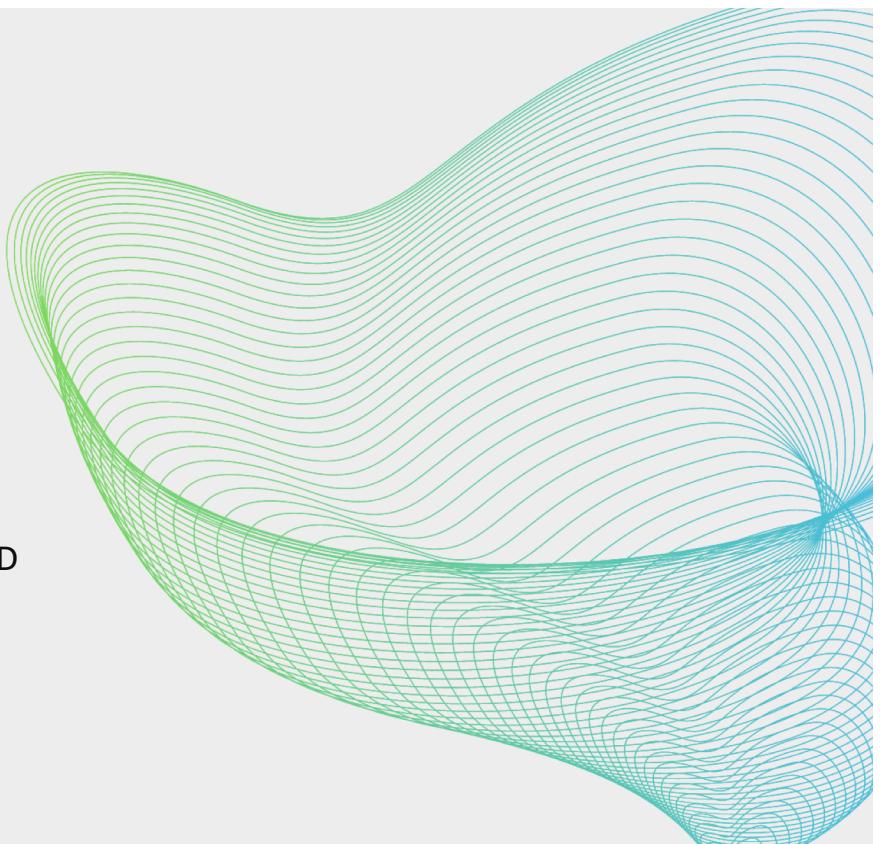




MICROSOFT

PERFORMANCE MEASUREMENT AND
CORPORATE STRATEGY
MODULE II - 20480

A.Y. 2022/23
Class 33 – Group 2



Company overview

1

Microsoft Inc was founded in 1975 by Bill Gates and Paul Allen and is currently headquartered in Redmond, WA, US. The company operates in **hardware, software, information technology** and other several industries. In each of them, it is positioned as a leader or immediate follower, capitalizing on its technological superiority, which has always been its trademark. With \$205B in sales in 2022, an EBITDA margin of 47% and the second-highest brand equity on the planet, Microsoft has all the requisites to continue dominating the market in the years to come.

Corporate strategy approach Synergic approach

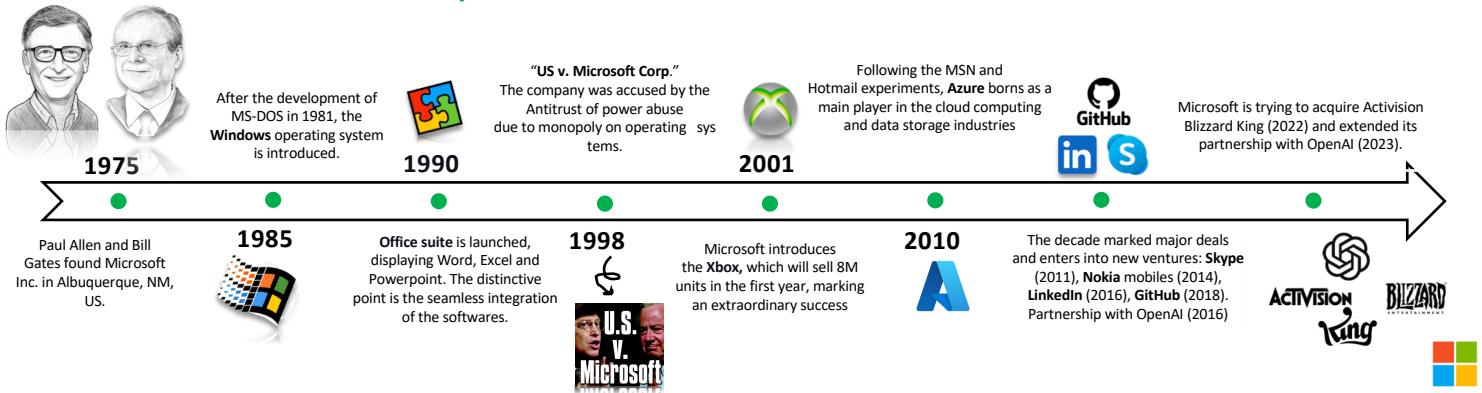
Several resources and competences are shared vertically and horizontally, and at the same time, operational synergies are leveraged among businesses in key value chain areas such as **technology, marketing and sales**. The approach is thus not a financial one.

Portfolio strategy model Multi-industry, technology driven

Through the sharing of **resources** (e.g. cloud infrastructure, operating system) and **competences** (cybersecurity capabilities) mainly related to technology, it maintains a corporate and competitive advantage. One of the main rationale related to M&A (e.g. LinkedIn, Nuance, GitHub) and alliances (e.g. Microsoft & OpenAI) is indeed to acquire **external resources** related to this.

Parenting strategy model Sharing of capabilities

Microsoft relies on operational synergies obtained by sharing valuable resources and competences among BUs. Networks with technological partners, huge **R&D** spending, **brand equity** and a **centralized engineering division** indeed benefit all. A tangible example: cloud gaming services heavily relies on synergies between Azure (cloud) and Xbox (gaming).



Business analysis

2

Microsoft started its journey in the business of **operating systems**, bundling its essential software (MS-DOS) with IBM's PC and licensing it to other OEMs. Later, it expanded, entering several businesses and industries, such as **productivity software** (i.e. Office) and **web browser** (i.e. Explorer, later named Microsoft Edge), through a process of **continuous growth and innovation**. Microsoft also carried on several **acquisitions** in related and unrelated businesses (e.g. GitHub, Nuance, LinkedIn). Today, Microsoft can be defined as a **multi-industry, technology driven company**, which operates in **four main industries**:

Software

This industry encompasses **four main businesses**. The main common point among these (beyond the nature of the softwares) is their scope: **productivity**. They are:

1) System & programming services



Microsoft's **historical business** and the **second most profitable**. The main products are **Office** and **Teams** (programming services) and **Windows** (operating system). Windows and Office are incorporated, and Microsoft's **dominance on operating systems** (74% market share) is **leveraged** to obtain a competitive advantage in **programming services**. The revenue sources are **licenses** (Windows) and **subscription plans** (Office). The main competitors are **Google, IBM and Apple**.

2) Professional social media



Acquired in 2016, **LinkedIn** provides, beyond the **free version**, different **subscription models** (main revenue sources) such as **talent solutions, marketing solutions, and sales solutions**. (Microsoft annual report 2022). For each different service provided, LinkedIn faces different competitors (e.g. talent solutions-recruiting and talent management companies).

3) Business applications



The main products are **Dynamics** (financial management, enterprise resource planning, CRM, supply chain solutions) and **Nuance** (AI business solutions). Revenues are driven by the number of **users licensed** and the increase in the **average revenue per user**.

4) Search engine



Bing delivers relevant **search** and **displays advertising** to a global audience (the main source of revenues). Its main competitor is **Google Chrome**, which dominates with a market share of 65%, however, **new technology trends** are reshaping the competitive landscape (e.g. AI integration in the search engine software).

Cloud computing

The industry has been **growing rapidly** over the past few years (plus an expected CAGR of 14.1% from 2023 to 2030) thanks to fast technological developments. The main business is "**cloud service platform**".

Cloud service platform



Cloud service platform, with its main product **Azure**, is the **most profitable business** in Microsoft's portfolio. Azure is a comprehensive set of **cloud services** for different purposes (e.g. computing, storage, application services, AI, IoT, and machine learning) to increase clients' productivity and efficiency. The main revenue sources are **subscriptions** and the **volume of licenses sold**. Its main competitors are **Amazon, IBM and Google**.

Gaming

High-growing industry (expected CAGR of 10.2% from 2022 to 2030) driven by **technological advancements** and new trends (e.g. cloud gaming, virtual reality, mobile gaming). The main business is "**Games & Console**".

Games & Console



Xbox consists of a unique combination of **gaming**, (Xbox Game Pass-games library and community) and **cloud** (Xbox Cloud Gaming). It provides **hardware** (e.g. Xbox Series X) and gaming content developed by **Xbox Game Studios**. The main revenue sources are **subscriptions** and **sales of first- and third-party content**, as well as **advertising**.

Hardware

Devices & Accessories



It is the **least profitable** business within Microsoft's portfolio. Through "**Microsoft Surface**" provides consumers with **devices** (pc and tablets) and **accessories**. The main competitors are **Dell, Apple and HP**. Microsoft also produces and sells **top-notch VR Headsets**, as productivity tools for offices, academies and armies. Here, the undisputed competitor is **Meta's Oculus**.



PESTEL analysis

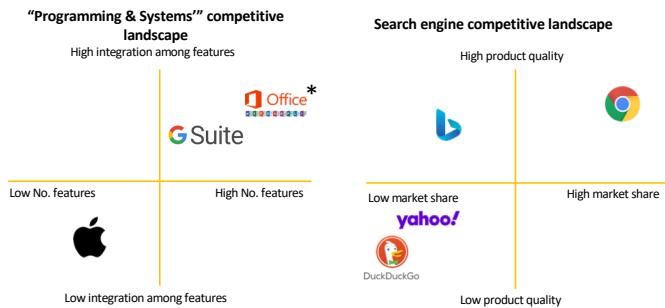
	Software	Cloud Computing	Gaming	Hardware
Political	<ul style="list-style-type: none"> ➤ Governments strongly influence through their decisions the evolution of these industries. For example: ❖ EU: Microsoft commits that it will increase the local datacenters within the EU to process and store EU companies' data within the EU border, starting from 2023.01. ❖ China: Chinese regulation requires that cloud providers must only process Chinese companies' data within Chinese border. Consequently, cloud providers like Microsoft have to form Joint Venture with Chinese companies to operate. 		<ul style="list-style-type: none"> ➤ Gaming Sector adopts age ratings and self-regulation as main practices. ➤ Governments are increasingly viewing videogaming as a strategic industry for developing advanced technologies. 	<ul style="list-style-type: none"> ➤ Countries are increasingly viewing chips and microprocessors as a strategic industry, deglobalizing the supply chain and making it more expensive to produce hardware.
Economic	<ul style="list-style-type: none"> ➤ These businesses may be affected by fluctuations in macroeconomic factors including GDP growth, inflation, and interest rates. ➤ Future forecasts depict advanced economies' growth as stagnant. The expected GDP growth rate mainly remains under 1% (US 0.4%, EU 0.2%, Japan 1.5%, UK-0.8%, Russia -2.9%). In addition, the global average inflation rate is about 6.5% according to the IMF forecast, with the US inflation rate forecasted to be 5%, increasing the uncertainty. 			
Social	<ul style="list-style-type: none"> ➤ Covid lockdown greatly promoted the remote working trend. Cloud services for online meetings and shared documents are in high demand. The growing market share of e-commerce and growing reliance on online content require companies to store and process big data. 	<ul style="list-style-type: none"> ➤ Covid lockdown turned online gaming from only entertainment into a social experience. 	<ul style="list-style-type: none"> ➤ People is increasingly using mobile phones, instead of PCs, to fulfil their needs (computerization of phones) 	
Technological	<ul style="list-style-type: none"> ➤ The software, cloud computing and gaming businesses will benefit most from the advent of AI technologies as well as from the advent of some other technologies such as the Blockchain, advanced microchips and the metaverse: ❖ The cloud computing business will benefit from the implementation of AI algorithms that allow for performing sophisticated analyses of customer data. The impact of the technological factor on these two businesses will therefore be positive. ❖ Advanced artificial intelligence techniques, such as machine learning, will revolutionize the gaming industry. These techniques will allow developers to generate more complex NPCs, to better understand the gaming experience of users and to generate more varied gaming environments. ❖ The hardware business can benefit from the advent of these technologies in two ways: a) Directly, through increasing automation of the manufacturing process. b) Indirectly, through connection synergies with the business software. If Microsoft's software is enhanced with AI techniques, Microsoft's devices will be more demanded. 			
Environmental	<ul style="list-style-type: none"> ➤ The technology sector in which Microsoft operates is responsible for between 2/3% of global CO2 emissions. ➤ A good portion of the company's footprint comes from the electricity used to run its datacenters. Microsoft should therefore seek to reduce its dependence on energy sources that produce high levels of CO2, in favor of renewable energy sources. The risk is that in the medium-long term, the environmental dimension could penalize Microsoft. 			
Legal	<ul style="list-style-type: none"> ➤ The software and cloud computing businesses could be adversely affected by the privacy regulation, which could limit Microsoft's accessibility to user data, thus reducing the company's learning speed and the development of AI technologies, which require large amounts of data to be developed. An example of how the legal factor can negatively affect Microsoft is the ban imposed by Italian legislator on ChatGPT due to privacy concerns (now lifted). 	<ul style="list-style-type: none"> ➤ Due to unfair competition concerns, Microsoft's acquisition of Blizzard Activision King process was halted by the US, EU and UK Antitrust authorities. 	<ul style="list-style-type: none"> ➤ The strong tensions between China and the US could lead the regulator to limit Microsoft's manufacturing activities in China. 	



Micro-level analysis: Software

OVERALL INDUSTRY ATTRACTIVENESS: HIGH

- Bargaining Power of Buyers:** MEDIUM. Buyers can easily access information to make comparisons against other providers even though there are high switching costs due to diverse operating systems. For search engines instead, both users and advertisers can switch easily to other providers so their power is quite high.
- Bargaining Power of Suppliers:** LOW/MEDIUM. The nature of the product doesn't require any physical supplies. For search engines, the supply is the content granted by numerous providers and mainly for free. In general, the shortage of the STEM developers can represent a risk for the industry;
- Threat of Substitutes:** LOW. Continuous R&D investments make Office 365 a competitive product and by constantly incorporating new features it avoids the rise of new substitutes. LinkedIn has some substitutes such as professional recruiting companies which however complementarily use it. As for Bing, other alternatives could be social media or platforms such as YouTube. Still, search engines remain the quickest and most efficient system. The rise of AI and models such as ChatGPT could pose a potential threat for Bing if not leveraged;
- Threat of New Entrants:** LOW. Network externalities, R&D, strong brand recognition and, for the productivity package, compatibility with the Windows system pose high entry barriers in the "Programming & Systems" business. Yet, the industry is growing and it could attract new players. Moreover, in the search engine sector, the threat is very low as the segment relies on advertisement for which a large customer base is needed.
- Industry Rivalry:** MEDIUM-HIGH. The presence of big tech players (Apple, Google, Meta, IBM, Zoom) for almost every type of products reinforces competition. But, despite Google's gaining market share in the "programming & systems" business, Microsoft firmly holds the leadership (except for video conferencing platforms). The industry is growing (risk to attract more competitors) and innovation is the main value driver. The segment is still in its growing/maturity phase. For the search engine segment instead, there are only two relevant ones: Bing and Google. The latter dominates with 85% of the market share.



PARENTING OPPORTUNITIES: SIGNIFICANTLY ADVANTAGED

KEY SUCCESS FACTORS (KSFs) & ALIGNMENT WITH MICROSOFT'S RESOURCES AND CAPABILITIES

Key Success Factor	Microsoft's Resources & Capabilities	Evidence
Continuous innovation	<ul style="list-style-type: none"> Huge R&D spending Internal & decentralized development (i.e. engineering groups) Patents development "Microsoft Research" 	YES. Microsoft has the highest R&D investment (\$25B, 7.93% of currency-fixed sales in 2022) and the widest patent portfolio among tech companies. Regarding, productivity & business processes, it is strongly investing in interconnection, new features and technology trends to maintain its leadership position.
Network externalities	<ul style="list-style-type: none"> Interconnection among products (All-in-one package) High customer base Bundling strategy (Windows & Office 365) 	YES. With a wide user base (345M users for Office 365 and 875M for LinkedIn) and its value proposition based on "All-in-one", Microsoft leverages the positive effect of network externalities.
Pricing & sales strategy	<ul style="list-style-type: none"> Subscription model Free trial (for LinkedIn) Selling model for Institutions Integration & Assistance for Institutions 	YES. Office 365 provides a flexible subscription model distinguishing individuals, institutions and companies. LinkedIn provides four subscription models (job seekers, recruiters, companies and sellers) and a standard/free option (freemium model).
Cyber security & privacy	<ul style="list-style-type: none"> Microsoft privacy dashboard Training & recruitment «Microsoft Security Experts» 	YES. Microsoft will recruit & train 250,000 people into the US cybersecurity workforce by 2025 (similar initiatives globally). Customer flexibility & transparency in privacy options.

INDUSTRY ATTRACTIVENESS:

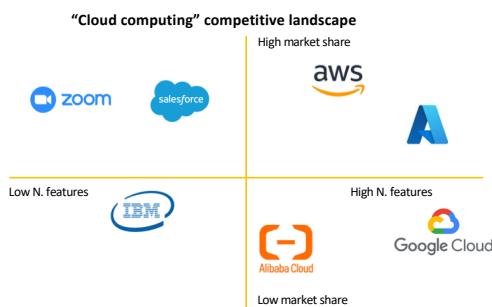
- Quantitative Analysis:** The global software market was worth \$569B in 2021 and it is estimated showing a CAGR of 5.42% from 2023 to 2028. The ROE is equal to 13.63%.



Micro-level analysis: Cloud computing

OVERALL INDUSTRY ATTRACTIVENESS: MEDIUM-HIGH

- Bargaining Power of Buyers:** **MEDIUM.** Buyers of cloud computing services fall basically into two categories: SMEs and big enterprises. While the first have low bargaining power, big enterprises have a high one as they store more data and ask for more space, services and guarantees. The biggest ones can also build their own IT centres or adopt a multi-cloud strategy to increase bargaining power vis-à-vis Microsoft.
- Bargaining Power of Suppliers:** **HIGH.** There are two ways to supply cloud service with hardware: rent or build a data centre. Approximately 70% of data centers are owned by investors, real estate companies or governments. Although the industrial centralization of Data Center is not as high as cloud service providers, due to the scarcity of data centers in specific areas, the bargaining power of suppliers is quite high. The biggest data centers are Equinix (9.5% market share), Digital Realty Trust (5.7%), and China Telecom (3.3%). Given that there is only a limited amount of data center and GPU suppliers, we conclude that the bargaining power of suppliers is high.
- Threat of Substitutes:** **LOW.** Cloud service is more efficient than self-built IT centres. In the near future, there won't be other substitutes for the centralization of IT services.
- Threat of New Entrants:** **LOW.** Due to the high costs of data center leasing and the huge economies of scale on existing cloud service providers, the entrance barrier is very high.
- Industry Rivalry:** **HIGH.** AWS, Google, Alibaba, Oracle, and GCP are fighting each other fiercely for this prospective market. On the other side, there are more and more companies willing to employ multi-cloud and hybrid-cloud strategies, thus more clients on the market.



INDUSTRY ATTRACTIVENESS:

- Quantitative Analysis:** Cloud service market exceeded \$225B in 2022 and the market growth rate is expected to surpass 25% for 2023. The ROS of Cloud Computing in Microsoft in 2023 is 43.5%.

PARENTING OPPORTUNITIES: SIGNIFICANTLY ADVANTAGED

KEY SUCCESS FACTORS (KSFs) & ALIGNMENT WITH MICROSOFT'S RESOURCES AND CAPABILITIES

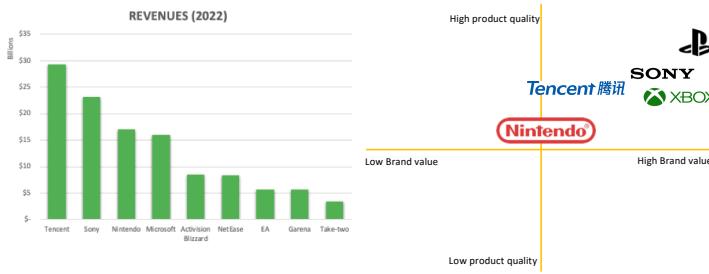
Key Success Factor	Azure's Resources & Capabilities	Evidence
Integration of Big data, AI and Machine learning models	<ul style="list-style-type: none"> Advanced software AI capabilities Computational power (supercomputers) 	YES. Azure has the expertise to provide advanced analytics services to its cloud computing customers. The partnership with chatGPT will further enhance the artificial intelligence services that Azure can provide to its clients.
Data privacy and information security	<ul style="list-style-type: none"> Cybersecurity capabilities Encryption methods and protocols 	YES. Azure offers advanced data protection systems to its customers, aligning the security of its servers to the highest market standards. However, it is worth noting that the largest competitor, AWS, offers more encryption services and key management options, sometimes preferred by clients.
Product Excellence	<ul style="list-style-type: none"> Customer support Consultancy services Advanced technology 	YES. Given the complexities associated with a cloud computing service provided to a non-industry client, effective client support and advisory service are of paramount importance. Azure is perceived as a first-rate customer service provider and is therefore aligned with the highest industry standards.
Brand image	<ul style="list-style-type: none"> Market coverage B2B marketing capabilities Brand equity 	YES. The Azure brand is among the best-known in the cloud computing industry. In addition, Azure is the service with the second highest geographical coverage in the cloud computing sector, being available in more than 60 countries worldwide.



Micro-analysis: Gaming

OVERALL INDUSTRY ATTRACTIVENESS: MEDIUM

- Bargaining Power of Buyers:** **HIGH.** In the gaming industry, there are three types of customers: casual hardcore gamers. They respectively demand to be convoluted, complex and accessible, but above all to have customizable products. There are many gaming industries that leverage so much on R&D with an emphasis on price and more and more real-world-like experiences.
- Bargaining Power of Suppliers:** **LOW.** There is a moderate population of non-differentiated hardware suppliers and it is highly unlikely that these will forward integrate to the point of threatening Microsoft. Moreover, its huge scale and brand equity will always free most negotiating power.
- Threat of Substitutes:** **HIGH.** Currently, the shift towards mobile gaming is a strong threat to console manufacturers. Indeed, the rapid hardware developments and support from big-name franchises such as *Fortnite* or *League of Legends* are making mobile gaming as attractive as consoles. Indeed, the expected CAGR of mobile gaming (9.40%) is higher than the expected CAGR of console gaming (6.30%).
- Threat of New Entrants:** **LOW.** The required hardware manufacturing expertise and the costs and skills required to establish a safe online system are extremely high. Moreover, games' licensing fees are extremely high, the know-how required is top-notch and unlikely to slip out of the hands of the active players.
- Industry Rivalry:** **HIGH.** The Gaming industry is shared among many players, such as *Tencent*, *Sony*, *Microsoft* and *Nintendo*. This involves high pressure on prices and efficiency because every mistake is paid with huge market share losses.



INDUSTRY ATTRACTIVENESS:

- Quantitative Analysis:** Global Gaming market size lies around \$335B in 2022 with forecasted revenues in 2027 at \$521B (expected CAGR of 7.89%, 2023-2027). The business is also known to be particularly unsensitive to recessions and in 2022 showed an average ROE of 24.19%. The number of consumers is expected to grow up to 3.1B by 2027 and the ARPU amounts to \$142.50 in 2023.

PARENTING OPPORTUNITIES: MEDIUM

KEY SUCCESS FACTORS (KSFs) & ALIGNMENT WITH MICROSOFT'S RESOURCES AND CAPABILITIES

Key Success Factor	Microsoft's Resources & Capabilities	Evidence
Continuous innovation	<ul style="list-style-type: none"> Huge R&D spending Outbound licensing Cross-license agreement Patents development 	YES. No other tech company spent more than Microsoft in 2022 on R&D (25B, 7.93% of currency-fixed sales). The same year, its offering (S- and X-series) were the best-selling on the market.
Brand recognition	<ul style="list-style-type: none"> Highest-value brand equity Top-notch CRM practices B2B Customer services 	YES. Microsoft's global brand value exceeded \$611B and has grown by 49% in the last year, becoming the 2 nd most valuable brand (behind Apple). Microsoft's CRM practices are the most advanced in the industry, thanks to <i>Microsoft Dynamics 365</i> , for B2B and B2C.
Product positioning	<ul style="list-style-type: none"> Capillary distribution channels Broad service portfolio Top-quality product 	YES. Microsoft produces the entirety of its consoles in China (since 2017) due to proximity to semiconductor manufacturers (a crucial material for production) and lower labor costs (ensuring a <i>safe</i> and <i>efficient</i> supply chain). The distribution chain is capillary and heavily based on online outlets following the 2020 decision to shut down all 83 flagship stores worldwide.
Pricing strategy	<ul style="list-style-type: none"> Value-based pricing model Subscription model Cross-selling practices 	NO. Most consoles are sold at a loss or at break-even, deferring profits to video games and the subscription model. That is yet totally offset by the revenues from game development, DLC and cloud gaming subscription offered laterally.
M&A capabilities	<ul style="list-style-type: none"> Legal and politics linkages Network effects 	YES. Microsoft closed 58 M&A deals since 2018 with the most targeted sectors being software (54%) and internet services (27%).
Gaming Experience	<ul style="list-style-type: none"> Subscription services Cloud gaming services Micro-transactions and Downloadable content (DLC) 	YES. Microsoft is the producer who offers the widest range of services around the console. In addition, following the acquisition of <i>Activision-Blizzard-King</i> , it is expected to consolidate the position for DLCs. Yet, it still lacks on the videogames production side, the future field of competition.



Micro-analysis: Hardware

OVERALL INDUSTRY ATTRACTIVENESS: LOW

- Bargaining Power of Buyers:** **HIGH.** Final consumers have been observing more and more alternatives to PCs, so that they became price-sensitive and began to ask for *customization*. Companies, in the fight against obsolescence, needed to differentiate by investing heavily in *R&D* and giving voice to users. Further, the new view of devices as commodity is putting emphasis on *prices*. This allocates much power to buyers.
- Bargaining Power of Suppliers:** **LOW.** There is a moderate population of non-differentiated hardware suppliers and, overall, Microsoft works with a wide range of suppliers (from Intel, AMD and Quanta to NVIDIA and Samsung) to source components and materials for its Surface devices and maintains a complex global supply chain to ensure that its products are manufactured and delivered to customers in a timely and efficient manner. Moreover, its huge scale and brand equity will always give most negotiating power.
- Threat of Substitutes:** **HIGH.** Currently, the shift towards mobile devices and cloud-based services are making traditional computers less and less relevant, products such as smartphones and tablets, which can perform many of the same functions as a traditional PC. As these substitute products become more powerful and versatile, they may continue to erode the market share of traditional PCs. As well, gaming consoles are integrating web functions in their software, acting as computers.
- Threat of New Entrants:** **LOW.** Although it is a mature market and the competition is mainly upon prices, huge volumes are needed to reach economies of scale and being competitive in the industry. Moreover, the required hardware manufacturing expertise, the expenses in R&D, the development of a strong brand and the establishment of a trusted network of suppliers are huge obstacles for new entrants.
- Industry Rivalry:** **HIGH.** The industry is highly competitive, as both the traditional competitors and the non-traditional (Meta, Alphabet) are capable to compete with the necessary scale. There is currently lot of emphasis put on price as customers start to see PCs as commodities. In addition, the low marginality of the industry enforces the focus on *efficiency* and the high competition. Finally, since it is a *mature market*, the most common method used to increase sales is to recover market share.



INDUSTRY ATTRACTIVENESS:

- Quantitative Analysis:** The market size of the hardware industry is \$207.67B, with an expected CAGR of 1.81%. Based on the analysis of ROCE (5.5%) and a ROE of 3.9% in 2021 (declined from 29.3% in 2009 and 13.8% in 2019), it's evident that the profitability and the attractiveness of the hardware industry is low. Finally, the amount of worldwide PC shipments was 65.3M units in the 4th quarter of 2022, a 28.5% decrease from the 4th quarter of the previous year.

PARENTING OPPORTUNITIES: LOW-MEDIUM

KEY SUCCESS FACTORS (KSFs) & ALIGNMENT WITH MICROSOFT'S RESOURCES AND CAPABILITIES

Key Success Factor	Microsoft's Resources & Capabilities	Evidence
Continuous innovation	<ul style="list-style-type: none"> Huge R&D spending Outbound licensing Cross-license agreement Patents development 	NO. No other tech company spent more than Microsoft in 2022 on R&D (25B, 7.93% of currency-fixed sales). However, this amount is strongly dedicated to other businesses with higher expected growth, indeed R&D expenses on hardwares are limited to maintain product standards and not aimed to come up with a disruptive product.
Brand recognition	<ul style="list-style-type: none"> Highest-value brand equity Top-notch CRM practices B2B Customer services 	YES. Microsoft's global brand value exceeded \$611B and has grown by 49% in the last year, becoming the 2 nd most valuable brand (behind Apple). Microsoft's CRM practices are the most advanced in the industry, thanks to <i>Microsoft Dynamics 365</i> , for B2B and B2C.
Product positioning	<ul style="list-style-type: none"> Manufacturing efficiency Broad service portfolio "2-in-1 Device" Know-How 	NO. The distribution chain is capillary and heavily based on online. In addition, Microsoft produces many PC's accessories (but) also compatible with competitor's devices. Yet, Microsoft's products are not conceived as top-quality by the customers, being seldomly their first choice when buying a new laptop. Thus, the product fails to reflect the strength of the brand, being seen as not a first-tier product.
Pricing strategy	<ul style="list-style-type: none"> Value-based pricing model Cross-selling practices 	NO. Despite the high selling price, which leads to Surface devices being classified as a premium product, the company has failed to have the product perceived as top quality in competing with Apple. Microsoft failed to obtain market share from high-spending customers, apart from the reputed <i>Microsoft</i> customers.
M&A Capabilities	<ul style="list-style-type: none"> Extensive M&A experience Legal and politics linkages 	YES. Microsoft closed 58 deals since 2018 with the most targeted sectors including software (54%) and internet services (27%). The largest, in 2022, was the (ongoing) acquisition of Activision Blizzard King for \$68.7B.



Portfolio analysis: Analytical evaluation

Business Attractiveness Matrix-Business Logic

Considering the previous analysis, it is possible to discuss how the different industry attractiveness will evolve in the future, by analysing the different businesses:

SOFTWARE:

- **SYSTEM & PROGRAMMING SERVICES:** This industry is going to be more and more attractive in the future, as the market size is continuously growing with a 25% growth rate per year, and the margins are very high. Here, Microsoft has a competitive advantage due to the quality, diffusion and compatibility of its Office suite;
- **PROFESSIONAL SOCIAL MEDIA:** The market of professional social media is not attractive as the market size is rather small (\$50B in 2020) and is not growing a lot (less than a 5% annual growth rate). Here, Microsoft holds a huge competitive advantage coming from owning in its portfolio the most used platform: LinkedIn.
- **SEARCH ENGINE:** The market of Search Engine is very attractive with \$167B of sales in 2021 and 11% CAGR from 2021 to 2028. Microsoft is not as competitive as Google in this market holding less than 3% market share (while Google occupies 93%).
- **BUSINESS APPLICATIONS:** The market of AI in healthcare has huge expected growth (CAGR 47.6%), forecasting a market size of \$102.7B by 2028. Nuance has a good competitive position, however some competitors such as Google and IBM have a greater competitive advantage.

CLOUD COMPUTING: This industry is appealing, but less appealing than the software one, as the profit margin is partially eroded by the expenses for datacentres and hardware. The sector is growing strongly and Microsoft has a competitive advantage due to its ability to monetize data centres (rentals), its previous experiences in the development of IaaS and PaaS (such as SQL server), and its huge commercial customer base (cross-selling between software and cloud computing).

GAMING: The global gaming industry is attractive with \$335B in revenue in 2022. With an annual growth rate estimated at 7.89%, the global gaming industry will top \$521B by 2027. The business enjoys high marginality, and a particularly low sensitivity to economic slowdowns.

HARDWARE: This industry is expected to be unattractive as for, among all, the decline in laptop sales.

Attractiveness of Competitive System	Businesses with Results to Verify		Businesses Generating Profitable Growth	
	Absent	Competitive Advantage	Absent	Present
High	  NUANCE		 	
Low				

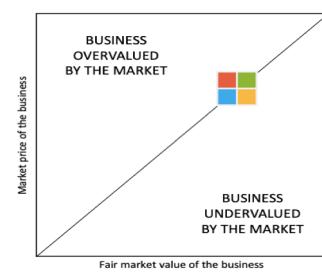
Fair Value Matrix - Capital Markets Logic

As market prices were not available for the businesses controlled by the company, only Microsoft was placed in the matrix. Yet, the fair value and market price determined for Microsoft take into account the cash flows generated by the individual businesses controlled by the company.

At close on 31/03/2023	EV/EBITDA	Target Price (1)	Stock price (2)	Ratio (2)/(1)
Microsoft	20,75	294,75	288,3	98%
Alphabet	14,5	129,58	104	80%
Sap	18,94	139,43	126,55	91%
Apple	20,27	170,18	164,9	97%
IBM	22,15	143,56	131,09	91%
Average value		19,322		91%
Median value		20,27		91%

In accordance with the two different definitions of fair value, the following conclusions are both plausible:

- **EV/EBITDA for the determination of fair value:** If the CCA is used to measure the fair value, then the fair value of Microsoft is slightly lower than that of the market (Equity value from CCA= 1,945\$ vs market Cap= 2,055 T).
- **Target price determined by the analyst (DCF method):** According to the analyzes of 33 analysts on Nasdaq, the market price of Microsoft is slightly lower than its fair value (fair value= 294.75\$ vs market price= 288.3\$). Summarizing what has been highlighted so far, it can be concluded that the positioning of Microsoft in the matrix depends on the fair value method used. However, given that we consider the analysts' recommendations as more reliable, we conclude that **Microsoft is correctly valued by the market**.



Portfolio analysis: Analytical evaluation

ADDED VALUE LOGIC

Microsoft's corporate headquarters take on a **product-type divisional** organizational structure, with each **division focusing on a specific line of goods and services**. Nevertheless, Microsoft's CH still share some corporate valuable resources among business, such as R&D, technology platforms, talents and engineering divisions. In this way, it **creates shared synergies across BUS**:

➤ SOFTWARE

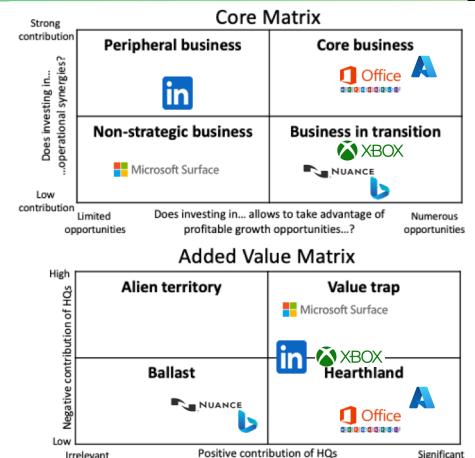
- ❖ **SYSTEM & PROGRAMMING SERVICES:** this is Microsoft's historical core business, despite today it is just the second business for sales. Here, Microsoft owns all the KSFs and the know-how required thanks to being the first mover since 1983. Furthermore, CH provide the necessary resources (networks with technological partners, R&D and talents) stressing for the creation **operational synergies**.
- ❖ **PROFESSIONAL SOCIAL MEDIA:** this business enjoys some **operational synergies** with the other businesses (especially within the "Software" category). Yet, even if the company owns many KSFs, Microsoft has been in this business for **only a few years** to have already developed a deep knowledge. Thus, LinkedIn may become a "*Hearthland*" in the future.
- ❖ **BUSINESS APPLICATIONS:** Nuance AI and Microsoft work together to offer innovative AI solutions in many industries. Here, OHs do not impact on Nuance and generally CHs don't destroy value as the company is left in **autonomy** with a highly competent BoD who sets the strategic guidance. CH, then, doesn't add much **value** to this business.
- ❖ **SEARCH ENGINE:** Although Microsoft has been operating in this business for decades, search engine **doesn't receive a positive contribution by the CH** due to low operational synergies and a decreasing corporate interest over the years.

➤ **INTELLIGENT CLOUD:** this is the other **core business** (*quantitative and qualitative* analysis). Hence, investing in this business will lead Microsoft to enter one of the most growing and profitable today's markets: cloud. This business relies on Microsoft strong **brand equity** and **product excellence**; it also benefits from economies of scale achieved by using massive **datacentres**. The CH share resources as **technologies and platform** (in particular, those provided by the **centralized engineering division** "Cloud and Artificial Intelligence Platforms") and it promotes **horizontal synergies** with the *Software business*. In conclusion, also here there is a **very strong parenting advantage**.

➤ **HARDWARE:** this business operates in a **mature market**, with many competitors. Further, its profit growth is decreasing and now *Hardware and Gaming* represent only 25.16% (and the former accounts for the smaller portion) of total company's sales. Despite CH share with this business the **engineering division** "Experiences and Devices" and **other resources** (such as a strong brand and heavy investments in R&D), there is a huge **risk** that **overhead costs** and the **resource competition mechanism** can negatively weight (**high-negative contribution**) on this business, also due to the **weak pricing strategy** adopted.

➤ **GAMING:** This business enjoys just a few synergies (especially with the *Cloud*, for accessory gaming services) with other businesses but it shows high possibilities of growth (*Morgan Stanley, 2023*). Furthermore, like *Hardware*, although the good **positive contribution** of CH allows to obtain synergies (mostly related to brand equity and technological platforms), the **low marginality** emphasizes even more the high negative contributions of CH due to the risk of **resource competition**. Indeed, it is true that Microsoft allocates more resources to the most profitable BUS, giving emphasis mostly to the Software and Cloud ones.

We can conclude that the CH influence is **positive**, especially for those businesses that are most profitable. This allows businesses to gain **benefits from parenting advantage**.



BETTER-OFF TEST (BOT)

CH corporate valuable resources have a strong positive impact on *Software, Gaming and Cloud*. Therefore, these business are **better-off under the ownership of Microsoft**. Hardware, instead, could be **better-off alone** (we will focus on this later on), indeed, the negative impact of **overhead costs** and the **resource competition risk** might outweigh the positive impact brought by the resources that CH shares. This business could then be harmed due to costs not directly attributable to it.

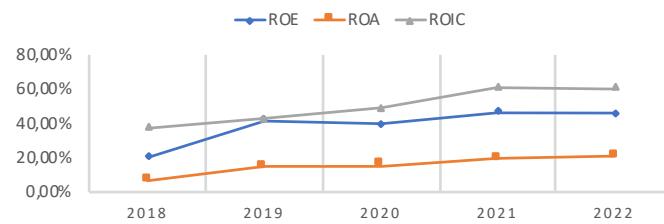
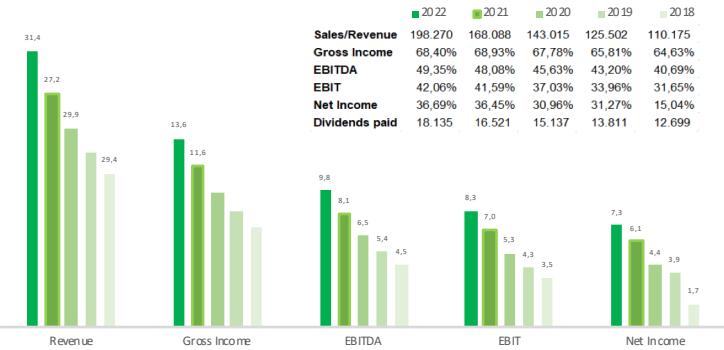
BEST-ALTERNATIVE TEST (BAT)

Considering the *Hardware* business, its best chance to succeed can be in the hands of **another company**, one that has a **leaner cost structure** and is more **specialized** in these businesses, thus possessing all the needed **KSFs**. It, however, would lose all the current portfolio benefits such as huge brand value and a large network.



Synthetic evaluation

ACCOUNTING LOGIC PROFITABILITY AND REVENUE GROWTH



Microsoft achieved a sound performance from 2018 to 2022. Profits have been implied both to boost growth, through internal and external investments, and to pay dividends, which have been increased in absolute value during the past 5 years (despite decreased in % to sales). The profitability ratios (ROE, ROA and ROIc) confirm indeed the group's sound performance.

LIQUIDITY AND SOLVENCY

GEARING RATIO



Microsoft performed good results in terms of **solvency** and **liquidity**. The firm results in the solidity area, having more equity than debts (gearing ratio is decreasing and lower than 1). It is also able to meet its **short-term obligations** with its most liquid assets (current and quick ratio higher than 1). Overall, the situation is positive and Microsoft can continue its process of growth through internal investments and acquisitions, with even the possibility to increase its **financial leverage** to stand for deals, substantial investments or increase in ownership of its subsidiaries

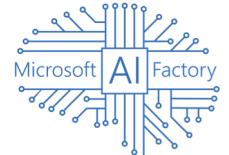
VALUE LOGIC

If we compare Microsoft's 2022 ROE with the cost of equity, given a latter between 8.83% and 9.14% (*ValueInvesting, 2022*), we observe that Microsoft has been able over the years not only to recover the SHs investments but also to well remunerate investors. These values suggest a shareholders' desire to continue to further invest for the periods to come



AI integration: Opportunity definition

Artificial intelligence (AI) is a **disruptive innovation** whose introduction is severely **changing various industries**, being effectively a **game changer** that can potentially shape Microsoft's **competitive landscape**. Indeed, its implementation will have an impact on the majority of Microsoft's businesses. Through the **acquisition of AI capabilities** and the relative infrastructure, **Microsoft** could gain a **first-mover advantage**, consolidating its leadership/competitive advantage in some of its businesses. Being a breakthrough innovation, **not investing** in here will not only represent a big **lost opportunity** but also a potential **competitive disadvantage** against its competitors, which have already started addressing the topic.



Software

AI is revolutionizing the **software industry** mainly through the development of "large language models" (i.e. Generative AI such as GPT or DALL-E) which, providing the opportunity to generate human-like text or obtaining images from text prompt, can hugely increase the level of productivity and efficiency of the users, allowing them to easily leverage big data in new ways. Microsoft has the opportunity to embed AI into Office and Bing gaining a first mover advantage in the market.

Cloud

Cloud represents the infrastructure that provides the computational power needed to make AI work (i.e. AI supercomputers). The input needed to create AI **supercomputers** are not directly produced by Microsoft but obtained through **external suppliers**. To accelerate AI integration into its businesses and gain full control of the operations, Microsoft has to scale up its infrastructure and to better analyze the cost opportunity in the **make-or-buy choice** in the short and long term.

Gaming

AI impacts gaming by allowing more immersive and realistic gaming experiences (helps both in the development and design phase, e.g. procedural content generation, and in the game phase, allowing to play with friendly or enemy AI). AI also makes it possible to monitor data in real time (user insight) and automate the testing of video games, a phase that today takes months. Microsoft benefits from all this as Xbox, but will benefit even more if the Activision Blizzard King acquisition goes through.

Hardware

As far as **hardwares** are concerned, the **impact of AI** is **twofold**. For the manufacture and sale of laptops, tablets and accessories, AI is just another **production improvement** and will not have a great effect on the final product (it will on software though, but the two are distinct). The argument varies for VRs: **Hololens**, is according to many, the **future in defence, health industry and education**, and AI will constitute a large part of the ecosystem, compatibility and improvement of devices.



WHAT - Integrate AI into software

The integration of AI in the software industry will provide Microsoft with the opportunity to consolidate its leadership position in "System & programming services" (a cash cow business) and gain a competitive advantage in «search engine» ("business with result to verify"). Integrating AI within Bing will allow Microsoft to reduce the wide market share gap with Google, broadening the user pool and consequently the revenues from advertising.

In order to do so, it is then crucial to acquire strategic corporate resources, namely AI capabilities/competences/technologies and computational power (AI supercomputers, Chip for GPUs and other integrated components).

WHY - Advantages and disadvantages of AI integration

AI represents a crucial factor for the future competitive landscape. Acquiring it is not only essential for Microsoft to consolidate its current position, but also to avoid to be left behind.

ADVANTAGES

1. **Market disruption:** integrating AI will allow Microsoft to consolidate its current position and gain market share in businesses like search engine;
2. **Positive network effect:** attracting new customers will create a positive externality for existing Microsoft users;
3. **AI hype:** currently, customers are highly acquainted to the technology and commercialize it will require less effort;
4. **Economies of experience:** even with the risk of new competitors entering the market, Microsoft, moving first, would have already developed competences to gain an advantage;
5. **Control of critical resources:** strengthen group's control on the resources will consolidate its competitive position.

DISADVANTAGES

1. **Regulatory risks:** given the novelty of the technology, the regulatory framework for AI is still fuzzy and regulatory bodies may introduce laws partially or totally blocking AI as it happened, for instance, in Italy with *Garante della Privacy* and OpenAI's offering ChatGPT.
2. **Innovation risk:** e.g. integration of AI in Microsoft products can generate some problems and blunders like what happened with Google or Bing;
3. **First mover risk:** failing will give an advantage to competitors like Google, as late comers can imitate the product and improve it to avoid dysfunctions. Moving first is also very costly, as huge R&D spending are needed while high returns are not certain.

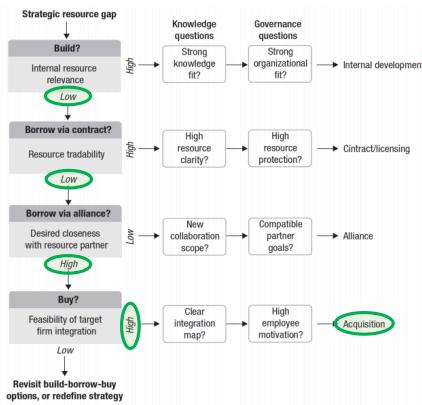
Overall, the advantages outweigh the current disadvantages, indeed:

- Despite in the short/medium term regulations may pose a threat, Microsoft's knowledge and experience matured over the years on privacy regulations, its strong bargaining power, especially against smaller AI companies, vis-a-vis regulatory institutions, and financial power will contribute to work around the issue in the long-term;
- Innovation risk has been mitigated thanks to the partnership with OpenAI as Microsoft has already gained experience and competences in integrating AI in its softwares;
- The expected gains obtainable from the first mover advantage outweigh the costs related to losing the AI race, also considering that some of them have already been amortized in the 7-years partnership with OpenAI.



AI and software: Acquisition of OpenAI (I/II)

HOW - Acquisition of AI competences through M&A



«Build, borrow or buy?» method

In order to integrate AI in the software businesses, the **resources** to be acquired are mostly **AI competences** and **technologies**.

AI competences are **relevant resources**, but Microsoft lacks the knowledge to **build** them **internally**, hence the process would be highly **costly** and **time-consuming** compared to the low probability of effectiveness. Furthermore, another risk of developing internally these resources is that **OpenAI** may be **acquired** by some other **competitor** which would imply for Microsoft to lose the **exclusivity** acquired through the partnership.

Given the type of technology, there is **no high clarity** and **tradability**. For this reason, a **borrow via contract** should be **rejected** as an option.

Currently, Microsoft is placed in a **borrow via alliance** with OpenAI. They, indeed, have an exclusive commercial partnership, which is a type of equity alliance.

Nevertheless, given the rising competition in the industry as also other players will want to embed AI in their businesses, an **increase of closeness** with the partner is required to **improve** the **control** over the resources and the growth process. Moreover, this will also allow to better leverage R&D synergies and increase the speed to market.

At the same time, the strong **brand recognition** of Microsoft will likely boost OpenAI's **employee satisfaction**. In addition to this, Microsoft M&A competences will help developing a clear integration map.

In conclusion, it is **suggested to acquire OpenAI**.

«Build or buy?»

The same reasoning could be applied here. The **needed resources** are **AI competences** and **technologies**, and there are several smaller companies, compared to Microsoft, such as OpenAI, which are specialized in AI technologies and their implementation. **OpenAI** is the **perfect candidate** given the **existing relationship** between the two which **reduces risk and information asymmetry**. Furthermore, the presence in the **Microsoft's Board** of Reid Hoffman (**OpenAI's board member** from 2018 to 2023 and co-founder of LinkedIn) will simplify the transaction.

Even in this case, **acquiring OpenAI** is therefore **the best option**.

OPENAI ACQUISITION PROS & CONS

Advantages

- Higher **control** on crucial **resources**;
- Avoid losing **OpenAI** giving it to competitors;
- Eliminating a potential **competitor** (assuming that Microsoft would build internally the resources);
- Higher **speed to market** and faster **economy of learning**.

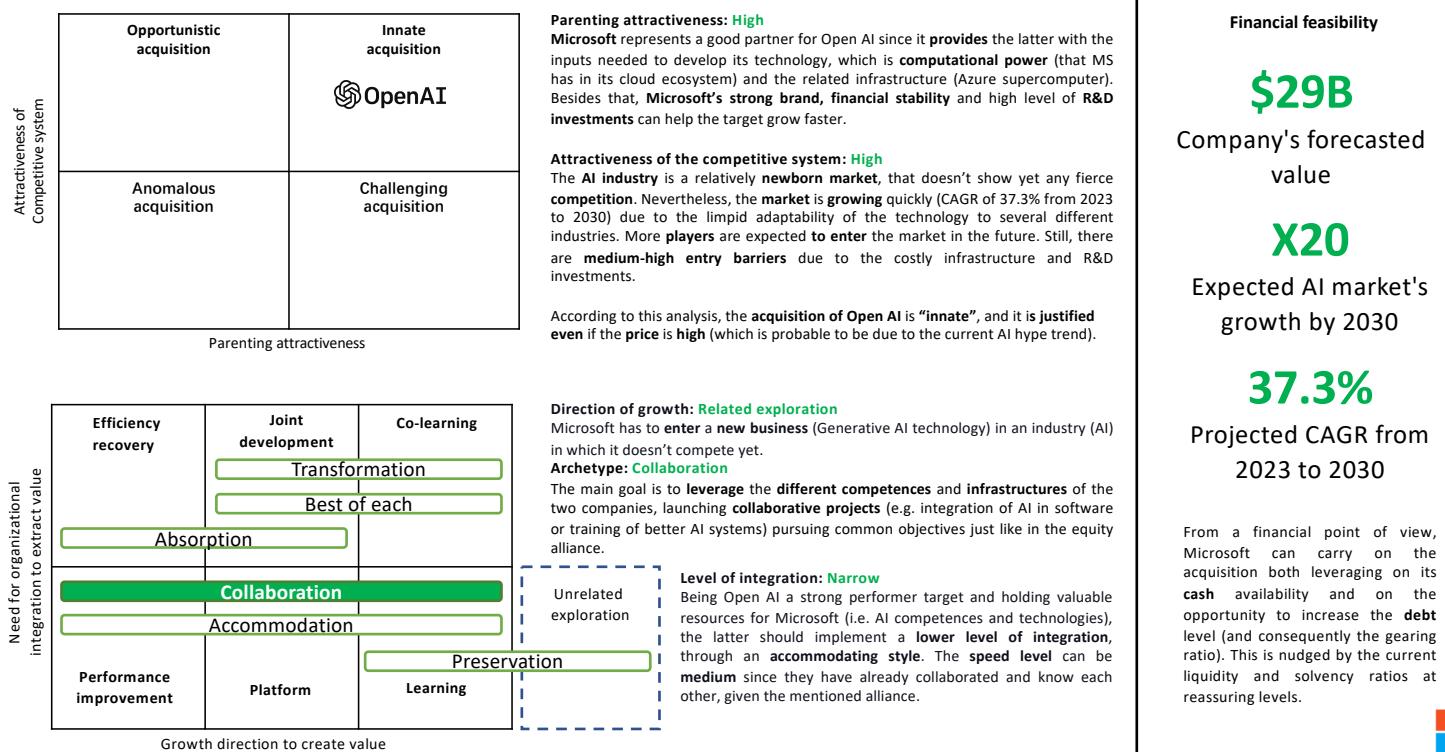
Disadvantages

- High **financial commitment** (risk to pay a too high control premium due to the current AI hype);
- Risk of failing the post-acquisition **integration**;

Overall, the **advantages outweigh the disadvantages**, and for the reasons previously explained the M&A with OpenAI is strongly suggested to acquire crucial resources as «**AI competences and technologies**».



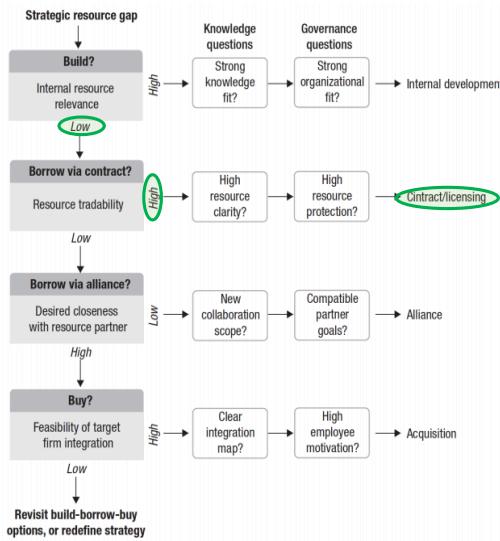
AI and software: Acquisition of OpenAI (II/II)



AI and cloud: Cloud infrastructure improvement

WHAT & WHY- Scaling up the cloud infrastructure

The second critical **resource to acquire** is the **infrastructure needed to implement AI technologies** (i.e. generative AI models like Chat GPT 3) like above all, an AI supercomputer. The latter provides indeed computational power, which is used to train, develop and launch new AI applications. Microsoft currently owns the AI Azure supercomputer, **one of the biggest AI supercomputers worldwide**, that it has been **developed** in partnership with **Nvidia**: its **computational power** is a **crucial element** of the **partnership with OpenAI** (for the reasons already explained). Microsoft has thus to **accelerate its investment** into this infrastructure to integrate AI within its businesses and **raise higher entry barriers** into the AI industry. **Differentiating** the cloud business in order to become the **infrastructure for AI** represents an additional advantage because it will avoid the cloud to get **commoditized** over time.



HOW - Increasing computational power for AI

Direction of growth: **Operational reinforcement**

Microsoft has to continue to invest in **AI supercomputers**, **scaling up the size** and computational power of its current infrastructure, and **accelerating the development of AI** and its integration into its offerings.

Short-term strategy

To do that, several **external inputs** are needed such as «InfiniBand» networking and computer chips for GPUs. **Microsoft** is **unable to produce them internally** since it lacks both the knowledge and the infrastructure required.

For this reason, the best way to acquire them is through a «**borrow via contract**» strategy, both due to the presence of **high resource tradability** and to the fact that Microsoft has **extensive experience** in doing alliances (e.g. with Nvidia), developing a **good relationship** over the years with a consequent **reduction of opportunism and uncertainty risks**.

Long-term strategy

In the **medium-long term**, being this resource relevant and being Microsoft responsive to innovation, it is advisable to **produce these components** (needed to build AI supercomputers) internally. In these way, **Microsoft's vertical integration** will lead to obtaining higher **control of the supply chain**, better quality/cost ratio for its components and the opportunity to be more reactive. The current alliance with Nvidia is also **reducing the knowledge gap**, reducing the cost opportunity to choose the make option. Nevertheless, it is strongly suggested to start doing it **after the acquisition of OpenAI** because the former is an input for the latter.



AI and Hardware: Devices & Accessories

WHAT - Microsoft Surface divestment

As previously analyzed, the hardware industry shows low levels of attractiveness and the "Devices and Accessories" business (in particular Microsoft Surface) lacks a competitive advantage (poor business) to compete successfully in the market. The AI integration that we suggested to implement will not benefit Microsoft Surface and, for the reasons here stated, a divestment should be considered.

WHY - Motivations to divest from the business

- Business logic:** Value destruction zone. According to business logic matrix, the "Devices and Accessories" business falls into the value destruction zone because, as previously explained: 1) the market for hardware is shrinking, and is not attractive, 2) Microsoft does not have any competitive advantage in this specific business;
- Core matrix:** Non-strategic business. Investing in the "Devices and Accessories" business does not provide synergies to other businesses, nor growth opportunities;
- Added value logic:** Value trap. Even if Microsoft CH can generate positive value for "Devices and Accessories" business, however, as explained in the portfolio analysis (added value logic), the CH also generates a significant negative contribution, which questions the interest and ability (following BOT and BAT analysis) of Microsoft to maintain it;
- Capital market logic:** Undervalued by market. The business is operating in a declining market and Microsoft Surface past performance has not been satisfactory. These reasons contribute to the undervaluation of the business by the market. This makes it less profitable to choose the option to divest quickly. At the same time, it is uncertain (and questionable) that in the short-medium term, the market valuation will improve, given the current competitive landscape;
- Opportunity Cost:** Microsoft could use the resources saved from "Devices and Accessories" business to fully scale the AI opportunity, investing in other businesses which show more profitable growth opportunity (e.g. Cloud and "System and Programming services").

HOW - A partial and gradual divestment

We recommend Microsoft to go with a "harvest" market strategy targeted towards its hardware consumers, according to Porter's matrix for declining business.

- "Favorable industry structure for decline? Yes.** Although the PC market is declining, there's still growth in premium segment, such as PC for business professionals and game players;
- Has competitive strengths for remaining demand pockets? No.** As previously discussed, Microsoft does not have competitive strengths in the "Devices and Accessories" business;
- Harvest or divest quickly?** We recommend "harvest" because it's hard to divest quickly, namely sell the business to the market, at a fair value. In addition, potential buyers are some of Microsoft's biggest competitors like Apple. Selling to them would deteriorate Microsoft's competitive landscape as a group.

Porter's strategies matrix for declining businesses

		Lack of competitive strengths	Favorable industry structure for decline
			Unfavorable industry structure for decline
Competitive strengths	Leadership or Niche	Harvest or divest quickly 	
	Niche or Harvest	Divest quickly	

2.1%

Microsoft Surface global market share

-34%

Decline of PC sold by MS between 2021-22

2.7 %

Annual Sales growth in 2022, compared to 4.8% in 2016



AI and hardware: VR Devices

WHAT - Hololens improvement through AI

HoloLens is a VR and mixed-reality device designed and sold by Microsoft since March 2016. The project is certainly one of Microsoft's biggest **bets** for the future, riding the wave of the metaverse, industrial productivity, robotics, and augmented reality in post-pandemic social relationships. As of today, the third version is in development, after the second was presented in 2019. The device is designed for industrial purposes and is currently sold to hospitals, institutions, bureaucracies, governments and manufacturing industries. Differently from Microsoft Surface, HoloLens could generate potential growth also through the integration of AI technology. We identify three main drivers of growth: **metaverse, defence, healthcare**.

WHY - Opportunities to invest in VR devices



As of 2019, Microsoft is the sole contractor of VRs to the US Army, devices used for training, vision through smoke and corners, and 3D holographic scans of terrain. In 2021, Microsoft closed a 5-year \$22B contract to exclusively supply more than **120,000 headsets**. For many, **HoloLens constitutes the future of military warfare**.



HoloLens is also implemented as VR/AR medical device; it guarantees absolute precision in surgery and transplantation, as well as minimizing training costs for surgeons. The VR/AR and Telehealthcare market is set to surpass **\$10B** in 2027. Today, Microsoft is the US absolute market leader.

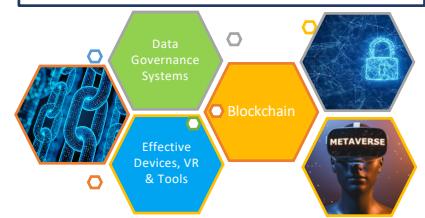
\$120B

Investments flowed on metaverse in 2022

\$680B

2030 expected market size

Investment in VR devices is considered one of the three pillars of Metaverse



HOW - Leveraging horizontal synergies and scaling up

The market dynamics are **extremely positive** for Microsoft, which has been an undisputed pioneer of augmented reality for about a decade. From a strategic point of view, we recommend further investment in an **operational reinforcement** perspective. It is essential to **scale up**, to take advantage of the five-year contract with the US military and the very fast development of metaverse, IoT and industrial ARs. Where we see more **portfolio value creation** opportunities is in the healthcare sector. The use of visors has to be combined with **Nuance** know-how and network and in turn with **OpenAI** proprietary resources, leveraging horizontal operational synergies.

Nuance is the world's leading fully-automated healthcare system (used by 77% US hospitals, 10,000 worldwide and 300M medical anamnesis yearly), acquired in 2021 by Microsoft. The operational **combination synergies** between these three BUs have to be further captured to exploit VRs full potential. Indeed, in March 2023, Nuance introduced the first fully AI-automated clinical software ever, after having officially integrated OpenAI's **GPT-4** into its systems.



AI & Gaming: Creating an immersive gaming experience (I/II)

18

WHAT - AI to develop an immersive gaming experience

Through the integration of AI in the "Games & Consoles" business (a "result to verify" one), Microsoft will have the opportunity to gain a strong competitive advantage, with the opportunity to generate profitable growth. To achieve that, several resources are needed, such as "AI videogames production capabilities", "data analytics skills", "AI coding ability" and "machine learning capabilities", which are mainly obtainable through a transferring of resources from software (assuming that OpenAI M&A has been concluded) which have to be integrated with internal competences.

WHY - Advantages to invest in "Games and Consoles"

Despite the industry attractiveness is not among the highest (as explained in the analysis of *Gaming* industry), the incoming AI could disrupt the actual status quo, revealing business opportunities. It is crucial to acquire the resources previously discussed if Microsoft wants to compete in this new landscape. Indeed, this will enable the group to offer higher quality games, allowing it to set an even more premium pricing strategy and partially outweighing the low margins coming from console sales.

In addition, it is important to remember that video gamers can be classified as casual, core and hardcore gamers. The latest shows the greatest CAGR (8%) and represents the most profitable segment. These users are looking for more immersive, complex and realistic experiences and represent an important revenue source for Microsoft. Again, this will be only possible through the acquisition of crucial resources and after a quick process of scaling up.

HOW (I/II) - AI and Gaming integration: Resources acquisition

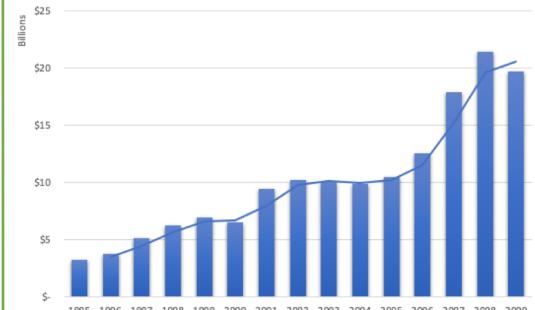
The previously stated resources can be acquired leveraging the competences and valuable resources obtained from the acquisition of OpenAI (previously explained) mostly through horizontal operational synergies between the "generative AI" (which is likely to be a new business in Microsoft portfolio following the deal) and "Games and Consoles" businesses. The competences and resources acquired through horizontal transfer will be adapted to the gaming needs by the R&D function. This will allow to acquire the KSFs required by this business.

HOW (II/II) - Conclude deal with ABK: Scaling up

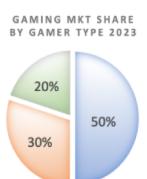
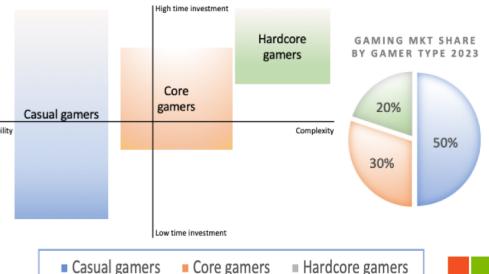
Even if not directly connected to AI, Microsoft needs to close the acquisition of Activision-Blizzard-King (growth direction: *operational reinforcement*), which in 2022 has been halted by the US, EU and UK Antitrust Authorities, due to unfair competitive practices and threats to other market players.

Here, our suggestion is to close the deal even following Antitrust conditions (e.g. renounce the product "*Call of Duty*" and negotiate a lower price) as ABK has corporate resources too significant to compete in this industry in the future. These resources (mainly gaming development capabilities, without being too granular) could be crucial if integrated into AI technologies acquired by Microsoft bringing it up to the third position for sales in the global gaming industry and allowing it to effectively finally compete also for the production of video games.

Historically, consumers have kept spending on video games during recessions.



MATRIX OF DIFFERENT GAMERS



AI & Gaming: Creating an immersive gaming experience (II/II)

19

Advantages of AI integration & scaling up

The main advantages, for the "Games and Consoles" business, of implementing our proposals are:

- Increase BU's **competitiveness** and scale through the acquisition of KSFs, having the opportunity to reduce the competitive gap with **high-quality videogames producers** as Tencent and Sony;
- Integration of a **machine learning system** that makes Microsoft able to adapt quickly to evolving user preferences;
- **Focus on the most profitable customers' segment**: *hardcore and core users*, that are looking for a complete immersive experience in the videogame;
- "Games & Consoles" business unit can acquire crucial KSFs, such a better pricing strategy, increasing his margins through an increase in product quality (thanks to the AI integration). This may solve the pricing issue related to this business.
- Horizontal **operational synergies** between "*generative AI business*" (OpenAI) and "*Game & Consoles*".

Disadvantages of AI integration & scaling up

Nevertheless, some risks can arise if not well taken into account:

- **De-focusing** from casual gamers (still 50% total users) and consoles production (source of the brand strength) while developing more complex (and expensive) games through the integration of AI;
- **Data privacy issues** (related to compliance with regulation and cyber-attacks) and potential ethics debates, exacerbated by the introduction of AI;
- Paying a **too high price** for ABK without obtaining "*Call of Duty*" inside the agreement and losing part of ABK customer base during the M&A (high competitive interactions costs);
- Risk of neglecting another trend of the future such as the **Metaverse**.

Future Key Success Factors obtained	
Pricing Strategy	Higher quality and innovations in new trends as AI will allow Microsoft to improve its pricing policy seeking higher margins on its products.
Brand recognition in the AI world	OpenAI's consolidated image will ensure an easier entry in the AI world and less pressure by the customers.
Videogames production and enlarge users' experience	The AI technology (and the acquisition of Activision Blizzard King) will allow Microsoft to effectively compete in the videogames production (its current weak point in the business) and generate cutting-edge products/services.

HOW - Mitigate the disadvantages

Overall, the **advantages outweigh** the current risks and disadvantages, indeed these are some plausible risk-mitigations alternatives:

1. Data privacy issues can be easily mitigated with an **equity alliance** with **WireWheel**, a **leading provider of privacy and data protection software**. This alliance can be facilitated through **S. Pritzker**, component of Microsoft's BoD and **PSP Partners**' Chairman, which holds **WireWheel** in its portfolio. Thereby, Microsoft can ensure the service for its business, without entering the data security business itself. In the long run, this strategy may bring Microsoft to acquire the company if it can ensure strong level of performance;
2. The acquisition of ABK, if well negotiated will provide more traditional games targeting the "**casual**" category of gamers;
3. Microsoft can start a **partnership or a joint venture** with one of the leading companies in the **metaverse** (e.g. Epic Games, Roblox, Nvidia, Niantic), starting a gradual enter in this new technology, leveraging the strong synergies and connections with AI technology and VRs.



Social and Environmental Sustainability

Microsoft has been engaged in CSR efforts for several decades, but the company's formal commitment to CSR began to take shape in the early 2000s. In 2003, Microsoft established its first formal CSR policy, which focused on issues such as labor practices, human rights, and environmental sustainability. This policy was updated in 2006 to include a broader range of CSR issues, such as community engagement, philanthropy, and product safety. Over the years, Microsoft has received numerous awards and recognitions for its CSR efforts, including being named one of the *World's Most Ethical Companies by the Ethisphere Institute* for 15 consecutive years. The company's commitment to CSR is now deeply ingrained in its culture and operations, and it continues to be a priority for the company's leadership and employees.

MICROSOFT'S CSR PRACTICES

Microsoft's CSR commitment is centered on 4 key areas:

➤ SUPPORT INCLUSIVE ECONOMIC GROWTH

- ❖ Supporting education for the necessary job skills: *YouthSpark program*
- ❖ Protect public health: \$414M for COVID-19 response effort
- ❖ Close the "data gap": establishment of 23 data centers with *Microsoft Philanthropies*

➤ EARN PUBLIC TRUST

- ❖ Advanced cybersecurity and digital safety
- ❖ Respect privacy: *Microsoft Privacy Dashboard*
- ❖ Develop and use tech responsibly
- ❖ Protect and preserve ecosystems
- ❖ Disclosure strategies following SASB, SDGs, GRI and TCFD.

➤ PROTECT FUNDAMENTAL RIGHTS

- ❖ Protect human rights
- ❖ Support humanitarian action and emergency response
- ❖ Ensure equitable access: *Microsoft Digital Equity Dashboard*
- ❖ Increasing representation and strengthening inclusion: \$150M to strengthen the *culture of inclusion*
- ❖ Engaging in our eco-system: *Black Partner Growth Initiative*

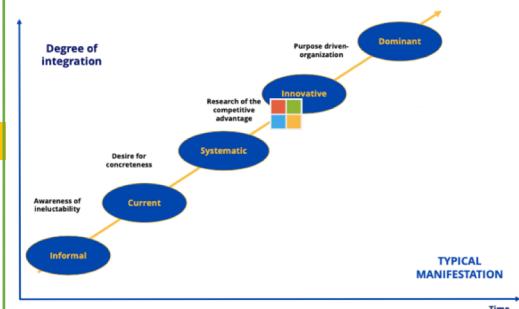
➤ SUSTAINABILITY: \$571M through *Climate Innovation Fund*

- ❖ Carbon negative by 2030
- ❖ Water positive by 2030 *replenish* more water than used
- ❖ Zero waste by 2030 across the *direct footprint* and five *Circular Centers*
- ❖ Protect & Preserve ecosystems: *Supplier Code of Conduct*

CSR: POST AI INTEGRATION

The AI integration will require Microsoft to ensure responsible development of this technology to avoid any threats. Microsoft implemented some responsible AI guidance and standards to be followed in the development and implementation of the programs, which are fairness, reliability & safety, privacy, inclusiveness, transparency and accountability. In addition, three committees (ORA, RAISE and Aether) have to implement and monitor these principles. It is suggested to reinforce these CSR principles by educating the workforce on the advantages and risks of AI through courses and to define "*non-turn back standards*" (from an ethical and safety point of view) across which the AI implementation has to be stopped.

STAGES OF EVOLUTION OF CSR IN CORPORATE STRATEGY

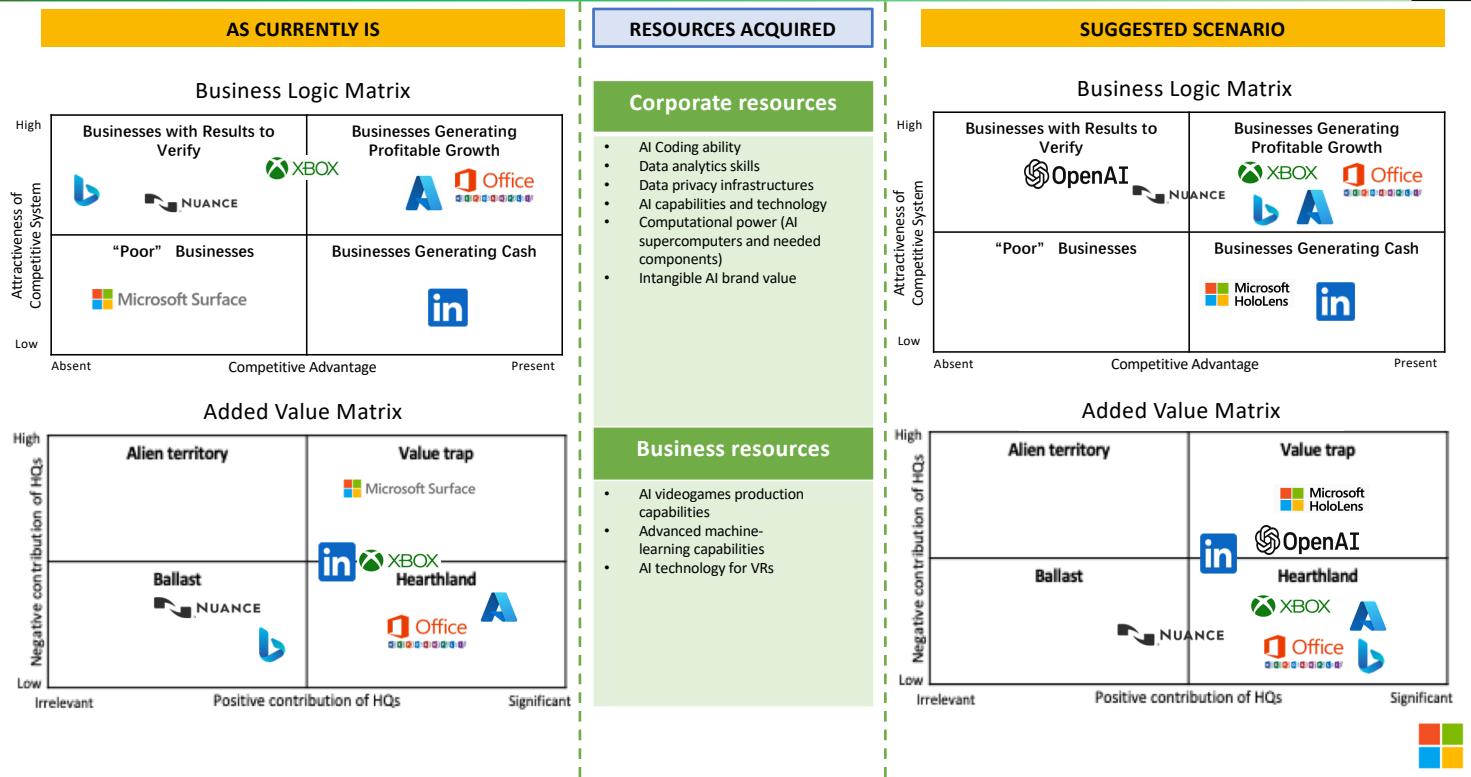


CSR EVALUATION MATRIX

		Non-negotiable rights INCLUSIVE ECONOMIC GROWTH		Sustainable spending AI RESPONSIBILITY		Creation of shared value EARN TRUST	
		High	Limited	High	Limited	High	Limited
Social relevance	Absent	Non-negotiable rights INCLUSIVE ECONOMIC GROWTH		Sustainable spending AI RESPONSIBILITY		Creation of shared value EARN TRUST	
	Convenience for the company						
	Present						



Comparing Corporate Strategies



Proposals and recommendations

Given the analysis developed in the previous slides, we have demonstrated how AI represents a big opportunity for Microsoft to consolidate its leadership position. Here, we came out with four proposals aimed at acquiring the discussed critical resources (AI capabilities and infrastructure) needed to implement the proposed strategy.

SOFTWARE

Proposal: Integrate AI technology into Office 365 (consolidate leadership) and Bing (move from «*result to verify*» into «*profitable growth*») through the acquisition of OpenAI.

Resources needed: AI capabilities and technology.

Recommendations:

1. Prioritize OpenAI acquisition (and cloud infrastructure improvement) over the other proposals.
2. Rapidity here is the key, but it is also important to follow a soft integration path (as explained in the slides) to minimize the value destruction of OpenAI.
3. Capitalize on the previous partnership and relations with former board directors of OpenAI to smoothly carry on the integration phase.
4. Try, during the integration phase, to maintain the focus on the user experience and on the interconnection between the applications as a main driver.



CLOUD

Proposal: Reinforce the cloud infrastructure and differentiate its commercial offer through AI integration. In particular:

- **Short-run:** continue to extend the commercial partnership with Nvidia («*borrow via contract*»), the world largest supplier of GPUs and integrated microchips (77% market share).
- **Long-run:** capitalize the knowledge obtained from the partnership in order to build internally the needed resources, to sustain further internal advancements.

Resources needed: Computational power provided by AI supercomputers (to build them, chips-GPUs and InfiniBand will be required).

Recommendations:

1. As stated for softwares, Microsoft should prioritize this investment if it wants to build the infrastructure needed to then implement AI.
2. Carely decide whether to internalize the resources' production and consequently carry on a detailed opportunity-cost analysis.



HARDWARE

Proposal: Gradual divestment from “Devices and Accessories” business (in particular, from Microsoft Surface) and shift of resources toward VRs.

Resources needed: AI technologies for VRs, computational power for programming of healthcare, defence and industrial appliances.

Recommendations:

1. This proposal is less urgent than the previous ones thus our suggestion is to invest in here after having acquired all the discussed key resources and competences.
2. Divest gradually from Microsoft Surface, both to avoid a reinforcement of a competitor’s position and to avoid finding itself locked-up in case of a large future divestiture.



GAMING

Proposal: Embed AI in the production of videogames, close the deal with Activision | Blizzard | King and mitigate potential risks in advance.

Resources needed: AI videogames production capabilities, data analytics skills, coding ability, machine-learning capabilities, data privacy infrastructures.

Recommendations:

1. Try to reach rapidly an agreement with Antitrust Authorities for the acquisition of ABK (even at the cost of losing out big titles, as COD). Avoid long and costly legal disputes.
2. Implement the mitigation actions to reduce potential risks in an industry which is changing quickly.



At a corporate level we then suggest to:

- Maintain a strong focus on responsible and transparent development and integration of AI to avoid any clashes with regulators and customers;
- Transparent communication with all the stakeholders, maintaining the focus on the importance of AI to improve lives.
- Maximize the vertical and horizontal operational synergies related to AI implementation, also by leveraging common R&D





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