

# microsoft

## Cloud computing



Arne Govaere

Robin Tack

Cédric Huylebroek

Bert gevaert

Julie geeraert

Microsoft Corporation (Microsoft) is a well-known technology company that was founded in 1975. The company develops and supports software, services, devices, and solutions. The company offers an array of services, including cloud-based solutions that provide customers with software, services, platforms, and content. The company provides solution support and consulting services. It also delivers relevant online advertising to a worldwide audience.

The company's products include operating systems, cross-device productivity applications, server applications, business solution applications, desktop and server management tools, software development tools, and video games. It also designs, manufactures, and sells devices, including PCs, tablets, gaming and entertainment consoles, other intelligent devices, and related accessories.

## Management

**Satya Narayana Nadella** (born 19 August 1967) is an [Indian-American](#) business executive. He is the [chief executive officer](#) (CEO) of [Microsoft](#), succeeding [Steve Ballmer](#) in 2014.<sup>[2][3]</sup> Before becoming CEO, he was the executive vice president of Microsoft's cloud and enterprise group, responsible for building and running the company's computing platforms.<sup>[4]</sup>

## Bedrijfsactiviteiten

The company operates through 3 segments: (a) Productivity and Business Processes, (b) Intelligent Cloud, and (c) More Personal Computing.

### Productivity and Business Processes

This segment consists of products and services in the company's portfolio of productivity, communication, and information services, spanning various devices and platforms. This segment primarily comprises: Office Commercial, including Office 365 subscriptions, the Office portion of Microsoft 365 Commercial subscriptions, and Office licensed on-premises, comprising Office, Exchange, SharePoint, Microsoft Teams, Office 365 Security and Compliance, and Skype for Business. Also, Microsoft owns LinkedIn.

#### Competition

Competitors to Office include software and worldwide application vendors, such as Apple, Cisco Systems, Facebook, Google, IBM, Okta, Proofpoint, Slack, Symantec, and Zoom. Dynamics competes with vendors, such as Oracle, Salesforce.com, and SAP to provide cloud-based and on-premises business solutions for small, medium, and large organizations.

## Intelligent Cloud

This segment consists of the company's public, private, and hybrid server products and cloud services that could power modern business and developers. This segment primarily comprises: Server products and cloud services, including Azure; SQL Server, Windows Server, Visual Studio, System Center, GitHub, and Enterprise Services, including Premier Support Services and Microsoft Consulting Services.

- **Server Products and Cloud Services**

Azure is a set of cloud services that offer developers, IT professionals, and enterprises freedom to build, deploy, and manage applications on any platform or device. Customers could use Azure through the company's worldwide network of datacenters for computing, networking, storage, mobile and web application services, artificial intelligence, Internet of Things, cognitive services, and machine learning.

Azure revenue is mainly affected by infrastructure-as-a-service and platform-as-a-service consumption-based services, and per user-based services, such as Enterprise Mobility + Security.

The company also licenses software development lifecycle tools for software architects, developers, testers, and project managers. GitHub provides a collaboration platform and code hosting service for developers. Server products revenue is mainly affected by purchases through volume licensing programs, licenses sold to original equipment manufacturers, and retail packaged products. Client access licenses provide access rights to certain server products, including SQL Server and Windows Server, and revenue is reported along with the associated server product.

- **Enterprise Services**

Enterprise services, including premier support services and Microsoft consulting services, assist customers in developing, deploying, and managing Microsoft server and desktop solutions; and provide training and certification to developers and IT professionals on various Microsoft products. Competition Azure faces competition from companies, such as Amazon, Google, IBM, Oracle, VMware, and open source offerings. IBM and Oracle lead a group of companies focused on the Java Platform Enterprise Edition that competes with the company's enterprise-wide computing solutions. Commercial competitors for the company's server applications for PC-based distributed client-server environments include CA Technologies, IBM, and Oracle. The company's web application platform software competes with open-source software, such as Apache, Linux, MySQL, and PHP. In middleware, the company competes against Java vendors.

The company's database, business intelligence, and data warehousing solutions offerings compete with products from IBM, Oracle, SAP, and other companies. The company's system management solutions compete with server management and server virtualization platform providers, such as BMC, CA Technologies, Hewlett-Packard, IBM, and VMware. The company's products for software developers compete against offerings from Adobe, IBM, Oracle, and other companies; and also against open-source projects, including Eclipse (sponsored by CA Technologies, IBM, Oracle, and SAP), PHP, and Ruby on Rails.

## More Personal Computing

This segment consists of products and services that put customers at the center of the experience with the company's technology. This segment primarily comprises: Windows, including Windows original equipment manufacturer licensing (Windows original equipment manufacturer) and other non-volume licensing of the Windows operating system; Windows Commercial, Windows cloud services, and other Windows commercial offerings; patent licensing; Windows Internet of Things; and MSN advertising; Devices, including Surface and PC accessories; Gaming, including Xbox hardware and Xbox content and services, comprising Xbox Live (transactions, subscriptions, cloud services, and advertising), - - Windows original equipment manufacturer revenue is impacted by various Windows operating system licenses purchased by original equipment manufacturers, which they pre-install on the devices they sell.

Windows Commercial revenue, which includes volume licensing of the Windows operating system and Windows cloud services, such as Microsoft Defender Advanced Threat Protection, is affected mainly by the demand from commercial customers for volume licensing and software assurance, as well as advanced security offerings. Windows Commercial revenue reflects various information workers in a licensed enterprise and is independent of various PCs sold in a given year.

- Patent licensing includes the company's programs to license patents that it owns for use across an array of technology areas, including mobile devices and cloud offerings.
- Windows Internet of Things extends the power of Windows and the cloud to intelligent systems by delivering specialized operating systems, tools, and services for use in embedded devices.
- Devices  
The company designs, manufactures, and sells devices, including Surface and PC accessories.
- Gaming  
The company's gaming platform is designed to provide various entertainment through a combination of content, community, and cloud. The company's game content is created through Xbox Game Studios, a collection of first-party studios creating differentiated gaming experiences. The company continues to invest in new gaming studios and content to expand its IP roadmap and leverage new content creators. The company continues to open new opportunities for gamers to engage both on- and off-console with both the launch of Project xCloud, its game streaming service, and continued investment in gaming hardware. Project xCloud utilizes the company's Azure cloud technology to allow direct and on-demand streaming of games to PCs, consoles, and mobile devices, enabling gamers to take their favorites games with them and play on the device most convenient to them. Project xCloud would provide players with more choice over how and where they play.

Xbox revenue is mainly affected by subscriptions and sales of first- and third-party content, as well as advertising. Growth of the company's Gaming business is determined by the overall active user base through Xbox enabled content, availability of games, providing game content that gamers seek, and the ability to create new experiences through first-party content creators.

- Search  
The company's Search business, including Bing and Microsoft Advertising, is designed to deliver relevant online advertising to a worldwide audience. Growth depends on the company's ability to attract new users, understand intent, and match intent with relevant content and advertiser offerings.

### Competition

Windows faces competition from various software products and from alternative platforms and devices, mainly from Apple and Google.

Xbox Live and the company's cloud gaming services face competition from various online gaming ecosystems and game streaming services, including those operated by Amazon, Apple, Facebook, Google, and Tencent. The company also competes with other providers of entertainment services, such as Netflix, Inc. and Hulu.

The company's gaming platform competes with console platforms from Nintendo and Sony. The company's search business competes with Google and an array of websites, social platforms like Facebook, and portals that provide content and online offerings to end users.

---

## Significant events

---

In October 2020, Rockwell Automation, Inc. and Microsoft Corp. announced a five-year partnership expansion to develop integrated, market-ready solutions that help industrial customers improve digital agility through cloud technology.

In October 2020, Bentley Systems and Microsoft Corp. announced an expansion of a strategic alliance focused on advancing infrastructure for smart city urban planning and smart construction.

In October 2020, the company extended its strategic partnership with Sensyne Health plc to develop and refine Sensyne's clinical AI and health cloud technologies to improve, augment, and reduce the cost of patient care.

In December 2020, DXC Technology announced an expanded strategic collaboration with Microsoft to deliver a more personalized, intelligent, secure and modern workplace experience to help companies to address rapidly evolving business challenges and customer and employee needs.

In January 2021, Broad Institute of MIT and Harvard, Verily, and Microsoft Corp. announced a strategic partnership to accelerate new innovations in biomedicine through the Terra platform. Through the collaboration with Microsoft, the companies would accelerate Terra's vision for health and life sciences research by: Expanding on Terra's open, modular and interoperable research platform, with the addition of the Microsoft Azure cloud, data and AI technologies, and global capabilities.

## SWOT analyse

### Strengths

Leading software company: global market leader in cloud computing

Member of the big tech (the biggest 5 companies in the USA)

Largest market share among the 5 largest cloud service providers

Spread across 190 countries: geographical diversification

Outstanding brand reputation

Easy to use software

Windows is still the nr. 1 go-to operating system

Microsoft has recently posted its 14<sup>th</sup> consecutive quarter of 10% or more sales growth

### Weaknesses

Mainly focused on the PC market (there has been a steady decline on sold PC over recent years, with a rise on sold tablets and smartphones)

Vulnerable to cybercrime (e.g. MS exchange)

The lacking innovation of the surface pro computers (not enough innovation and advanced technology compared to apple and google)

Lacking market leadership in internet browser segment (google, safari and firefox are gaining market share, MS is losing market share)

Unsuccessful acquisitions: Microsoft's fewer acquisitions like WebTV, LinkExchange, Massive, and Danger resulted in failures and divestitures. Such unprofitable investments are the biggest weaknesses

Low market share from advertising

## SWOT analyse

### Opportunities

Cloud business is a growing business

Innovation in Artificial intelligence: MS has a massive opportunity in many innovative areas like AI and game technology. Investing in these areas can give an upper hand to MS

Partnerships and Acquisitions: Microsoft can focus on entering into new strategic alliances and partnerships. It will enable the company to gain high market share. Acquiring major hi-tech firms will also be a profitable opportunity for Microsoft.

Affordable Services: One main factor that would affect the market penetration level is its price. Microsoft sees a huge opportunity by creating products and services that are affordable. By decreasing the prices for its products, it would help to get higher sales and thereby increasing its market share.

Rumours of a Discord buyout for around 10 Billion dollars (as of 23/10/2021)

Although it has been some time since it last happened, a stock split is not something to rule out. Today's stock price is at the median of the inflation adjusted prices for the last times Microsoft split their stock (mostly 2 for 1, early 90s also 3 for 2). Although the last split dates back to 2003, Microsoft does not shy away from a stock split as it has done so 9 times before. Studies found that companies that initiate a stock split do outperform the market on both the short and long term, but this is not a guarantee for Microsoft to do so. Lastly there are also some counterarguments as a higher stock price does limit volatility and secondly, that nowadays there is a possibility to invest in fractional stocks.

Cloud migration has grown significantly due to Covid, "We've seen two years of digital transformation in two months". The predicted revenue growth is estimated to be at or above 30% for 2021 through 2025.

Cloud gaming services: The mobile games market amounts to \$149 Billion, console gaming \$47 Billion and PC gaming \$35 Billion, certainly during Covid there has been a growth in these sectors. MSFT has the Xbox customer base and is one of the few companies with hyperscale cloud and delivery capabilities. However this would require an enormous amount of bandwidth, the average US gamer (22hrs/week) would use about 1300 GB/month to play, a further innovation and capex could thus be required across the telecom value chain.

### Threats

- Afhankelijk van de door covid-19 verzwakte luchtvaart- en automobielsector wanneer natriumbicarbonaat verkocht wordt.

## SWOT analyse

### Threats

Workforce's related criticisms: Microsoft's 2018 workforce diversity statistics showed an imbalance in its recruited workforce. The number of women and minorities working was quite low, fueling severe criticism and arguments against the company's HR policy.

Aggressive competition: Microsoft is in intense competition with Google, Apple and many more. These companies' established positions can be a threat to [Microsoft's market position](#).

Changing preferences of consumers: People are highly attracted to the market of smartphones, notepads, and laptops. Microsoft has modest shares in these markets.

Open source projects: Like Linux OS and Open Source Office, many new open source projects have successfully entered into the market offering similar services for free. It can threaten Microsoft that offers these [products at an expensive rate](#).

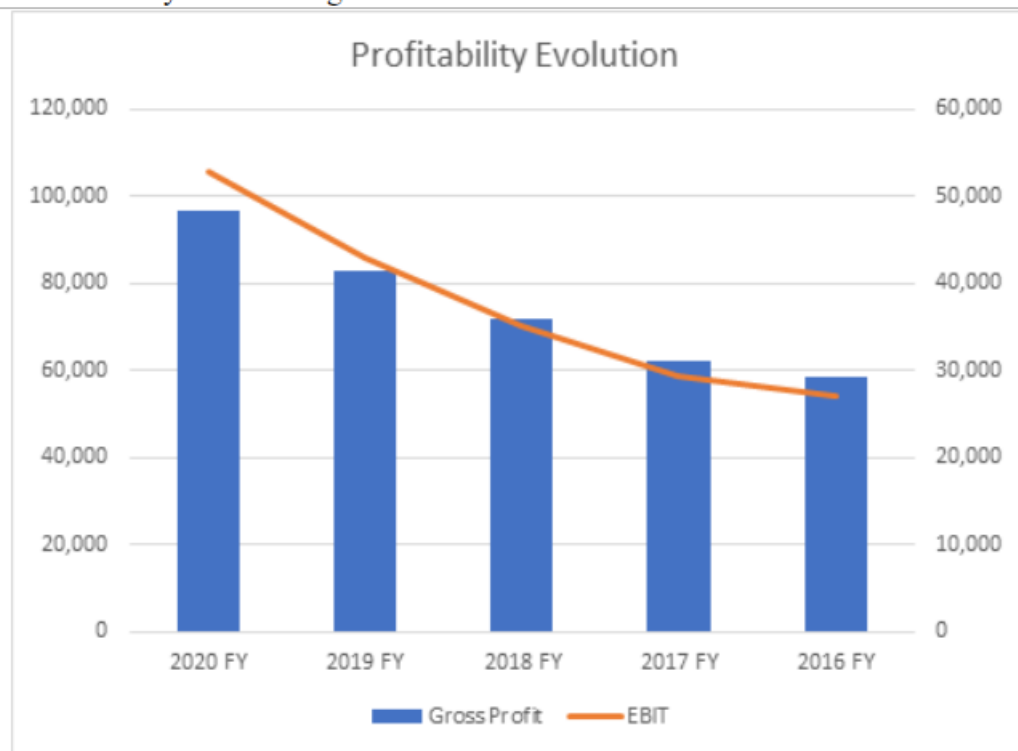
Cybercrime and piracy: Rising cybercrime thefts and software piracy issues have dramatically affected Microsoft's security network system.



## Kerncijfers

<b>Microsoft Corporation</b>	<b>2020 FY</b>	<b>2019 FY</b>	<b>2018 FY</b>	<b>2017 FY</b>	<b>2016 FY</b>
Period Ended	30/06/2020	30/06/2019	30/06/2018	30/06/2017	30/06/2016
<b>Income Statement (\$M)</b>					
Gross Profit	96.937	82.933	72.007	62.310	58.374
Earnings from Cont. Ops.	44.281	39.240	16.571	25.489	20.539
EBITDA	65.259	54.559	44.958	37.131	33.066
EBIT	52.959	42.959	35.058	29.331	27.188
EBIT growth rate (%)	23%	23%	9%	19%	
<b>Cash Flow (\$M)</b>					
Cash from Operations	60.675	52.185	43.884	39.507	33.325
Levered Free Cash Flow	34.258	30.933	25.035	14.658	20.338
<b>Profitability (%)</b>					
Return on Capital (%)	17,01	14,96	12,40	11,84	14,04
Gross Profit Margin (%)	67,78	65,90	65,25	64,52	64,04
EBITDA Margin (%)	45,63	43,36	40,74	38,45	36,28
<b>Per Share Information (\$)</b>					
Dividends per Share	2,04	1,84	1,68	1,56	1,44
Basic EPS	5,82	5,11	2,15	3,29	2,59
<b>Balance Sheet (\$M)</b>					
Cash & Short Term Investments	136.492	133.832	133.664	132.901	113.041
Total Debt / Total Capital (%)	40,97	45,80	51,41	52,13	43,10
Total Debt / EBITDA (x)	1,22	1,54	1,88	2,48	1,65

Table 1: Key financial figures



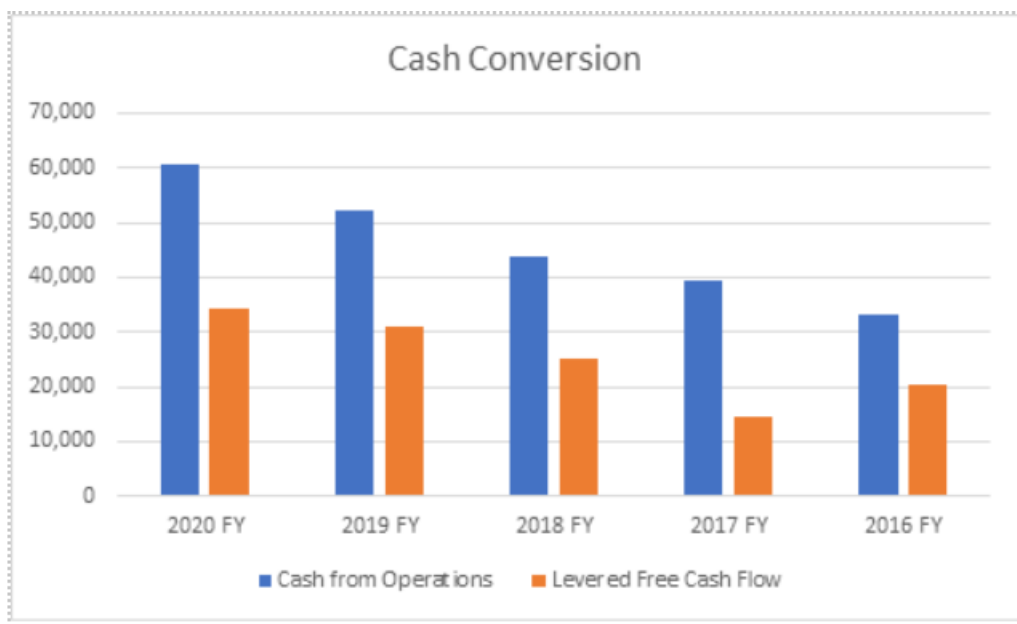


Figure 2: Cash Conversion Evolution

## DCF Valuation

### Assumptions:

- EBIT growth rate of 15% for next 5 years (given that it used to be 20% the last 2 years)
- Risk free rate = 0.0%
- Beta (5-year monthly) = 0.8
- Tax rate = 17%
- WACC = 4.7%
- Scenario analysis applied with varying growth rate and WACC

g	WACC			
	3,70%	4,70%	5,70%	6,70%
1%	368,242885	278,5 2	223,226235	188,31449
2%	570,572165	374,2 2	277,659962	223,982951
3%	1350,9851	584,5 7	372,414968	278,931662

## Comparable Analysis

In our opinion, Microsoft's position is to unique for the company to be compared. For this reason, we did not conduct a comparable analysis.

Dit rapport is gemaakt door de vooraan vermelde leden van de VEK Investment Club met de bedoeling een beursgenoteerd bedrijf grondig te analyseren. Het bedrijf werd uiteindelijk ook gepresenteerd voor alle andere leden.

De VEK Investment Club (VIC) is een onderdeel van de Vlaamse Economische Kring, de facultaire studentenvereniging voor economiestudenten aan de Universiteit Gent. De VIC wil zoveel mogelijk studenten informeren over al de facetten van beleggen en de financiële markten. Dit aan de hand van gastlezingen, workshops, wedstrijden en een beleggingsclub. In die beleggingsclub leren een 75-tal studenten aandelen analyseren en beheren ze samen een aandelenportefeuille.

Dit rapport is geen beleggingsadvies. De auteurs, de VEK Investment Club en de Vlaamse Economische Kring zijn niet verantwoordelijk voor eventuele schade geleden door handel in financiële instrumenten op basis van dit rapport.