IBISWorld

INDUSTRY REPORT

Operating Systems & Productivity Software Publishing in the US

Feb 2024

About IBISWorld

IBISWorld specializes in industry research with coverage on thousands of global industries. Our comprehensive data and in-depth analysis help businesses of all types gain quick and actionable insights on industries around the world. Busy professionals can spend less time researching and preparing for meetings, and more time focused on making strategic business decisions.

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Standard

About

A quick definition of the industry, its products and services, major companies and other key identifiers help you confirm you're in the right place.

1. About

https://my.ibisworld.com/us/en/industry/51121a/about

Codes

NAICS 2017 - USA	511210
NAICS 2022 - USA	51321

Definition

Companies in this industry develop and publish operating systems and productivity software for computers and servers. An operating system is the interface with which computer users interact; productivity software includes basic applications, such as word processors, spreadsheets and slideshow creation tools. Companies may also generate revenue from tech support and software resales. This industry does not include computer hardware manufacturing or mobile phone operating system publishing.

Related Terms

ORIGINAL EQUIPMENT MANUFACTURER (OEM)

In the context of computers and software, OEMs are the assemblers of computers. OEMs are a major distribution point for this industry.

OPEN SOURCE SOFTWARE

Computer software that is distributed under a licensing arrangement and that permits the computer code to be shared, viewed and modified by other users and organizations.

CLOUD COMPUTING

Computing model in which storage and computing tasks are handled by networked machines (often servers in a data center owned by the service provider) rather than at the point of consumption.

OPERATING SYSTEM

A computer software package that controls the management of a computer's hardware and core system operations, such as file management.

SERVER

A computer designed to process requests and deliver data to other computers (clients) over a local network or over the internet.

What's Included

- Operating system development
- Word processor software development

- Spreadsheet software development
- Slideshow and presentation software development
- Calendar and scheduling software development
- Communication management software development
- Software publishing

Companies

- Microsoft Corporation
- Apple Inc.
- Vmware, Inc.

Related Industries

Industries in the Same Sector

- **Competitors:**
  - No data available
- **Complementors:**
  - Computer Manufacturing in the US
  - Computer & Packaged Software Wholesaling in the US
  - Software Publishing in the US
  - Business Analytics & Enterprise Software Publishing in the US

International Industries

- Software Publishing in Canada
- Software Publishing in Australia
- Software Publishing in the UK
- Software Publishing in Ireland
- Software Development in Ireland
- Software Development in China

Additional Resources

- The Software & Information Industry Association
- BSA - The Software Alliance
- Open Source Initiative
- US Census Bureau

At a Glance

Evaluate key industry data and trends and get an overview of important report sections to use in meetings and presentations.

2. At a Glance

https://my.ibisworld.com/us/en/industry/51121a/at-a-glance

Revenue	Employees	Businesses
$162.0bn	**317k**	**15,208**
'19-'24 ↑ 3.4 %	'19-'24 ↑ 5.2 %	'19-'24 ↑ 3.2 %
'24-'29 ↑ 0.9 %	'24-'29 ↑ 1.9 %	'24-'29 ↑ 2.2 %

Profit	Profit Margin	Wages
N/A	**N/A**	**$65.6bn**
		'19-'24 ↑ 6.3 %
		'24-'29 ↑ 1.7 %

Key Takeaways

Performance

- The digital world has transcended from lumps of silicon by code created by operating system and productivity software developers. Upkeep and improvement for operating systems and software command an enormous price premium across nearly all economic sectors.
- A once unshakable technology sector is beginning to decay from the inside. Regulators are poking holes in the power available regarding the devices people use to manage their lives, while employees are resigning at record rates after experiencing overwork and dehumanizing treatment during COVID.
- Large companies creating software are technologically-diversified megaliths, integrating operating systems and productivity with numerous income streams. These companies almost always elect to release operating systems for free, knowing that increased revenue on other products and data collection will more than make up the loss.

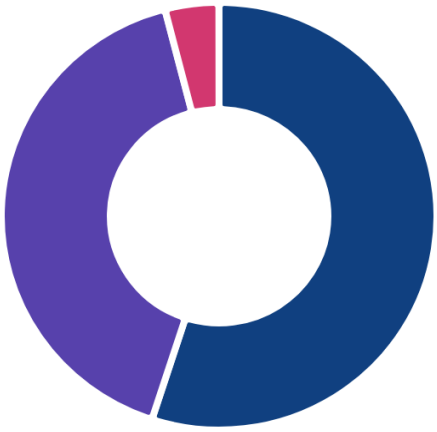
External Environment

- Regulators have begun restricting the largest operating system and productivity software developers, citing anticompetitive practices, disregard for the environment and personal privacy violations. The European Union and California have taken the lead on this movement, though the Biden administration's word on the subject will carry the most weight for Microsoft, Apple and Google.
- Diverse computing in every corner of the home, office and factory is providing opportunities for established and existing players alike. Traditional operating systems are highly wasteful on these embedded devices, so the industry is refocusing on power efficiency and quiet operation more than sheer performance.

Products and Services

Products & Services Segmentation

Industry revenue in 2024 broken down by key product and service lines.



- Business productivity software ($89.1bn) 55.0%
- Operating systems (OEM) ($66.4bn) 41.0%
- Home productivity software ($6.5bn) 4.0%

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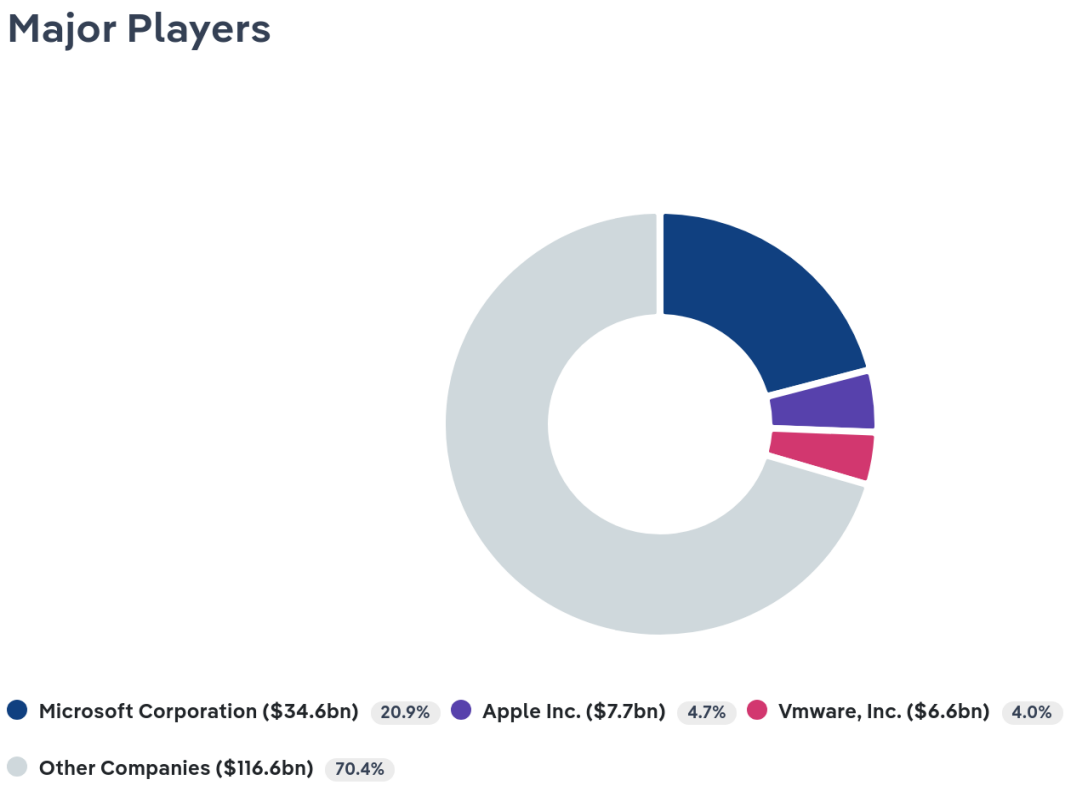
Source: IBISWorld

Major Players



Key External Drivers

Key External Drivers	Impact
E-commerce sales	Positive
Government funding for primary and secondary education	Positive
Households earning more than $100,000	Positive
Trade-weighted index	Positive
Percentage of business conducted online	Positive
Private investment in computers and software	Positive

Industry Structure

Characteristic	Level	Trend
Concentration	Low	
Barriers To Entry	High	Decreasing
Regulation and Policy	Low	Increasing
Life Cycle	Growth	
Revenue Volatility	Moderate	
Assistance	Moderate	Steady
Competition	Moderate	Steady
Innovation	Moderate	

SWOT

Strengths
- High & Decreasing Barriers to Entry
- Growth Life Cycle Stage
- Low Imports
- Low Capital Requirements

Weaknesses
- Low Profit vs. Sector Average
- High Customer Class Concentration
- High Product/Service Concentration
- Low Revenue per Employee

Opportunities
- High Revenue Growth (2005-2024)
- High Revenue Growth (2019-2024)
- E-commerce sales

Threats
- Low Outlier Growth
- Low Revenue Growth (2024-2029)
- Low Performance Drivers
- Trade-weighted index

Executive Summary

The major companies writing operating systems (think Microsoft, Apple, Google) have become some of the world's largest, primarily due to their omnipresence in the devices people use almost hourly across much of the world. Over the past 20 years, industry revenue more than tripled, untouched by the Great Recession and boosted by the pandemic. Microsoft Word and Excel have enabled executives and schoolchildren to command words and numbers easily. The industry has been richly rewarded for these world-changing applications, with revenue climbing at a CAGR of 6.9% to $160.4 billion in 2023, with profit reaching 15.8% and revenue rising 2.1% in 2023 alone.

Industry talent has fled for smaller companies across the tech sector, as significant developers strained against developers' limits in 2020 without proportionally expanding time off and health benefits. European regulators continue striking at the tech giants with privacy and antimonopoly legislation, causing significant internal bleeding. Cyberattacks and global conflicts are also poking holes in the digital global market rapidly. Open-source, free software, led by Linux, has finally become a viable option for technical home users. With the size and necessity of digital productivity tools, the operating system and productivity software developers will not lose revenue. Still, growth will slow, rising at a CAGR of 0.9% to $168.2 billion from 2023 to 2028.

Still, developers should be able to recover. New operating system technology and productivity software may soon become uncoupled from single devices and be accessible through the cloud, working equally well from a desktop, laptop, phone and tablet. Productivity subscriptions will continue to bring in value year after year. The tools created in this industry build the world and will keep productivity software and operating systems on the desktops of computers for a long time.

Performance

Track historical, current and forward-looking trends in revenue, profit and other performance indicators that make or break an industry.

3. Performance

https://my.ibisworld.com/us/en/industry/51121a/performance

Highlights

Revenue	Employees	Businesses
$162.0bn	**317k**	**15,208**
2019-24 CAGR ↑ 3.4 %	2019-24 CAGR ↑ 5.2 %	2019-24 CAGR ↑ 3.2 %
2024-29 CAGR ↑ 0.9 %	2024-29 CAGR ↑ 1.9 %	2024-29 CAGR ↑ 2.2 %

Profit	Profit Margin
N/A	**N/A**

Key Takeaways

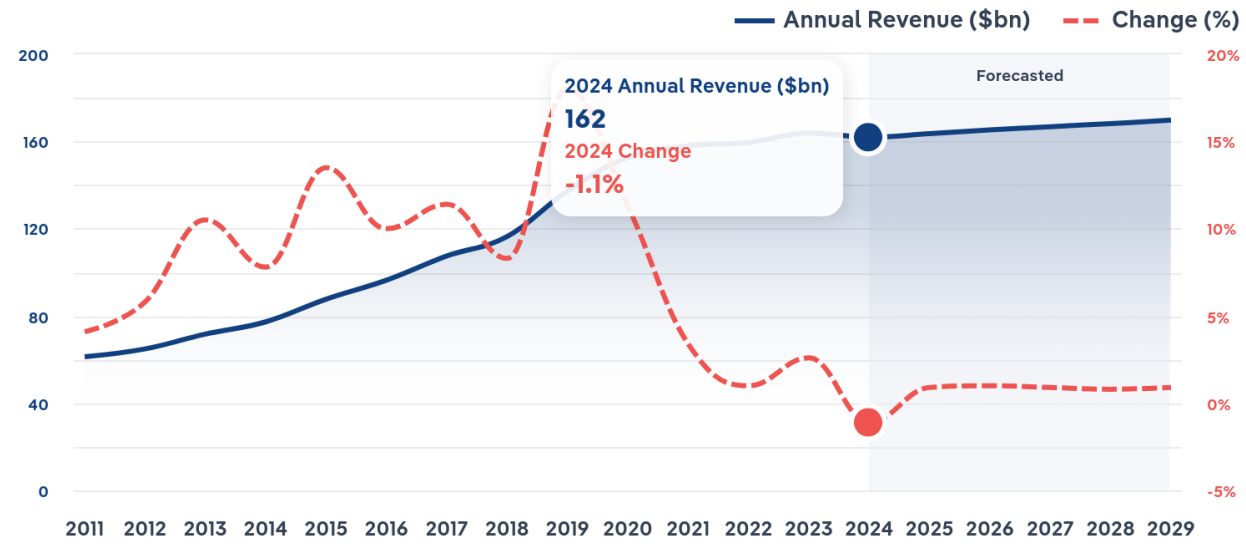
- **The digital world has transcended from lumps of silicon by code created by operating system and productivity software developers.** Upkeep and improvement for operating systems and software command an enormous price premium across nearly all economic sectors.
- **A once unshakable technology sector is beginning to decay from the inside.** Regulators are poking holes in the power available regarding the devices people use to manage their lives, while employees are resigning at record rates after experiencing overwork and dehumanizing treatment during COVID.
- **Large companies creating software are technologically-diversified megaliths, integrating operating systems and productivity with numerous income streams.** These companies almost always elect to release operating systems for free, knowing that increased revenue on other products and data collection will more than make up the loss.

Performance Snapshot

Revenue: ↑ 2019-24 Revenue CAGR +3.4%

Revenue

Total value ($) and annual change from 2011 – 2029. Includes 5-year outlook.



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Source: IBISWorld

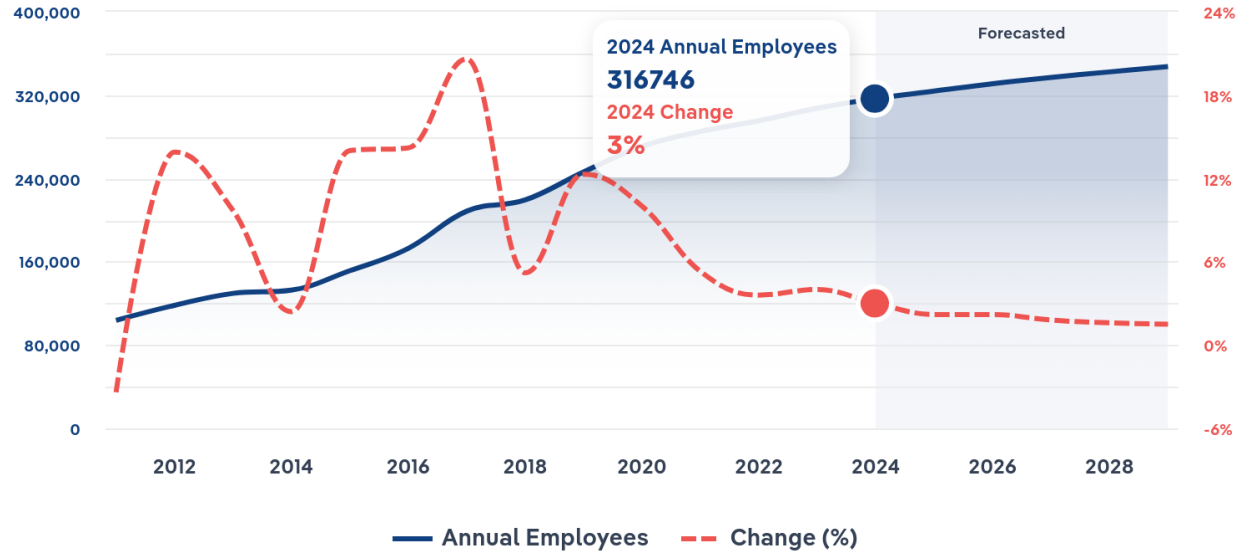
Employees: ↑ 2019-24 Employees CAGR +5.2%

Employees	Employees per Business	Revenue per Employee
317k	**21**	**$512k**
'19-'24 ↑ 5.2 %	'19-'24 ↑ 1.9 %	'19-'24 ↓ 1.7 %
'24-'29 ↑ 1.9 %	'24-'29 ↓ 0.3 %	'24-'29 ↓ 0.9 %

Operating Systems & Productivity Software Publishing in the US

Employees

Total number of employees and annual change from 2011 – 2029. Includes 5-year outlook.



IBISWorld

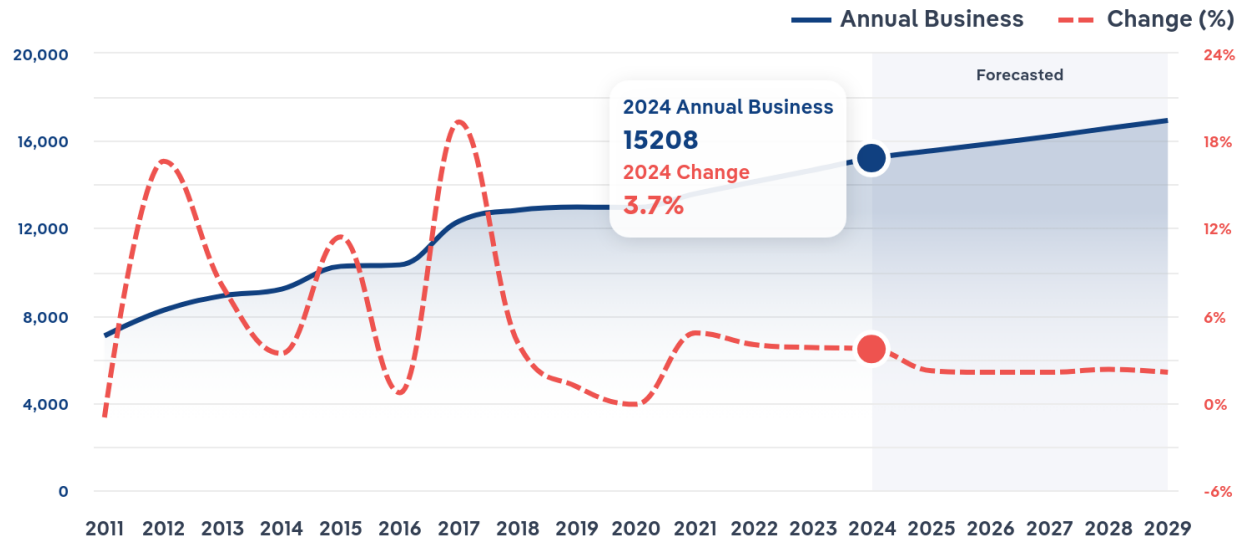
Source: IBISWorld

Businesses: ↑ 2019-24 Business CAGR +3.2%

Businesses	Employees per Business	Revenue per Business
15,208	**21**	**$10.7m**
'19-'24 ↑ 3.2 %	'19-'24 ↑ 1.9 %	'19-'24 ↑ 0.1 %
'24-'29 ↑ 2.2 %	'24-'29 ↓ 0.3 %	'24-'29 ↓ 1.2 %

Business

Total number of businesses and annual change from 2011 – 2029. Includes 5-year outlook.



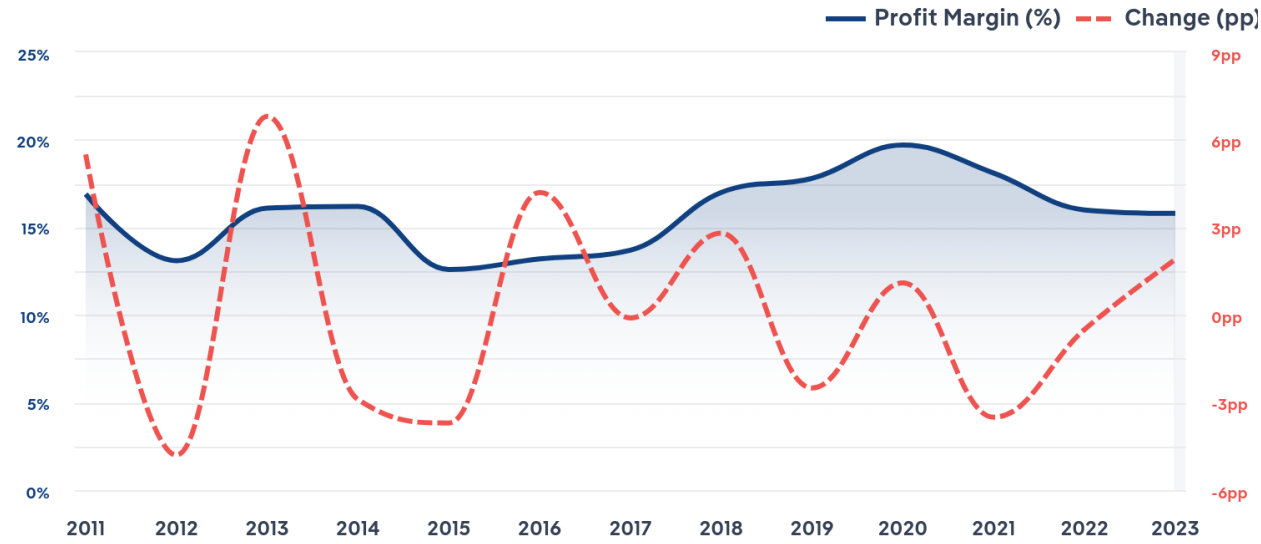
IBISWorld

Source: IBISWorld

Profit: N/A

Profit Margin

Total profit margin (%) and annual change from 2011 – 2024



IBISWorld

Source: IBISWorld

Current Performance

What's driving current industry performance?

The pandemic drives high revenue at a high cost to personnel

- When the physical world shut down in March 2020, technology companies were flooded with requests for new features and software to enable remote work.
- Integrations with video calling apps, new collaboration chat tools and improved connectivity to remote servers all generated high revenue for clients with the labor resources to adapt.
- In 2021, the rate of digital change slowed as many had adapted to the new normal or found solutions to digital issues.

Tech companies come under fire

- Following a series of high-profile scandals, a recent Gallup poll found only one-third of US consumers have a positive or very positive view of major tech companies, many of which build operating systems and productivity software. More than half also view additional regulation as beneficial.
- Since operating systems and productivity software rely heavily on indirect revenue from other businesses, an overall decline in technology's image will slash profit.

Subscription models guide stable, recurring revenue

- Microsoft's discontinuation of one-time purchase options for the Office suite (now Microsoft 365) of products was the final nail in the coffin for buy-once, own forever software. Now nearly all major players have multiple subscription options.
- Subscriptions enable a steadier revenue stream for companies, incentivizing long-term support and new features on a rolling basis. The high price that many software companies charge for subscriptions nearly always outstrips a one-time payment after one or two years, though.
- Consumers have expressed dissatisfaction at paying for software by subscription, but using the best productivity products far outstrips their cost.
- These subscriptions are also frequently tied to accounts with data that companies can analyze and monetize

The operating system now has eyes

- Many operating systems and productivity suites collect significant information on their users. While this information is used for a variety of purposes, it is frequently sold to data brokers, used to train AI, and used to optimize purchase pipelines.
- This data is many tech companies' most valuable 'asset' despite generating relatively little revenue through direct sales to data brokers. Instead, companies plug this data into other aspects of their business, increasing advertising value and purchase likelihood.
- Windows, Android, MacOS, IOS and other popular operating systems also collect significant data for their respective companies.

What influences industry volatility?

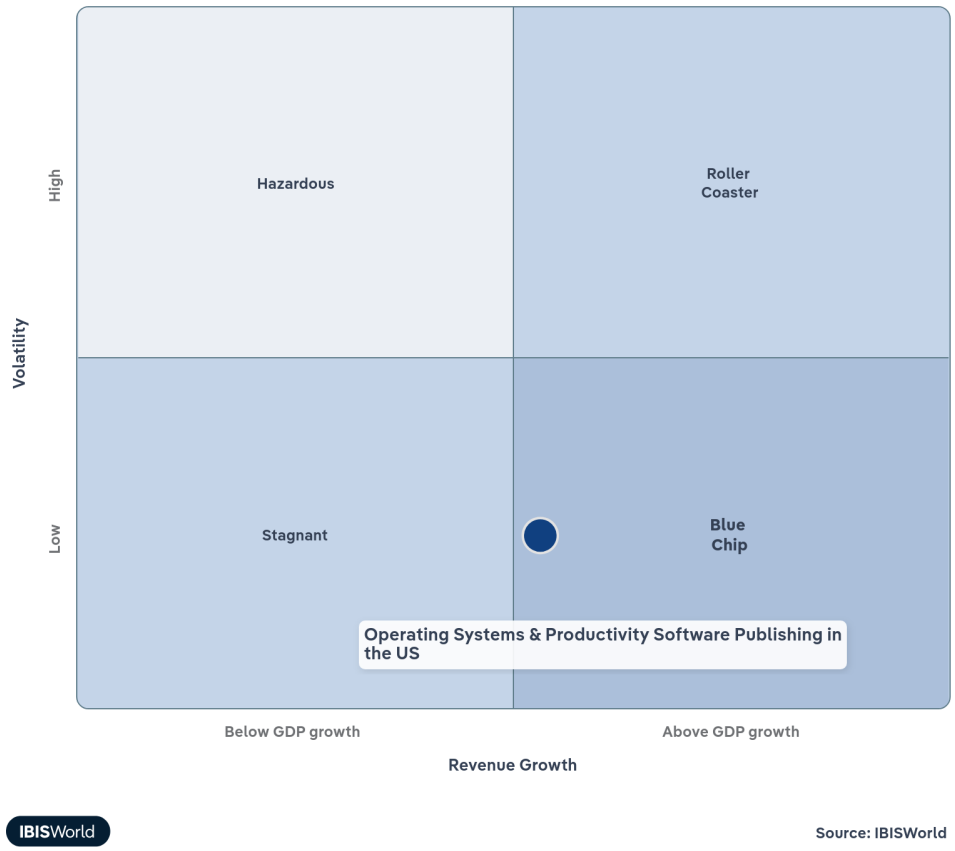
Moderate volatility yields high growth

- Without an operating system, a computer is only a brick of silicon, metal and plastic. Operating system and productivity designers have remained partially insulated from swings in the technology industry.
- Despite volatility, operating system developers continued growing faster than GDP every year between 2010 and 2022.

Inflation lifts volatility to unforeseen heights

- For numerous small business and individual purchasers of operating system and productivity software, rising inflation has raised the price of staple goods and minimized disposable income.
- Without a direct financial benefit for these services, consumers are putting off computer purchases until prices subside.

As good as it gets
Industry volatility vs. revenue growth (2018-24 CAGR)



IBISWorld

Source: IBISWorld

Outlook	↑ 2024-29 Revenue CAGR +0.9%

What's driving the industry outlook?

The pandemic stalls and may reverse growth

- For the first time since 2010, operating system and productivity software coders may generate less income in 2023.
- A looming recession, increased scrutiny of technology companies, diminished public image and market saturation each play a role.
- The economy runs on computers regardless, and tech companies will continue to leverage that advantage.

Software consolidates across many devices

- Computers, phones and watches used to run entirely separately, with very few features linking them together. This will shortly no longer be the case.
- Windows, Linux and Android are battling MacOS and iOS to add new cross-device features: viewing phone notifications on a computer, signing into a laptop with a phone's fingerprint sensor and running phone apps on a desktop may soon be ubiquitous.
- Intense code mergers on the backend will also minimize developers translating code from one device class to another.

Unsatisfied employees are continuing to leave tech jobs

- Industry value added grew more than 20.0% in 2020, which came at a steep cost to employees: 60-to-80-hour workweeks, the looming threat of being let go and pandemic fears cracked many workers to the point of breaking.
- Tech companies were the hardest hit, with workers walking out, protesting and demanding increased compensation and more ethical treatment.

Artificial intelligence can draw exponential revenue from business clients

- Large Language Model (LLM) systems popularized in late 2022 have compounded potential in operating system environments; the major developers of for-profit operating systems have all deployed or feverishly begun research on AI language model integrations.
- AI algorithms can easily predict what users will type next and suggest words and phrases accordingly, improve the accuracy and relevance of search results, and dramatically personalize the user experience by creating never-before-seen customizations.
- While operating systems have recently switched to a value-added-subscription model, the paradigm shift created by LLM systems has the potential to drive massive revenue, particularly from business customers who train custom models to learn their own environments.

Life Cycle Growth

Why is the industry growing?

Contribution to GDP

Digital software and technology, led by operating systems, is one of the highest steady contributors to GDP; between 2013 and 2023, industry profit more than doubled.

Market Saturation

Two forces combine to pin market operating system concentration near perfect adoption: most major operating systems are free and computers cannot run without them. Productivity software is also accepted as a staple office tool and any investment is typically returned very quickly by increased individual or business capacity.

Innovation

Businesses and individuals depend on stable operating systems and productivity software; if their business report corrupts before the big meeting, an executive might not use that program again. Building out stability requires time and limits innovation.

Consolidation

Consolidation among productivity software operators is relatively common; tech companies are used to buying smaller players for intellectual property and development teams. Operating systems rarely consolidate, simply because few substantial minor players exist.

Technology & Systems

Development labs can innovate technology and systems quickly; teams are frequently instructed to ‘move fast and break things' to get many bad solutions off the table. Employees also are paid to write scripts automating mundane tasks or solving office-wide issues.

Products and Markets

Find out what the industry offers, where trade is most concentrated and which markets are buying and why.

4. Products and Markets

https://my.ibisworld.com/us/en/industry/51121a/products-and-markets

Largest Market

$89.1bn

Business productivity software

Product Innovation

Moderate

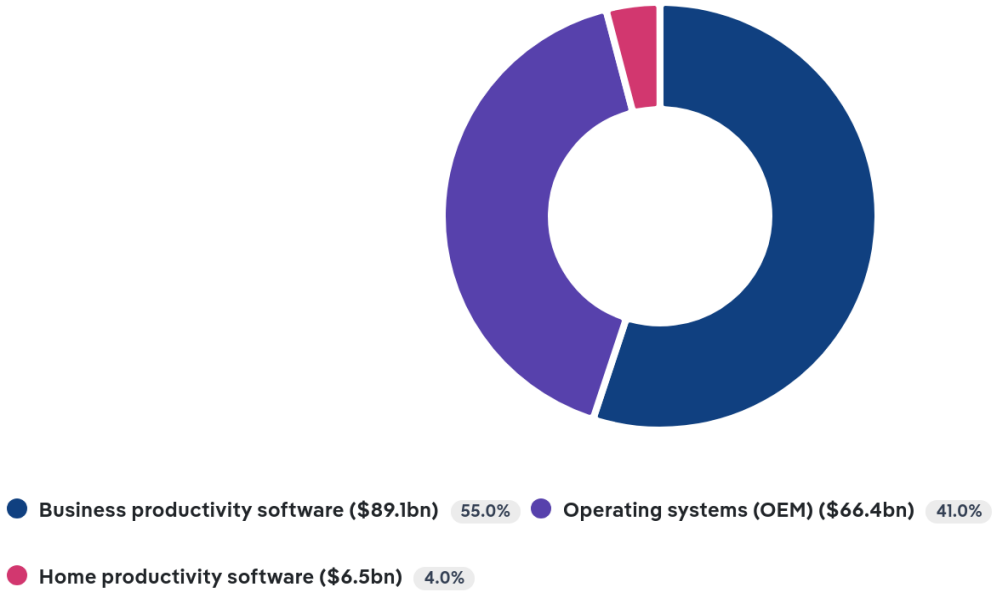
Key Takeaways

- **Most operating systems are free, and those that aren't might want to consider it.** Operating system giants have demonstrated that the downstream benefits to alternate software revenue more than make up for high sticker price for an OS.
- **Freelancer and individual purchases spiked massively during the pandemic, clawing back license seats from folding businesses and closed offices.** Business ownership of software used at home is becoming the norm, though.

Products and Services

Products & Services Segmentation

Industry revenue in 2024 broken down by key product and service lines.



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Source: IBISWorld

How are the industry's products and services performing?

Business sales of productivity software slumped

- Any sales of word processor, spreadsheet, presentation, or operating system software to a corporate entity or sole proprietor is counted in this segment, regardless of business size or function.
- Productivity software is designed to augment human labor by giving space for thoughts, calculations and communications. Only businesses repeatedly use most of the features available in industry products and they get to drive industry design.
- Unfortunately, sluggish business performance in the pandemic has diminished business-to-business sales of goods, including technology, to more than half of revenue; post-pandemic, this segment will rise.

Operating systems generate little direct revenue

- The modern operating system sits between the computer hardware and the user, providing humans with the power of data processing and storage.
- Every one of the top operating systems has no consumer-facing cost and is instead simply bundled with the price of the hardware. This encourages market concentration.

The nonbusiness consumer market is flagging

- The consumer category measures nonbusiness, home consumer purchases of operating systems and productivity software. The most common users in this segment are computer enthusiasts building a gaming machine and families wanting to track finances.
- Corporate leniency on letting users take productivity software home with them for personal use has all but eliminated this market; IBISWorld expects it to fall further moving forward.

What are innovations in industry products and services?

Phones, computers and screens act as one

- Getting phone notifications live on to a desktop was just the beginning for Apple; the company's commanding push for interconnection across all device classes encouraged other operators to follow suit.
- By using the same exact application code on every device, developers can, for example, pick up a presentation from a laptop on a tablet instantly.
- These changes will also minimize developer time porting code, saving the wider tech industry significant labor costs.

Companies rush to integrate video services

- In 2020, employees didn't expect much from productivity software other than basic functionality. As remote work has continued, programmers have begun to realize the collaborative benefit of a unified communication and productivity package.
- New internet apps combining video, remote control, spreadsheets and presentations are designed to loosen the friction of remote work, giving the users more time to focus on their content.

Key Success Factor

What products or services do successful businesses offer?

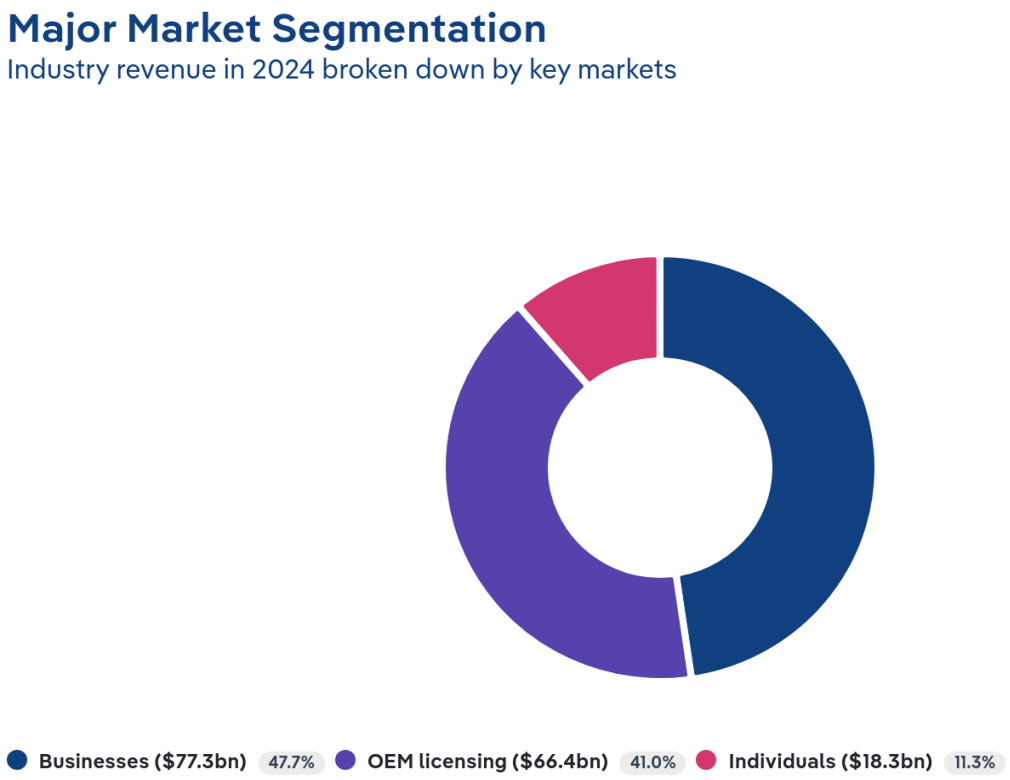
User friendly products

User-friendliness is a key element of software product design. Overly complicated software will not achieve mass-market appeal, whereas software that is easy to use appeals to a broad audience.

Large installment base

Sales of a particular operating system are strongly affected by the number of existing users. The more users of a particular operating system, the more likely developers are to publish compatible software, increasing demand.

Major Markets



What's influencing demand from the industry's markets?

OEM licensing dominates retail sales in consumer operating system market

- Despite operating systems becoming far easier to install in the 21st century, consumers simply prefer the convenience of their operating systems being pre-installed by the assembler of their computer, such as Dell, Apple or HP.
- A spike in core computer component prices during the global semiconductor shortage also discouraged home computer builders, further increasing the control of original equipment manufacturers (OEMs) such as Dell and HP in buying operating systems.
- OEM licensing accounts for 41.0% of revenue in 2023.

Freelancing explodes, driving sales of productivity software for individuals

- When COVID collapsed much of the formal office economy, many solo creatives decided to turn their passions into careers using productivity software.
- Digital writers and businesspeople from across the world flocked to industry productivity products to turn their dreams into reality, increasing the number of sales through consumer channels.

- Individuals account for 11.3% of revenue in 2023.

Businesses pick up operating system subscriptions to bolster work-from-home and leverage LLM systems

- Just as freelancing picked up during COVID-19, corporate office licenses in productivity and other software bled seats in the short term, as corporate offices with thousands of people reconfigured their licenses for home use.
- Many subscriptions ended up with more seats sold as individual work-from-home systems replaced any remaining shared computing systems. Detecting shared user seats (prohibited by most software license agreements) also became far easier with work-from-home, which forced clients to pay for a true number of seats.
- The deployment of Large Language Model (LLM) machine learning systems will disproportionately benefit business users, as the significant time saved by generated text, images and search systems will enable cutting employees, saving a broad spectrum of businesses considerable money (though irritating employees).

International Trade

Some industries don't directly import or export goods. See reports at the manufacturing level for international trade data on relevant products.

Geographic Breakdown

Discover where business activity is most concentrated in this industry and what's driving these trends.

5. Geographic Breakdown

https://my.ibisworld.com/us/en/industry/51121a/geographic-breakdown

Key Takeaways

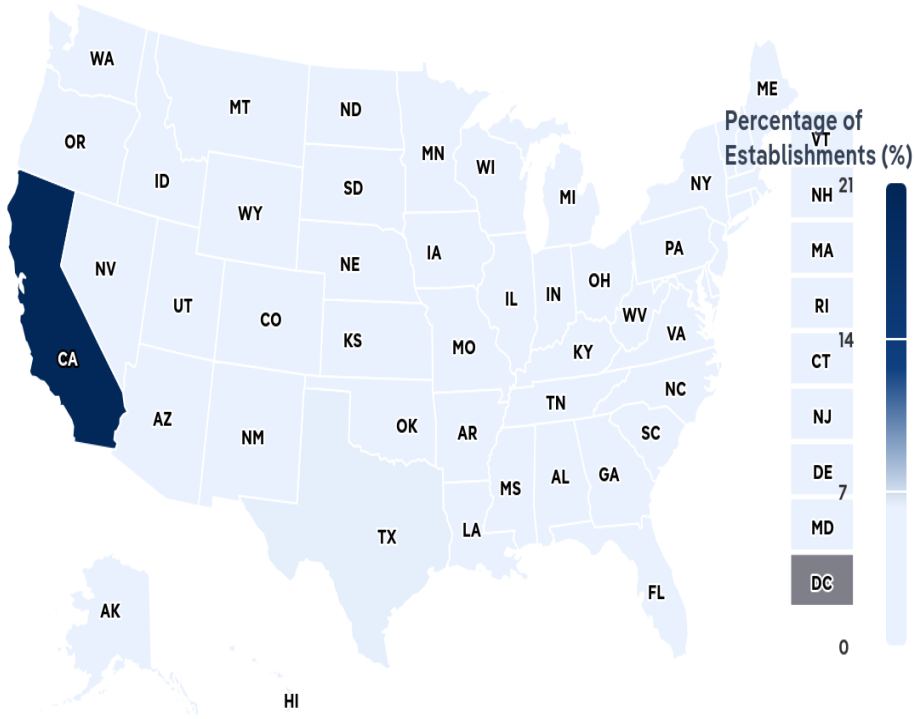
- **The pandemic has made offices almost irrelevant to most software developers.** Technology companies have always been lenient when offering employees remote work packages, and very few require in-person attendance to this day.
- **Silicon valley is as popular as ever to operating system and productivity software companies.** Besides the prestige of an office in the birthplace of big tech, corporate clients are never too far away.

Business Locations

Business Concentration

Percentage of total industry Establishments in each region

Establishments



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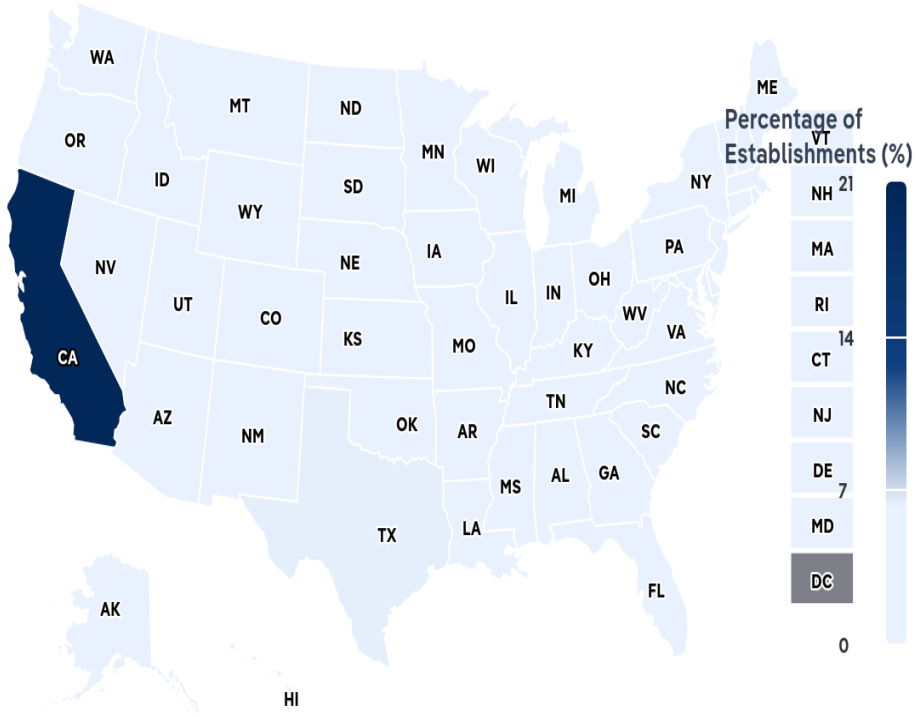
Source: IBISWorld

Business Concentration

Percentage of total industry Establishments in each region

Establishments



IBISWorld

Source: IBISWorld

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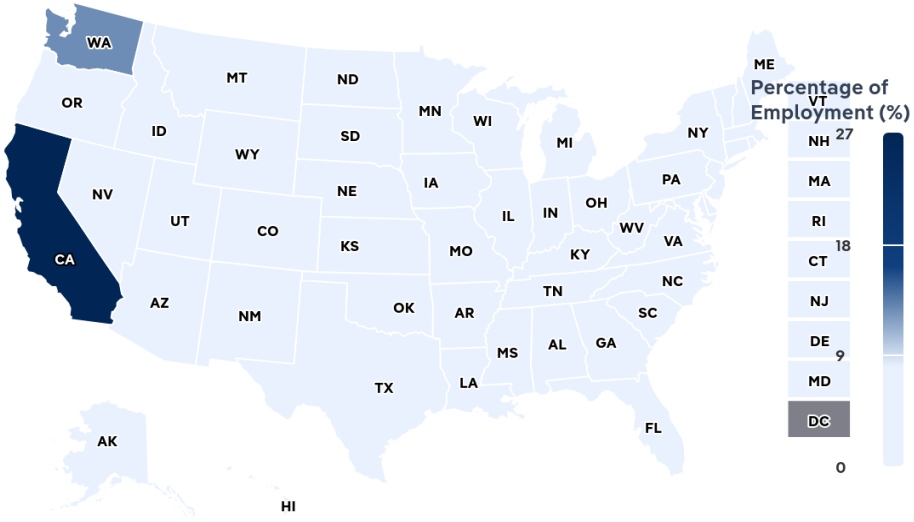
Business Concentration

Percentage of total industry Employment in each region

Employment



IBISWorld

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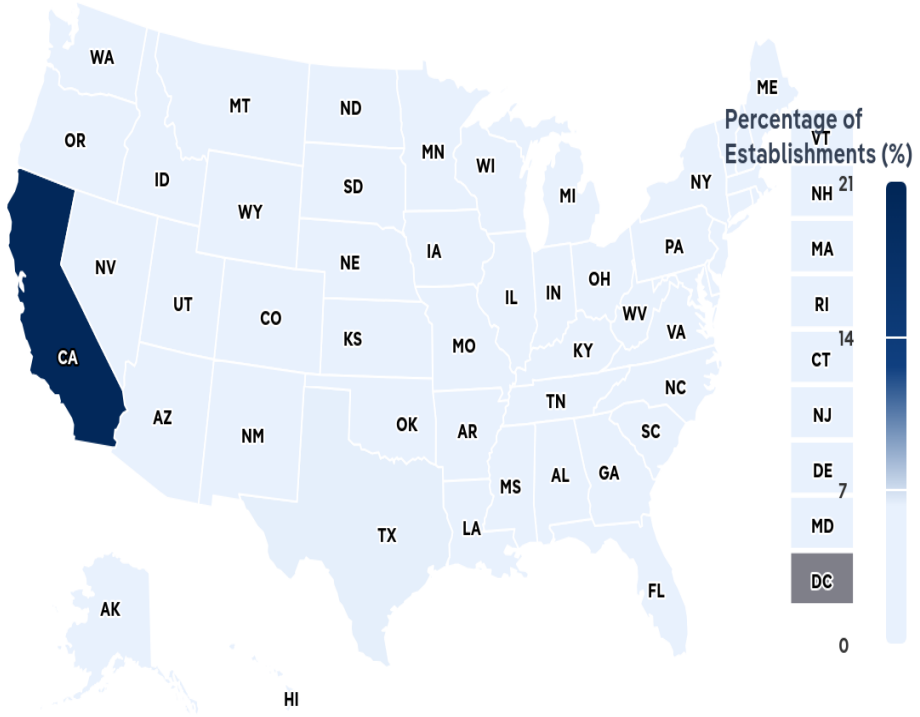
Business Concentration

Percentage of total industry Establishments in each region

Establishments



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Source: IBISWorld

Percentage of total industry Establishments,Revenue,Wages,Employment in each region

State	Establishments Units	Establishments %	Revenue $m	Revenue %	Wages $m	Wages %	Employment Units	Employment %
California	3,326	20.4	49,018.0	30.3	22,337.9	34.0	85,318	26.9
Washington	727	4.4	24,255.4	15.0	12,593.7	19.2	40,143	12.7
Texas	1,026	6.3	10,532.4	6.5	3,435.0	5.2	20,041	6.3
Massachusetts	785	4.8	12,040.1	7.4	4,259.7	6.5	21,396	6.8
New York	935	5.7	5,381.9	3.3	2,319.7	3.5	11,307	3.6

Florida	795	4.9	6,944.9	4.3	2,112.4	3.2	13,001	4.1
Pennsylvania	447	2.7	5,625.6	3.5	1,572.1	2.4	8,211	2.6
Illinois	590	3.6	5,100.2	3.1	1,867.7	2.8	10,862	3.4
Colorado	531	3.2	3,526.5	2.2	1,316.0	2.0	7,325	2.3
Georgia	475	2.9	3,058.6	1.9	1,754.1	2.7	9,073	2.9
Virginia	453	2.8	4,196.5	2.6	1,586.6	2.4	7,788	2.5
North Carolina	429	2.6	3,707.7	2.3	1,681.4	2.6	8,736	2.8
Utah	342	2.1	2,685.3	1.7	1,222.0	1.9	8,258	2.6
Oregon	444	2.7	2,454.2	1.5	825.3	1.3	5,323	1.7
Wisconsin	164	1.0	2,263.0	1.4	1,119.4	1.7	7,861	2.5
Michigan	344	2.1	2,949.1	1.8	867.9	1.3	5,293	1.7
New Jersey	386	2.4	2,616.3	1.6	407.9	0.6	5,299	1.7
Minnesota	322	2.0	2,625.0	1.6	580.8	0.9	4,907	1.5
Ohio	362	2.2	2,065.6	1.3	681.7	1.0	5,454	1.7
Maryland	295	1.8	1,960.0	1.2	733.0	1.1	2,196	0.7
Arizona	305	1.9	1,775.7	1.1	488.9	0.7	3,949	1.2
Indiana	158	1.0	643.9	0.4	567.3	0.9	2,284	0.7
Nevada	211	1.3	387.0	0.2	89.4	0.1	1,044	0.3
South Carolina	133	0.8	832.3	0.5	125.3	0.2	2,314	0.7
Connecticut	156	1.0	1,387.6	0.9	118.1	0.2	979	0.3
Tennessee	194	1.2	36.8	0.0	15.2	0.0	1,645	0.5
Missouri	186	1.1	685.6	0.4	288.5	0.4	1,786	0.6
New Hampshire	149	0.9	789.1	0.5	110.9	0.2	1,330	0.4
Iowa	104	0.6	31.1	0.0	12.9	0.0	2,041	0.6
Alabama	120	0.7	580.5	0.4	64.0	0.1	1,152	0.4
Kansas	77	0.5	371.4	0.2	104.8	0.2	1,004	0.3
North Dakota	35	0.2	410.1	0.3	59.7	0.1	608	0.2
Delaware	99	0.6	5.7	0.0	2.3	0.0	1,327	0.4
Idaho	98	0.6	238.5	0.1	98.7	0.2	677	0.2
Kentucky	126	0.8	19.3	0.0	8.0	0.0	926	0.3
Oklahoma	79	0.5	213.5	0.1	42.4	0.1	282	0.1
Maine	101	0.6	6.1	0.0	2.5	0.0	276	0.1

Arkansas	46	0.3	12.0	0.0	4.9	0.0	943	0.3
Louisiana	97	0.6	32.5	0.0	13.4	0.0	418	0.1
Nebraska	67	0.4	21.0	0.0	8.7	0.0	851	0.3
Montana	90	0.6	4.4	0.0	1.8	0.0	760	0.2
Rhode Island	85	0.5	6.0	0.0	2.5	0.0	537	0.2
Hawaii	82	0.5	2.6	0.0	1.1	0.0	53	0.0
New Mexico	60	0.4	2.8	0.0	1.2	0.0	154	0.0
South Dakota	16	0.1	2.9	0.0	2.1	0.0	9	0.0
Vermont	51	0.3	3.3	0.0	1.4	0.0	204	0.1
Alaska	43	0.3	0.5	0.0	0.2	0.0	78	0.0
Mississippi	14	0.1	2.8	0.0	1.1	0.0	79	0.0
West Virginia	34	0.2	2.1	0.0	0.9	0.0	15	0.0
Wyoming	21	0.1	1.4	0.0	0.6	0.0	58	0.0

Where are industry businesses located?

Silicon Valley, California and the wider West holds one-quarter of the industry

- Silicon Valley, a region of California named after the element used to make computer components, is famous around the world as a region densely packed with technology offices.
- Nearly one-quarter of all companies locate in California to lessen the physical distance to the biggest industry clients. Every major player has an office complex in the region, with the Microsoft, Google and Apple world headquarters all located here as well.

The Southwest rises

- Similar to the deserts that cover much of the region, technology companies in the Southwest region are building a diverse ecosystem of chip fabrication, hardware assembly and software development despite the harsh environment.
- From Austin, TX to Las Vegas, NV, software companies are taking advantage of low cost of living and strong younger-leaning culture.
- However, the region's high heat makes running computer operations nearly impossible without air conditioning, so operators here will spend more on utilities.

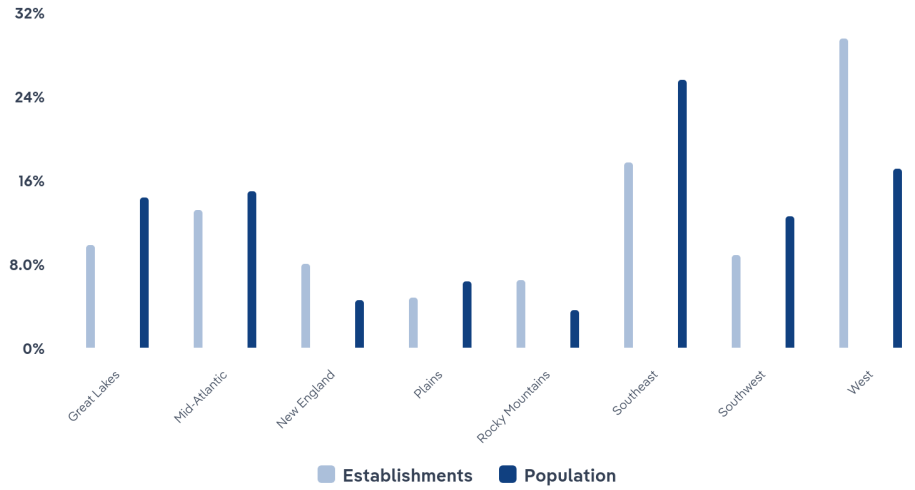
Human concentration in the Mid-Atlantic region leads to more businesses

- For operating system and productivity developers serving third-party markets directly, New York City and the Mid-Atlantic region is the productivity capital of the world.
- Publishers serving finance, services, communication and event planning locate in New York City, while government contractors battle for operating system contracts on high-security computers from offices near Washington, DC.
- The pandemic's effect on this region has also been the most pronounced, with more employees choosing to transfer jobs and demanding work-from-home benefits.

Operating Systems & Productivity Software Publishing in the US

West has the largest spread of businesses compared to its population

Share of Establishments (%) vs. share of population (%):



IBISWorld

Source: IBISWorld

Competitive Forces

Uncover challenges and benefits in the operating environment, digging into market share, buyer and supplier power and key success factors for operators.

6. Competitive Forces

https://my.ibisworld.com/us/en/industry/51121a/competitive-forces

Key Takeaways

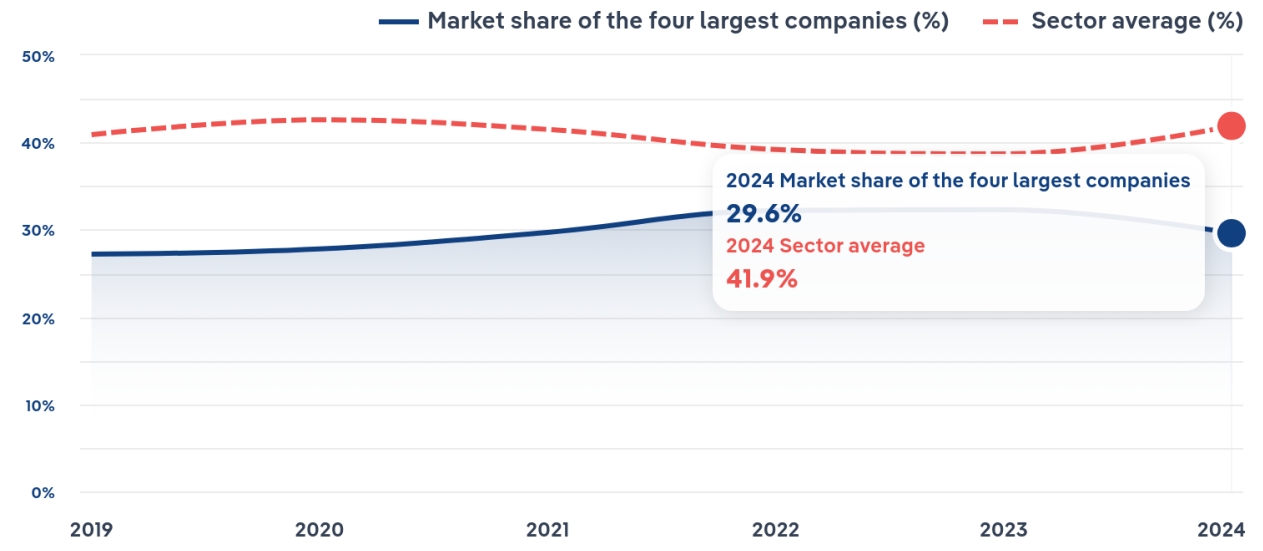
- **Competitive software companies offer a suite of interconnected business products appealing to a wide range of potential buyers.** Having synergistic benefits between software is also a feature desired by time-strapped business clients.
- **Creating a software package for word processing or spreadsheet capabilities is a recipe for disaster.** The 'Microsoft 365' subscription and availability of free alternatives push entrants into the less concentrated presentation, communication or supporting software sectors.

Concentration

Low

Market Share Concentration

Combined market share of the four largest companies in this industry



IBISWorld

Source: IBISWorld

What impacts the industry's market share concentration?

Smaller publishers are cowering as tech giants stand tall

- While writing an operating system is theoretically possible for one person, finding users willing to switch from Windows, Mac or Android is nearly impossible. The global network of developers,

hardware distributors and customers required to reach profitability is enormous, especially when going directly against established players.
- Operating systems (OS) also come preinstalled on nearly all computers, raising financial and time costs if a user wants a different OS.
- Many potential entrants don't try and focus on consumer markets, instead capitalizing on smaller productivity projects or designing custom software.

International leadership in technology created aggregation

- Unlike industries selling physical products, operating system and productivity software is instantly transferrable and requires only a translation makeover for foreign markets.
- Without international aggregation barriers, these forces act more strongly, enabling high concentration for software developers.
- As the United States has historically been at the center of digital software development, software companies have had longer periods to assert dominance.

Barriers to Entry

High | Decreasing

What challenges do potential industry entrants face?

Legal

- New entrants are affected by few legal hurdles. New software must avoid copyright infringement and protect users' payment information. International vendors must also abide by the EU's General Data Protection Requirements (commonly known as GDPR) and watch out for similar pending legislation at the national and state levels.

Start-up Costs

- Start-up costs are minimal: Linus Torvalds is famous for writing the core parts of Linux by himself; this code has been used and reused in nearly all the top players' core products. Earning large business clients requires surpassing a higher bar, beating out an incumbent provider. This goal requires investment of thousands of hours by a skilled development team, but a skilled operator can still accomplish this inexpensively and with expedience.

Differentiation

- Differentiation in the operating system market is brutal for new entrants: often the only differences between operating systems are the device hardware it is designed for and the size of the userbase. Larger players can support projects new project with millions of development hours and a loyal community of existing users.

Labor Intensity

- While developing operating system software requires thousands of labor-hours at a minimum, one individual with enough time can satisfy labor requirements by themselves. Success depends on employee skill and quantity, so labor-rich operators will benefit from more expedient returns.

Key Success Factor

How can potential entrants overcome barriers to entry?

Intellectual property protection

Since the rise of broadband internet connections, software has become increasingly vulnerable to piracy. Software publishers need to protect their proprietary technology to remain profitable.

Development of a symbiotic relationship with another industry

Most operating systems and productivity software are sold with new computers. Being the default operating system of a major hardware manufacturer is essential to establishing a significant market share.

Substitutes

Moderate | Increasing

What are substitutes for industry services?

Customizable software takes off

- For the very largest clients that have unique needs, customizing a free and open-source software package may cost less in the long run.
- Linux has captured the enterprise server space for exactly this market, giving system administrators total control to integrate deeply with the operating system and make custom changes.

Free and Open Source Software (FOSS) expands its capabilities

- Linux, Google Drive and other free alternative software packages have come a long way, occasionally releasing innovative features ahead of paid options.
- For nonbusiness entities, free options win by default simply because the cash flow to pay for full software options doesn't exist.

Key Success Factor

How do successful businesses compete with substitutes?

Development of new products

Software developers' financial success is often dependent on the release of new products or new versions of software. The timing of these releases and the quality of the software being published can significantly increase a company's revenue.

Buyer & Supplier Power

Supply Chain

Direct and indirect supplier and buyer industries related to this industry

IBISWorld

Source: IBISWorld

What power do buyers and suppliers have over the industry?

Buyers: Intuitive features and bulk pricing are critical

Moderate | Increasing

- Businesses concerned with the total cost of ownership for software will want software that is easy to learn, integrates well- into existing workflows and costs less than the benefit to employees.
- Software discounts for buying in bulk are also attractive to large business clients.

Suppliers: Defined by relative scale

High Steady

- Computer hardware suppliers can hold marginal power over operating system developers, but Microsoft's near-monopoly on the computer wholesale market makes burning that bridge corporate self-annihilation.
- Productivity software developers don't require suppliers since they are highly conceptualized from hardware and protected by their diversity.

☆ Key Success Factor

How do successful businesses manage buyer & supplier power?

Development of new products

Software developers' financial success is often dependent on the release of new products or new versions of software. The timing of these releases and the quality of the software being published can significantly increase a company's revenue.

Having a diverse range of clients

The ability to appeal to multiple markets helps increase adoption and stabilize revenue in periods where certain markets demonstrate weaker demand than others.

7

Companies

Find out which companies hold the most market share and how revenue, profit and market share have shifted over time for these leaders.

7. Companies

https://my.ibisworld.com/us/en/industry/51121a/companies

Key Takeaways

- **Complimentary services have become the core revenue generator for operating system developers.** Apple+, Microsoft 365 and Google One each bring in revenue outstripping the cost of operating system development and are connected to each company's operating system with synergistic features.
- **Big technology took a big hit to its public image in recent months, with employees and customers alike decrying inhumane treatment, c-suite frugality and a disregard for personal privacy.** Regulators have begun to step in, with the European Union and California writing landmark restrictions.

Market Share

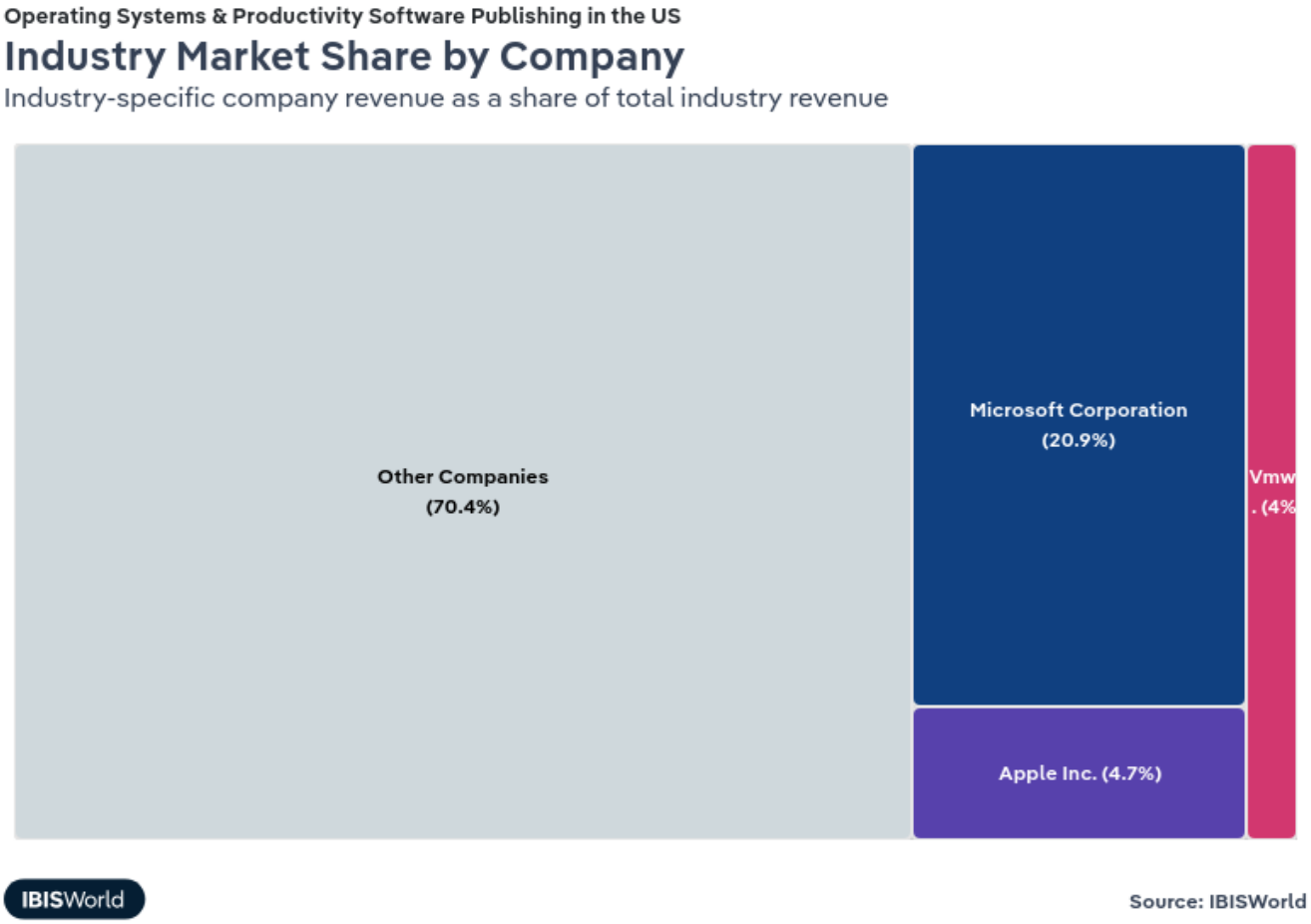


Chart displays current year only in the PDF version of this report. You can view and download chart for all other years associated with this industry on my.ibisworld.com.

Companies

Company	Market Share (%) 2024	Revenue ($m) 2024	Profit ($m) 2024	Profit Margin (%) 2024
Microsoft Corporation	20.9	34,605.6	14,224.9	41.1
Apple Inc.	4.7	7,729.9	2,240.4	29.0
Vmware, Inc.	4.0	6,573.7	1,005.0	15.3

Microsoft Corporation

Company Details

Industry Revenue (2024)	$34.6bn
Industry Profit (2024)	$14.2bn
Total Employees (2024)	238,000
Industry Market Share (2024)	20.9%

Description

Microsoft is a public company headquartered in Washington with an estimated 238,000 employees. In the US, the company has a notable market share in at least 17 industries: Information, Software Publishing, VoIP, Search Engines, Operating Systems & Productivity Software Publishing, Database, Storage & Backup Software Publishing, Business Analytics & Enterprise Software Publishing, Video Game Software Publishing, Video Games, Speech & Voice Recognition Software Developers, CRM System Providers, Video Conferencing Software Developers, Online Computer Software Sales, Cloud Security Software, Business Intelligence Software, Identity Management Software, Collaboration & Project Management Software and Speech & Voice Recognition Software Developers. Their largest market share is in the Database, Storage & Backup Software Publishing industry, where they account for an estimated 56.0% of total industry revenue and are considered an All Star because they display stronger market share, profit and revenue growth compared to their peers.

Brands and Trading Names

- 343 Industries
- Ally.IO
- Bing
- Comcast
- Dynamics CRM
- Dynamics ERP
- LinkedIn
- Microsoft Azure
- Microsoft Bing
- Microsoft Edge
- Microsoft Office
- Microsoft SQL Server
- MSN
- Office 365
- Skype
- Windows 7

- Windows Server
- Windows Vista
- Windows XP
- Xbox

Other Industries

- Business Analytics & Enterprise Software Publishing in the US
- Business Intelligence Software in the US
- Cloud Security Software in the US
- Collaboration & Project Management Software in the US
- CRM System Providers in the US
- Database, Storage & Backup Software Publishing in the US
- Identity Management Software in the US
- Information in the US
- Online Computer Software Sales in the US
- Search Engines in the US
- Software Publishing in the US
- Speech & Voice Recognition Software Developers in the US
- Video Conferencing Software Developers in the US
- Video Game Software Publishing in the US
- Video Games in the US
- VoIP in the US

Company's Industry Revenue, Market Share, and Profit Margin Over Time

Year	Industry Revenue ($ million)	Market Share (%)	Profit Margin (%)
2008	15412	36.3	21.7
2009	16622	41.0	21.7
2010	17469	44.6	21.7
2011	18167	66.3	21.7
2012	18292	60.9	21.7
2013	21140	38.8	21.7
2014	23404	39.2	21.7
2015	26810	40.4	21.7
2016	29947	40.6	21.7
2017	33208	39.7	22.0
2018	18175	19.6	31.8

2019	20998	18.9	34.1
2020	23735	18.9	37.0
2021	26928	20.4	41.6
2022	32028	22.5	42.3
2023	34606	22.8	41.1
2024	34606	20.9	41.1

What's impacting Microsoft Corporation's performance?

Microsoft announces lay-offs in plan to cut costs

- Microsoft announced in January of 2023 its plan to lay off 10,000 of its workers, representing the company's largest job cut over the past eight years. As costs continue to surge, the company acknowledged that it overhired during the COVID-19 (coronavirus) pandemic period and will instead focus on artificial intelligence (AI) solutions to replace the lost workforce.

Microsoft has announced its acquisition of Nuance Communications

- In March 2022, Microsoft Corporation (Microsoft) completed the acquisition of Nuance Communications (Nuance). Nuance develops conversational artificial intelligence and ambient intelligence. The newly acquired company will join Microsoft’s Cloud + AI Group to develop security-focused, cloud-based solutions for businesses.

Microsoft has seen impacts from the COVID-19 pandemic

- Since the start of the COVID-19 (coronavirus) pandemic in March 2020, Microsoft Corporation (Microsoft) has seen mixed but largely positive effects from the pandemic. As the world turned to remote work, Microsoft saw increased demand for its cloud, productivity and PC products. It also has seen increased engagement in its gaming platform. The company has also seen some downsides to the pandemic, including at their physical Microsoft Store locations.

Microsoft has announced its acquisition of Bethesda Softworks

- In March 2021, Microsoft Corporation (Microsoft) completed its acquisition of ZeniMax Media Inc, the parent company of Bethesda Softworks LLC (Bethesda). Bethesda is one of the largest video game developers and publishers in the world and adds a broad portfolio to Microsoft’s Xbox business.

Microsoft has announced its acquisition of Activision Blizzard

- In January 2022, Microsoft Corporation (Microsoft) announced that it had acquired Activision Blizzard Inc (Activision Blizzard). The newly acquired company is a leading video game developer with studios around the world and nearly 10,000 employees. Activision Blizzard will help expand the already growing Microsoft Gaming.

Apple Inc.

Company Details

Industry Revenue (2024)	$7.7bn
Industry Profit (2024)	$2.2bn
Total Employees (2024)	164,000
Industry Market Share (2024)	4.7%

Description

Apple is a public company headquartered in California with an estimated 164,000 employees. In the US, the company has a notable market share in at least nine industries: Computer Stores, Software Publishing, Operating Systems & Productivity Software Publishing, Speech & Voice Recognition Software Developers, Online Computer & Tablet Sales, Online Book Sales, Online Computer Software Sales, Music Streaming Services and Cell Phone Repair. Their largest market share is in the Speech & Voice Recognition Software Developers industry, where they account for an estimated 32.2% of total industry revenue.

Brands and Trading Names

- AI Music
- Airpods
- Akonia Holographics
- Anobit Technologies
- Apple Music
- Apple Pencil
- Apple TV+
- Apple Watch
- Dryft
- iPhone
- Macbook
- Macbook Pro

Other Industries

- Cell Phone Repair in the US
- Music Streaming Services in the US
- Online Book Sales in the US
- Online Computer & Tablet Sales in the US
- Online Computer Software Sales in the US
- Software Publishing in the US

- Speech & Voice Recognition Software Developers in the US

Company's Industry Revenue, Market Share, and Profit Margin Over Time

Year	Industry Revenue ($ million)	Market Share (%)	Profit Margin (%)
2018	4652	5.0	26.7
2019	5059	4.5	24.6
2020	5693	4.5	24.1
2021	6436	4.9	29.8
2022	7532	5.3	30.3
2023	7730	5.1	29.0
2024	7730	4.7	29.0

What's impacting Apple Inc.'s performance?

Apple's ability to navigate supply chain disruptions led to Q1 revenue growth

- For the first quarter of fiscal 2022, Apple posted record revenue of $123.9 billion, an increase of 11.0% year-over-year. Apple's Q1 performance stifled investor concerns regarding global shortages of chip and semiconductors and its affect on the company's holiday sales. Despite high sales, supply chain disruptions prevented Apple from meeting high consumer demand for its products, costing the company an estimated $6.0 billion in net sales in the quarter.

Apple expected to take a bite of Square's market share

- In February 2022, Apple Inc. (Apple) announced its plan to roll out a Tap to Pay feature, which will enable millions of US merchants to securely accept touchless payments on an iPhone via Apple Pay, credit cards and other digital wallets. The platform will be integrated into the existing iPhone operating system, requiring no additional hardware or payment terminals. Expected to launch in mid-2022, Tap to Pay will establish Apple as a major competitor to rival Square.

Apple's continued investment in its service offerings has boosted its number of paying subscribers

- Apple's robust offering of services, including music, TV and fitness subscriptions, experienced strong revenue growth in Q1 2022 as well, rising 24.2% year-over-year. Adoption of the company's seven subscription services was accelerated by the adoption of digital services amid the COVID-19 (coronavirus) pandemic. As of February 2022, the company boasts 785 million paying subscribers across its subscription offerings. Apple continued to expand the breadth of its services through its February 2022 acquisition of London-based AI Music, a startup which utilizes artificial intelligence to generate personalized soundtracks.

Apple revamps HomePod

- After discontinuing the original product, Apple announced in January of 2023 that it has launched a new HomePod smart speaker. Priced at $299, the product will be sold alongside the company's HomePod Mini and will be available to ship starting in February 2023.

Vmware, Inc.

Company Details

Industry Revenue (2024)	$6.6bn
Industry Profit (2024)	$1.0bn
Total Employees (2024)	38,300
Industry Market Share (2024)	4.0%

Description

Vmware is a public company headquartered in California with an estimated 38,300 employees. In the US, the company has a notable market share in at least three industries: Software Publishing, Data Processing & Hosting Services, Operating Systems & Productivity Software Publishing and Software Publishing. Their largest market share is in the Operating Systems & Productivity Software Publishing industry, where they account for an estimated 4.1% of total industry revenue and are considered a Laggard because they display lower market share alongside slower profit and revenue growth than their peers.

Brands and Trading Names

- Aetherpal
- Airwatch
- Apteligent
- Arkin
- Avi Networks
- Cloudcoreo
- Cloudvelox
- CloudVolumes
- Datrium
- Desktone
- Dynamicops
- Immidio
- Lastline
- Mesh7

Other Industries

- Data Processing & Hosting Services in the US
- Software Publishing in the US

Company's Industry Revenue, Market Share, and Profit Margin Over Time

Year	Industry Revenue ($ million)	Market Share (%)	Profit Margin (%)
2016	1298	1.8	33.3
2017	1740	2.1	33.3
2018	3834	4.1	21.6
2019	4205	3.8	22.8
2020	5405	4.3	13.3
2021	5878	4.5	20.3
2022	6232	4.4	18.6
2023	6574	4.3	15.3
2024	6574	4.0	15.3

What's impacting Vmware, Inc.'s performance?

Broadcom bids to Acquire VMWare for $61 billion in Historic Technology Merger

- Chip giant Broadcom has announced it will acquire VMWare for $61.0 billion. Being one of the biggest technology acquisitions of all time, the deal is unnerving clients and regulators alike with reports of price increases and monopolistic behavior floating around. Broadcom's previous attempt to acquire Qualcomm was scrapped after direct intervention from the Trump administration, though that deal reached a staggering $130 billion.

You can view and download company details on my.ibisworld.com.

External Environment

Understand the demographic, economic and regulatory factors positively and negatively affecting the industry.

8. External Environment

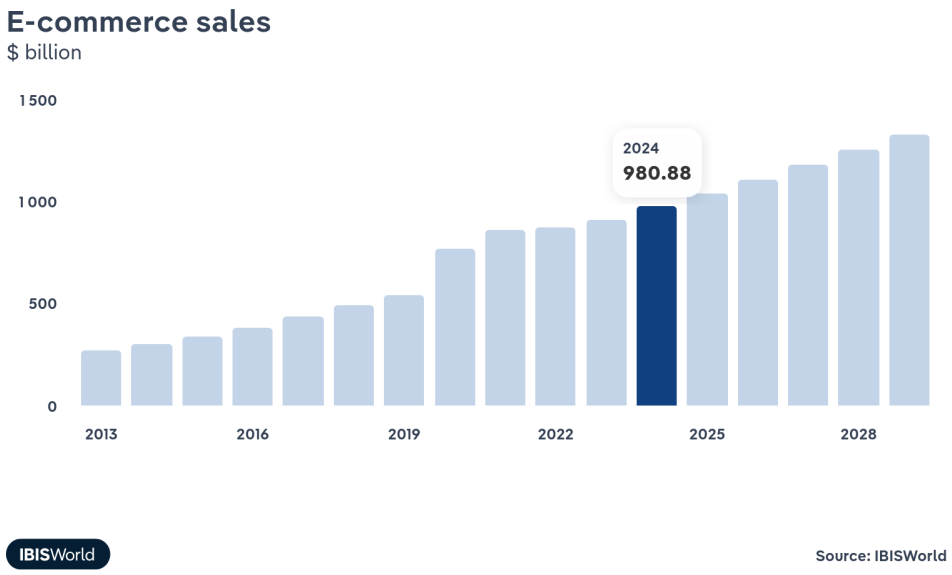
https://my.ibisworld.com/us/en/industry/51121a/external-environment

Key Takeaways

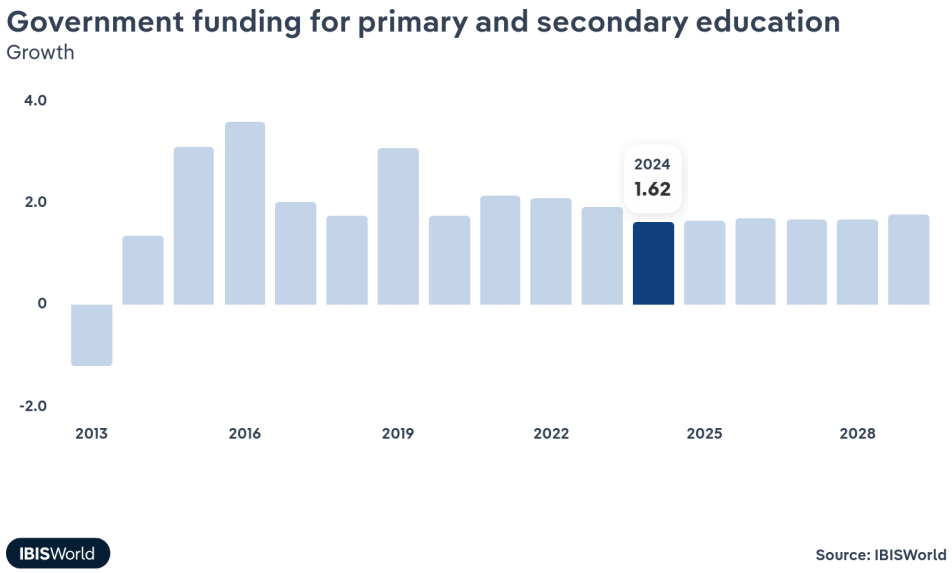
- **Regulators have begun restricting the largest operating system and productivity software developers, citing anticompetitive practices, disregard for the environment and personal privacy violations.** The European Union and California have taken the lead on this movement, though the Biden administration's word on the subject will carry the most weight for Microsoft, Apple and Google.
- **Diverse computing in every corner of the home, office and factory is providing opportunities for established and existing players alike.** Traditional operating systems are highly wasteful on these embedded devices, so the industry is refocusing on power efficiency and quiet operation more than sheer performance.

External Drivers

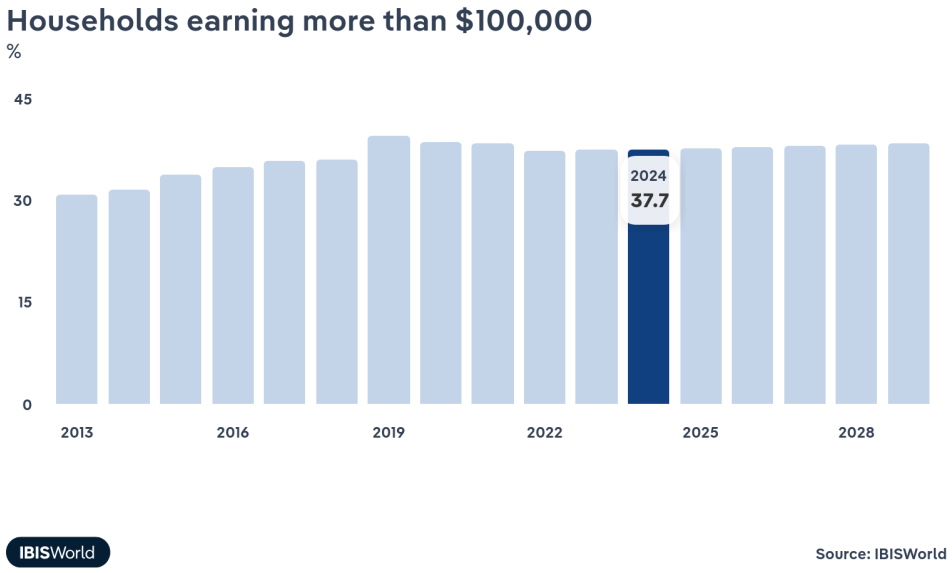
What demographic and macroeconomic factors impact the industry?



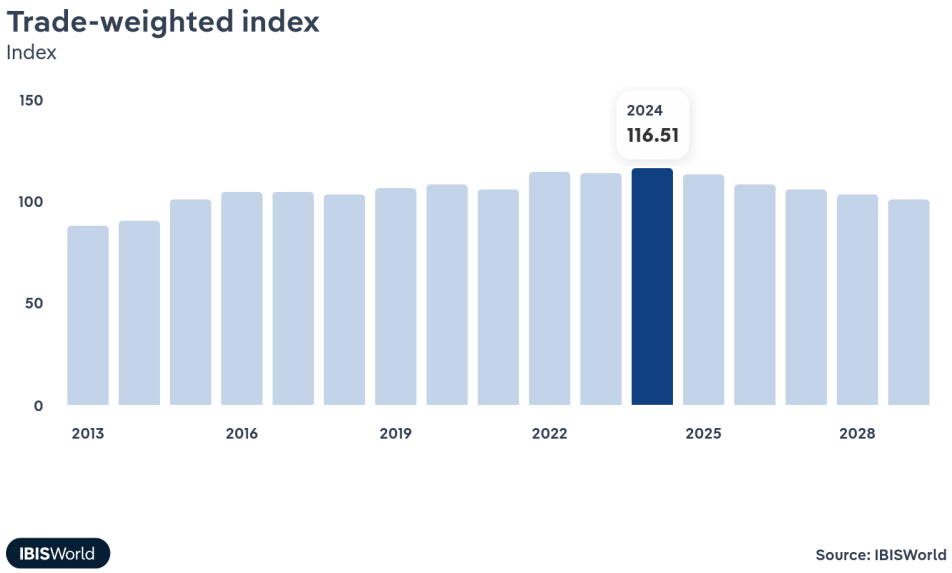
Amazon processes nearly 1.6 million e-commerce orders daily, managed by an operating system. With online shopping swelling nearly 1.5 times since the pandemic began and boutique retailers accessing top-level commerce tools, operating systems and software publishers will have an easier time making sales to commerce providers. E-commerce sales will grow in 2023, representing a potential opportunity for the industry.



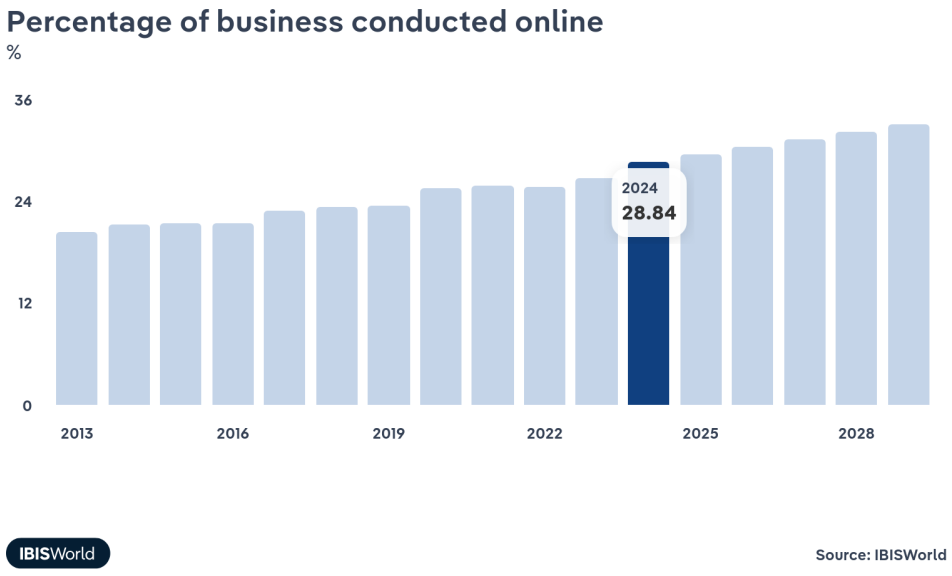
For most workforce, the first time they used a computer was in school or for a school-related function. Now more than ever, schools are a major purchaser of computers and bulk licensing on productivity software if they have the funding. As more becomes known about the benefits of education and job training, school funding is anticipated to rise. Government funding for primary and secondary education will grow in 2023.



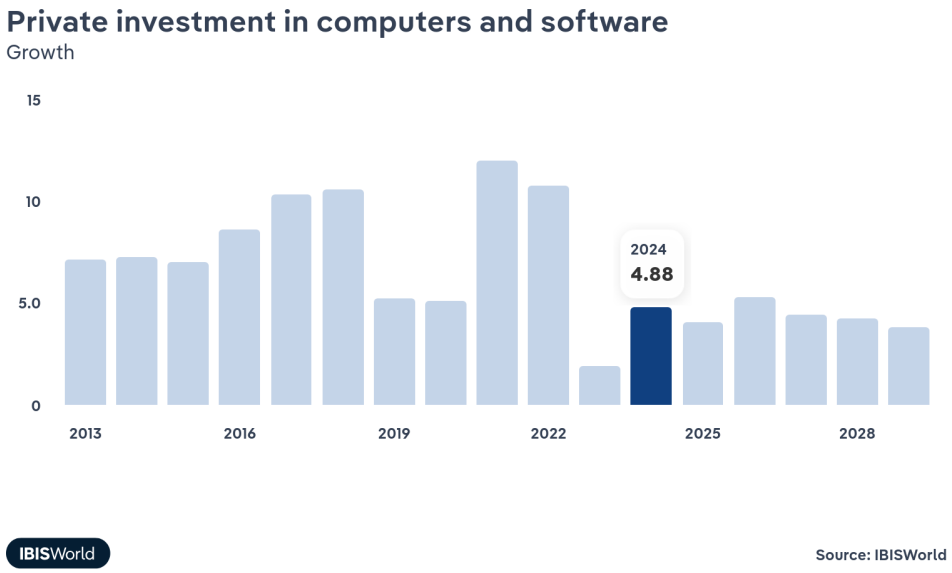
Commanding a salary of more than $100,000 frequently requires an individual to effectively communicate with many people, manage their own work and be productive. Industry software saturates the offices and workplaces of high-earning individuals, enabling them to do more with less time and overhead. High-income households are anticipated to rise moving forward as the wealth gap increases. The number of households more than $100,000 will rise in 2023.



Since software developers don't export any physical products, the international trade balance drives revenue growth at home. National companies export and work under a high index, generating greater revenue for technology companies than exporting software internationally, where demand is relatively lower. The trade-weighted index is anticipated to rise in 2023 before plummeting, posing a potential threat to the industry.



While operating systems and productivity software are used frequently in offline business, it is a necessity for drafting e-mails, sharing spreadsheets and computing customer analytics in e-commerce situations. Online business account for one-quarter of all GDP in 2020 and is not expected to fall any time soon. The percentage of business conducted online will increase in 2023.



Representing the total amount the economy is willing to spend on digital improvement purchases, private investment in computers and software acts as a magnifying glass for the industry's potential income. Fortunately, such investment has not fallen since the 2008-09 financial crisis and a generation of new clients will enable tech companies to capitalize on a new market of clients. Private investment in computers and software will grow in 2023.

Regulation & Policy

Low | Increasing

What regulations impact the industry?

Software property law

The General Data Protection Regulation, enacted by the European Union in 2018, has expanded restrictions against user data abuse for all digital companies. As operating systems and productivity software are used internationally, all major players must comply with: ‘The Right to be Forgotten,' which requires that digital companies verifiably purge all (non-safety related) data of a particular user on that user's request; and ‘Privacy by Design', which mandates software at all levels consider the privacy and security of all users during software development, as opposed to only following release. Both of these tenants will lower operator profit and necessitate the hiring of additional staff for development and auditing.

COVID-19 regulations

While the closure of most office spaces was devastating for operations in 2020, the development of remote employee support tools by operators and the wider world encouraged operators to cut costs by letting office leases lapse. Even following the return to office work in 2021 and 2022, coders have led the nomadic work movement by developing productivity software from their homes, co-working spaces, vans and a massive variety of other spaces.

Antitrust allegations

Operating system are the baseline for most computing experiences, and politicians are investigating how publishers are using this code to gain questionable advantages in other marketplaces. Following the European Union's implementation of the Digital Markets Act, the United States, India and others are noticing significant public support for breaking up monopolies in operating systems, productivity software and more.

Assistance

Moderate | Steady

What assistance is available to this industry?

COVID assistance

Many producers of software are small teams or nonemployers and thus were disproportionately affected by the global crash in March 2020. COVID relief acts for small businesses were occasionally leveraged by software programming studios, as employee expenses are a significant fraction of expenditure. However, any software studio performing well during lockdown was unlikely to qualify.

Datacenter tax breaks

The leading software hosts build massive datacenters to support software services. (Second-level software providers tend to rent datacenter capacity from Google, Microsoft, Amazon and others instead of building their own, further expanding demand.) When building these centers, developers demand significant tax breaks worth millions of dollars.

STEM education initiatives

Science, Technology, Engineering and Math (known as STEM) and programming education grants at the secondary and postsecondary level from a huge variety of institutions have spiked the labor talent pool for programmers. These grants have also increased competition, allowing for free online resources in niche operating system subjects.

Private cybersecurity grants

A slew of cyberattacks attacks on Microsoft, Facebook and T-Mobile, with consequences topping billions of dollars, have proven that no industry is digitally impenetrable. These news reports have given many operating systems the push to invest in better built-in cybersecurity tools, such as beefing up Windows Defender and automatically blocking macros from running in Excel.

COVID-instigated health technology spending

Large health provider networks are investing heavily in IT and software packages, with “more than 95% of providers expected to buy software in 2023”, according to Bain&Company. Health software and operating systems are frequently many years out-of-date to remain compatible with older equipment; this investment will benefit the largest players the most, with many smaller developers getting few additional contracts.

Financial Benchmarks

Understand average costs for industry operators and compare financial data against key ratios and financial benchmarks broken down by business size.

9. Financial Benchmarks

https://my.ibisworld.com/us/en/industry/51121a/financial-benchmarks

Key Takeaways

- **Fixed costs remain regardless of overall sales as developers innovate, incentivizing operators to start small.** The subscription payment model also helps keep budgets from getting lopsided.
- **Market research takes time and money in the early stages of business development.** Software startups typically get capital investment to cover these initial losses, but this slows long-term growth speeds.

Cost Structure

Cost Structure Benchmarks

Average operating costs by industry and sector as a share (%) of revenue 2024

No data

There's no data available for this industry.

IBISWorld

Source: IBISWorld

Chart displays current year only in the PDF version of this report. You can view and download chart for all other years associated with this industry on my.ibisworld.com.

What trends impact industry costs?

Market research and litigation keep the largest developers strong

- Developing a reliable, integrated operating system requires extensive research into client needs, existing offerings and future forecasting, all of which cost money.
- The US patent protection system forces operators spending to manage and register a portfolio of key code. Patent litigation costs have increased due to innovation, with the largest developers having their own litigation teams.
- Still, all other costs have declined as technology has become efficient. All other costs account for 33.5% of revenue in 2023.

High wages may not retain employees amid 'great renegotiation'

- Compensation for operating system developers leans toward lavish perks, especially as the size of the company grows.
- The stress of COVID, combined with frantic digitization, caused many workers to become burned out or quit altogether.
- Many developers receive $200,000 in wages, which has slightly offset these challenges, but many smaller employers cannot pay high salaries. Wages account for 39.9% of revenue in 2023.
- Wage costs will spiral upward until employee wages match high operator demand. Adding company stock to employee compensation is also common among businesses.

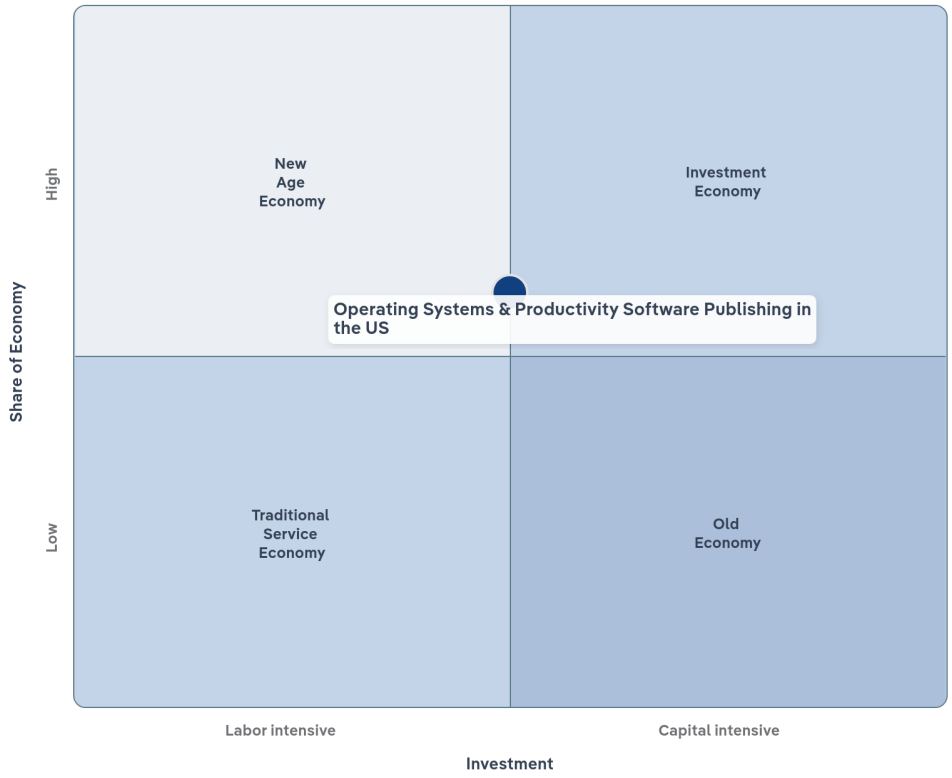
Profit is high for the entrenched, but low for newer players

- Researching the market and developing a competitive product is extraordinarily expensive, yet digital goods can be replicated and stored for pennies and sell for hundreds of dollars. If a publisher can surpass this barrier, their profit will far outstrip smaller competitors.
- If COVID-19 hadn't occurred, profit would have reached more than 20.0%; this is among the highest in the modern economy.
- Continued labor challenges have stalled further recovery by keeping wages and other costs high, with profit for the average publisher accounting for 15.8% of revenue in 2023.

Marketing focuses on internal competition

- Despite having strong brand recognition, many software publishers spent significantly on marketing in 2023 to attract customers from competitors.
- While businesses make careful decisions regarding which operating system and productivity suite to use, contractors and freelancers are more open to change; advertising frequently targets this demographic.
- Marketing accounts for 4.6% of revenue in 2023.

Share of economy vs. Investment



IBISWorld

Source: IBISWorld

Financial Ratios

Industry Multiples

Ratio	2018	2019	2020	2021	2022	3-Year	5-Year	10-Year
EBIT/Revenue	33.9	26.0	24.6	19.4	19.6	21.2	24.7	20.2
EBITDA/Revenue	41.6	38.8	29.3	24.6	24.9	26.2	31.8	29.2
Leverage Ratio	6.8	2.6	3.4	4.1	4.0	3.8	4.2	6.5

Industry Tax Structure

Ratio	2018	2019	2020	2021	2022	3-Year	5-Year	10-Year
Taxes Paid/Revenue	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Income Statement

Ratio	2018	2019	2020	2021	2022	3-Year	5-Year	10-Year
Total Revenue	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Business receipts	114.0	111.9	115.4	129.5	158.8	134.6	126.0	112.4
Cost of goods	10.1	10.7	9.9	11.8	12.0	11.2	10.9	11.9
Gross Profit	89.9	89.3	90.1	88.2	88.0	88.8	89.1	88.1
Expenses								
Salaries and wages	20.0	15.4	16.2	18.0	18.1	17.5	17.5	17.6
Advertising	8.6	6.7	6.3	6.0	6.0	6.1	6.7	7.1
Depreciation	2.2	8.7	1.0	1.0	1.0	1.0	2.8	5.0
Depletion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortization	5.6	4.1	3.6	4.2	4.3	4.1	4.4	3.9
Rent paid	4.7	3.4	3.3	4.4	4.5	4.1	4.1	3.6
Repairs	0.5	0.4	1.2	1.1	0.6	1.0	0.8	0.8
Bad debts	5.7	4.2	3.2	1.7	0.9	1.9	3.2	2.3
Employee benefit programs	1.6	1.3	1.7	1.8	2.6	2.0	1.8	3.0
Compensation of officers	4.8	2.9	0.9	0.9	2.8	1.6	2.5	2.7
Taxes paid	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Interest Income	2.4	1.7	1.5	3.0	1.7	2.0	2.0	1.7
Other Income								
Royalties	0.3	0.2	2.6	4.8	4.4	3.9	2.5	3.0
Rent Income	0.0	0.0	1.0	0.6	0.3	0.6	0.4	0.5
Net Income	26.2	19.7	18.6	9.2	9.2	12.3	16.6	11.3

Balance Sheet

Ratio	2018	2019	2020	2021	2022	3-Year	5-Year	10-Year
Assets								
Cash and Equivalents	6.2	7.4	7.6	7.5	6.4	7.2	7.0	7.5
Notes and accounts receivable	28.8	36.3	28.6	30.6	28.4	29.2	30.5	27.1
Allowance for bad debts	1.4	1.2	0.2	0.6	0.7	0.5	0.8	0.8
Inventories	5.8	11.6	12.3	24.9	28.1	21.7	16.5	9.4
Other current assets	6.0	8.7	9.3	12.6	11.8	11.2	9.7	11.5
Other investments	40.4	27.2	28.8	27.0	25.9	27.2	29.9	29.3
Property, Plant and Equipment	11.0	10.4	10.8	9.6	7.9	9.5	10.0	11.0
Accumulated depreciation	29.0	5.8	28.7	27.7	22.0	26.1	22.6	15.9
Intangible assets (Amortizable)	31.1	35.5	29.1	32.0	32.3	31.1	32.0	36.3
Accumulated amortization	5.5	5.7	5.6	6.4	5.9	5.9	5.8	8.2
Other assets	17.5	23.4	22.7	20.4	19.9	21.0	20.8	18.9
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Accounts payable	4.6	4.3	5.3	7.7	7.2	6.7	5.8	5.9
Liabilities and Net Worth								
Mort, notes, and bonds under 1 yr	4.1	14.3	4.5	7.8	7.9	6.8	7.7	6.8
Other current liabilities	25.6	26.7	26.6	41.1	34.3	34.0	30.9	29.9
Loans from shareholders	0.8	0.5	0.6	4.3	4.5	3.1	2.1	4.4
Mort, notes, bonds, 1 yr or more	32.2	31.1	37.5	35.4	34.1	35.7	34.1	33.0
Other liabilities	14.8	15.0	11.4	14.6	13.9	13.3	14.0	12.3
Total liabilities	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Capital stock	9.8	9.0	17.3	33.1	23.6	24.6	18.5	12.7
Additional paid-in capital	40.3	51.3	36.3	41.9	40.0	39.4	41.9	45.1
Retained earnings, appropriated	0.0	0.0	0.1	0.4	0.4	0.3	0.2	0.5
Retained earnings-unappropriated	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Cost of treasury stock	30.3	25.8	45.1	40.2	36.1	40.4	35.5	37.1
Net worth	26.2	28.3	30.8	41.1	39.2	37.0	33.1	37.7

Liquidity Ratios

Ratio	2018	2019	2020	2021	2022	3-Year	5-Year	10-Year
Current Ratio	1.5	1.5	1.6	1.4	1.6	1.6	1.5	1.5
Quick Ratio	1.3	1.2	1.3	1.0	1.1	1.1	1.2	1.3
Sales/Receivables	1.2	2.8	3.5	3.3	3.5	3.4	2.9	2.6
Days' Receivables	296.0	132.5	104.4	111.5	103.7	106.5	149.6	170.0
Days' Inventory	590.0	395.8	453.7	769.2	852.0	691.6	612.1	383.6
Inventory Turnover	0.6	0.9	0.8	0.5	0.4	0.6	0.6	4.1
Payables Turnover	0.8	2.5	1.9	1.5	1.7	1.7	1.7	1.6
Days' Payables	467.2	146.9	197.3	237.2	219.6	218.0	253.6	316.4
Sales/Working Capital	1.3	2.5	3.2	2.7	3.2	3.0	2.6	3.1

Coverage Ratios

Ratio	2018	2019	2020	2021	2022	3-Year	5-Year	10-Year
Interest Coverage	305.4	299.2	243.5	297.6	311.9	284.3	291.5	290.5
Debt Service Coverage Ratio	2.4	1.7	1.2	0.3	0.3	0.6	1.2	1.3

Leverage Ratios

Ratio	2018	2019	2020	2021	2022	3-Year	5-Year	10-Year
Fixed Assets/Net Worth	2.9	2.0	2.4	1.9	1.8	2.0	2.2	2.1
Debt/Net Worth	3.8	3.5	3.2	2.4	2.6	2.7	3.1	2.9
Tangible Net Worth	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4

Operating Ratios

Ratio	2018	2019	2020	2021	2022	3-Year	5-Year	10-Year
Return on Net Worth, %	45.8	91.9	80.0	47.2	50.1	59.1	63.0	40.9
Return on Assets, %	12.0	26.0	24.6	19.4	19.6	21.2	20.3	13.8
Sales/Total Assets	0.4	1.0	1.0	1.0	1.0	1.0	0.9	0.7
EBITDA/Revenue	41.6	38.8	29.3	24.6	24.9	26.2	31.8	29.2
EBIT/Revenue	33.9	26.0	24.6	19.4	19.6	21.2	24.7	20.2

Cash Flow & Debt Service Ratios (% of sales)

Ratio	2018	2019	2020	2021	2022	3-Year	5-Year	10-Year
Cash from Trading	126.2	32.8	80.6	75.3	83.0	79.6	79.6	83.6
Cash after Operations	89.9	-60.1	51.9	56.0	44.9	50.9	36.5	46.3
Net Cash after Operations	88.1	25.2	56.5	48.8	60.4	55.2	55.8	59.4

Debt Service P&I Coverage	3.7	1.0	4.1	2.2	2.6	3.0	2.7	2.7
Interest Coverage (Operating Cash)	11.4	3.9	9.4	4.8	5.8	6.7	7.1	6.7

Key Ratios

Year	Revenue per Employee ($)	Revenue per Enterprise ($ Million)	Employees per Estab. (Units)	Employees per Ent. (Units)	Average Wage ($)	Wages/ Revenue (%)	Estab. per Enterprise (Units)	IVA/ Revenue (%)
2004	482,253	5.7	10.9	11.9	157,959	32.8	1.1	53.4
2005	502,102	6.2	11.3	12.3	150,136	29.9	1.1	47.2
2006	513,369	6.7	11.9	13.0	156,576	30.5	1.1	48.1
2007	537,341	7.4	12.6	13.7	169,027	31.5	1.1	56.9
2008	507,168	7.8	14.2	15.5	163,848	32.3	1.1	52.0
2009	518,455	8.0	14.1	15.3	161,392	31.1	1.1	54.1
2010	549,421	8.3	13.9	15.0	173,397	31.6	1.1	50.0
2011	591,602	8.7	13.5	14.7	174,693	29.5	1.1	48.2
2012	549,447	7.9	13.2	14.3	173,581	31.6	1.1	46.9
2013	553,200	8.1	13.3	14.6	172,597	31.2	1.1	49.5
2014	582,082	8.4	13.3	14.4	180,647	31.0	1.1	49.1
2015	579,279	8.6	13.6	14.8	185,036	31.9	1.1	46.4
2016	557,871	9.3	15.4	16.7	187,091	33.5	1.1	48.6
2017	515,310	8.7	15.6	16.9	188,589	36.6	1.1	52.0
2018	530,566	9.1	15.8	17.1	194,349	36.6	1.1	55.3
2019	557,745	10.6	17.4	19.0	196,410	35.2	1.1	54.8
2020	564,440	11.8	19.3	20.9	214,012	37.9	1.1	59.5
2021	554,331	11.6	19.4	21.0	213,091	38.4	1.1	58.4
2022	540,385	11.3	19.4	20.9	212,241	39.3	1.1	57.1
2023	533,079	11.2	19.5	21.0	212,528	39.9	1.1	57.4
2024	511,576	10.7	19.4	20.8	207,260	40.5	1.1	57.8
2025	505,117	10.5	19.4	20.8	206,736	40.9	1.1	58.1
2026	499,451	10.4	19.4	20.8	206,272	41.3	1.1	58.3
2027	495,062	10.3	19.4	20.8	205,910	41.6	1.1	58.5
2028	491,429	10.1	19.3	20.6	205,608	41.8	1.1	58.6
2029	488,721	10.0	19.2	20.5	205,381	42.0	1.1	58.9

*Figures are inflation adjusted to 2024

Key Statistics

Discover 14 years of historical, current and forward-looking industry performance data in table format.

10. Key Statistics

https://my.ibisworld.com/us/en/industry/51121a/key-statistics

Industry Data

Values

Year	Revenue ($ Million)	IVA ($ Million)	Establishments (Units)	Enterprises (Units)	Employment (Units)	Wages ($ Million)
2004	51,967.2	27,736.9	9,854	9,093	107,759	17,021.5
2005	48,225.4	22,766.2	8,467	7,799	96,047	14,420.2
2006	50,821.5	24,468.7	8,350	7,639	98,996	15,500.4
2007	53,330.0	30,349.2	7,887	7,251	99,248	16,775.6
2008	61,024.5	31,718.1	8,487	7,777	120,324	19,714.9
2009	59,396.8	32,104.2	8,132	7,470	114,565	18,489.8
2010	58,956.7	29,458.5	7,743	7,136	107,307	18,606.7
2011	61,346.7	29,559.9	7,685	7,067	103,696	18,114.9
2012	64,895.2	30,461.6	8,950	8,240	118,110	20,501.7
2013	71,704.7	35,459.0	9,729	8,902	129,618	22,371.7
2014	77,267.9	37,907.5	10,013	9,208	132,744	23,979.8
2015	87,693.6	40,697.5	11,120	10,254	151,384	28,011.5
2016	96,428.5	46,848.2	11,206	10,321	172,851	32,338.9
2017	107,461.7	55,845.8	13,359	12,317	208,538	39,327.9
2018	116,362.2	64,325.7	13,893	12,825	219,317	42,624.0
2019	137,339.2	75,209.9	14,124	12,967	246,240	48,364.0
2020	152,820.0	90,895.4	14,001	12,954	270,746	57,942.9
2021	158,024.3	92,248.8	14,662	13,578	285,072	60,746.3
2022	159,647.1	91,115.3	15,224	14,127	295,432	62,702.9
2023	163,863.7	94,061.7	15,788	14,667	307,391	65,329.2
2024	162,039.5	93,636.6	16,342	15,208	316,746	65,648.8
2025	163,570.5	94,952.8	16,692	15,547	323,827	66,946.8
2026	165,263.0	96,334.5	17,029	15,873	330,889	68,253.3
2027	166,810.5	97,545.4	17,370	16,207	336,949	69,381.2
2028	168,200.8	98,608.3	17,755	16,582	342,269	70,373.2

2029	169,797.7	99,976.3	18,118	16,936	347,433	71,356.2

*Figures are inflation adjusted to 2024

Annual Change

Year	Revenue %	IVA %	Establishments %	Enterprises %	Employment %	Wages %
2004	N/A	N/A	N/A	N/A	N/A	N/A
2005	-7.2	-17.9	-14.1	-14.2	-10.9	-15.3
2006	5.4	7.5	-1.4	-2.1	3.1	7.5
2007	4.9	24.0	-5.5	-5.1	0.3	8.2
2008	14.4	4.5	7.6	7.3	21.2	17.5
2009	-2.7	1.2	-4.2	-3.9	-4.8	-6.2
2010	-0.7	-8.2	-4.8	-4.5	-6.3	0.6
2011	4.1	0.3	-0.7	-1.0	-3.4	-2.6
2012	5.8	3.1	16.5	16.6	13.9	13.2
2013	10.5	16.4	8.7	8.0	9.7	9.1
2014	7.8	6.9	2.9	3.4	2.4	7.2
2015	13.5	7.4	11.1	11.4	14.0	16.8
2016	10.0	15.1	0.8	0.7	14.2	15.4
2017	11.4	19.2	19.2	19.3	20.6	21.6
2018	8.3	15.2	4.0	4.1	5.2	8.4
2019	18.0	16.9	1.7	1.1	12.3	13.5
2020	11.3	20.9	-0.9	-0.1	10.0	19.8
2021	3.4	1.5	4.7	4.8	5.3	4.8
2022	1.0	-1.2	3.8	4.0	3.6	3.2
2023	2.6	3.2	3.7	3.8	4.0	4.2
2024	-1.1	-0.5	3.5	3.7	3.0	0.5
2025	0.9	1.4	2.1	2.2	2.2	2.0
2026	1.0	1.5	2.0	2.1	2.2	2.0
2027	0.9	1.3	2.0	2.1	1.8	1.7
2028	0.8	1.1	2.2	2.3	1.6	1.4
2029	0.9	1.4	2.0	2.1	1.5	1.4

*Figures are inflation adjusted to 2024

DISCLAIMER