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INDUSTRY REPORT 51121D

Design, Editing & Rendering Software Publishing in the US

Still rendering: A more significant percentage of business conducted online will likely bolster industry growth and stability

Terry Faber | February 2023

Contents

Recent Developments

Shipping and aviation disruptions highlight software risks

On January 7, maritime transport company DNV became the second shipping organization in Europe to suffer a ransomware attack in recent weeks. Four days later, the Federal Aviation Administration grounded flights across the United States after corrupted software damaged flight management systems. It remains unclear if the FAA suffered a cyberattack, but a human error could be the culprit. Regardless, these noteworthy events remind markets of the threats from a growing dependence on software and technology. It may motivate companies and governments to update software and bolster cyber defenses.

This section last updated June 23, 2023

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 that benefit you, your company and your clients. We offer research on industries in the US, Canada, Australia, New Zealand, Germany, the UK, Ireland, China and Mexico, as well as industries that are truly global in nature.

About This Industry

Industry Definition

This industry develops and distributes design, picture-editing, video-rendering, object-rendering and audio-editing software. These types of software are widely used in the fields of graphic design, architecture, video game development, manufacturing and media production. The industry also includes companies that develop software add-ons. This industry does not publish software for editing textual documents (IBISWorld report 51121a).

Major Players

Adobe

Autodesk

Dassault Systemes

Ptc

Main Activities

The primary activities of this industry are:

Developing image-editing software

Developing computer-aided design (CAD) software

Developing 3D image-rendering software

The major products and services in this industry are:

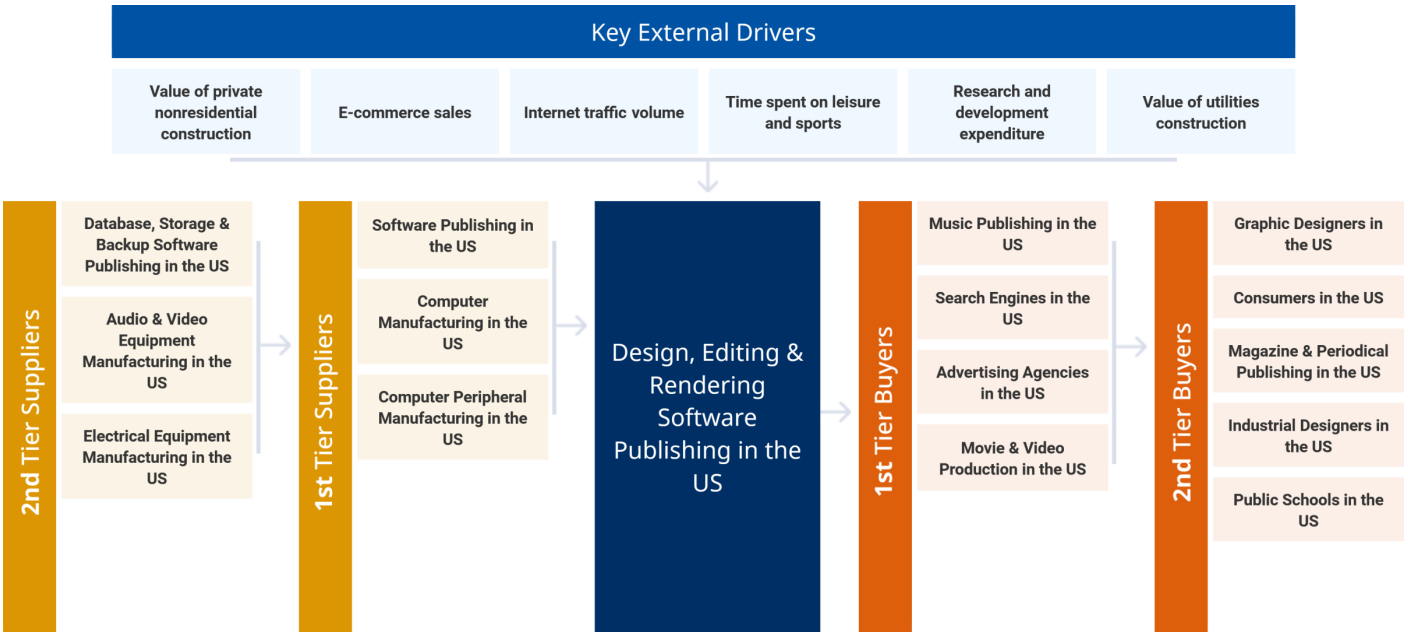
CAD and other design software

Image editing software

Video postproduction and sound editing software

Computer graphics and animation software

Supply Chain



SIMILAR INDUSTRIES

Recordable Media Manufacturing in the US
Complementor

Software Publishing in the US
Complementor

Video Postproduction Services in the US
Complementor

Data Processing & Hosting Services in the US
Complementor

Architects in the US
Complementor

Graphic Designers in the US
Complementor

RELATED INTERNATIONAL INDUSTRIES

Software Publishing in the UK

Software Publishing in Australia

Software Development in China

Software Publishing in Canada

Software Publishing in Ireland

Software Development in Ireland

Industry at a Glance

Key Statistics

$27.3bn
Revenue

Annual Growth 2018–2023	Annual Growth 2023–2028	Annual Growth 2018–2028
12.0%	5.9%	

$4.3bn
Profit

Annual Growth 2018–2023	Annual Growth 2018–2023
10.3%	

15.7%
Profit Margin

Annual Growth 2018–2023	Annual Growth 2018–2023
-1.3pp	

3,780
Businesses

Annual Growth 2018–2023	Annual Growth 2023–2028	Annual Growth 2018–2028
16.3%	11.5%	

56,259
Employment

Annual Growth 2018–2023	Annual Growth 2023–2028	Annual Growth 2018–2028
9.3%	7.5%	

$12.6bn
Wages

Annual Growth 2018–2023	Annual Growth 2023–2028	Annual Growth 2018–2028
11.8%	7.2%	

Key External Drivers

% = 2018–23 Annual Growth

1.5%
Value of utilities construction

-3.9%
Value of private nonresidential construction

13.6%
E-commerce sales

20.9%
Internet traffic volume

-0.4%
Time spent on leisure and sports

0.8%
Research and development expenditure

Industry Structure

POSITIVE IMPACT

Life Cycle
Growth

Capital Intensity
Low

Industry Globalization
Low / Steady

MIXED IMPACT

Competition
Medium / Increasing

NEGATIVE IMPACT

Revenue Volatility
High

Industry Assistance
Low / Steady

Concentration
High

Regulation & Policy
None / Steady

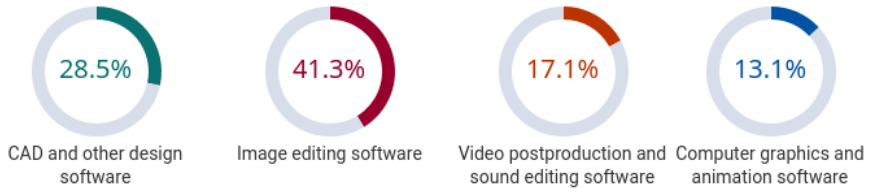
Technology Change
High

Barriers to Entry
Low / Steady

Key Trends

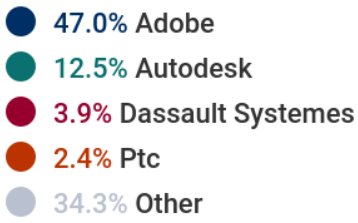
- The ability of creative industries to continue operations in a limited capacity sustained software purchases
- Software as a Service has taken over the creative software industry
- The SaaS model has significant advantages in corporate agility, cash flow and customer feedback
- Small and midsize businesses are increasingly adopting and using 3D printing technology
- As 3D printing technology improves, more businesses will likely adopt and use this technology
- Free creative software has never been more popular
- Operators spend more than half of all income on market research

Products & Services Segmentation



Design, Editing & Rendering Software Publishing
Source: IBISWorld

Major Players



Design, Editing & Rendering Software Publishing
Source: IBISWorld

SWOT

STRENGTHS

Growth Life Cycle Stage
Low Imports
High Profit vs. Sector Average
Low Customer Class Concentration
Low Product/Service Concentration
Low Capital Requirements

WEAKNESSES

Low & Steady Barriers to Entry
Low & Steady Level of Assistance
High Volatility

OPPORTUNITIES

Very High Revenue Growth (2005-2023)
High Revenue Growth (2018-2023)
High Revenue Growth (2023-2028)
E-commerce sales

THREATS

Low Outlier Growth
Low Performance Drivers
Value of private nonresidential construction

Executive Summary

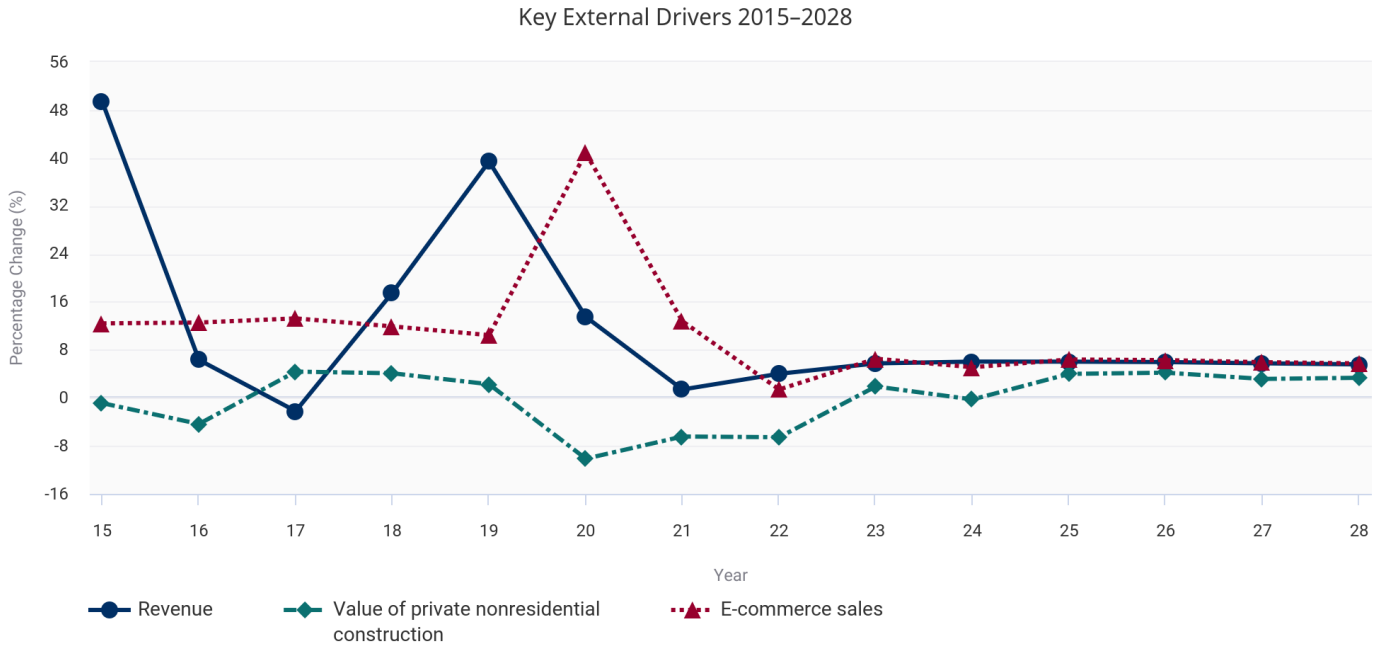
Still rendering: A more significant percentage of business conducted online will likely bolster industry growth and stability

Businesses in the Design, Editing and Rendering Software Publishing industry create software programs for graphic design, architecture and video game production professionals, among others. Industry revenue has been increasing at a CAGR of 15.6% over the past five years, reaching an estimated $24.9 billion in 2020. This includes a projected 5.8% rise in 2023, following the continued inclusion of designed goods into the web and physical world. The adoption of new technology, including 3D printers and virtual reality, by manufacturers and hobbyists, has spurred demand for computer-aided design (CAD) software. Spiking consumer entertainment and the e-commerce frenzy generated by the COVID-19 pandemic helped graphics software developers pull in an astonishing 13.5% more income than in 2019. Still, industry profit, measured as earnings before interest and taxes, has been collapsing, and represents only an estimated 15.7% of revenue in 2023, compared with 17.0% in 2018.

Creative package software developers face a unique structure, including high wage costs, significant gaps between income generation and expanding long-term growth from media digitization. Operators spend more than half of all income on market research and employees to turn that research into reality. Compensation for these highly-trained individuals can top $100,000, though a quality idea can pull a minor team into the industry. These costs are balanced by a rapidly smoothing income flow created by the switch from perpetual licensing to monthly subscriptions. This new business model also enables internet-hosted software licenses, enabling access to any computer over the internet. This flexibility is necessary in a world consuming more digital media than ever, driving yearly income up.

Revenue growth will likely continue toward 2028, as the subscription-based income model and a more significant percentage of business conducted online bolster income growth and stability. Managing vast talent will grow as a challenge in the coming years. Employees demanding ethics-focused and human-centered work environments will disproportionately affect businesses with significant skilled labor spending. The excitement surrounding video content creation will help generate income from small studios and nonemployers, but a looming recession could easily throw off this new market. IBISWorld expects industry revenue to grow at a CAGR of 5.9% to an estimated $36.4 billion over the next five years.

Industry Performance



Design, Editing & Rendering Software Publishing
Source: IBISWorld

Key External Drivers

Value of private nonresidential construction

Building markets represent a massive fraction of total industry income. Operators' products are used to design, refine and test structures, place utilities, select materials and more. Nearly 100% of major nonresidential construction projects undertaken over the past five years have used industry software in some capacity. Unfortunately for operators, nonresidential construction has remained low since the COVID-19 pandemic, with 2023's projected continued fall posing a potential threat to the industry.

E-commerce sales

Online marketplaces require significant investment in increasingly interactive media to draw customers away from physical retail. The effort from both sales platforms and sellers to create attractive webpages, video review systems and refined products often necessitates the use of teams purchasing industry software. The COVID-19 pandemic increased e-commerce by nearly 30% in 2020, and online sales will likely continue to rise in 2023, representing a potential opportunity for the industry.

Internet traffic volume

The media and entertainment industry is the largest industrial goods market. Users of design software create webpages, videos, and virtual reality games and supplement almost every piece of digital software. These projects are then distributed via the internet to consumers. During the COVID-19 pandemic, global internet traffic increased nearly 25.0%, and in 2023, the figure is anticipated to undergo a similar increase.

Time spent on leisure and sports

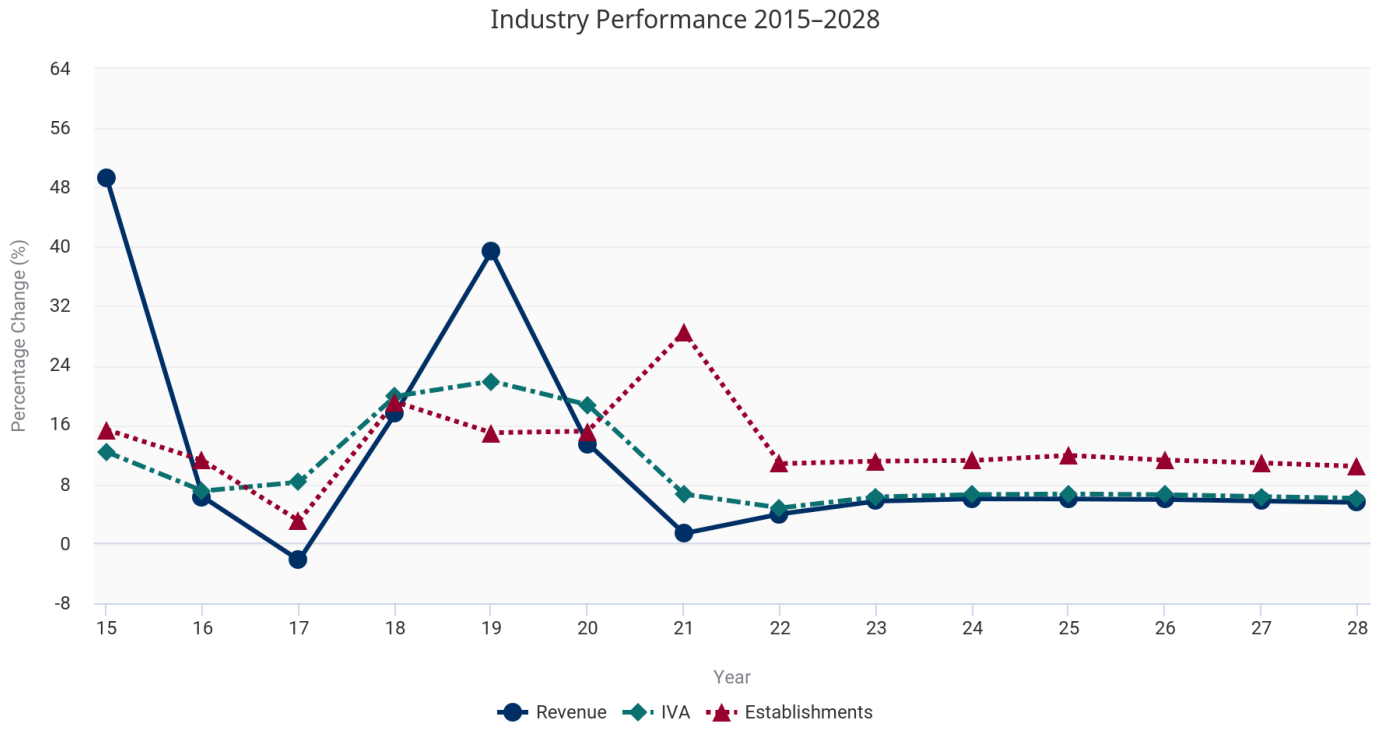
For many creators using digital design software, income is only generated when users consume the media content. When consumers have less time to spend on leisure activities, including watching video content and playing games, creators are less incentivized to dedicate huge budgets to upgrading industry software to create the absolute best media content. Time spent on leisure and sports is anticipated to fall dramatically in 2023, posing a potential threat to the industry.

Research and development expenditure

As the marketplace for goods becomes more complex and international, companies must refine products through research and development to compete with inexpensive imports. In the physical goods manufacturing sector, this often means using CAD and simulations developed by design software programmers. Aggregate research and development costs are expected to rise in 2023 as the world continues to change.

Value of utilities construction

Similarly to nonresidential construction, the sheer scale of utility construction projects, including power plants, gas pipes, sewer systems and similar construction, required digital design software to ensure various teams all know the exact specifications for safety-critical mechanisms. The value of utility construction will fall slightly in 2023.



Design, Editing & Rendering Software Publishing
Source: IBISWorld

Current Performance

The Design, Editing and Rendering Software Publishing industry has been expanding exponentially over the past five years, rising at a CAGR of 12.0%, reaching an estimated $27.3 billion in 2023.

Revenue is expected to grow 5.8% in 2023 alone. At the same time, profit is reaching pre-pandemic levels at an estimated 15.7% of revenue.

Internet-hosted graphics drive income expansion in 2020 and 2021

- Industry revenue expanded in 2020, growing 13.5%, despite the COVID-19 pandemic temporarily incentivizing cost cutting in downstream industries.
- The ability of creative industries to continue operations in a limited capacity sustained software purchases.
- Within weeks, as the percentage of business conducted online surged, many design software programmers encountered new demands from the recently unemployed seeking new opportunities in the digital creative arts.

Growing screen time statistics benefit overall income growth

- The perception of entertainment itself has fundamentally moved from baseball games and magic tricks to watching streaming services and playing video games.
- This new age of entertainment heavily leverages software designed by graphic design software industry members.
- Classes teaching the world about the niche features of graphic software products are now abundant on Youtube and paid class sites, with universities spinning up degree programs targeted at media creation using digital tools.

Software as a service completes takeover of the graphics software industry

- Software as a Service (SaaS) has taken over the creative software industry, with all major creative software companies offering subscription versions of software.

- This method forces consumers to pay a lesser monthly or annual fee for a license to access software over the internet instead of downloading a copy.
- The SaaS model has significant advantages in corporate agility, cash flow and customer feedback, and almost all clients not yet using the model will switch in the coming years.
- Long-term users also pay significantly more for software bought using the SaaS model. The typical break-even point is around 24 months of software usage.

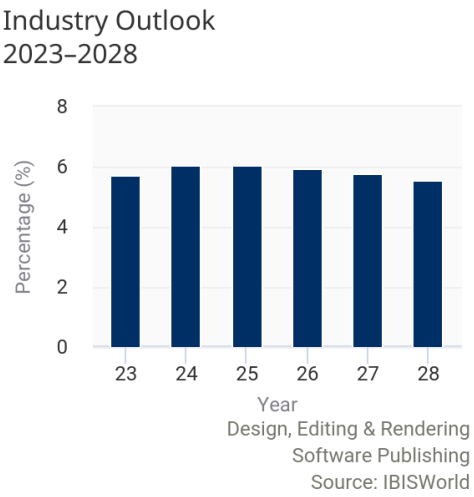
Historical Performance Data

Year	Revenue ($m)	IVA ($m)	Establishments (Units)	Enterprises (Units)	Employment (Units)	Exports ($m)	Imports ($m)	Wages ($m)	Domestic Demand ($m)	Number of broadband connections (Million)
2014	8,479	6,440	1,228	1,108	27,329	N/A	N/A	4,911	N/A	21.3
2015	12,665	7,238	1,417	1,345	29,280	N/A	N/A	5,406	N/A	21.6
2016	13,467	7,753	1,576	1,453	31,249	N/A	N/A	5,727	N/A	21.6
2017	13,170	8,398	1,625	1,506	33,159	N/A	N/A	6,374	N/A	23.0
2018	15,480	10,068	1,936	1,773	36,047	N/A	N/A	7,181	N/A	23.5
2019	21,580	12,274	2,226	2,097	40,376	N/A	N/A	8,056	N/A	23.7
2020	24,496	14,574	2,564	2,388	44,357	N/A	N/A	9,292	N/A	25.8
2021	24,842	15,549	3,295	3,056	49,254	N/A	N/A	11,079	N/A	25.8
2022	25,841	16,302	3,651	3,391	52,376	N/A	N/A	11,730	N/A	25.4
2023	27,328	17,334	4,058	3,780	56,259	N/A	N/A	12,561	N/A	28.0

Industry Outlook

Outlook

Design, editing and rendering software publishing revenue is expected to rise at a diminished, but still solid CAGR of 5.9%, reaching an estimated $36.4 billion in 2028.



Simultaneously, increased spending will likely push profit down to 14.7% of income.

3D printers create a market for slicing software

- 3D printers combine the power of sophisticated inkjet printer technology, materials science and CAD software to produce custom objects for pennies rapidly.
- Small and midsize businesses are increasingly adopting and using 3D printing technology to more affordably and efficiently create product prototypes.
- For example, a soda company could use 3D printing technology to create prototypes of new bottle designs for cents instead of requiring millions of dollars of aluminum casting equipment.
- 3D printers use multiple layers of industry software, from CAD programs to print slicing code.

VR developers leverage specialty features and displays

- The adoption of virtual reality (VR) and augmented reality (AR) at a vast scale will drive interest in new features in animation and video editing software moving forward or spur the development of entirely new packages.
- Current design software is made to run on a flat, 2D monitor, but this is suboptimal for the immersive, 360-degree worlds needed for a VR or AR game.
- VR technology's limited processing power and unique display format increasingly use software that can intelligently calculate which parts of the frame to render in the highest quality based on the end user's focus location.

Paintbrushes rise against Adobe's Creative Cloud

- While Adobe's software suite, Creative Cloud, offers unparalleled utility to creatives of many types, the cost and user experience of many Adobe products are subpar for the extremely premium price ($600+ annually at the time of writing) charged for access.
- Adobe's decisions to paywall core features during the COVID-19 pandemic, automatically opt users into data sharing and act as a monopoly has angered many users into creating their own software to fight back.
- Free creative software has never been more popular, and this trend is anticipated to continue over the coming years.

Performance Outlook Data

Year	Revenue ($m)	IVA ($m)	Establishments (Units)	Enterprises (Units)	Employment (Units)	Exports ($m)	Imports ($m)	Wages ($m)	Domestic Demand ($m)	Number of broadband connections (Million)
2023	27,328	17,334	4,058	3,780	56,259	N/A	N/A	12,561	N/A	28.0
2024	28,983	18,484	4,514	4,218	60,557	N/A	N/A	13,481	N/A	28.9
2025	30,735	19,728	5,052	4,739	65,289	N/A	N/A	14,486	N/A	29.8
2026	32,570	21,034	5,622	5,293	70,260	N/A	N/A	15,542	N/A	30.7
2027	34,449	22,373	6,235	5,888	75,380	N/A	N/A	16,627	N/A	31.6
2028	36,372	23,748	6,886	6,522	80,667	N/A	N/A	17,746	N/A	32.4
2029	38,371	23,749	7,496	7,118	85,935	N/A	N/A	18,868	N/A	33.3

Industry Life Cycle

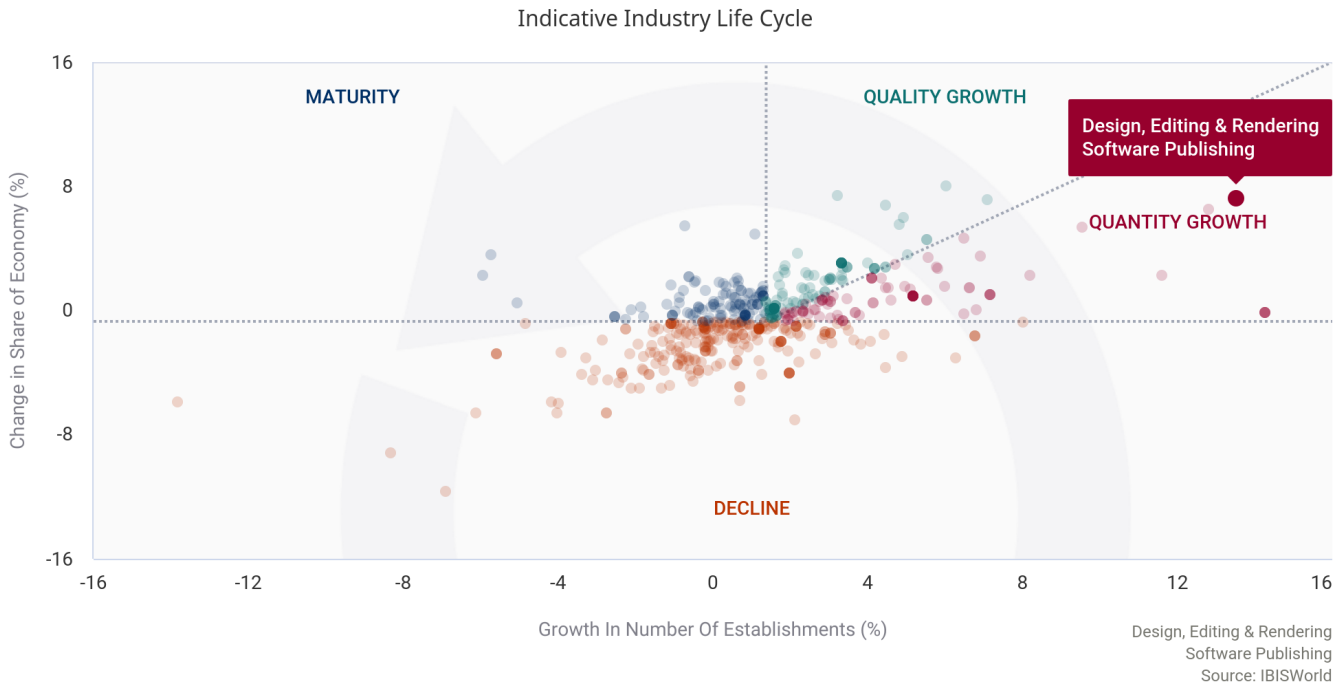
The life cycle stage of this industry is ✓ Growth

LIFE CYCLE REASONS

The growing popularity of new technology has bolstered demand for innovative industry software

The commercialization of 3D printing has increased demand for CAD software in recent years

The total number of industry enterprises is expected to rise rapidly over the next 10 years



Design, Editing & Rendering Software Publishing
Source: IBISWorld

Contribution to GDP

Graphics software enables the creation of the vast ecosystem of digital media available to consumers today. While consumer tastes may change, graphics industry producers will adapt to any new formats as they have in the past.

Market Saturation

Adobe's suite saturates a majority of the market, with other leading players' core products holding significant power over their own niches.

Innovation

The subscription software model encourages continued innovation with robust and recurrent cash flow. Features for software are typically free and are downloaded to the user's copy in the background.

Consolidation

The most prominent software players use consolidation as a weapon, keeping minor developers from overextending. Almost all moderate-size design houses are consumed by a significant player before it poses a threat.

Technology and Systems

Design software is a critical technology in many industries, from entertainment to architecture and consumer product development. Even so, producers of software need relatively little technology to get started.

Products & Markets

Supply Chain

Key Buying Industries

1st Tier

- Music Publishing in the US
- Search Engines in the US
- Advertising Agencies in the US
- Movie & Video Production in the US

2nd Tier

- Graphic Designers in the US
- Consumers in the US
- Magazine & Periodical Publishing in the US
- Industrial Designers in the US
- Public Schools in the US

Key Selling Industries

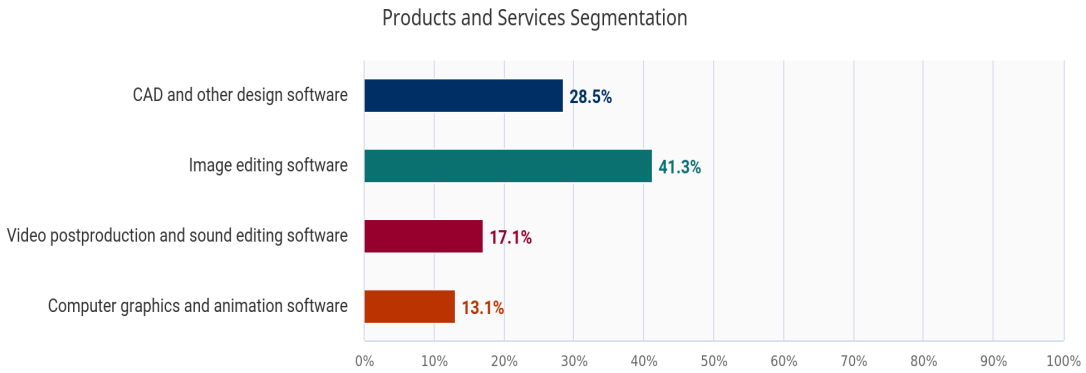
1st Tier

- Software Publishing in the US
- Computer Manufacturing in the US
- Computer Peripheral Manufacturing in the US

2nd Tier

- Database, Storage & Backup Software Publishing in the US
- Audio & Video Equipment Manufacturing in the US
- Electrical Equipment Manufacturing in the US

Products & Services



2023 INDUSTRY REVENUE

$27.3bn

Design, Editing & Rendering Software Publishing
Source: IBISWorld

Other segments outpace image editing software's former dominance

- Image editing is broken down into two forms: in pixel-based image editors, the user is able to manipulate individual pixels or dots within an image, whereas vector image editors enable the user to manage shapes that are rendered into a final image.
- The image editing software segment has significant penetration from freeware and open-source software programs like GIMP and Inkscape. Competition from low-cost alternatives limits the ability of proprietary image editors to penetrate the price-conscious consumer and hobbyist markets.
- The entertainment, graphics design and advertising industries are heavy users of proprietary image editing software.
- The image editing segment has declined in its contribution to income due primarily to more rapid growth in the CAD and other design software segments, combined with the popularity of more interactive media on the web.
- As more personal users and businesses began seeking entertainment from home or operating remotely, this segment expanded, though not as fast as the video and graphics segments.

CAD and design software halted disproportionately throughout COVID

- Computer-aided design (CAD) and other design software are the most economically essential products in this industry. CAD software enables users to create detailed 3D and 2D models and diagrams of objects, complete with documentation, including the materials, processes and tolerances associated with the design.
- Other design software, besides CAD, can be used to create conceptual designs for items, including products or buildings. Software vendors typically target different niche markets with customized software packages.
- Unlike users of image editing software, this segment caters mainly to businesses that rely on the availability

of some in-person work facilities; thus, this segment declined as a share of total industry income at the beginning of the coronavirus pandemic in 2020. Yet, demand for CAD and other design software recovered in 2021 as in-person work facilities reopened.

Video post-production and sound editing software find a home with individual users

- Video and sound editing software are essential tools in the movie, TV, video and music production industries since they enable users to import images, audio and video clips into an existing recorded video and alter the viewing angle and color palette.
- With third-party software, extension plug-ins can add new features like the ability to import 3D objects and animation. Timeline-based video editors (e.g., Adobe Premiere, Apple's Final Cut) enable users to edit the frame rate, sequence or audio of an existing video in a way that is analogous to traditional cut-and-paste editing of film reels.
- Sound editing software enables users to record, edit and create audio content, which can often be used in videos. This share has risen more than the past five years with the popularity of video-sharing sites and streaming services.

Computer graphics and animation software merge to make interactive experiences

- The chief users of computer animation products are movie production companies (e.g., animation studios like Dreamworks) and video game developers.
- Graphics and animation software takes a series of 2D or 3D images, typically created using image editing software and manipulates these objects to create animated videos.
- IBISWorld estimates that this segment decreased as a percentage of income as the feature set of free game development engines, including Unity, exploded.

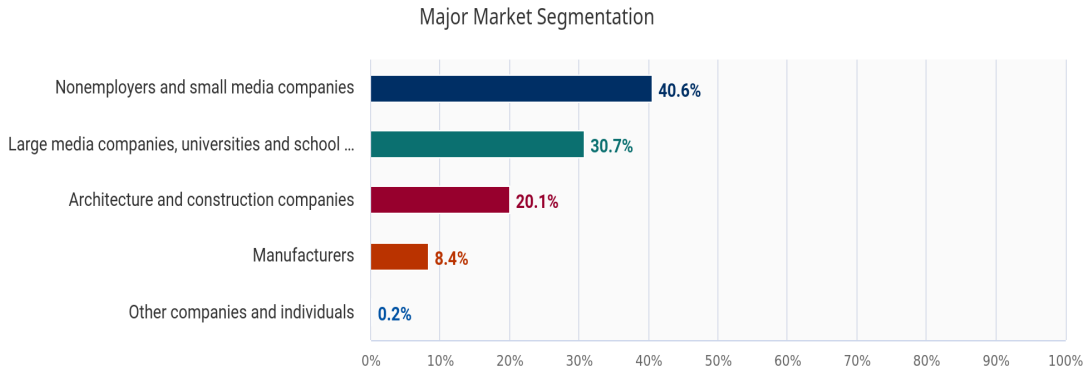
Demand Determinants

Design, editing and rendering software is a type of capital expenditure for most customers.

Consequently, demand is driven by the level and direction of business activity in customers' downstream industries. For example, sales and upgrade licenses of architecture, engineering and construction software rise along with revenue growth in the construction sector. Similarly, computer-aided design software sales increase alongside revenue growth for downstream manufacturing industries such as, automobile manufactures. Furthermore, the financing conditions of downstream industries also play a large role in determining demand for the Design, Editing and Rendering Software Publishing industry's products. When corporate profit is high or interest rates are low, companies are more inclined to invest in production assets like software; conversely, when profit is low or interest rates high, companies tend to purchase fewer production assets. Low interest rates throughout the COVID-19 (coronavirus) pandemic enabled companies to invest in software, boosting demand for industry operator's products.

Demand for image, video and audio editing software, in addition to graphics and animation software, are primarily driven by entertainment, advertising and design industries. Film studios are major users of video editing and animation software, which speeds up tasks related to TV and movie postproduction editing. Newer versions of these software packages typically feature support for faster image processing and extremely high picture quality. Video game software developers are also extensive users of 3D graphics and animation software due to consumers' desire for increasingly realistic and immersive video games. Recording companies use audio software to record and edit audio content. Similar to production software, demand for image, video and audio editing software and graphics and animation software often depends on corporate profit, interest rates and demand from downstream customers.

Major Markets



2023 INDUSTRY REVENUE

$27.3bn

Design, Editing & Rendering Software Publishing
Source: IBISWorld

Media and entertainment companies explode as customers spend time on screens

- Media and entertainment companies consist of businesses, including film studios, recording companies and video game publishers, which create a product intended to be viewed by an audience for fun or information.
- This segment dwarfs the industry's income, with a slightly higher fraction coming from individuals and small companies and some coming from large studios, schools and universities of greater than 50 employees.
- Animation and video software are also used to create videos for YouTube, Instagram, Facebook and TikTok, the popularity of which has exploded in the current period.
- This segment faces greater competition than other customer segments for free or open-source software alternatives.

Architecture and construction companies spend big to build safely

- Architecture companies use computer-aided design (CAD) software to design and draft buildings prior to construction.
- Prior to CAD software, architects would create detailed drafting illustrations by hand with pencil and paper, a highly laborious process.
- In addition to digital renderings of buildings, architecture companies often order detailed and expensive physical models for large projects.
- Low-cost commercial 3D printing technology has enabled large architecture companies to create custom models in-house in future years rapidly, but the digital simulations provided by the most advanced CAD packages remain invaluable.

Manufacturers love 3D printing and industry simulation packages

- Manufacturers include automobile, aerospace, consumer goods and all producers creating products; CAD software has dramatically accelerated the product design process in these industries.
- Some companies are adopting 3D printing technology to accelerate the design process further. 3D printing technology enables manufacturers to create unique to-scale models in-house out of resin instead of outsourcing the production.
- Manufacturers were disproportionately damaged during COVID and have yet to resume investment in design software back at pre-pandemic levels.

Other customers frequently have no income

- This customer segment includes other types of businesses that use design, editing and rendering software and individuals.
- As 3D printers became more mainstream, demand for CAD software from individuals increased; like the media and entertainment segment, the other customer group encountered competition from open-source software alternatives due to the high prices of proprietary software.
- These groups tend to generate low or no income compared with the multi-million dollar contracts given to large businesses and frequently lean toward free alternatives.

Exports in this industry are ⊘ Low and Steady

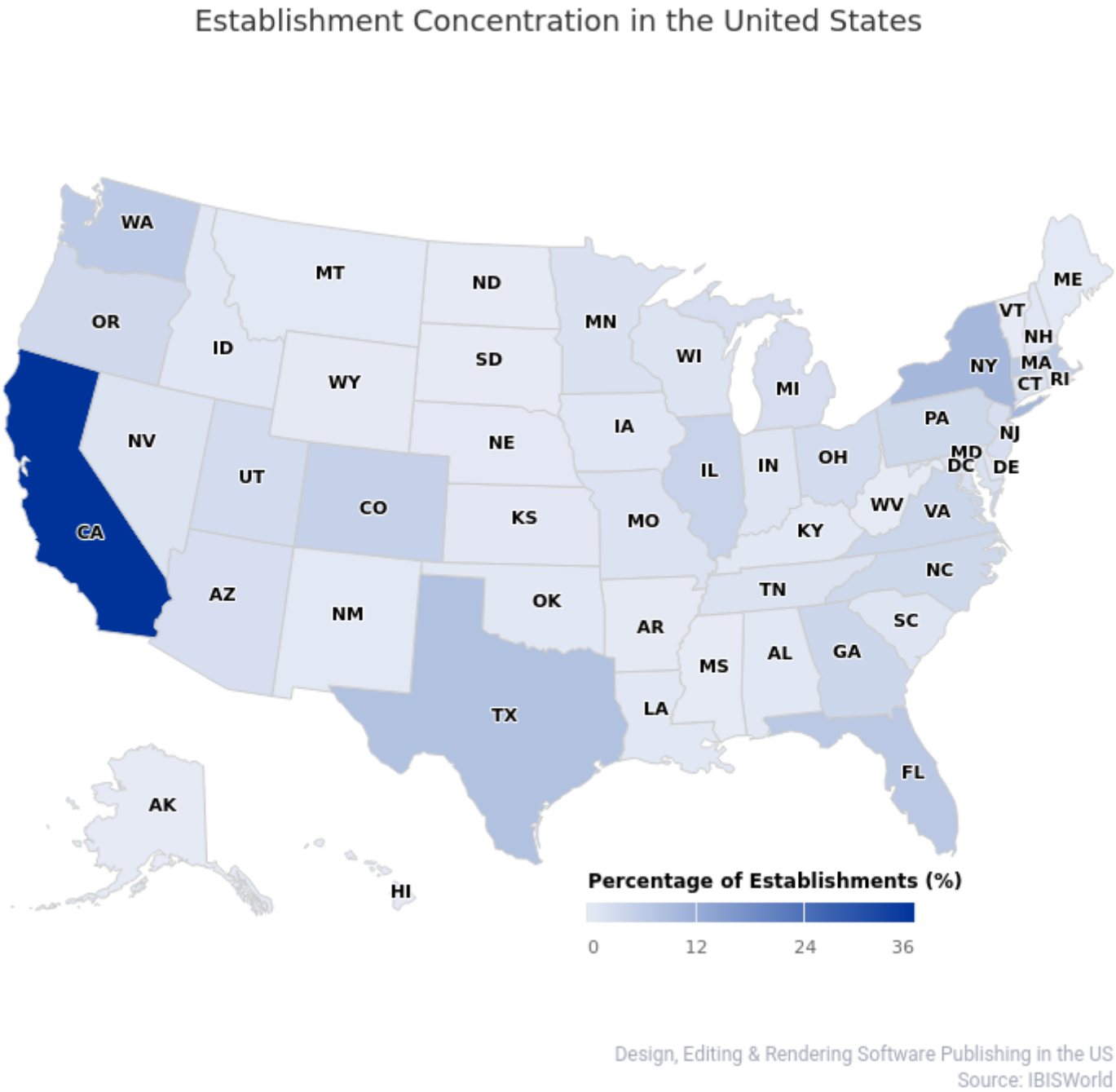
Imports in this industry are ⊘ Low and Steady

Trade figures reflect only the value of software products shipped in the form of physical products, including CDs and USB drives. Software preinstalled on computers or transferred over the internet, often via cloud technology, is not included in trade figures. Physical shipments of software have fallen to negligible levels because of the rise of digitally transferred products, which is shown in meager trade figures. Trade is not counted in the Design, Editing and Rendering Software Publishing industry. However, many companies in the industry operate all over the world. For example, major players Adobe Inc. and Dassault Systemes SE both maintain offices on every continent, excluding Antarctica.

Geographic Breakdown

Key Insights

California	California	Indiana	Alaska	Washington	California
1,463 Est.	$5.9bn	23.5%	-21.7%	$281.8k	10,239
Most Establishments	Highest Revenue	Fastest Growth	Slowest Growth	Highest Average Wage	Most Employees



State Data for Design, Editing & Rendering Software Publishing in the US (2023)

State	Establishments	Establishments Growth Rate (2018-2023)	Revenue	Revenue Growth Rate (2018-2023)	Employment	Employment Growth Rate (2018-2023)	Wages	Wages Growth Rate (2018-2023)
Alabama	34	9.10%	$34.3m	2.60%	141	3.28%	$13.1m	3.53%

State Data for Design, Editing & Rendering Software Publishing in the US (2023)

State	Establishments	Establishments Growth Rate (2018-2023)	Revenue	Revenue Growth Rate (2018-2023)	Employment	Employment Growth Rate (2018-2023)	Wages	Wages Growth Rate (2018-2023)
Alaska	3	8.45%	$153.4k	-21.66%	11	6.58%	$50,000.0	-23.47%
Arizona	102	10.83%	$153.7m	5.32%	481	4.28%	$58.6m	6.15%
Arkansas	14	6.96%	$29.8m	0.81%	83	-1.61%	$10.1m	-0.74%
California	1,463	14.36%	$5.9bn	5.69%	10,239	4.78%	$2.3bn	6.47%
Colorado	206	13.79%	$589.4m	15.03%	1,608	13.87%	$231.3m	16.63%
Connecticut	71	9.07%	$128.3m	12.90%	292	7.97%	$41.7m	10.25%
Delaware	38	13.70%	$17.5m	6.84%	157	12.79%	$6.7m	7.78%
Florida	281	11.51%	$647.9m	6.62%	1,527	4.13%	$245.3m	7.33%
Georgia	158	10.48%	$685.4m	13.15%	1,691	10.49%	$265.4m	14.41%
Hawaii	12	8.45%	$3.1m	0.23%	51	7.22%	$1.2m	1.13%
Idaho	35	15.54%	$49.5m	23.05%	143	13.48%	$6.4m	-0.14%
Illinois	191	9.93%	$514.9m	6.24%	1,246	4.60%	$197.0m	7.17%
Indiana	53	10.62%	$321.3m	23.52%	462	11.26%	$39.6m	-0.68%
Iowa	35	9.73%	$65.3m	8.47%	204	5.11%	$24.7m	9.17%
Kansas	28	9.24%	$36.2m	2.50%	128	2.71%	$13.6m	3.04%
Kentucky	25	9.34%	$53.3m	20.70%	188	20.18%	$7.3m	-0.88%
Louisiana	24	9.86%	$10.1m	2.27%	99	8.78%	$3.8m	2.91%
Maine	18	10.35%	$17.8m	1.08%	73	8.30%	$6.0m	-0.47%
Maryland	83	8.19%	$154.7m	2.61%	343	0.47%	$59.8m	3.72%
Massachusetts	252	10.64%	$1.1bn	5.55%	2,073	2.37%	$407.6m	6.51%
Michigan	109	9.90%	$323.5m	7.62%	595	1.26%	$124.5m	8.69%
Minnesota	79	6.75%	$256.7m	4.87%	622	2.12%	$98.0m	5.73%
Mississippi	9	8.45%	$3.2m	-1.88%	36	8.45%	$1.2m	-1.08%
Missouri	67	12.01%	$101.7m	7.74%	280	5.92%	$39.0m	8.72%
Montana	18	10.35%	$15.1m	4.65%	75	8.89%	$5.8m	5.75%
Nebraska	22	7.96%	$42.8m	1.81%	203	4.11%	$16.3m	2.58%
Nevada	66	9.46%	$59.1m	9.14%	305	11.12%	$22.5m	9.96%
New Hampshire	38	7.07%	$64.8m	1.09%	248	4.09%	$24.7m	1.87%
New Jersey	103	7.73%	$199.6m	2.39%	517	2.68%	$75.9m	3.17%
New Mexico	17	11.20%	$5.0m	-0.66%	70	9.24%	$1.9m	0.20%
New York	409	14.93%	$425.4m	0.35%	1,683	11.98%	$159.5m	0.82%

State Data for Design, Editing & Rendering Software Publishing in the US (2023)

State	Establishments	Establishments Growth Rate (2018-2023)	Revenue	Revenue Growth Rate (2018-2023)	Employment	Employment Growth Rate (2018-2023)	Wages	Wages Growth Rate (2018-2023)
North Carolina	156	11.88%	$311.9m	2.90%	849	1.84%	$119.1m	3.75%
North Dakota	5	0.00%	$28.2m	1.21%	73	-0.54%	$10.6m	1.83%
Ohio	116	10.32%	$176.9m	3.94%	576	2.91%	$67.4m	4.76%
Oklahoma	25	10.76%	$13.5m	1.91%	102	9.43%	$5.2m	2.82%
Oregon	144	10.60%	$239.7m	6.13%	594	3.46%	$91.9m	7.10%
Pennsylvania	156	11.38%	$239.3m	-4.06%	642	-1.83%	$90.2m	-3.51%
Rhode Island	18	8.45%	$31.8m	5.98%	76	3.50%	$12.1m	6.80%
South Carolina	47	11.72%	$93.2m	7.60%	224	2.81%	$36.3m	8.91%
South Dakota	6	8.45%	$14.2m	17.01%	67	15.22%	$5.5m	18.34%
Tennessee	73	12.79%	$67.5m	7.91%	301	11.84%	$25.9m	8.90%
Texas	337	10.89%	$862.8m	4.93%	2,265	3.61%	$327.1m	5.65%
Utah	117	11.46%	$367.0m	7.53%	1,097	6.28%	$140.2m	8.44%
Vermont	10	7.39%	$6.7m	-3.52%	40	4.56%	$2.5m	-2.85%
Virginia	170	12.58%	$429.6m	6.79%	899	4.45%	$164.9m	7.79%
Washington	258	11.91%	$2.6bn	2.60%	3,487	0.41%	$982.6m	3.26%
West Virginia	5	10.76%	$1.3m	-0.05%	20	5.92%	$432.3k	-1.57%
Wisconsin	62	10.29%	$319.3m	4.17%	1,028	4.83%	$121.0m	4.89%
Wyoming	12	19.14%	$2.4m	4.11%	50	17.85%	$934.8k	5.06%

Business Locations

Silicon Valley and Hollywood draw developers to the West

- The West has been a hotbed of entertainment and software innovation for years, hosting Silicon Valley, Hollywood and Los Angeles only a few hours' drive from each other.
- California contains more than a fifth of all establishments in the nation, almost twice as concentrated as any other state
- Massive architectural growth also draws the industry's final group of users to set up studios nearby.

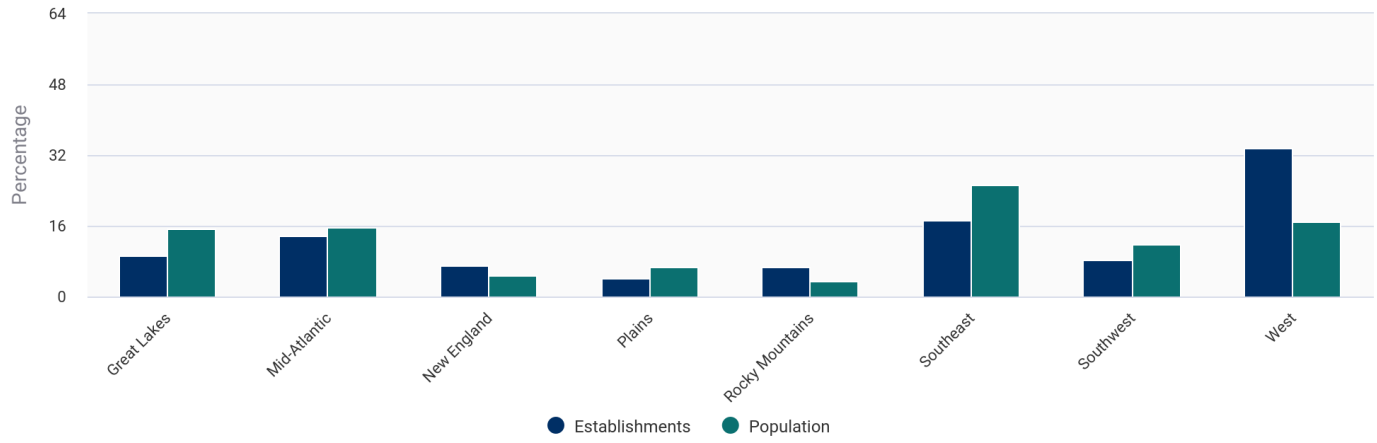
Southeastern design software developers benefit from huge labor pools

- While the Southeast does not carry the name recognition of Western region destinations, it benefits from a massive labor pool, key for an industry defined by its workforce.
- Florida is also fast becoming a region of start-up activity, generating new graphic software development establishments at an unprecedented rate.
- The Southeast region is anticipated to grow moving forward as the high cost of living in the West becomes untenable.

Economic activity gives operators more large clients in the Mid-Atlantic

- The Mid-Atlantic region contains the United States' financial heart, making it a strategic area for significant players and design software companies selling to businesses.
- New York also acts as a labor hub for the entire region, drawing in younger talent, which costs less to hire.
- Still, the region suffers from the same cost-of-living challenges as the West, with rents driving more skilled programmers away.

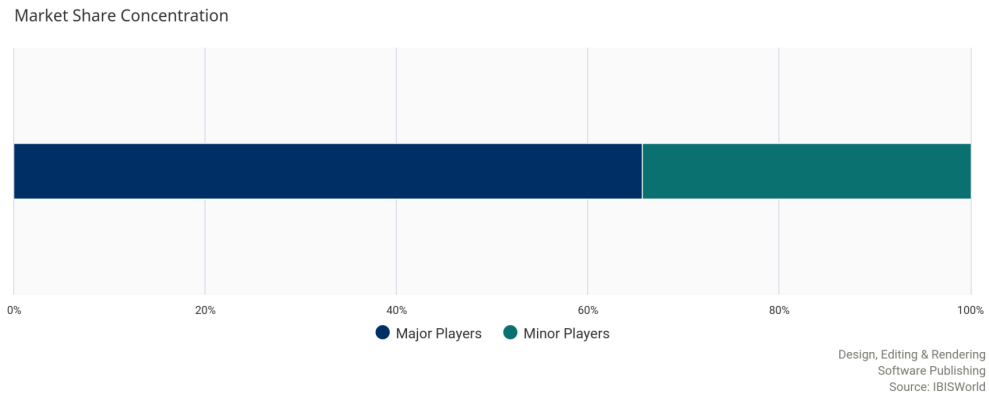
Distribution of Establishments vs Population



Design, Editing & Rendering Software Publishing
Source: IBISWorld

Competitive Landscape

Market Share Concentration



Concentration in this industry is ⚠ High

Massive tech companies eat smaller players

- The sheer size of Adobe, Autodesk and Dassault Systems exerts a gravitational pull on the entire industry and beyond.
- Besides the product production power of the major players, each holds a library of patents, ensuring that no minor player dares copy their income-generating features.
- If any competitor gains significant market share, the largest graphics software companies will consume them.

Low barriers enable microbusiness developers

- With quality innovation in graphic design, one person can design the framework for a new core piece of design software.
- A decently powerful computer, coding knowledge and time are theoretically enough to power the creation of a new program.
- Many developers try this route, creating a glut of nonemployer and small business developers in the graphic design software space.

Key Success Factors

IBISWorld identifies over 200 Key Success Factors for a business. The most important for this industry are:

Access to highly skilled workforce:
Software development is a highly specialized skill set that is in high demand from a variety of industries. Attracting and keeping highly skilled software developers is a key to continued business success in this industry.

Providing related products and services:
Enterprise software vendors that offer related products and services (e.g. database software packages, IT consulting) are more successful than specialized vendors.

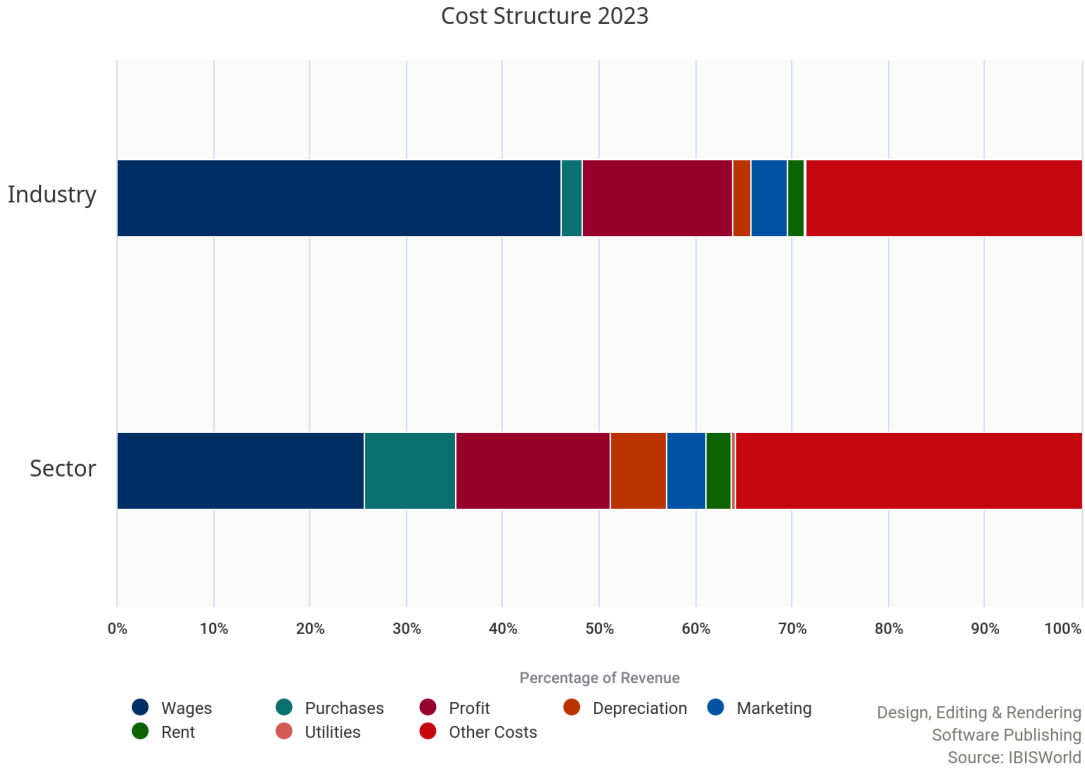
Quick technology adoption:
Software industries are subject to extremely quick technological advancement. Adopting new technologies faster than competitors provides companies with a comparative advantage.

Products have a low total cost of ownership:
Businesses are increasingly considering the total cost of ownership of software before making purchasing decisions. Software that is widely used or has no licensing fees tends to be less expensive on a total-cost basis.

Undertaking technical research and development:
Software publishers must spend large sums of revenue on research and development to release more innovative products to a broader customer base.

Protection of patents:
Software publishers frequently amass patents. These patents help maintain competitive advantages and temporary monopolies on key products.

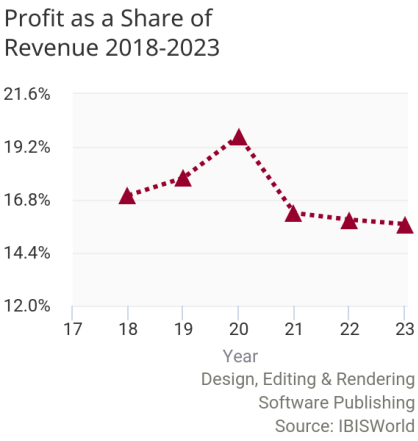
Cost Structure Benchmarks



Profit

Profit remains at outstanding levels in the digital revolution

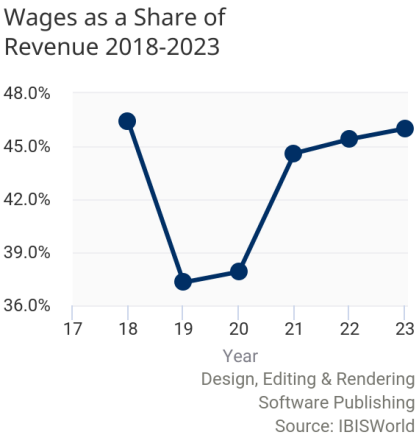
- Profitability varies wildly across companies in design software creation. Entrants often post operating losses, while Adobe Inc. and Autodesk Inc. maintain double-digit profit figures.
- A company's business strategy also affects profit tremendously. A solid player may opt to reinvest heavily into a new product, sacrificing profit now for market share later.
- The COVID-19 pandemic failed to diminish profit for design software makers, as many creatives picked up digital maker tools to create side income or release stress.



Wages

Wages eat up two-fifths of all design software expenditure

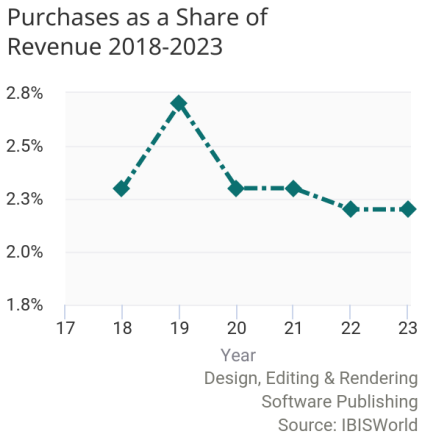
- Wage spending dominates design software development. Skilled coders are needed from day one to create features, troubleshoot bugs and create a user interface.
- Software engineers are frequently highly skilled and command salaries of greater than $100,000. Complex compensation packages provide employees with stock options, medical benefits, free food and other fringe benefits.
- Digital software companies will often compete directly for the best talent, poaching leading designers from a competitor.
- Wage spending is unlikely to drop over the coming years as employee dissatisfaction with significant technology companies rises.



Purchases

Purchases continue to fall as physical media use wanes

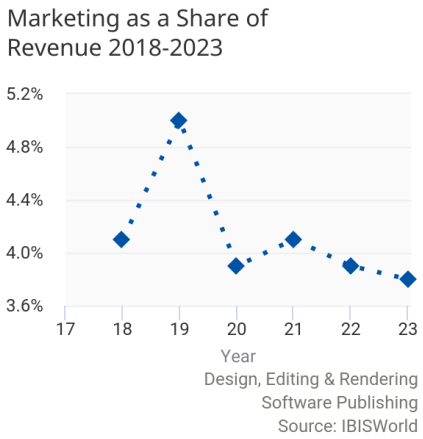
- Purchase costs remain extremely low, as only the most prominent companies distribute software through physical channels.
- Other purchase costs are mostly one-time expenses, like office furniture.
- This direct-to-consumer model saves companies transportation costs.



Marketing

Marketing spending is focused on individuals and small businesses

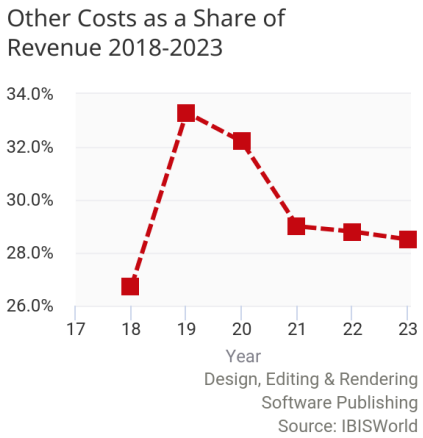
- Marketing and advertising costs are most useful in the consumer market, where decisions are commonly made on the "feel" of a product and not intense comparison research.
- Marketing spending may also be used at trade shows and product demonstrations.

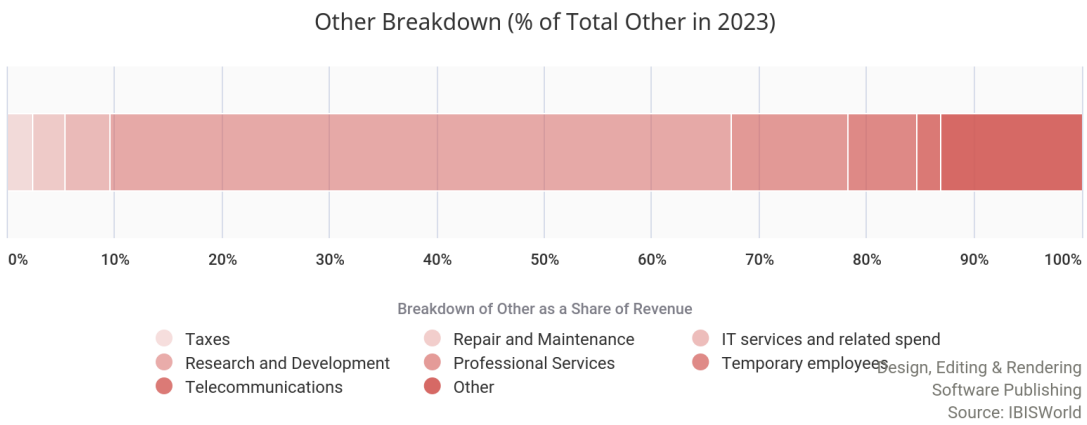


Other Costs

Other costs are led by market research and tech support

- Additional costs are dominated by market research, which is critical for differentiating software companies in the complex and aggressive business-to-business market.
- Technical support takes up a share of industry costs, and requires many people and significant software infrastructure to run effectively.
- Graphics software companies also spend money on administration and insurance.





Basis of Competition

Competition in this industry is ⊖ Medium and the trend is Increasing

INTERNAL COMPETITION

Companies in the Design, Editing and Rendering Software Publishing industry compete on the basis of cost, software performance, ease of use, functionality, availability and integration.

Functionality is essential for digital design software, as customers typically require software programs that can be used for a wide range of projects and tasks. Features include Python scripting that enables users to write their own programs to automate specific tasks and application-specific features, including Adobe Inc. (Adobe)'s Photoshop's "content-aware fill," which enables a user to quickly and seamlessly manipulate photographs. Also, computer-aided design (CAD) software now includes features including product life-cycle management and building information modeling, both of which interpret models and determine the materials needed to fabricate them.

It is also vital for software to be compatible with the hardware and operating systems on which a particular program will run. Many programs have been designed to run on specialized hardware, including mainframes, or more common hardware, including desktop PCs running Windows, MacOS or Linux, due to the significant data intensity of the programs in this industry. The move toward cloud-based software distribution is enabling some developers to make their products platform-independent, meaning that a user could conceivably access the program from any reasonably powerful computer directly through an internet browser. A variety of design software programmers, including Adobe, have increasingly focused on offering cloud-based products.

Software products require proper integration and compatibility with existing production systems. Older and more established companies have the advantage, as oftentimes, these companies have played a role in setting the standard, which makes integration with these software products seamless. For example, Autodesk Inc.'s (Autodesk) .dwg file format for CAD drawings has become an industry standard, which has helped cement Autodesk as the go-to software provider for architecture, construction and engineering professionals.

EXTERNAL COMPETITION

Design software occupies a keystone niche in modern design workflows, and powerful software has become practically essential.

Free alternatives do swallow some of the industry. Free, Open Source Software (FOSS) is an easy selection for non-income-generating customers and customers disconnected from the wider professional design ecosystem, but these programs will not usurp Adobe, Autodesk and others for most customers.

Barriers to Entry

Barriers to Entry in this industry are ⚠ Low and the trend is Steady

Legal

Any entrants must avoid copyrights and nondisclosure agreements held by incumbents, but no formal restrictions fundamentally hold back new software developers.

Start-Up Costs

Start-up costs range between tiny and enormous. Entrants must find an office space, hire labor, develop a differentiated product and bring the product to market. These challenges can be met by one person, but the most successful products frequently require teams of programmers to be paid for months before any income is made. Venture capital firms may be able to mitigate these start-up costs, but these trades can introduce more risk.

Differentiation

Differentiation defines new entrants in software development for design and architecture. Customers will not switch from existing design products without outstanding, profit-generating reasons to sway management. Differentiations can be in the design components themselves, entering a new class of design or ease of use.

Labor Intensity

Labor intensity in design software development can be zero but may also be extreme. One person can write design software, but very often, companies will hire dozens of employees with advanced coding skills and commanding powerful degrees.

Barriers to Entry Checklist

Competition	Medium
Concentration	High
Life Cycle Stage	Growth
Technology Change	High
Regulation & Policy	None
Industry Assistance	Low

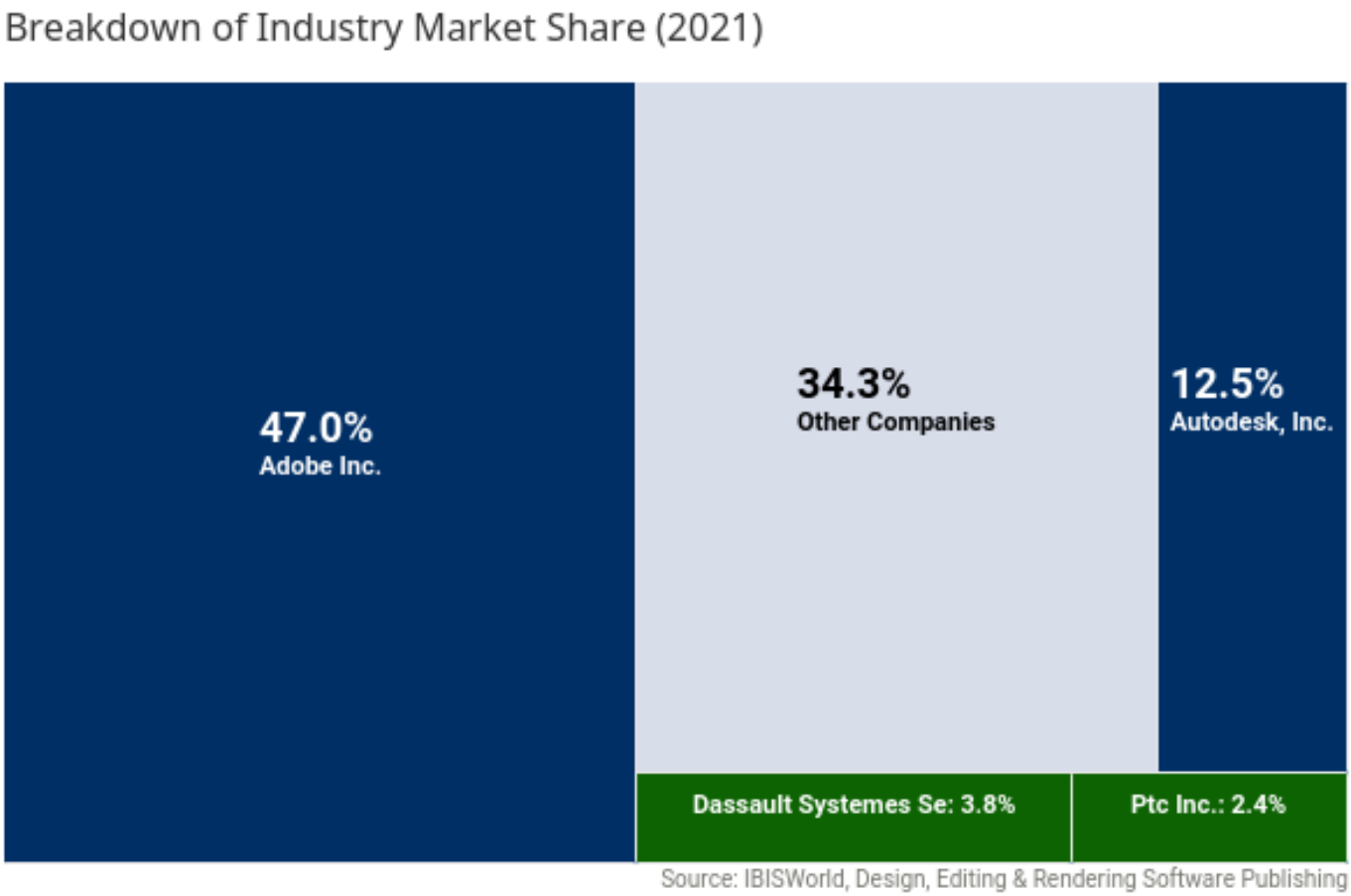
Industry Globalization

Globalization in this industry is Low and the trend is Steady

Since the Design, Editing, and Rendering Software Publishing industry does not partake in traditional transfer methods (software is often transferred digitally), international trade figures do not adequately represent globalization. However, this industry remains highly globalized. For example, US-based Adobe Inc. earns nearly 20.0% of income from outside the country, while French company Dassault Systemes SE generates more than 70.0% of revenue in non-US markets by selling its top product, Solidworks. Digital transfer methods enable companies to expand to international territories.

Major Companies

Market Share Overview



Related Companies

Competitors	Company Type	Employee Segment	Revenue ($m)	Market Share (%)	Profit ($m)
Adobe	All Star	500+ Employees	10,456.5 ▲	47 ▲	3,426.1 ▲
Autodesk	All Star	500+ Employees	2,773.4 ▲	12.47 ▲	501.0 ▲
Dassault Systemes	Rising Star	500+ Employees	855.8 ▲	3.85 ▲	279.5 ▲
Ptc	Rising Star	500+ Employees	536.2 ▲	2.41 ▲	124.5 ▲

Companies with 5.0% industry market share are displayed in the PDF version of this report. You can view insights for all companies associated with this industry on my.ibisworld.com

Adobe Inc.

Company Overview

Brands & Trading Names

Adobe Lightroom Adobe ColdFusion Adobe InDesign Adobe Character Animator Adobe Illustrator Adobe Captivate Adobe Flash Adobe Dreamweaver Adobe Animate Adobe LiveCycle Adobe Connect Adobe Edge Adobe FrameMaker Adobe After Effects Adobe InCopy Adobe Content Server Adobe Audition Adobe Prelude Adobe Photoshop Adobe Photoshop Elements

Description

Adobe is a public company headquartered in California with an estimated 25,988 employees. In the US, the company has a notable market share in at least two industries: Design, Editing & Rendering Software Publishing, Online Computer Software Sales and Online Computer Software Sales. Their largest market share is in the Design, Editing & Rendering Software Publishing industry, where they account for an estimated 47.0% of total industry revenue and are considered an All Star because they display stronger market share, profit and revenue growth compared to their peers.

COMPANY TYPE	Public Company
TOTAL COMPANY REVENUE	$10.5bn
EMPLOYEES	25,988

Other Industries

Online Computer Software Sales in the US

Analyst Insights

Adobe expands on its cloud services by acquiring Frame.io
In October 2021, Adobe Inc. (Adobe) acquired Frame.io. Frame.io is a privately held company that provides a leading cloud-based video collaboration platform. Adobe acquired Frame.io. in order to integrate its cloud-native collaboration workflows features with Adobe Creative Cloud. Adobe Creative Cloud is a cloud-based subscription app that offers services for photography, design, video, and web. With this subscription app, users can access and sync their work across different platforms and devices. Adobe is focusing on integrating Frame. io's review and approval capabilities in Adobe's Premier Pro and After Effects in order to deliver a native collaborative platform for video editing.

M&A

Adobe promotes diversity and inclusion
Adobe For All is the name of Adobe's endeavor to promote diversity and inclusion within the company over the coming years. In December 2021, Adobe reported that women represent 33.8% of its global employees, and that underrepresented minorities ("URMs" is defined as those that identify as Black, Hispanic, Native American, Pacific Islander and/or two or more races) represented 10.9% of its U.S. employees. In fiscal 2021, the company reports that it achieved global gender pay parity, and U.S. URM and non-URM pay parity.

Balance Sheet COVID Labor M&A

Adobe optimizes its digital platform
Since the COVID-19(coronavirus) pandemic, digital has been the primary means of communication for many. Adobe reports that this shift to digital has been conducive in increasing its growth year over year. Adobe utilizes Annualized Recurring Revenue (ARR) to monitor and asses its Digital Media segment. Its Total Digital Media ARR of about $12.21 billion as of December, 2021 increased by $1.98 billion from November, 2020. However, since the pandemic and its effects are still ongoing, there is a lot of uncertainty moving forward.

Balance Sheet COVID M&A

Adobe Inc.

Company Overview

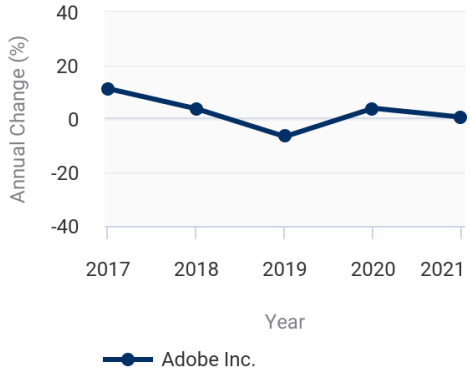
Industry Market Share, Revenue and Profit

Market Share

47% Strong
Current Year (2021)

2.0% ▲
Annual Growth (2017–21)

Change in Market Share



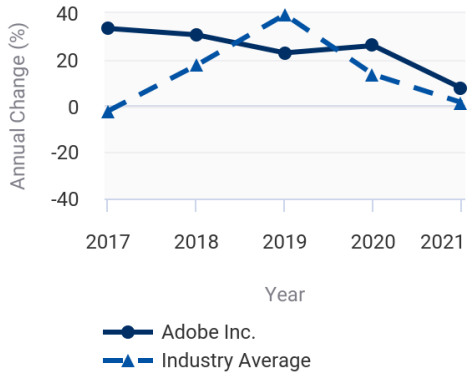
Design, Editing & Rendering Software Publishing
Source: IBISWorld

Industry Revenue

$10.5bn Strong
Current Year (2021)

21.4% ▲
Annual Growth (2017–21)

Change in Industry Revenue



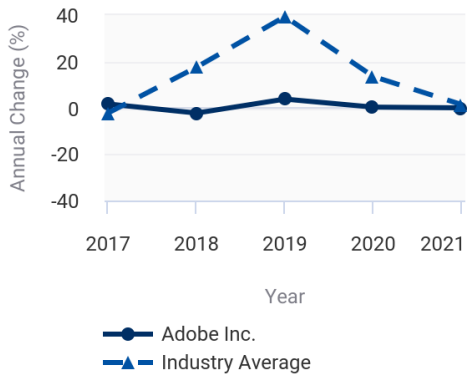
Design, Editing & Rendering Software Publishing
Source: IBISWorld

Profit Margin

32.77% Strong
Current Year (2021)

1.8% ▲
Annual Growth (2017–21)

Change in Profit Margin



Design, Editing & Rendering Software Publishing
Source: IBISWorld

Autodesk, Inc.

Company Overview

Brands & Trading Names

AutoCAD LT for Mac AutoCAD P&ID AutoCAD MEP Alias Surface AutoCAD Raster Design Alias Design ArtCAM (discontinued) A36 Arnold AutoCAD Map 3D AutoCAD mobile app (formerly AutoCAD 36) AutoCAD OEM Alias SpeedForm 3ds Max Alias Concept AutoCAD Plant 3D Alias AutoStudio (formerly Alias Automotive) AutoCAD Mechanical AutoCAD LT Advance Steel

Description

Autodesk is a public company headquartered in California with an estimated 12,600 employees. In the US, the company has a notable market share in at least three industries: Design, Editing & Rendering Software Publishing, Urban Planning Software, Computer-Aided Design Software Developers and Urban Planning Software. Their largest market share is in the Urban Planning Software industry, where they account for an estimated 18.9% of total industry revenue and are considered an All Star because they display stronger market share, profit and revenue growth compared to their peers.

COMPANY TYPE	Public Company
TOTAL COMPANY REVENUE	$2.8bn
EMPLOYEES	12,600

Other Industries

Urban Planning Software in the US
Computer-Aided Design Software Developers in the US

Analyst Insights

Autodesk's acquisitions expand existing services to cover all their customer's needs
In December 2021, Autodesk Inc announced the acquisition of ProEst. The company hopes to integrate ProEst's construction price estimation and planning software with their project management construction cloud product. In January 2022, Autodesk announced the purchase of Moxion, a cloud based digital film enabling filmmakers to review on set footage quickly and in high quality. Previously, Autodesk's cloud-based focused on post-production solutions. Both transactions demonstrate the company's product expansion effort, offering more robust solutions for clients. This tactic attracts new customers and makes Autodesk a one stop shop for solutions.

Balance Sheet Competition M&A New Activity Structural

Strategic investments bring strong financial performance
Improvements to the product portfolio paid off for Autodesk in 2022. Revenue increased by 16% to $4.39 billion. Subscriptions increased by 767 thousand to 6.04 million, indicating a steady flow of new customers. The company also continues to manage debt levels, while strongly growing free cash flows since to $1.46 billion in 2022. Autodesk reported net debt of $1.09 billion in 2022. With lots of internal investment and further acquisitions expected, responsible financing of growth is essential for Autodesk to further improve its products and attract new customers.

Balance Sheet Competition Discontinued Activity M&A New Activity Structural

Autodesk hopes to improve interoperability between its varying products
Autodesk's product segments include architecture and engineering, product design and manufacturing, and media and entertainment. The first two incorporate computer aided design and computer aided manufacturing software. Companies digitize their design the design process while using software to control manufacturing processes, thus reducing man power and wage costs. Products rely on data sharing APIs to integrate programs and improve workflow. Forge, a large back-end project by Autodesk, seeks to remove these communication obstacles by providing one API for all products and programs. This massive investment would improve product functionality and accessibility for customers.

Balance Sheet New Activity Structural

Autodesk, Inc.

Company Overview

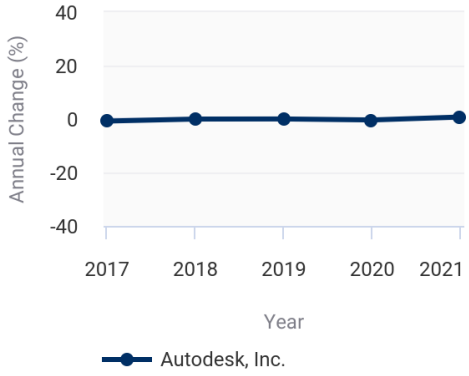
Industry Market Share, Revenue and Profit

Market Share

12.47% Moderate
Current Year (2021)

0.4% ▲
Annual Growth (2017–21)

Change in Market Share



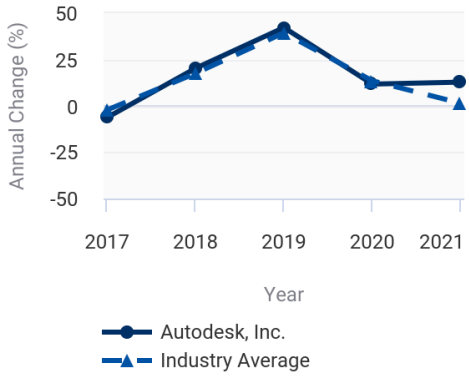
Design, Editing & Rendering Software Publishing
Source: IBISWorld

Industry Revenue

$2.8bn Moderate
Current Year (2021)

21.2% ▲
Annual Growth (2017–21)

Change in Industry Revenue



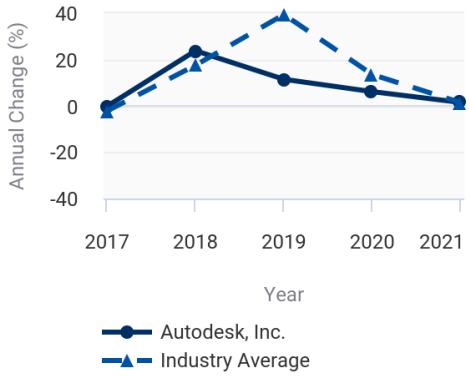
Design, Editing & Rendering Software Publishing
Source: IBISWorld

Profit Margin

18.06% Weak
Current Year (2021)

42.8% ▲
Annual Growth (2017–21)

Change in Profit Margin



Design, Editing & Rendering Software Publishing
Source: IBISWorld

Dassault Systemes Se

Company Overview

Brands & Trading Names

ENOVIA NETVIBES SOLIDWORKS BIOVIA DEMIA CENTRIC PLM MEDIDATA CATIA 3DIVIA GEOVIA 3DEXCITE SIMULIA

Description

Dassault Systemes is a public company headquartered in France with an estimated 20,496 employees. In the US, the company has a notable market share in at least two industries: Design, Editing & Rendering Software Publishing, Computer-Aided Design Software Developers and Design, Editing & Rendering Software Publishing. Their largest market share is in the Computer-Aided Design Software Developers industry, where they account for an estimated 11.1% of total industry revenue and are considered a Disruptor because they display lower to medium market share that's rising rapidly, but weaker profits compared to some of their peers.

COMPANY TYPE	Public Company
TOTAL COMPANY REVENUE	$855.8m
EMPLOYEES	20,496

Other Industries

Computer-Aided Design Software Developers in the US

Analyst Insights

Dassault announces suspending business operations in Russia
On March 9, 2022 Dassault Systemes SE (Dassault) announced that the company stands with the people of Ukraine and will suspend the company's business operations in Russia. However, the company notes that they will provide the necessary support for their colleagues in Russia. Additionally, Dassault states that they have complied with European and international rules of conduct and sanctions. For example, strict export controls were applied and many aspects of the company's business in Russia have ceased. Additionally, Dassault states that they have taken measures to support employees who have family members in Ukraine.

Structural

Dassault releases 2021 annual report
Dassault Systemes SE (Dassault), released their 2021 annual report which includes their financial results for the fiscal year. Dassault reported that in 2021, total revenue increased 11.0%. The company attributes this growth to strong demand across all product lines and geographies. Additionally, Dassault credits their strategic growth drivers, 3D experience growth to large enterprise partnerships. Dassault also states that the company had an operating margin of 34.4%, up 4.0% from the previous year, which they claim demonstrates the resilience of their business model.

Discontinued Activity Structural

Dassault announces changes to its management structure
Dassault Systemes SE (Dassault) announced executive committee evolutions on February 3, 2022. Dassault stated that the company is making changes to prepare its future with continuity in leadership and by combining cross-generation talent. Specifically, Roven Bergmann was appointed Executive Vice President, Chief Financial Officer and will report to Chief Operating Officer, Pascal Daloz. Bergmann was previously COO Life Sciences for Dassault and Medidata. Dassault stated that Roven will benefit the company through his understanding of the key business divers and finance and strategic skills.

Structural

Dassault Systemes Se

Company Overview

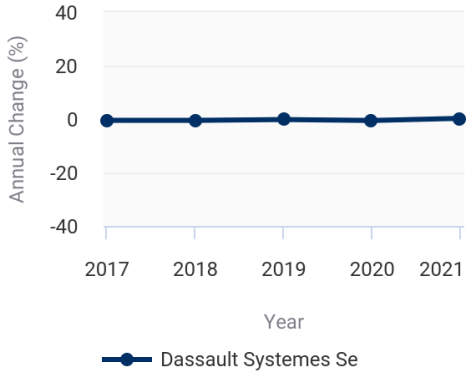
Industry Market Share, Revenue and Profit

Market Share

3.85% Moderate
Current Year (2021)

-1.0%
Annual Growth (2017–21)

Change in Market Share



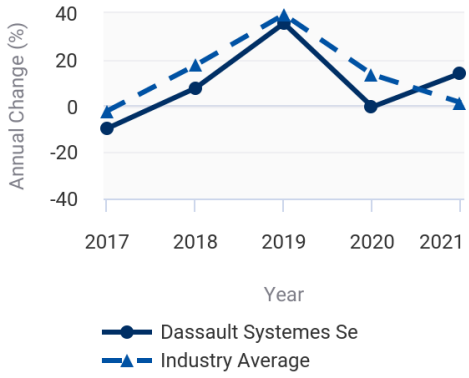
Design, Editing & Rendering Software Publishing
Source: IBISWorld

Industry Revenue

$855.8m Moderate
Current Year (2021)

13.5%
Annual Growth (2017–21)

Change in Industry Revenue



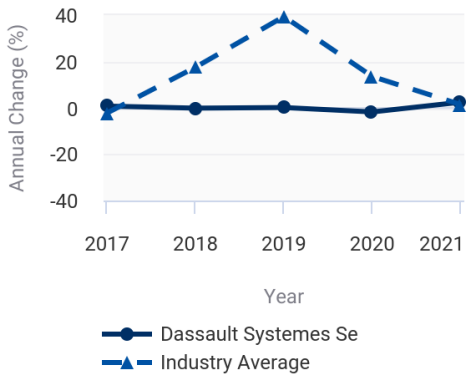
Design, Editing & Rendering Software Publishing
Source: IBISWorld

Profit Margin

32.66% Moderate
Current Year (2021)

0.7%
Annual Growth (2017–21)

Change in Profit Margin



Design, Editing & Rendering Software Publishing
Source: IBISWorld

Ptc Inc.

Company Overview

Description

Ptc is a public company headquartered in Massachusetts with an estimated 6,709 employees. In the US, the company has a notable market share in at least four industries: Software Publishing, Design, Editing & Rendering Software Publishing, Field Service Management Software, Computer-Aided Design Software Developers and Software Publishing. Their largest market share is in the Field Service Management Software industry, where they account for an estimated 5.5% of total industry revenue and are considered a Rising Star because they display lower market share, but displaying stronger profit and revenue growth than some of their peers.

COMPANY TYPE	Public Company
TOTAL COMPANY REVENUE	$536.2m
EMPLOYEES	6,709

Other Industries

Software Publishing in the US
Field Service Management Software in the US
Computer-Aided Design Software Developers in the US

Financial Performance

Ptc Inc. - financial performance *

Year	Revenue $m	Growth % change	Operating Income $m	Growth % change
2016	214.9	N/C	49.9	N/C
2017	278	29.4	64.5	29.3
2018	338.7	21.8	78.6	21.9
2019	405.3	19.7	94.1	19.7
2020	457.9	13	106.3	13
2021	536.2	17.1	124.5	17.1

Source: IBISWorld
Note: * Estimates

Ptc Inc.

Company Overview

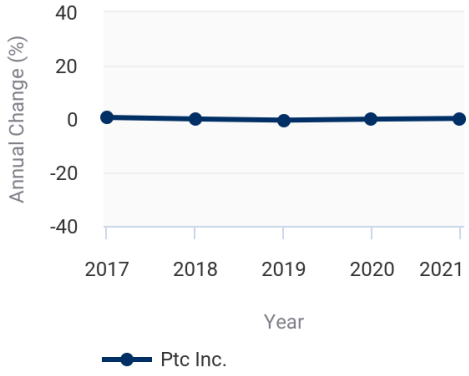
Industry Market Share, Revenue and Profit

Market Share

2.41% Weak
Current Year (2021)

-0.2%
Annual Growth (2017–21)

Change in Market Share



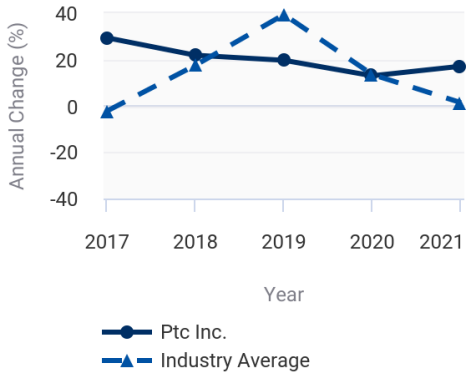
Design, Editing & Rendering Software Publishing
Source: IBISWorld

Industry Revenue

$536.2m Weak
Current Year (2021)

17.8%
Annual Growth (2017–21)

Change in Industry Revenue



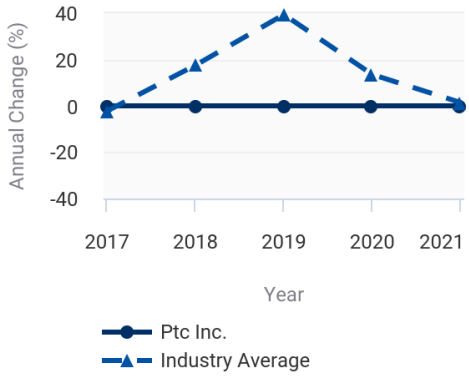
Design, Editing & Rendering Software Publishing
Source: IBISWorld

Profit Margin

23.22% Moderate
Current Year (2021)

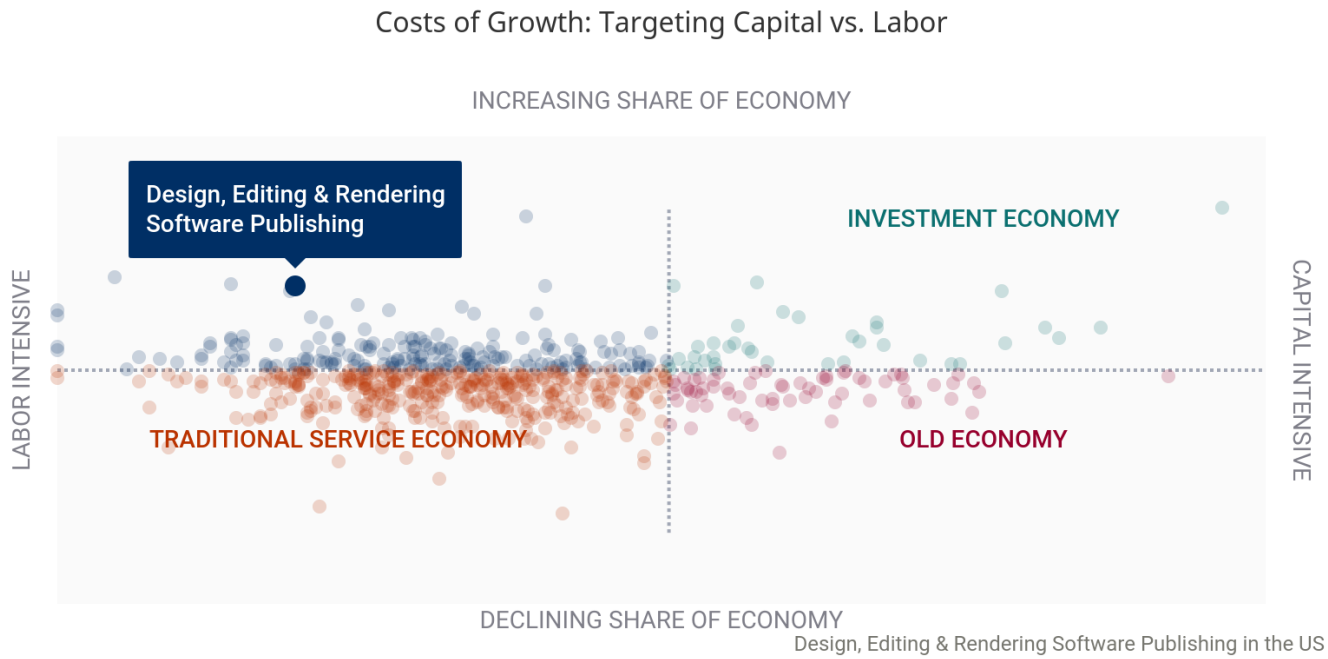
0.0%
Annual Growth (2017–21)

Change in Profit Margin



Design, Editing & Rendering Software Publishing
Source: IBISWorld

Operating Conditions

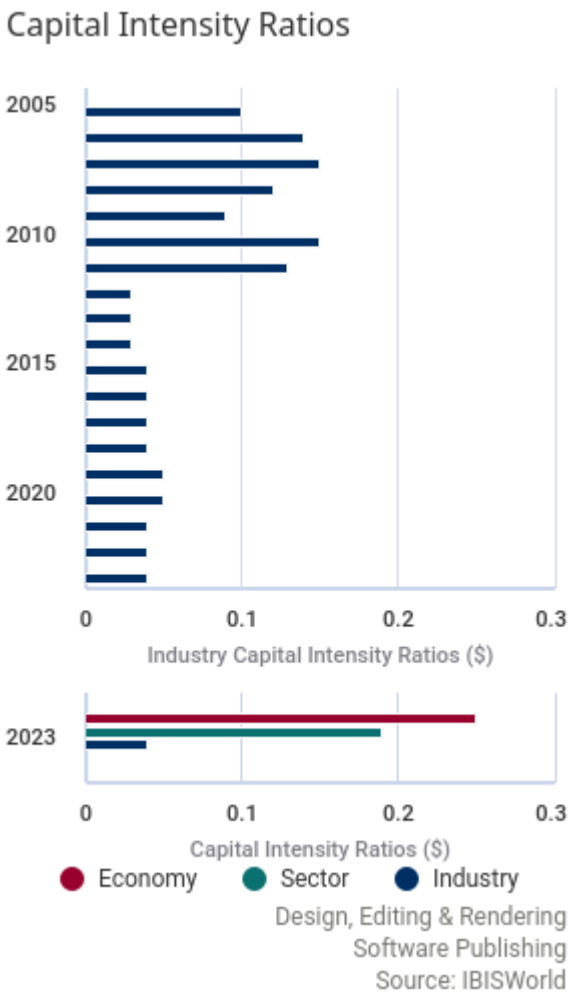


Design, Editing & Rendering Software Publishing in the US
Source: IBISWorld

Capital Intensity

The level of capital intensity is ✓ **Low**

Capital intensity in the Design, Editing and Rendering Software Publishing industry is low, with companies expected to spend an average of just $0.04 on capital for every $1.00 spent on labor in 2023. Most software companies use only limited capital goods, including computers, furniture and office space. However, the need for capital goods is dwarfed by the industry's requirement for highly skilled employees to create computer programs. Over the past five years, capital intensity has stagnated, despite companies investing in infrastructure to support the distribution of their software via the cloud.



Design, Editing & Rendering Software Publishing
Source: IBISWorld

Technology & Systems

Potential Disruptive Innovation: Factors Driving Threat of Change

Level	Factor	Disruptive Effect	Description
Medium	Rate of Innovation	Potential	A ranked measure for the number of patents assigned to an industry. A faster rate of new patent additions to the industry increases the likelihood of a disruptive innovation occurring.
Medium	Innovation Concentration	Potential	A measure for the mix of patent classes assigned to the industry. A greater concentration of patents in one area increases the likelihood of technological disruption of incumbent operators.
High	Ease of Entry	Likely	A qualitative measure of barriers to entry. Fewer barriers to entry increases the likelihood that new entrants can disrupt incumbents by putting new technologies to use.
Very High	Rate of Entry	Very Likely	Annualized growth in the number of enterprises in the industry, ranked against all other industries. A greater intensity of companies entering an industry increases the pool of potential disruptors.
Medium	Market Concentration	Potential	A ranked measure of the largest core market for the industry. Concentrated core markets present a low-end market or new market entry point for disruptive technologies to capture market share.

Both the rate of new innovation and the concentration are in line with the average across all industries.

This technology trend is underscored by structural factors that support new entrants. An accommodative structure can create a situation where small entrants can focus on less profitable albeit innovative industry entry points. Or, large operators in other industries can leverage expertise in other areas to enter the industry from a new angle.

The Design, Editing and Rendering Software Publishing industry is often a disruptor for others.

However, operators also come into contact with challenges of their own. In particular, other software developers are increasingly developing and offering new, innovative versions of industry software and technologies. Furthermore, the largest operators are often able to market a full suite of software products and license them together, in combination with other products or services. For example, the industry's largest operator, Adobe Inc., has completed a multitude of acquisitions for companies and intellectual properties both within and outside of this industry's purview in recent years. The industry has also encountered widespread adoption of cloud-based sharing and distribution technologies. Due to the intense level of vertical integration held by these giants, they have been able to offer industry-relevant software products for free or at much-lower prices than the average industry operator. The industry is expected to continue experiencing acquisition activity as competition for innovations, new intellectual properties and new technologies persists.

The level of technology change is ⚠ High

The most significant trend affecting the Design, Editing and Rendering Software Publishing industry is the increasing adoption of cloud-based software delivery, which enables companies to offer software as a service (SaaS).

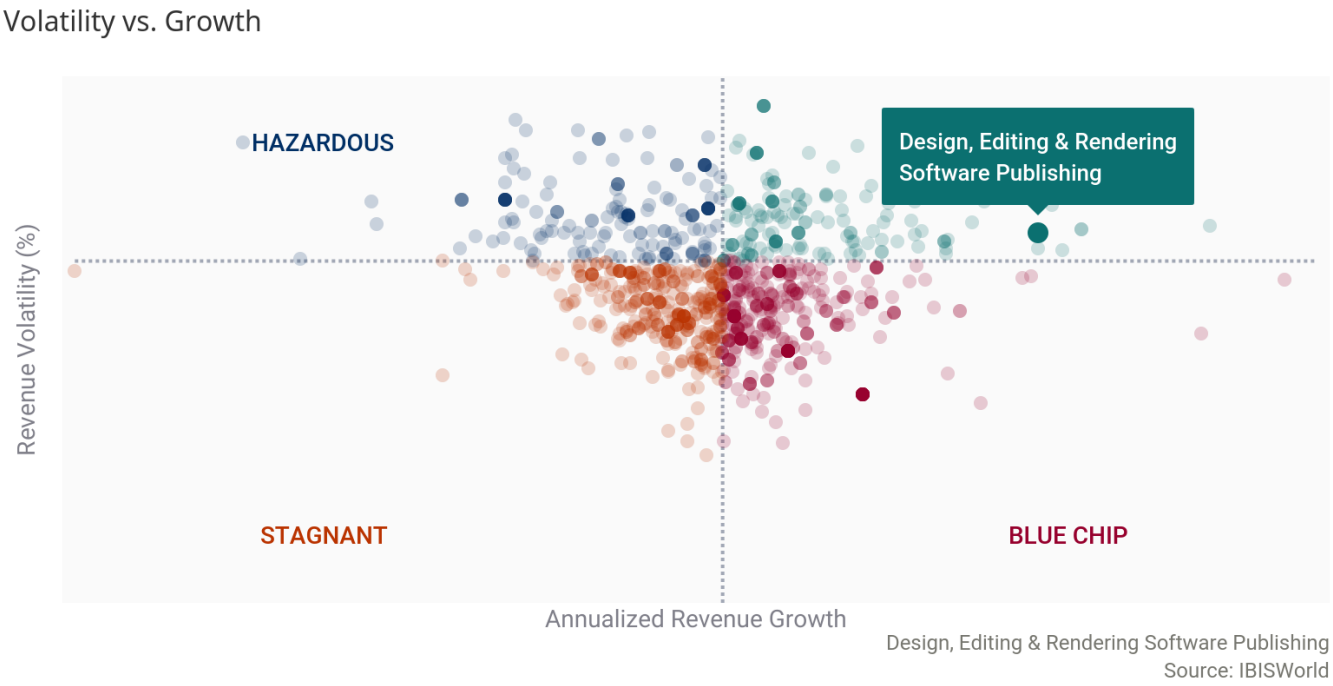
SaaS allows companies to charge a monthly or annual subscription fee for access to software instead of selling user licenses for a particular piece of software. The software is then accessed via the internet by customers, unlike past methods of distribution which included physical CD programs.

Cloud-based software delivery requires the operator to deliver the computing resources on which the program is run. Increasingly powerful computers and servers have enabled companies to make offer cloud-based products. This distribution channel has also allows companies to expand their reach and deepen relationships with customers by providing customers with the latest versions of software via frequent updates over the internet. Additionally, this channel enables users of the software to access the software from any computer via the internet while making software piracy more difficult. As a result of the benefits of cloud-based distribution and SaaS, major companies led by Adobe Inc. and Autodesk Inc. have already implemented the model.

The adoption of 3D printing by large companies has also had significant implications on the industry. 3D printers input data from a 3D modeling program and print the specified design using many layers of resin hardened by the laser. The adoption of 3D printing technology by larger companies increased the demand for modeling software during the period.

Revenue Volatility

The level of volatility is ⚠ High



Design, Editing & Rendering Software Publishing
Source: IBISWorld

COVID-19 pandemic failed to introduce volatile pressure

- While the COVID-19 pandemic dramatically damaged business confidence, climbing pressure across the economy let many businesses spend on connecting with individuals in isolation.
- Meanwhile, the vast laid-off workforces picked up creative tools to handle the stress or create supplementary income.
- Overall, programmers of established creative software performed well. Still, in-development studios frequently buckled as investor funding dried up.

Business cycle changes are set to affect volatility

- Software is a capital suitable for businesses, so income depends on corporate profit, business sentiment and the company's willingness to update its systems.
- Volatility due to business cycles is balanced out by long-term trends that favor the widespread adoption of technology.
- A looming recession would dramatically reduce business investment in software, increasing volatility.

Regulation & Policy

The level of regulation is ✓ None and the trend is Steady

Copyright legislation

US copyright laws protect copyright owners from the unauthorized reproduction, adaptation, performance, display or distribution of copyright-protected works, including digital design programs. Many laws have been enacted at the national and international levels to protect business authors, and any new enterprises must ensure compliance or risk being sued. The current copyright term extends to 70 years past the life of the originator, which means that no computer design software has moved into the public domain.

Industry Assistance

The level of industry assistance is ⚠ Low and the trend is Steady

Private

Venture capital funding

Software developers are major recipients of technology-focused seed funding from venture capital companies. After gaining the attention of a venture capital company, software developers will present their business proposal and a stake in company ownership in exchange for large lumps of cash to build out development resources. Venture capital is popular with design software industries as income is limited until projects are finished.

Public

COVID-19 assistance

Many producers of design software are small teams or nonemployers and thus were disproportionately affected by the global crash in March 2020. COVID-19 relief acts for small businesses were occasionally leveraged by design software programming studios, as employee expenses are a significant fraction of expenditure. However, any software studio performing well during the COVID-19 pandemic was unlikely to qualify.

Key Statistics

Industry Data

Year	Revenue ($m)	IVA ($m)	Establishments (Units)	Enterprises (Units)	Employment (Units)	Exports ($m)	Imports ($m)	Wages ($m)	Domestic Demand ($m)	Number of broadband connections (Million)
2014	8,479	6,440	1,228	1,108	27,329	N/A	N/A	4,911	N/A	21.3
2015	12,665	7,238	1,417	1,345	29,280	N/A	N/A	5,406	N/A	21.6
2016	13,467	7,753	1,576	1,453	31,249	N/A	N/A	5,727	N/A	21.6
2017	13,170	8,398	1,625	1,506	33,159	N/A	N/A	6,374	N/A	23.0
2018	15,480	10,068	1,936	1,773	36,047	N/A	N/A	7,181	N/A	23.5
2019	21,580	12,274	2,226	2,097	40,376	N/A	N/A	8,056	N/A	23.7
2020	24,496	14,574	2,564	2,388	44,357	N/A	N/A	9,292	N/A	25.8
2021	24,842	15,549	3,295	3,056	49,254	N/A	N/A	11,079	N/A	25.8
2022	25,841	16,302	3,651	3,391	52,376	N/A	N/A	11,730	N/A	25.4
2023	27,328	17,334	4,058	3,780	56,259	N/A	N/A	12,561	N/A	28.0
2024	28,983	18,484	4,514	4,218	60,557	N/A	N/A	13,481	N/A	28.9
2025	30,735	19,728	5,052	4,739	65,289	N/A	N/A	14,486	N/A	29.8
2026	32,570	21,034	5,622	5,293	70,260	N/A	N/A	15,542	N/A	30.7
2027	34,449	22,373	6,235	5,888	75,380	N/A	N/A	16,627	N/A	31.6
2028	36,372	23,748	6,886	6,522	80,667	N/A	N/A	17,746	N/A	32.4

Annual Change

Year	Revenue (%)	IVA (%)	Establishments (%)	Enterprises (%)	Employment (%)	Exports (%)	Imports (%)	Wages (%)	Domestic Demand (%)	Number of broadband connections (%)
2014	22.4	11.7	15.3	16.1	5.07	N/A	N/A	9.17	N/A	4.41
2015	49.4	12.4	15.4	21.4	7.13	N/A	N/A	10.1	N/A	1.40
2016	6.33	7.12	11.2	8.02	6.72	N/A	N/A	5.94	N/A	0.00
2017	-2.21	8.31	3.10	3.64	6.11	N/A	N/A	11.3	N/A	6.48
2018	17.5	19.9	19.1	17.7	8.70	N/A	N/A	12.7	N/A	2.17
2019	39.4	21.9	15.0	18.3	12.0	N/A	N/A	12.2	N/A	0.85
2020	13.5	18.7	15.2	13.9	9.85	N/A	N/A	15.3	N/A	8.86
2021	1.40	6.69	28.5	28.0	11.0	N/A	N/A	19.2	N/A	0.00
2022	4.02	4.84	10.8	11.0	6.33	N/A	N/A	5.87	N/A	-1.56
2023	5.75	6.32	11.1	11.5	7.41	N/A	N/A	7.08	N/A	10.2
2024	6.05	6.63	11.2	11.6	7.63	N/A	N/A	7.32	N/A	3.21
2025	6.04	6.72	11.9	12.4	7.81	N/A	N/A	7.45	N/A	3.11
2026	5.97	6.62	11.3	11.7	7.61	N/A	N/A	7.28	N/A	3.02
2027	5.76	6.36	10.9	11.2	7.28	N/A	N/A	6.98	N/A	2.93
2028	5.58	6.14	10.4	10.8	7.01	N/A	N/A	6.72	N/A	2.53

Key Ratios

Year	IVA/Revenue (%)	Imports/ Demand (%)	Exports/ Revenue (%)	Revenue per Employee ($'000)	Wages/ Revenue (%)	Employees per estab. (Units)	Average Wage ($)
2014	75.9	N/A	N/A	310	57.9	22.3	179,707
2015	57.2	N/A	N/A	433	42.7	20.7	184,628
2016	57.6	N/A	N/A	431	42.5	19.8	183,276
2017	63.8	N/A	N/A	397	48.4	20.4	192,216
2018	65.0	N/A	N/A	429	46.4	18.6	199,218
2019	56.9	N/A	N/A	534	37.3	18.1	199,522
2020	59.5	N/A	N/A	552	37.9	17.3	209,471
2021	62.6	N/A	N/A	504	44.6	14.9	224,940
2022	63.1	N/A	N/A	493	45.4	14.3	223,961
2023	63.4	N/A	N/A	486	46.0	13.9	223,267
2024	63.8	N/A	N/A	479	46.5	13.4	222,613
2025	64.2	N/A	N/A	471	47.1	12.9	221,881
2026	64.6	N/A	N/A	464	47.7	12.5	221,204
2027	64.9	N/A	N/A	457	48.3	12.1	220,577
2028	65.3	N/A	N/A	451	48.8	11.7	219,988

Figures are inflation adjusted to 2023

Industry Financial Statement

Industry Multiples	2018	2019	2020	2021	Historical Average 3-Year	5-Year	10-Year
EBIT/Revenue	41.3	34.6	41.7	26.9	34.4	32.7	28.2
EBITDA/Revenue	55.1	41.4	71.4	35.1	49.3	46.6	42.9
Leverage Ratio	4.9	2.4	1.4	2.8	2.2	3.9	4.4
Industry Tax Structure	**2018**	**2019**	**2020**	**2021**	**3-Year**	**5-Year**	**10-Year**
Taxes Paid/Revenue	10.7	9.4	6.3	7.3	7.7	8.6	10.7
Income Statement	**2018**	**2019**	**2020**	**2021**	**3-Year**	**5-Year**	**10-Year**
Total Revenue	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Business receipts	42.5	97.1	64.2	55.5	72.2	60.7	66.8
Cost of goods	48.3	23.8	22.3	23.8	23.3	29.9	27.7
Gross Profit	51.7	76.2	77.7	76.2	76.7	70.1	72.3
Expenses							
Salaries and wages	19.4	16.1	14.4	13.9	14.8	17.2	15.8
Advertising	7.7	6.5	3.5	4.2	4.7	5.6	5.4
Depreciation	7.0	0.5	3.8	4.7	3.0	4.4	7.8
Depletion	2.3	2.3	3.5	1.7	2.5	2.5	2.7
Amortization	4.5	3.9	22.4	1.7	9.3	7.1	4.2
Rent paid	4.5	3.3	3.1	3.4	3.2	3.8	3.0
Repairs	0.7	0.4	0.2	0.2	0.3	0.3	1.2
Bad debts	3.9	3.9	2.0	24.3	10.1	7.1	3.6
Employee benefit programs	2.2	1.4	4.5	5.9	3.9	3.8	4.6
Compensation of officers	0.5	0.5	10.5	15.4	8.8	6.0	5.9
Taxes paid	10.7	9.4	6.3	7.3	7.7	8.6	10.7
Interest Income	1.9	1.6	20.1	10.1	10.6	7.0	3.7
Other Income							
Royalties	1.3	9.8	10.9	5.5	8.7	5.7	6.6
Rent Income	0.1	0.1	0.1	0.0	0.1	0.2	2.5
Net Income	24.1	19.1	5.3	4.2	9.5	11.0	6.8
Balance Sheet	**2018**	**2019**	**2020**	**2021**	**3-Year**	**5-Year**	**10-Year**
Assets							
Cash and Equivalents	24.4	23.6	18.8	11.7	18.0	15.8	18.0
Notes and accounts receivable	50.6	50.3	24.8	16.4	30.5	32.2	36.2
Allowance for bad debts	0.2	0.3	0.9	1.0	0.7	0.7	0.9
Inventories	3.8	13.5	13.5	9.0	12.0	8.1	4.4
Other current assets	23.1	3.9	12.6	9.7	8.7	10.4	14.3
Other investments	68.9	67.4	36.0	28.4	44.0	48.7	50.1
Property, Plant and Equipment	41.2	39.7	28.8	15.0	27.8	27.2	23.5
Accumulated depreciation	30.5	29.6	20.5	8.4	19.5	19.1	16.0
Intangible assets (Amortizable)	31.1	30.5	37.3	35.0	34.2	40.6	35.4
Accumulated amortization	5.5	5.7	11.1	8.8	8.5	9.2	14.2
Other assets	13.3	13.1	11.1	10.4	11.5	11.3	10.2
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Accounts payable	4.6	4.3	12.0	8.8	8.4	6.7	7.3
Liabilities and Net Worth							
Mort, notes, and bonds under 1 yr	1.5	2.5	7.5	9.2	6.4	4.3	3.8
Other current liabilities	69.7	68.2	33.2	23.0	41.5	43.6	55.4
Loans from shareholders	0.8	0.5	7.9	7.3	5.2	4.7	7.5
Mort, notes, bonds, 1 yr or more	26.9	26.6	30.4	34.5	30.5	29.7	28.0
Other liabilities	14.8	12.3	15.6	14.6	14.1	13.6	11.3
Total liabilities	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Capital stock	27.7	46.9	32.2	17.0	32.0	27.2	26.7
Additional paid-in capital	65.6	67.4	60.8	44.9	57.7	56.3	57.4
Retained earnings, appropriated	0.8	0.8	0.6	0.6	0.6	0.7	0.9
Retained earnings-unappropriated	16.6	16.4	12.6	14.8	14.6	14.2	10.4
Cost of treasury stock	47.4	47.2	22.2	19.8	29.7	33.4	37.9
Net worth	26.2	28.3	50.9	38.6	39.3	46.4	57.8

Liquidity Ratios	2018	2019	2020	2021	3-Year	5-Year	10-Year
Current Ratio	1.5	1.4	1.5	1.3	1.4	1.4	1.3
Quick Ratio	1.5	1.2	1.2	1.1	1.2	1.2	1.2
Sales/Receivables	0.7	2.0	4.0	6.1	4.0	3.0	2.4
Days' Receivables	495.7	183.5	90.4	60.0	111.3	198.0	242.1
Days' Inventory	77.5	207.5	221.6	137.9	189.0	131.3	74.7
Inventory Turnover	4.7	1.8	1.6	2.6	2.0	8.4	14.5
Payables Turnover	3.9	5.5	1.9	2.7	3.4	3.5	2.7
Days' Payables	93.2	65.8	196.7	135.6	132.7	119.5	178.5
Sales/Working Capital	0.3	1.6	5.0	6.4	4.3	2.9	3.9

Coverage Ratios	2018	2019	2020	2021	3-Year	5-Year	10-Year
Interest Coverage	290.5	268.5	277.8	303.9	283.4	288.8	301.3
Debt Service Coverage Ratio	9.0	6.3	7.7	4.2	6.1	6.5	5.9

Leverage Ratios	2018	2019	2020	2021	3-Year	5-Year	10-Year
Fixed Assets/Net Worth	4.2	3.8	2.3	2.0	2.7	2.7	2.1
Debt/Net Worth	3.8	3.5	2.0	2.6	2.7	2.6	2.1
Tangible Net Worth	0.3	0.3	0.5	0.4	0.4	0.5	0.6

Operating Ratios	2018	2019	2020	2021	3-Year	5-Year	10-Year
Return on Net Worth, %	58.7	122.3	81.9	69.8	91.4	68.4	43.5
Return on Assets, %	15.4	34.6	41.7	26.9	34.4	25.3	18.7
Sales/Total Assets	0.4	1.0	1.0	1.0	1.0	0.8	0.6
EBITDA/Revenue	55.1	41.4	71.4	35.1	49.3	46.6	42.9
EBIT/Revenue	41.3	34.6	41.7	26.9	34.4	32.7	28.2

Cash Flow & Debt Service Ratios (% of sales)	2018	2019	2020	2021	3-Year	5-Year	10-Year
Cash from Trading	134.7	-61.6	44.5	75.6	19.5	42.6	59.6
Cash after Operations	183.4	-212.0	-30.9	31.3	-70.5	-19.4	20.8
Net Cash after Operations	39.8	-3.7	7.7	39.5	14.5	13.3	31.8
Debt Service P&I Coverage	2.6	-0.3	0.2	1.4	0.4	0.6	2.0
Interest Coverage (Operating Cash)	6.1	-0.6	0.3	2.6	0.7	1.2	3.5

Source: IRS SOI Tax Stats; US Census Bureau; IBISWorld

Additional Resources

Additional Resources

Software & Information Industry Association
http://www.siia.net

The Engineering Design Revolution
http://www.cadhistory.net

CADD Primer
http://www.caddprimer.com

US Census Bureau
http://www.census.gov

Industry Jargon

COMPUTER-AIDED DESIGN (CAD)
The use of computer technology to aid the design and drafting of a part or product using software tools that can create 2D drawings or 3D models.

OPEN-SOURCE SOFTWARE
A computer software that is available in source code form, enabling users to freely study, change, improve and at times also to distribute the software.

PRODUCT LIFE CYCLE MANAGEMENT (PLM)
A method of design similar to BIM but for product development rather than architectural design, and often inclusive of supply-chain automation solutions.

SOFTWARE AS A SERVICE (SAAS)
An increasingly popular business model for selling software online. With SaaS, customers do not buy a discrete copy of software but pay a subscription fee instead.

Glossary

BARRIERS TO ENTRY
High barriers to entry mean that new companies struggle to enter an industry, while low barriers mean it is easy for new companies to enter an industry.

CAPITAL INTENSITY
Compares the amount of money spent on capital (plant, machinery and equipment) with that spent on labor. IBISWorld uses the ratio of depreciation to wages as a proxy for capital intensity. High capital intensity is more than $0.333 of capital to $1 of labor; medium is $0.125 to $0.333 of capital to $1 of labor; low is less than $0.125 of capital for every $1 of labor.

CONSTANT PRICES
The dollar figures in the Key Statistics table, including forecasts, are adjusted for inflation using the current year (i.e. year published) as the base year. This removes the impact of changes in the purchasing power of the dollar, leaving only the "real" growth or decline in industry metrics. The inflation adjustments in IBISWorld's reports are made using the US Bureau of Economic Analysis' implicit GDP price deflator.

DOMESTIC DEMAND
Spending on industry goods and services within the United States, regardless of their country of origin. It is derived by adding imports to industry revenue, and then subtracting exports.

EMPLOYMENT
The number of permanent, part-time, temporary and seasonal employees, working proprietors, partners, managers and executives within the industry.

ENTERPRISE
A division that is separately managed and keeps management accounts. Each enterprise consists of one or more establishments that are under common ownership or control.

ESTABLISHMENT
The smallest type of accounting unit within an enterprise, an establishment is a single physical location where business is conducted or where services or industrial operations are performed. Multiple establishments under common control make up an enterprise.

EXPORTS
Total value of industry goods and services sold by US companies to customers abroad.

IMPORTS
Total value of industry goods and services brought in from foreign countries to be sold in the United States.

INDUSTRY CONCENTRATION
An indicator of the dominance of the top four players in an industry. Concentration is considered high if the top players account for more than 70% of industry revenue. Medium is 40% to 70% of industry revenue. Low is less than 40%.

INDUSTRY REVENUE
The total sales of industry goods and services (exclusive of excise and sales tax); subsidies on production; all other operating income from outside the firm (such as commission income, repair and service income, and rent, leasing and hiring income); and capital work done by rental or lease. Receipts from interest royalties, dividends and the sale of fixed tangible assets are excluded.

INDUSTRY VALUE ADDED (IVA)
The market value of goods and services produced by the industry minus the cost of goods and services used in production. IVA is also described as the industry's contribution to GDP, or profit plus wages and depreciation.

INTERNATIONAL TRADE
The level of international trade is determined by ratios of exports to revenue and imports to domestic demand. For exports/revenue: low is less than 5%, medium is 5% to 20%, and high is more than 20%. Imports/domestic demand: low is less than 5%, medium is 5% to 35%, and high is more than 35%.

LIFE CYCLE
All industries go through periods of growth, maturity and decline. IBISWorld determines an industry's life cycle by considering its growth rate (measured by IVA) compared with GDP; the growth rate of the number of establishments; the amount of change the industry's products are undergoing; the rate of technological change; and the level of customer acceptance of industry products and services.

NONEMPLOYING ESTABLISHMENT
Businesses with no paid employment or payroll, also known as nonemployers. These are mostly set up by self-employed individuals.

PROFIT
IBISWorld uses earnings before interest and tax (EBIT) as an indicator of a company’s profitability. It is calculated as revenue minus expenses, excluding interest and tax.

REGIONS
West | CA, NV, OR, WA, HI, AK
Great Lakes | OH, IN, IL, WI, MI
Mid-Atlantic | NY, NJ, PA, DE, MD
New England | ME, NH, VT, MA, CT, RI
Plains | MN, IA, MO, KS, NE, SD, ND
Rocky Mountains | CO, UT, WY, ID, MT
Southeast | VA, WV, KY, TN, AR, LA, MS, AL, GA, FL, SC, NC
Southwest | OK, TX, NM, AZ

VOLATILITY
The level of volatility is determined by averaging the absolute change in revenue in each of the past five years. Volatility levels: very high is more than ±20%; high volatility is ±10% to ±20%; moderate volatility is ±3% to ±10%; and low volatility is less than ±3%.

WAGES
The gross total wages and salaries of all employees in the industry.

Call Preparation Questions

Role Specific Questions

Sales & Marketing

How has the shift towards conducting business online affected demand for your services?

The shift online has opened a new distribution channel for industry companies; the cloud. Through the cloud, customers can pay for services on a subscription basis and receive regular software updates, which is a shift from the previous model which required a large one-time purchase.

The pandemic prompted sharp growth in the percentage of business conducted online.

Your company may want to discontinue physical media sales if possible.

Has technology (i.e. data storage and analytics) changed the type of customers you sell to?

Compared to costly one-time purchases, cloud-based solutions are marketable to a wider range of customers as these subscription options enable customers to pay less upfront and develop stronger long-term relationships with developers.

Offering supplementary subscriptions such as cloud computing and cloud storage for customer files can bring in additional revenue.

Also consider marketing to groups and business sectors that have historically been technology-averse, as the digital economy now touches nearly everyone.

Strategy & Operations

Is your company strategically located in a beneficial region?

To attract the best talent, companies should be aware of the Silicon Valley area of California, Austin, TX, Seattle, WA, New York City and Boston, MA as major tech hubs. The two largest US-based industry companies are based in California.

The emergence of remote working conditions and offices has increasingly enabled operators to reassess where they are headquartered.

Offering employees the benefit of remote work combined with office space is frequently a mutually beneficial decision for employers and employees: office space can be smaller, but employees who benefit little from the office can find a space that suits them.

Has your company been exposed to rising wages in recent years?

The industry as a whole has been exposed to rising wages over the past five years as demand for employees is extremely competitive. Large corporations, including industry operators Adobe and Dassault Systemes, push wages up.

Industry wages increased even in 2020, as the pandemic impacted the United States economy.

If your company cannot offer higher wages, consider offering non-financial benefits such as a clear mission, an uplifting work environment and a sense of purpose for employees.

Technology

Has your company been able to keep current with changing digital interfaces?

It is vital for software developers, especially smaller companies, to be aware of changing consumer preferences. The shift to the cloud is extremely important in this industry, as more customers demand the flexibility and affordability that only the cloud offers.

While phones and tablets are rarely used to run full versions of industry software, many consumers run laptops with power limitations. Minimizing background processes for these devices automatically can improve the user experience.

Has your company prepared adequately to address the increased security risks posed by digital data storage?

Nearly every year in the past decade has been rocked by a data breach disclosing irrevocable details of millions of individuals; Equifax, Facebook, Yahoo, Uber, First American and Facebook hacks all attacked data stored on databases.

Enabling your customers to easily implement security features, including app-based two-factor authentication (2FA), one-time passwords , password manager integration, detailed error logging, and more will go a long way to helping

customers feel safer using your software.

Companies in this industry should consider a security audit of their product (a pentest) from a reputable external company, as clients often store corporate secrets in industry software files.

Compliance

Do you work with trade associations or other interest groups to advance your company's interests?

On a state and local level, there are a number of groups that are looking to promote software and technology jobs in their area.

Sending employees to group-run events will help continue their education at a relatively low cost while keeping them up-to-date.

Have any recent regulatory changes significantly affected your operations?

Regulation plays a small role in the industry; given the highly fragmented nature of the industry, antitrust litigators generally do not scrutinize industry companies.

However, the industry's major players are anticipating increased federal scrutiny and potential regulation over the next four years under the new Biden administration.

Finance

Do you have any big projects on the horizon that will require capital financing? Have you taken advantage of lower interests rates since the pandemic began in 2020?

Generally speaking, barriers to entry are moderate in this industry.

New entrants will be challenged to find and fund the right employees, often the bedrock of any successful company.

The ease of borrowing is anticipated to fall in 2023 as the United States federal reserve raises interest rates to fight inflation.

How does your company's profit compare with your main competitors'?

Profit margins remain high in this industry, carried by large companies like Adobe and Autodesk. The industry leaders experienced higher profitability in 2020.

Smaller companies typically have low-to-zero profit margins. Some startups pay little attention to profit margins and focus on user acquisition and product development. While this is not necessarily harmful, ensure your company is always thinking about a path to profitability.

External Impacts Questions

Impact: Time spent on leisure and sports

How closely do you monitor changes in time spent on consumer leisure activities? Do you attempt to capitalize on these swings, or do you stick to a core market for your products?

During the pandemic, consumers switched to preferring private indoor or public outdoor recreation activities. The amount of digital content consumed, primarily through video, spiked.

Your company may want to offer discounts on video products to draw in new users or create a more extensive walk-through to make your product easier for newcomers.

Impact: Corporate profit

Do you monitor changes in corporate profit? How does higher corporate profit affect demand for your products?

Rising corporate profit enables companies to upgrade their software. Since software upgrades are not always considered essential, new software is most often purchased when profit is high.

Corporate profit fell sharply in 2020 as the pandemic impacted businesses in the US. Despite this, industry revenue rose last year.

Try targeting business sectors with higher profit margins (assuming similar interest levels) when advertising to maximize revenue generation in the long run.

Impact: Internet traffic volume

Does your company monitor digital transitions of various industries?

The level of internet traffic reflects the general adoption of information technology by the private sector. As organizations rely increasingly on information technology, lagging businesses and individuals will be forced to upgrade their systems.

Noticing these changes before your competitors could allow you to release a market-specific feature to draw in new users from that industry.

Internal Issues Questions

Issue: Access to highly skilled workforce

How do you attract and retain qualified staff? Do you offer ongoing training to your staff? Have you adjusted these offerings as a result of the pandemic and remote working conditions?

Attracting and keeping highly skilled software developers is a key to continued business success in this industry.

Industry operators have handled the pandemic by pivoting to remote working conditions and offering other unique perks.

Offering competitive benefits packages including flexible working locations and focusing on positive corporate impact may be more valuable than simply increasing the salary on your listing.

Issue: Undertaking technical research and development

How much time is invested in research and development? What are the costs associated with this?

Software publishers must spend large sums of revenue on research and development to release more innovative products to a broader customer base.

R&D expenditure is often one of the first costs that can be reduced as revenue growth is limited by external influences such as the pandemic in 2020.

Using a combination of direct customer feedback and internal invention may allow you to discover the needs of your users while generating demand through exciting features.

Issue: Providing related products and services

Do you have a suite of products that benefit each other? Have you considered developing extensions to work with major players' products?

Corporate clients often take into consideration the total cost of ownership for a product suite, including the time it will take to use a given product.

If your organization makes multiple related programs, make sure that files, settings and custom code from one can easily be transferred to another.

IBISWorld

WHERE KNOWLEDGE IS POWER

IBISWorld helps you find the industry information you need – fast.

With our trusted research covering thousands of global industries, you'll get a quick and intelligent overview of any industry so you can get up to speed in minutes. In every report, you'll find actionable insights, comprehensive data and in-depth analysis to help you make smarter, faster business decisions. If you're not yet a member of IBISWorld, contact us at 1-800-330-3772 or info@ibisworld.com to learn more.