9.0%
Perp Growth	3.5%

Discount Period	1	2	3	4	5
Discount Factor	0.917431193	0.841679993	0.77218348	0.708425211	0.649931386
PV of FCF	49,904.19	70,334.99	75,866.60	75,027.93	74,615.64

Terminal Value	2,160,429
PV of Terminal Value	1,404,131
PV First 5 Years FCF	345,749
Enterprise Value	1,749,880
- Debt	(77,985)
+ Cash	99,495
Equity Value	1,927,360

Diluted Shares Outstanding	7,455
Intrinsic Value	\$ 258.55
Current Price (11/20/22)	\$ 242.98
Margin of Safety	6.41%

		Sensitivity Table				
		Discount Rate				
		8.00%	8.50%	9.00%	9.50%	10.00%
Perpetual Growth	2.50%	266.90041	245.84036	228.03148	212.77686	199.5654473
	3.00%	287.48234	262.67799	242.01908	224.54874	209.5835116
	3.50%	312.63803	282.88315	258.54988	238.28261	221.1428165
	4.00%	344.08265	307.57834	278.38684	254.51354	234.6286722
	4.50%	384.51145	338.44732	302.63202	273.99065	250.5665017

COMPARABLE COMPANIES:

To value Microsoft on companies in the comparable realm, it is most appropriate to use predominantly cloud computing businesses. Amazon and Alphabet compete with Microsoft's infrastructure cloud (PaaS and IaaS). Oracle, VMware, and Adobe challenge Microsoft in developing SaaS products. While Apple is not a direct competitor, we view its computer hardware business and operating system like Microsoft's.

Company Name	Shares Outstanding	Late Market Capitalization	La LTM Net Debt	Total Enterprise Value Latest	LTM Total Revenue	LTM EBITDA	LTM EBIT	EV/EBITDA	NTM Revenue (Capital IQ)	NTM EBITDA (Capital IQ)
Alphabet Inc. (NasdaqGS:GOOGL)	12943	1150694	-86923	1063771	282113	93733	78567	11	298074	113769
Oracle Corporation (NYSE:ORCL)	2696	203938	80357	284721	44157	18405	15155	15	50251	22317
VMware, Inc. (NYSE:VMW)	425	47512	9014	56526	13143	2938	2347	19	13991	5149
Amazon.com, Inc. (NasdaqGS:AMZN)	10202	917945	105672	1023617	502191	51549	12971	20	549360	78329
Adobe Inc. (NasdaqGS:ADBE)	465	140479	-1123	139356	17191	6728	6094	21	18830	9348
Apple Inc. (NasdaqGS:AAPL)	15908	2219183	-36629	2182554	394328	130541	119437	17	407637	130318
Microsoft Corporation (NasdaqGS:MSFT)	7455	1706105	-30108	1675997	203075	98841	84663	17	218721	105743
Average	7156	912265	5751	918077	208028	57534	45605	17	222409	66425
Median	7455	917945	-1123	1023617	203075	51549	15155	17	218721	78329
Low	425	47512	-86923	56526	13143	2938	2347	11	13991	5149
Max	15908	2219183	105672	2182554	502191	130541	119437	21	549360	130318

Alphabet Inc. (NasdaqGS:GOOGL)
 Oracle Corporation (NYSE:ORCL)
 VMware, Inc. (NYSE:VMW)
 Amazon.com, Inc. (NasdaqGS:AMZN)
 Adobe Inc. (NasdaqGS:ADBE)
 Apple Inc. (NasdaqGS:AAPL)

Metrics	Equity Value	Implied Valuation	
Average	1644456.59	\$ 220.60	\$ 244.43 AVG of Highlighted
Median	1621745.3	\$ 217.55	
Low	1067489.008	\$ 143.20	
Max	1993023.064	\$ 267.36	
Historical Microsoft EV/EBITDA	2200012.019	\$ 295.13	

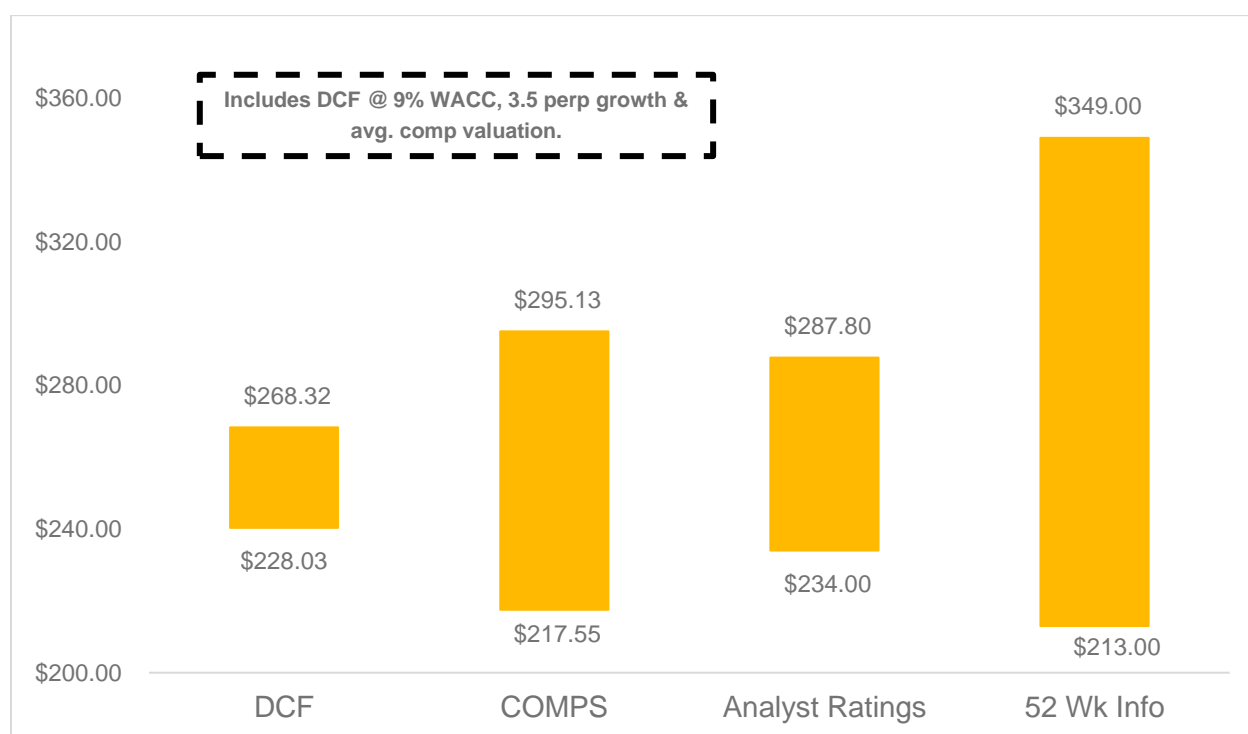
VALUATION:

To understand the true value of Microsoft, a combination of comparable company multiples, historical multiples, and discounted cash flow analysis is necessary. In our football field valuation, we also included analyst ratings and a look at the 52-week low and high for Microsoft's stock price (see Figure Sixteen).

Six companies identified as director competitors are used for valuation multiples (See appendix for historical multiples).

Company Name	Market Cap (\$B)	LTM Total Revenue	LTM EBIT Margin %	LTM Return on Asset	LTM Return on Equity %	FY Total Debt/Equity %	F P/E (Capital IQ)
Cloud Computing							
Oracle Corporation (NYSE:ORCL)	208063.2	44157	34%	8%	-	-	15.1
Salesforce, Inc. (NYSE:CRM)	156143.7	29320	0%	0%	1%	25%	29.87
SAP SE (XTRA:SAP)	119122.7	30916.9	17%	5%	7%	37%	20.63
Alphabet Inc. (NasdaqGS:GOOGL)	1217265.2	282113	28%	14%	27%	11%	18.93
Amazon.com, Inc. (NasdaqGS:AMZN)	985785.8	502191	3%	2%	9%	101%	67.14
Oracle Corporation (NYSE:ORCL)	208063.2	44157	34%	8%	-	-	15.1
Microsoft Corporation (NasdaqGS:MSFT)	1811287.9	203075	42%	15%	43%	47%	24.6
Personal Computing							
Apple Inc. (NasdaqGS:AAPL)	2336425.3	394328	30%	21%	176%	261%	23.49
Dell Technologies Inc. (NYSE:DELL)	30579.1	106957	5%	3%	146%	-	6.52
Lenovo Group Limited (SEHK:992)	9878.3	70865.2	5%	-	-	71%	5.88
Microsoft Corporation (NasdaqGS:MSFT)	1811287.9	203075	42%	15%	43%	47%	24.6
Gaming							
Sony Group Corporation (TSE:6758)	95913.4	72973.6	11%	2%	14%	47%	17.18
Nintendo Co., Ltd. (TSE:7974)	47208.3	12173.5	34%	14%	27%	-	15.41
Microsoft Corporation (NasdaqGS:MSFT)	1811287.9	203075	42%	15%	43%	47%	24.6

Figure Sixteen: Football Field Valuation



RISKS TO INVESTMENT THESIS

Heavy Competition: Microsoft operates in many markets that are highly competitive, including operating systems, gaming, cloud computing, and productivity software. Fierce competition across all markets may reduce profitability, as competitors introduce new products and services that draw customers away from Microsoft's offerings. This risk is particularly relevant as Microsoft faces competition from major players such as Apple, Google, Amazon, and IBM, among others.

Investments in Growth Falter: Microsoft's growth and sustained dominance is reliant upon large investments returning value. This may be particularly challenging if Microsoft invests in emerging technologies or business areas that do not gain traction or fail to generate revenue. Additionally, market shifts or changes in customer preferences could render certain investments obsolete or unprofitable, leading to a loss of investor confidence and a decline in share price.

Operational Pitfalls: Microsoft's reputation may be at risk due to operational pitfalls such as server outages and platform failures. These types of issues can result in decreased customer trust and loyalty, which can harm Microsoft's overall brand reputation and impact its revenue streams. Microsoft must ensure that it has robust infrastructure and security protocols in place to prevent operational mishaps and respond swiftly to any issues that arise.

Cyber Attacks: Microsoft faces constant cyber threats that may expose vulnerabilities and customer data. Cyber-attacks can result in loss of revenue, legal liabilities, and reputational damage. Microsoft must continually invest in security measures and develop new strategies to protect against evolving cyber threats.

Intellectual Property Stagnating: Patents, copyrights, and trademarks are crucial to maintaining a competitive advantage in many of the markets in which Microsoft operates. Failure to protect its intellectual property could lead to infringement by competitors or loss of competitive edge. Additionally, legal disputes over intellectual property could be time-consuming and costly, impacting Microsoft's ability to innovate and grow.

CONCLUSION

Microsoft Corporation (Ticker: MSFT) is an excellent long-term investment that trades at a discount in the market. Microsoft products and services are integrated into the lives of businesses and consumers and generate strong recurring revenues. With room for growth in its product line and continued innovation in the cloud, Microsoft is staple in any portfolio.



Microsoft

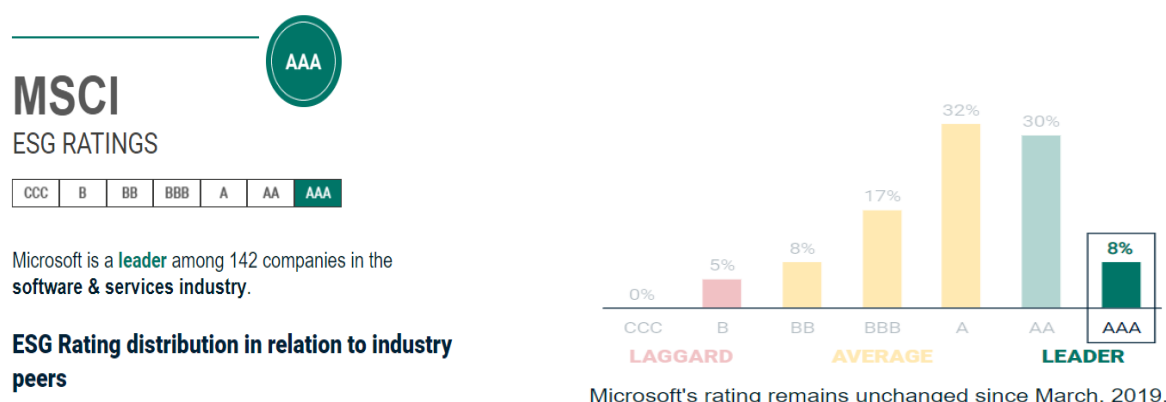


APPENDIX

ESG:

Environmental, Social, and Governance (ESG) are the criteria businesses use to evaluate their sustainability and impact on the community. Prioritizing ESG helps mitigate risk and attract investors that look for long-term sustainable companies. Microsoft is a leader in all three categories, as shown through Bloomberg and MSCI sustainability ratings (See *Figure Seventeen*).

Figure Seventeen: ESG Ratings



Universe: MSCI ACWI Index constituents software & services, (142 companies)

Financial Materiality Scores ESG SCORE »		Score	2Y Change	Vs Peers
Environmental	<div style="width: 58.9%;"></div>	5.89	-0.06	Leading
Social	<div style="width: 23.9%;"></div>	2.39	+0.94	Leading
Governance	<div style="width: 78.4%;"></div>	7.84	-0.37	Leading

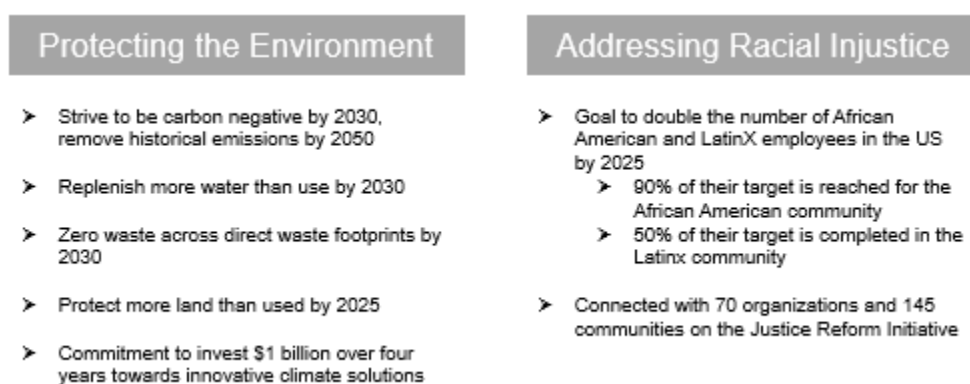
ESG ratings from Bloomberg and MSCI help compare similar companies' sustainability initiatives. Microsoft is a leader in all categories and is among the top 8% of all software and services industry companies, according to MSCI, in 2022.

Software companies that develop cloud infrastructure and AI products must primarily be concerned with cybersecurity and digital safety. Microsoft is committed to investing over 20 billion dollars in initiatives to advance cyber security. To protect data, the company

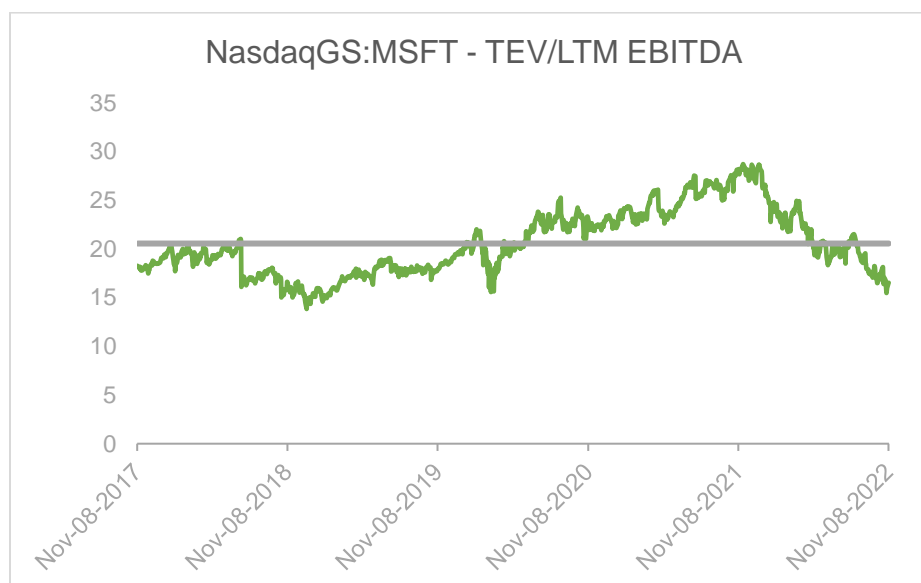
released an AI responsibility initiative. Microsoft's Responsible AI Standard includes 17 goals aligned with its six AI principles to protect consumer data. In addition, Microsoft published a template and guide to help other enterprises understand the impact of AI on the community.

Microsoft is devoted to protecting the environment and addressing social issues. *Figure Eighteen* shows Microsoft's commitment to a sustainable world and fighting issues of racial injustice.

Figure Eighteen: Environmental and Social Impacts



Historical Multiples:



Competitive Advantage:

Figure Nineteen: Porter's Five Forces

Threats of New Entrants	Bargain Power of Suppliers	Bargain Power of Buyers	Threat of Substitutes	Competition
<ul style="list-style-type: none"> • Low threat • High barrier to entry based off tremendous R&D spend • Brand Loyalty • #1 system for business and institutions • Products loaded with MSFT software • Cloud growth will continue 	<ul style="list-style-type: none"> • Low threat • Software related products do not require suppliers • MSFT has stronghold on hardware suppliers • There are no unique suppliers • Common products are needed to support production 	<ul style="list-style-type: none"> • Moderate threat • Buyers will follow industry trends • Software products like 365 and excel make it hard for companies to switch • Universal standards are practiced on 365 engine • Hardware leaves options for buyers 	<ul style="list-style-type: none"> • Low/moderate threat • Certain hardware can be replaced • Hardware has better products being made • Software and 365 especially will not be threatened • Cloud growth has competition, but no subs 	<ul style="list-style-type: none"> • High Threat • High costs and struggle for the top • R&D + S&M is tough to sustain • Companies will always be continuing to replicate MSFT • Competitors always want to beat MSFT products (target on back)

Figure Twenty: SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Industry leader with brand loyalty • Packages of products to cut costs for business • Productivity, cloud, personal computing • Distribution channels • Software that is used globally 	<ul style="list-style-type: none"> • Less desirable computer and phone models • Web browser is not praised • Failed acquisitions in the past
Opportunities	Threats
<ul style="list-style-type: none"> • Cloud space provides growth opportunity • Digital transformation will lead to more customers switching to Azure • Gaming industry possible takeover of market share • Hybrid work = more opportunity • Leading within ESG 	<ul style="list-style-type: none"> • Apple and Google pose major threats • Cloud services such as Amazon provide threats • Competition offers tons of software alternatives • Cyber security continues to be at the forefront of worry for technology companies

SOURCES:

1. S&P CapitalIQ
2. Bloomberg
3. MSCI
4. Various Microsoft investor presentations, earnings presentations, and 10-K (2019-2022)
5. Microsoft 2022 Impact Summary
6. Statista