



# Industry Outlook

## Technology



ITIC

## Table of Contents

<b>Summary .....</b>	<b>3</b>
<b>Environmental Analysis.....</b>	<b>3</b>
<b>Political.....</b>	<b>4</b>
<b>Economic.....</b>	<b>4</b>
<b>Social.....</b>	<b>4</b>
<b>Technological.....</b>	<b>4</b>
<b>Environmental.....</b>	<b>4</b>
<b>Legal.....</b>	<b>5</b>
<b>Industry Competitiveness.....</b>	<b>5</b>
<b>Porter’s 5 Forces.....</b>	<b>6</b>
<b>SWOT Analysis.....</b>	<b>6</b>
<b>The Big Players.....</b>	<b>8</b>
<b>Apple.....</b>	<b>8</b>
<b>Microsoft.....</b>	<b>9</b>
<b>Intel Corp.....</b>	<b>12</b>
<b>Conclusion.....</b>	<b>14</b>

## Summary



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The technology industry encompasses the companies that are engaged in the distribution, research, or development of technology-based goods and services. With that said, many companies in this industry offer a wide collection of products and services for business' and consumers such as manufacturing of computer equipment, creation of software, services involving information technology, and data storage products.

This industry is filled with big companies who are focused on innovation, creation, and growth. Companies with these characteristics include Apple, Microsoft, and Intel. These characteristics seen with companies in this space makes it very attractive for investors as there continues to be more potential for more growth.

In this industry outlook, we aim to provide a balanced evaluation of the industry.

## Environmental Analysis



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### Political

Regarding the political factor, it has remained relatively stable in the main world markets, where, despite the rise of some protectionist measures, the phenomenon of globalization has managed to overcome, benefiting the technology industry greatly with it. In this way, the technological market is perceived worldwide, where the manufacturing process or strategic planning of companies for example are often located in different regions.

In addition, many governments are currently implementing agreements and partnerships to make their countries more technologically developed, believing that this is one essential tool to make their countries more attractive for investment.

# Technology Industry Outlook

## **Economical**

Unlike many industries, the tech industry has benefited considerably from the pandemic. With confinements all over the world, the use of video conferencing platforms or the use of computers, mobile phones and others has increased substantially, leaving this industry a period of prosperity.

However, the pandemic has had negative effects globally, with increased unemployment and loss of value creation, where US GDP per capita in 2020 was by -4.3% compared to 2019 and European Union GDP per capita of -7.1%, compared with the previous year.

## **Social**

The utilization of technology has been growing, with naturally an increase in 2020 and 2021 due to the Covid-19. But the negative effects of the pandemic are clear, with people's mental health deteriorating, a result of social distancing.

It is also worth noting the evolution of internet penetration in the population worldwide, where in 2021, 4.93 billion people actively use the internet, and in 2015 there were 3.2 billion people.

This development has been bigger in underdeveloped countries, particularly in the Asian countries which between 2010 and 2020 saw the number of users being more than double, currently representing 55% of the continent's population.

## **Technologic**

The innovation of the technology industry has marked its evolution, where despite this being controlled by large multinationals as is the case of Apple, Samsung among others, the renewal of those who lead ends up being expected.

Thereby, the technology industry itself has benefited from the fast innovation, where in addition to producing products with greater added value, they can create more efficient production and operation systems, where business automation is a growing reality.

# Technology Industry Outlook

## Environmental

The concern for sustainability is currently a pattern of developed societies, where there is a preference on the part of technology consumers for more environmentally friendly products and companies that focus their business on sustainability.

This concern among the fact that materials can be recycled more easily and the production processes are more efficient and therefore less wasteful, puts pressure on companies to be in line with this ecological vision.

## Legal

The legislation on the sector is not yet very significant, and there are not many barriers to the use and production of technological goods and services. However, there is some legal matter relating to the treatment given to the electronic waste and there is also a rise in energy consumption regulations that indirectly impact the tech industry.

It is also important to highlight the increase in the number of patents, as well as the improvement on protection they attribute, which is fundamental in an industry marked by constant innovation.

## Industry Competitiveness



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### Porter'S 5 Forces

#### The Threat of New Entrants

- **Low competitive force**
- To enter this industry, companies need high capital investments. Being a market that needs high levels of diversification, the investments needed to research, development and marketing are very high.
- Furthermore, there are a lot of operational costs in order to guarantee the normal functioning of the technological products and platforms. Security is also essential to give credibility to the companies and to retain customers.

## Technology Industry Outlook

- Therefore, this industry is very difficult for new entrants, especially due to the high investments required but also because of the notoriety of the brands already established.

### Competitive Rivalry

- **Strong competitive force**
- In this industry, the competition is very high considering that there are global and regional companies that have an impact on the market.
- The switching costs are very low, so if a consumer is not satisfied with one product or one company in specific, he changes his consumption to another.
- Consequently, the major companies of the market spend billions of dollars every year researching new ways of presenting technological products, developing those products, and promoting them, using all types of marketing sources.
- Despite that, most products and services offered by this industry are very similar. Therefore, some companies decrease prices to steal customers from the competitors and increase their market share.

### The Threat of Substitute Products

- **Moderate threat of substitute**
- The level of differentiation is low, depending on the product or service of the industry.
- Although there are products that serve the same need and can be easily replaced, other services like apps or software can be rare and have lower substitute power.
- In general, the switching costs are low, so consumers can change and search for new products and services that fulfill the same need.

### Bargaining Power of Suppliers

- **Low bargaining power**
- In this industry, suppliers can range from companies that produce parts of a phone to others that are responsible for computer processors. The number of suppliers is high and the switching costs to exchange from one supplier to another are low, so the suppliers are very afraid of losing contracts with the big brands of the market.

# Technology Industry Outlook

## Bargaining Power of Buyers

- **Moderate bargaining power**
- In this industry, consumers can have some bargaining power since companies are very dependent on customer loyalty. The market has a lot of new products or services every day. Therefore, a significant change in the interests of consumers and their consumption could affect the performance of many companies.
- Thus, to retain customers and reduce their bargaining power, companies must continue to innovate to make their products exclusive on the market.



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## SWOT Analysis

<b>Strengths</b> S1 – Many leading companies present within the industry S2 – Massive amounts of data S3 – Continuous innovation	<b>Weaknesses</b> W1 – Expensive Research and Development (R&D) W2 – High environmental impact
<b>Opportunities</b> O1 – Growing innovation O2 – Increase in internet access around the world including developing countries O3 – Increasing usage of technology O4 – Growing awareness to environmental issues	<b>Threats</b> T1 – Lawsuits and criticism aimed at companies for invasion of privacy T2 – Increasing restrictions on the use on consumer information T3 – Increasing regulations on online privacy T4 – Data breaches



# Technology Industry Outlook

## Crossed SWOT

### **W2 & O4:**

Society as a whole over the past decades has been becoming more and more aware of environmental issues and overall sustainability. One of the big weaknesses that is seen in this industry is the high environmental impact many of the companies in this space have on the environment. The impact ranges from increased usage of energy, causing for energy production to increase due to this industry being very energy-intensive, increased usage of raw materials overtime for electronic device production, electronic waste composed of toxic material causing pollution and much more. Due to these factors, many companies within the space are beginning to be more environmentally aware and responsible. It is currently a trend that is being seen amongst many companies to become more sustainable.

### **S3 & W1:**

One of the weaknesses of the technology industry is the amount of money that is spent upfront on R&D. This can be a barrier to entry for many new companies due to the fact that it can be very costly and may cause a company to operate without profit for a period of time and even potentially a loss if a product/service fails. However, the focus on R&D by companies in this space has often led to many revolutionary breakthroughs in innovation. This industry is always seen to have innovations due to the importance which is put on R&D.

### **S2 & T1:**

Many technology companies possess mass amounts of data on consumers. Quite a few of these companies sell this data to third parties who may have the interest of using this data for marketing purposes. This is another stream of income for companies providing this data but many consumers are not content and criticize this practice, especially if no consent was given which leads to lawsuits.



## The Big Players



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### Apple

#### Description

Apple Inc. (AAPL) is an American multinational technology company headquartered in California, that designs, develops, and sells consumer electronics, computer software, and online services. It is considered one of the Big Five companies in the U.S. information technology industry.

#### Strategy

Apple's business strategy can be classified as differentiation. Looking closer, its strategy focuses on the following 2 pillars:

**Design and functionality of products:** Apple has adapted advanced features and capabilities of its products and services as bases of its competitive advantage. Nevertheless, this competitive advantage may be challenging to be sustainable, due to the growing competition and the fact that innovative features and capabilities need constant endurance.

**Enhanced customer experience:** Apple has an inspiring marketing loyalty considered as a case study. One of the variables that influence this parameter is the constant customer experience that goes beyond the purchasing process.

#### Financials

With a market cap of 2,117T and a revenue (TTM) of 325.41B, Apple's quarterly revenue has been growing at a 53.6% rate, which has been a non-stop trend since its creation. Additionally, with a profit margin of 23.45% and a levered free cash flow (TTM) of 80.12B, their Enterprise Value/EBITDA is 22.29.

Analysts' consensus is that for 2022, Apple will grow around 4.2% in annual revenue. The current ROA has shown an upward trend with a value of 22.91% that has increased 32.4% since Q2 of 2020. Simultaneously, the ROE, grew 73.4% in a year, amounting to 111.8% in Q2 of 2021.

## Technology Industry Outlook

Liquidity-wise, with the latest quarterly data from March 27th, 2021, Apple shows a Quick Ratio of 0.66x, a Current Ratio of 1.14x, and a Cash Ratio of 0.66x.

Finally, after a record high of \$145 in January, Apple's stock closed today (10th May 2021) with a value of 126.85 USD per share, almost twice the value comparing it to last year. Furthermore, with a EPS (TTM) of 4.45 and a P/E (TTM) of 28.51, analysts point to a potential for upside with the lowest forecast of \$62.5 and the highest at \$185.



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### Microsoft

#### Description

Microsoft is an American technology company, founded in 1975 with headquarters in Redmond, Washington. The company focuses its activities on the development of software products and services, on the design and sale of hardware devices, and the delivery of online advertisements.

The products of Microsoft can range from operating systems for computers, servers, phones or other intelligent devices, to business solution applications and productivity applications. Furthermore, the company also sells hardware devices, like Surface Pro, Xbox 360 gaming console, and accessories.

This company is one of the biggest in the technological industry, having a direct or indirect impact on our daily routines. Nowadays, almost every company in the world uses Microsoft Word, Microsoft PowerPoint, and Microsoft Excel to its activity. In addition, every time a person buys a computer the first thing he does is to install these programs. Thereby, this company activity around the world is very high, having offices in 96 countries and doing business in 170 countries around the world.

#### Strategy

Microsoft's strategy is very diversified, having products or services in different segments of the market and with different purposes.

## Technology Industry Outlook

Firstly, the segment that represents the highest percentage of the company's revenue is productivity and business processes. This segment includes the office commercial and consumer (services to increase organizational and personal performance), LinkedIn (the famous professional social network), and business solutions for applications, like customer relationship management (CRM) and enterprise resource planning (ERP).

Secondly, the company has the segment more related to the Intelligent Cloud, which includes server products and cloud services, design to support applications built on Windows, and enterprise services.

Thirdly, the business model of Microsoft generates revenues through the windows operating system, devices like Surface and gaming consoles, and games.

Bearing in mind that the company participates in different segments of the technological industry, it must continue to invest in diversification and innovation to maintain its firm position in the market and the satisfaction of its consumers.

### **Financials**

In terms of financials, the highest revenue value in the last years was at the end of Q1 of 2021, with a revenue annual value of \$159.969B. Looking at the revenue chart for the past 5 years, the revenues have been increasing with little oscillation. This growth of Microsoft revenues can be explained by the recurrent investments in different segments of the market and the notoriety of the brand. The EBITDA followed the same path of the revenues, going up in the last years and having the highest annual value at the end of March 2021, with \$76.074B.

Regarding Microsoft Profitability, the ROA ratio has been increasing in the last years, going from 5.64% by the end of 2017 to 17.22% at the end of 2020. This ratio growth can be justified by the increase of the value of the company's Net Income and Assets. The ROE followed the same path, increasing from 17% in 2017 to 42.19% in 2020. Both ratios show that Microsoft is efficient and generates profit and value.

## Technology Industry Outlook

Looking at Microsoft's liquidity, the current ratio had some oscillations in the last four years, increasing from 2.89 in 2017 to 3.12 in 2018, and then decreasing in the following years. At the end of 2020, this ratio was established with a value of 2.58.

The debt-to-equity ratio decreased from the end of 2019 to the final quarter of 2020, going from 0.57 to 0.42. This shows that the company is increasing its ability to use shareholder equity to cover the debts.

The stock price of Microsoft has been growing since 2012. The annual percentage change is positive since that year, going from \$26.71 at the end of 2012 to \$222.42 in 2020. The biggest annual increase happened between 2018 and 2019, with a 55% variation. Currently, the stock price is higher than ever, with a value of \$258.74. Although, the growth rate is lower than in the previous years, which can be explained by the pandemic situation.



### Intel Corporation

#### Description

Intel Corporation is an American multinational company which engages in the manufacturing, design, and sale of computer parts. Currently Intel Corp. is the leading semiconductor manufacturer in the world based on sales. The company is headquartered in Silicon Valley and was founded on July 18, 1968. The company became public in 1971 and is currently listed on the NASDAQ.

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#### Strategy

Intel Corporation operates in six different segments which are Data Center Group (DCG), Computing Group (CCG), Internet of Things Group (IOTG), Programmable Solutions (PSG), Non-Volatile Memory Solutions Group (NSG), and All Other. The DCG segment consists of platforms and workload-optimized products which are designed for the cloud, enterprise and communication infrastructure market. The CCG segment includes tablets, notebooks, phones, desktops and mobile communication components. The IOTG segment consists of high-performance computing solutions for embedded applications in market

## Technology Industry Outlook

segments. The PSG segment consists of programmable semiconductors for a broad range of markets, including automotive, communication and military. The NSG segment focuses on storage and memory by providing NAND flash memory products. The All Others segment includes all results from corporate-related charges and non-reportable segments.

The firm focuses on continual product innovation and archives this by spending large amounts on R&D to strengthen their competitive position. The company also uses their capital to invest in companies that aid the growth of data-centric opportunities.

### Financials

In terms of financials, the company's revenues have been on a steady increase annually. Revenues went from \$59,387,000 in 2017 to \$77,867,000 by the end of 2020, an increase of 86.8%. This continuous increase in revenues is quite impressive since it reflects that the demand for the company's services remains on a continual rise with little fluctuation to the downside.

From the 3rd quarter of 2016 to the third quarter of 2018, the ROA was mainly roaming around 9.73%-10.53%, however, by 2020 the ROA had increased to 16.59% but has fallen slightly and is currently operating at 12.37% which is above the industry average of 3.77%. The company's ROE also followed a similar route, going from 18.97% in the 3rd quarter of 2018 and increasing up to 30.42% by then end of 2020. However, this ratio currently operates at 23.44% which is above the industry average of 7.29%. Both the ROA and ROE have increased when compared to previous years and both ratios continue to operate above their industry's mean.

Concerning liquidity, Intel Corporation's current ratio was mainly fluctuating from 2.16-1.20 from 2017 up until now. Currently, the ratio is now operating at 1.90 which is below the industry average of 2.34. Also, the company currently has a quick ratio of 1.54, indicating that Intel Corporation has good short-term financial strength.

## Technology Industry Outlook

The debt to equity ratio (D/E) is currently at 0.42. Since 2018 this ratio has been fluctuating 0.35-0.48. The company's D/E currently is above the industry's average of .26.

The stock (INTC) price has grown over 56% from the crash in March of 2020. Currently the price is at \$56.40 (10/05/2021), this year's stock high was \$68 in April and its low was \$48.7 in the beginning of January.

## Conclusion



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With a substantial increase in global technological penetration, consummated by the pandemic, the tech industry is expected to continue to grow in the future. The fact that the world's population is increasing, followed by the growth of economic power, mainly in underdeveloped countries, such as Asians, has led to a “boom” regarding new consumers.

Since it is an industry characterized by a constant innovation and because it is the main competitive advantage of any company, the organizations that occupy the top positions of the industry change with some frequency. Consumers expect to see added value in products, as well as a concern for environmental sustainability, a trend that has grown in the last years.

In this way, this is one of the industries that has grown the most in this century and with even a greater growth potential in the future.



## Technology Industry Outlook

# Industry Outlook Team

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## Our Club

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