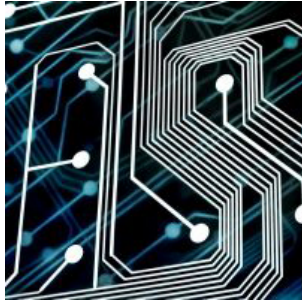


Introduction

The technology industry is composed of companies producing electronic components, scientific and technical instruments, computer hardware and software, and computer services. It is a very fast paced, competitive industry in which innovation is the key to success.



Industry Composition

The technology industry is comprised of companies that design, manufacture, or distribute electronic devices such as computers, computer-related equipment, computer services and software, scientific instruments, and electronic components and products. Technology enables consumers and businesses to thrive in a digital world.

The composition of this industry is very different than that of most others; due to the brisk pace of innovation there is an unusually extensive investment in research and development required. As a result, the industry's workforce consists of a much larger proportion of engineers and other highly-skilled technical workers, relative to other industries, especially since product creation requires creativity, expertise, and precision. The technology industry also employs a relatively large workgroup engaged in sales and promotion, as the success of a new or improved product depends heavily upon consumers being aware of, and interested in, the item. While most of the sales for this industry occur in developed countries, most of the production of computer hardware takes place in emerging countries where manufacturing and assembly costs are lower.

Industry Leaders and Fragmentation

* All amounts are given in Billions USD

Company	Country	Sales	Profits	Market Value
Apple	161	247.5	53.3	926.9
Samsung Electronics	321	224.6	41	325.9
Hon Hai Precision	324	154.7	4.6	49.5
Alphabet	161	117.9	16.6	766.4
Microsoft	161	103.3	14.2	750.6



Profitability and Demand Drivers

Primary Demand Drivers:

- Rapid technological advances, but spending depends on the health of the domestic economy

Profitability Drivers:

- Technical expertise
- Innovative services
- Effective marketing

Trends

By nature, the technology industry is constantly changing and evolving. On the corporate level, mergers and acquisition are common practice since they allow companies to combine their resources and knowledge in a highly competitive environment. Computer companies now must compete with companies in the consumer electronics and telecommunications markets as technologies become increasingly integrated in many multifunctional devices.

Technology companies tend to go abroad to grow revenues, secure market share, and gain access to low-wage workers. As a result, this borderless industry challenges companies to manage a global work force, currency hazards, technology transfers, and a global supply chain, all the while responding to governments and regulators. Aside from international supply of technology, international demand for technological products is also increasing. International sales account for a large percentage of hardware companies, specifically markets in India, Japan, China, and other Asian locations.

One of the newer trends and arguably the future of the technology industry is data collection and analysis. Various technological companies collect structured and unstructured data from clicks on websites, to the length of your stay at a particular location (on a GPS device), to the frequency you repurchase an item. Most of this data is unstructured and hard to analyze but as analytics improve, this data is transformed to create patterns in consumer behavior, and will help companies be proactive rather than reactive.

There are several issues of major concern to companies in the technology industry. There is an enormous opportunity to generate sales on products designed to run with, or on, the new operating system, as well as on products that must be upgraded because they are not compatible with the new, more advanced OS. The second major concern of computer software companies is piracy. In the United States, estimates put the percentage of counterfeit software being used around 20 percent. This proportion can be much higher as well, depending on the country. The third is security. With the entrustment of personal information and data, the industry has to face security issues such as system failure, security breaches, intellectual property abuse, and reputational damage from social media.