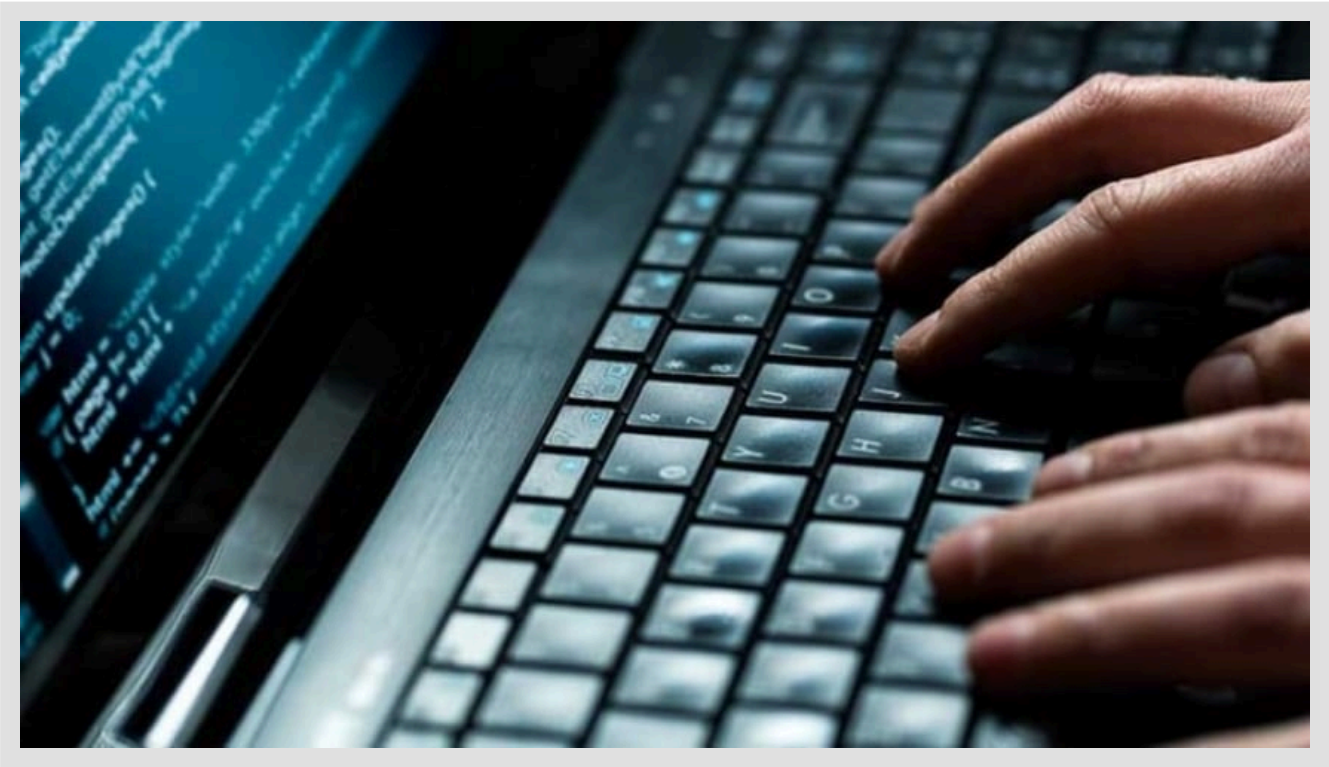
vertical IQ



Computer Programming Services

NAICS: 541511
SIC: 7371

prepared February 18th, 2022

Table of Contents

Coronavirus Update

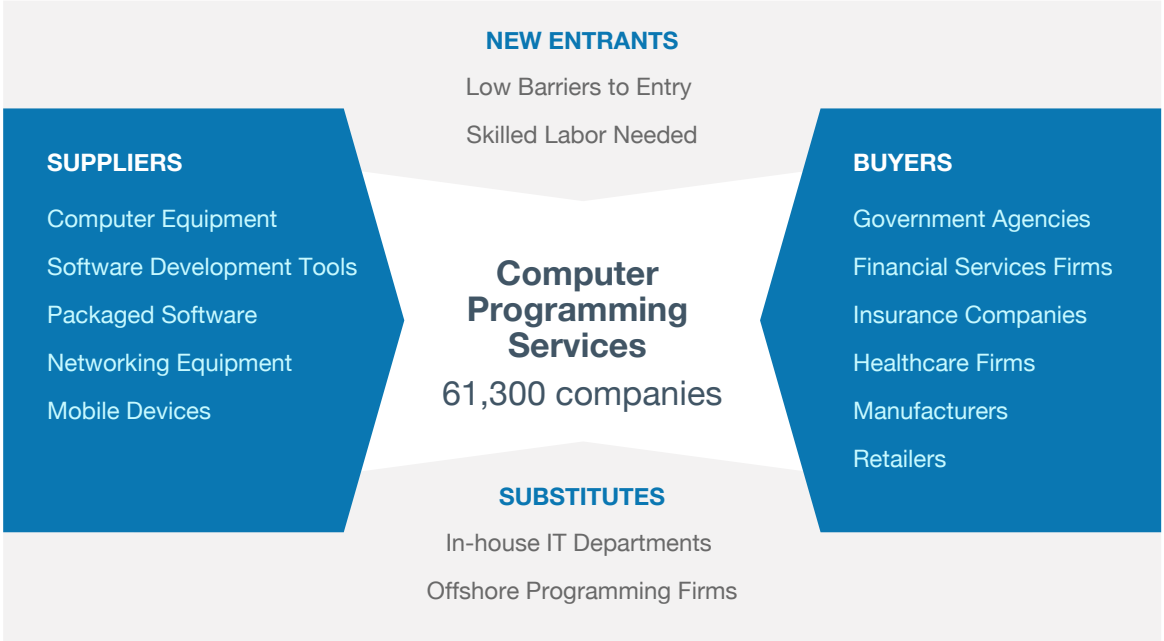
Jan 25, 2022 -- Proof-of-vaccination Technology Slowly Gains Acceptance

- Five states -- California, New York, Hawaii, and Oregon, and Washington – have mandated the creation of digital vaccination status applications or passed laws or enacted orders exempting fully vaccinated individuals from some COVID-19 restrictions if they can provide proof of vaccination. At least 10 states have made mobile apps available to let people show that they have been vaccinated against COVID-19 available. Many municipalities have done so too. Twenty states prohibit proof-of-vaccination requirements for entry to businesses including bars and nightclubs as of January 22. Governors in 11 states banned proof-of-vaccination requirements through executive orders. Legislators passed laws banning proof-of-vaccination requirements in nine states. Supporters of digital vaccination credentials say that the apps make congregating less risky while incentivizing vaccination. Critics say that restrictions which may be put in place following the introduction of the apps could infringe on civil liberties, unfairly punishes those who cannot get vaccinated, discriminate against those who will not, unleash another form of surveillance, and worsen inequalities rather than eradicate them.
- More health care information systems were breached by hackers in 2021 than in any year since 2010, according to the US Department of Health and Human Services's Office for Civil Rights. The total for 2021 exceeded that of 2020 by a single incident. These breaches didn't affect as many patients as the breaches of 2015, the worst year on record, however. Nealy 43 million patients' data were compromised in 2021, fewer than half the number recorded in 2015, when bad actors accessed confidential information on 112.5 million people.
- About 58% of respondents to a survey conducted by software company Pegasystems said that they had wasted between $1 million and $10 million over the past five years on the wrong IT solutions. This sense of waste has been exacerbated by the coronavirus pandemic, which prompted companies to roll out new technologies quickly without sufficient time for planning or impact assessments. "There were many examples of IT success during the pandemic, but the urgency required and the speed of response also led to some systems being implemented that are now showing themselves to be difficult to scale and adapt," said Schuerman. "Some new digital siloes have been created as a result, and some poorly executed approaches to use of technologies like low-code have created 'shadow IT' groups."
- Domestic computer programming services have had a significant advantage during the coronavirus pandemic, according to Forbes Magazine. Countries like India didn't have the requisite infrastructure in place, and employees didn't always have the work-from-home resources to support stay-in-place mandates. Broad availability of computers and broadband in homes across the US allowed software development to continue largely without interruption.
- None of the artificial intelligence (AI) tools developed to help fight the coronavirus pandemic made a real difference, and some were potentially harmful, according to studies of the technology. Epidemiologists at Maastricht University in the Netherlands, for example, looked at 232 algorithms for diagnosing patients or predicting how sick those with the disease might get. They found that none of them were fit for clinical use. Just two have been singled out as being promising enough for future testing.
- The US today is producing roughly the same amount of goods and services as before the coronavirus pandemic, but with 8.2 million fewer workers, according to The Washington Post. Analysts cite increasing use of automation for the development. Analysts also note that many companies are struggling to attract enough workers to meet surging demand, and computer programming services are likely to benefit if the problem results in even greater reliance on automation.
- Commercial bankruptcy filings increased 4.8% month over month in December 2021 after a 10.3% month-over-month decrease in November, according to Epiq Bankruptcy Solutions. New Chapter 11 filings, including Sub Chapter V, decreased 46.6% year over year in 2021.
- Computer programming services may focus on shifting enterprise software development to cloud-based platforms due to the pandemic-driven acceleration of the move from on-premises data centers to data centers operated by cloud service providers and colocation specialists. "By the end of 2021, based on lessons learned, 80% of enterprises will put a mechanism in place to shift to cloud-centric infrastructure and applications twice as fast as before the pandemic," market tracker International Data Corporation (IDC) said. Enterprise spending on cloud infrastructure services increased 33% year over year in Q3 2020, according to Synergy Research Group.
- Healthcare and computing industry experts are concerned that a lack of transparency in and collaboration on development of

artificial intelligence (AI) tools may be impacting COVID-19 patient care. Some institutions have not published any results showing whether their models work, according to healthcare industry news site Stat. Concerns have also been raised about the generalizability of a given model, especially one that is tested and trained only on local data. A study published in the November 2020 issue of Nature Machine Intelligence revealed that a Covid-19 deterioration model successfully deployed in Wuhan, China, yielded results that were no better than a roll of the dice when applied to a sample of patients in New York.

- Employment in the computer programming services industry increased 6.2% year over year in November 2021, according to the US Bureau of Labor Statistics.

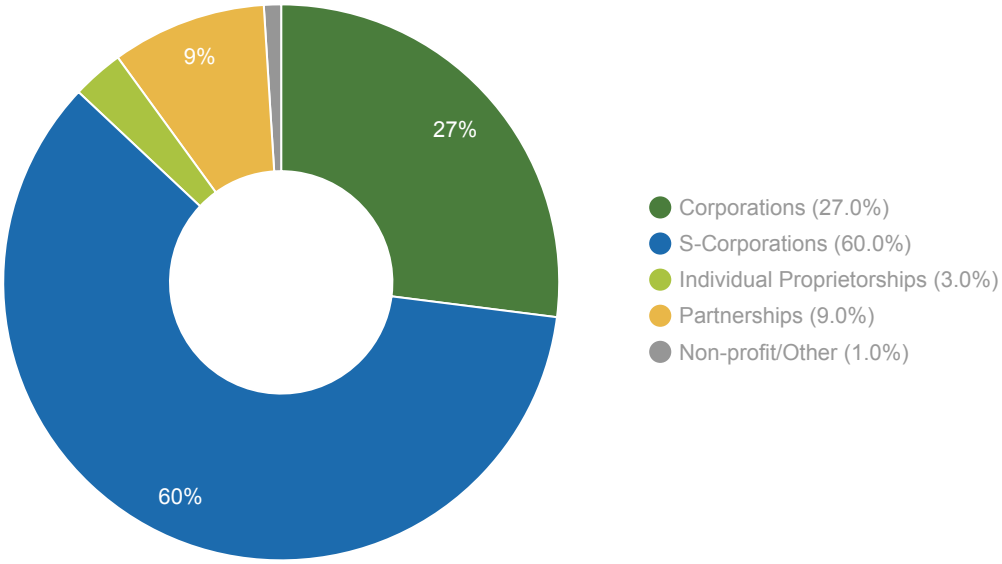
Industry Structure



A typical computer programming services firm operates out of a single location, employs 15-16 workers, and generates about $3 million annually.

- The computer programming services industry consists of about 61,300 companies that employ 971,000 workers and generate about $185 billion annually.
- Many individual programmers provide contracted services and operate as non-employer firms (these firms are not included in industry revenue data).
- Large companies include Cognizant Technology Solutions and Perficient. Major companies based outside of the US include Infosys Technologies and Tata Consultancy Services, both located in India.

Industry Demographics



Source: US Census Bureau

Female Owned

14.0%

Minority Owned

25.0%

Veteran Owned

4.9%

Source: Census Bureau

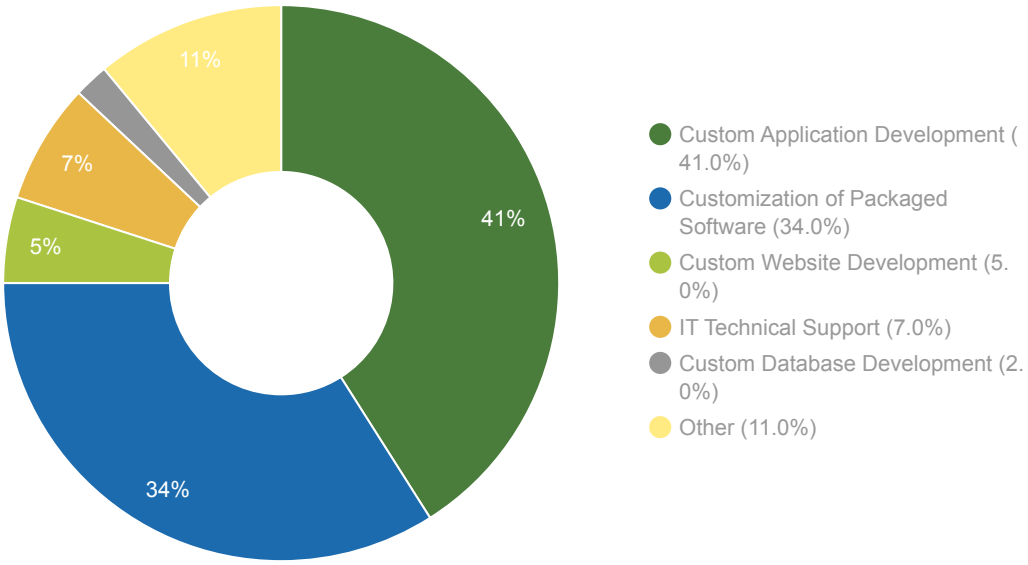
How Firms Operate

Products and Operations

Computer programming services are an integral part of the information technology (IT) industry, which includes the computer hardware, software, and database and network management that organizations need for their operations. Firms develop custom computer programs for clients' specific needs.

- Services include developing application software, software analysis and design, software support, and web page design.
- Firms may focus on a particular industry (such as manufacturing or defense) or specialty (such as supply chain management or security).
- In addition to customer programming services, firms may offer IT facilities management, maintenance, and support services; packaged software systems; consulting services; software testing; and systems design and integration.

Computer Programming Services Revenue



Source: US Census Bureau

Computer programs consist of lines of source code written in a particular programming language. The language may vary depending on the type of application and the computing environment in which the program will run. Commonly used programming languages include C, C++, Java, and Python. Compilers translate source code into machine code, which are instructions that direct computer hardware. Computer programs run on a platform or system architecture, which may consist of hardware (such as Apple or IBM) or an operating system (such as Windows or Unix), that serves as a foundation. Errors in programs are known as "bugs," and projects typically involve "debugging" new or existing code.

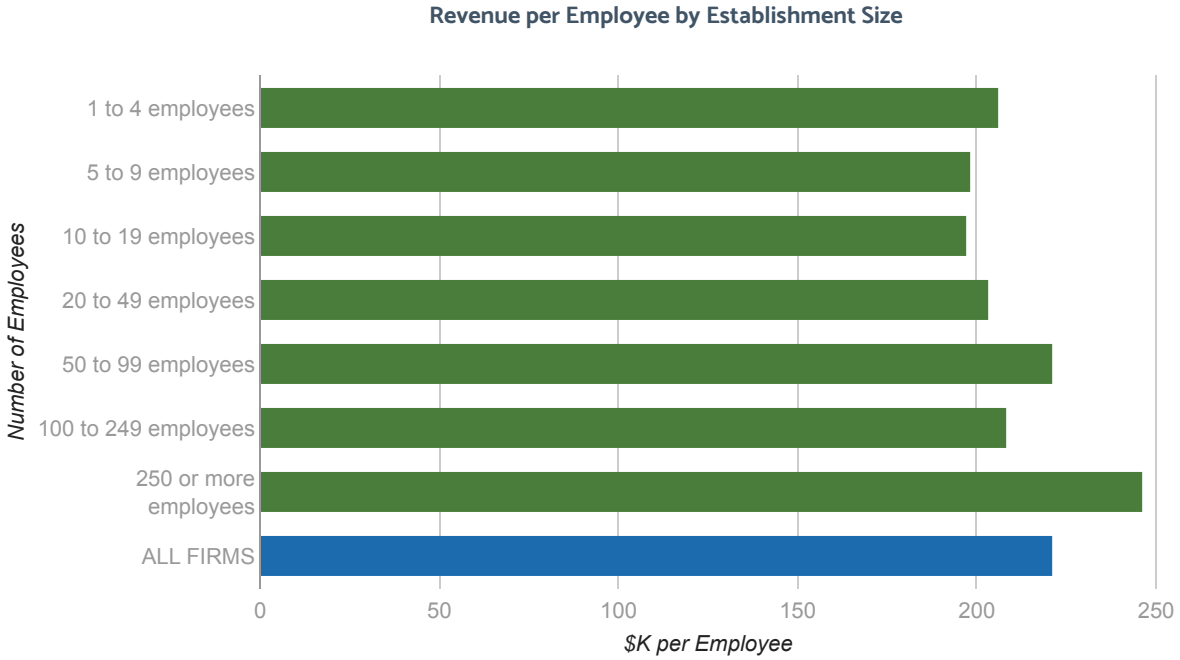
Developing custom computer programs involves several phases, including defining customer requirements; writing specifications; and designing, developing, and testing programs. Firms may modify, update, repair, or expand existing applications. Migration is the process of moving applications or data from one operating environment to a new one, typically to accommodate new hardware or a new operating or storage system. Firms also may modify packaged applications to better suit a client's specific needs.

Open source software is software distributed with source code and generally offered at no charge. With source code, users can customize open source software. While open source software is maintained by a community of volunteer programmers, some third party vendors charge fees for modifications or support.

To automate the programming process, firms may implement computer-assisted software engineering (CASE) tools, which aid in

planning, coding, implementation, and testing. CASE tools can generate program code based on input specifications.

Key staff in a computer programming services firm includes computer programmers, software engineers, and systems analysts. Because most workers are educated and technically savvy, wages can be high. Firms may be fully responsible for program development from design to implementation or work with a client's in-house staff from start to finish. For large or complex projects, firms may provide on-site workers.



Source: US Census Bureau

Profit Drivers

High Staff Billability

Firms employ highly paid technical staff and must keep them billable to client projects to be profitable. Small firms often struggle with balancing prospecting for new projects with completing existing projects. Without an existing backlog of new work, programmers completing a project may sit idle until a new project is sold.

Higher Billing Rates

The availability of offshore programming services in lower wage countries, such as India and Russia, has put downward pressure on billing rates for many programming services. Firms often have to charge lower rates for maintenance or migration projects involving standard platforms and tools. Firms can usually charge higher rates for complex projects requiring a lot of design work and projects using leading edge technologies, such as mobile apps and social media applications. Some firms offer a discount on hourly rates if customers commit to a monthly minimum for ongoing maintenance and support.

Avoiding Cost Overruns

Firms taking on fixed price projects must be careful to avoid cost overruns that can make the project unprofitable. They need good cost estimation methods and a clear definition of project scope to accurately price project bids and proposals. Firms must also be diligent in avoiding "scope creep" and have a change management process to adjust the project price when new work is added. Accurate tracking of project progress and cost is required to identify issues in time to take corrective action. Software development tools and methodologies can help avoid quality issues and costly rework.

Industry Trends

Trends are affected by the COVID-19 pandemic.

Changes in revenue, employment, business practices, trade and forecasts are occurring rapidly and data reporting by the government lags the changes. We are tracking changes in the "Coronavirus Update" chapter.

IT Services Expand

Improved economic conditions have helped the IT services industry, which includes computer programming services, to expand. Demand is growing in banking and financial services, as well as healthcare and retail sectors. Companies are optimistic about demand, raising rates when possible and expanding employment.

Mobile Device Growth

Growth for global mobile data traffic continues to grow at unprecedented rates, according to the Cisco Visual Networking Index. Average mobile network connection speeds more than doubled in 2012 and are expected to triple from 13.2 Mbps in 2018 to 43.9 Mbps in 2023. Higher speeds are fueling significant increases in mobile video traffic, smartphone usage, and laptop and tablet connectivity. Mobile to mobile connections for applications such as security and surveillance, health care, inventory and fleet management, and telematics have also become more prevalent. The number of mobile connections is forecast to reach 13.1 billion in 2023, up from 8.8 billion in 2018, and there will be 4 times more global public Wi-Fi hotspots, at 628 million. Programming service firms that can develop mobile applications or integrate mobile platforms can achieve a competitive advantage.

Cloud Computing Expands

Cloud computing is an area that can expand IT capabilities and reduce costs. Cloud computing stores applications (Software as a Service, or SaaS), data, utilities, services, and platforms on remote public and private servers ("clouds") that users can access through a web browser. Because cloud services are provided upon demand, clients can potentially decrease costs. Clouds allow clients to centralize IT management and pool computing power and storage. Updating and upgrading software is simplified, and users can access the processing and storage of a cloud versus being limited by their individual device. Nearly 95% of businesses have adopted some type of cloud computing. Global spending on cloud-related services rose 21% in 2018, 16% in 2019 and 19.5% in 2020, and is expected to increase 23% in 2021 and 19.6% in 2022, according to Gartner.

Off-Shore Outsourcing Increases

Clients that currently use foreign programming services firms plan to expand their outsourcing. Improved credibility and increased scale is leading clients who previously have not used off-shore services to consider them now, according to the Everest Research Institute. Top off-shore locations include India, Mexico, China, and the Philippines. Increased demand for services from India is expected to push up wages and costs. Some customers are spreading outsourced work among multiple countries to diversify risk, procure a specialized skill set, or support a specific language or time zone. Computer programming is now the most outsourced job.

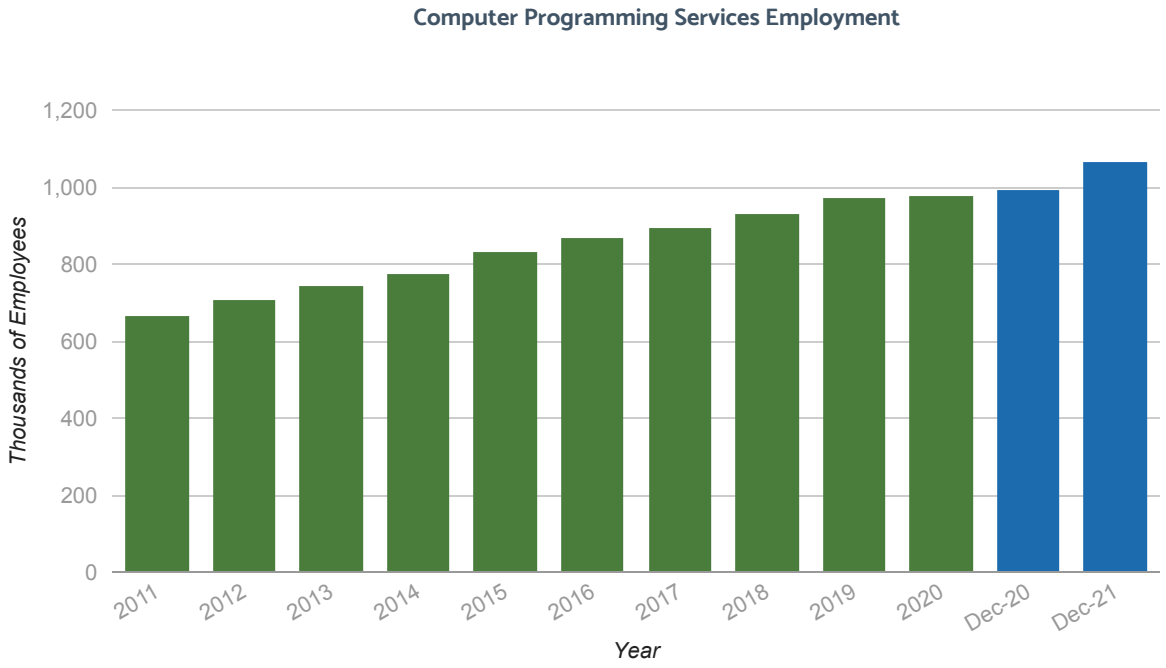
Interest In Computer Science Continues To Grow

More students are enrolling in and graduating from CS programs. The number of CS bachelor's degrees awarded has grown steadily since 2007, increasing 21.8% during the 2014-2015 school year, 19% in 2015-2016, 17.3% in 2016-2017, 18.1% in 2017-2018, 2.4% in 2018-2019 and 15.6% in 2019-2020, according to the Computing Research Association. Students have been encouraged by more application-specific programs, and many mathematically-inclined students perceive CS to be a more stable alternative to finance. More CS grads will improve the labor pool for computer programming services firms, many of which have struggled in the recent past to fill job openings.

Employment and Wage Trends

Employment by computer programming services increases

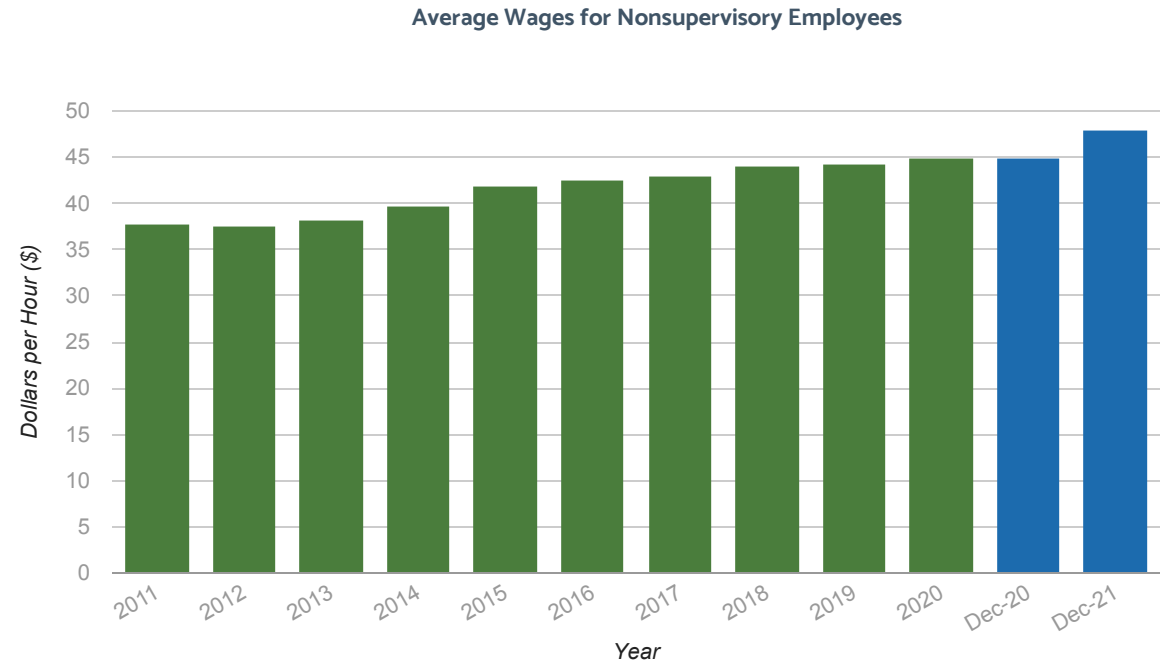
Overall employment by computer programming services changed 7.1% in December compared to a year ago, according to the latest data from the Bureau of Labor Statistics.



Source: Bureau of Labor Statistics

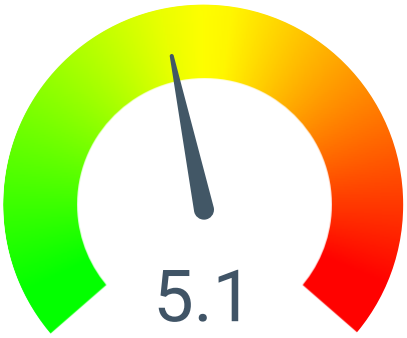
Wages at computer programming services rise

Average wages for nonsupervisory employees at computer programming services were $47.83 per hour in December, a 6.5% change compared to a year ago.



Source: Bureau of Labor Statistics

Credit Underwriting and Risks



Industry Risk Rating:
Stable/Satisfactory

Business Exit Rates:	6.5	Higher than US average for all businesses
Cyclical Sensitivity:	4.5	Moderate sensitivity
Barriers to Entry:	4.6	Low initial capital; high regulatory/technical barriers; low concentration
External Risk:	4.6	Moderate external risk
Industry Outlook:	5.1	Comparable to GDP; some cyclical risk
Financial Summary:	4.6	Average margins; high liquidity; moderate leverage

Key Metrics

METRIC	VALUE	COMPARISON
Performance During 2007–2009 Recession	5.7%	0.0% GDP
Business Exit Rate 2019–2020	10.9%	9.0% All Industries
Compound Annual Growth Forecast (2020–2025)	5.02%	6.1% GDP
SBA 7(a) Default Rate by Number of Loans (2010–2019)	2.82%	3.82% All Industries
SBA 7(a) Default Rate by Gross Loan Amount (2010–2019)	1.00%	1.21% All Industries

Underwriting Considerations

- Typical dependence on key customers within this industry. How concentrated is the AR aging?
- Collateral for a Line of Credit is typically AR. Understanding the AR related risk is important.
- A Field Exam and borrowing base certificate is recommended.

Industry Risks

Customer Industries Sensitivity to Economy

Computer programming services firms are highly dependent on the health of the customer industries they serve. Economic downturns affect business activities, which generally result in reductions in IT budgets and demand for programming services. During recessionary periods, revenue for computer programming services firms typically drops as corporations delay or cancel new projects and upgrades. During the most recent recession, firms that serviced clients in the financial and banking services were especially vulnerable.

Competition

The IT industry is intensely competitive, and computer programming services firms must vie for business against several other types of players. The services groups of computer equipment companies, such as IBM, have realized that software and programming can be more lucrative than hardware. Consulting firms offer programming services in addition to other services, and they typically possess in-depth industry expertise. Clients also may decide to develop programming staff in-house, or may rely on outsourcing agencies to provide specialized expertise in lieu of retaining a programming services firm.

Off-shore Outsourcing

Clients attempting to reduce costs often look to foreign providers of programming services. Companies in India, China, Mexico, and the Philippines have developed strong programming workforces which earn significantly lower wages than US counterparts. With its large, growing population of English-speaking programmers, India is the dominant player in the off-shore outsourcing market. Well-established foreign firms are winning contracts for more complex, critical projects and moving beyond the position of simply a supplier of low-cost labor.

Highly Skilled Labor

Because of the complexity of IT systems and computer programming, firms rely on a staff of highly-skilled, educated professionals, including computer programmers, software engineers, and project managers. In certain markets, the labor pool for qualified, experienced workers is limited. Many large companies are importing foreign workers to fill positions through the H1-B visa program. Over-reliance on foreign workers can be risky - the US caps the number of workers allowed through the H1-B program. During periods of high domestic unemployment, the practice of employing workers from outside the US has brought increased scrutiny.

Industry Evolving Rapidly

Obsolescence happens quickly in IT, as the industry continues to experience rapid technological development and change. Computer programming services firms must constantly adapt to new technology, platforms, protocols, standards, and regulations. Hardware manufacturers are introducing subsequent generations of processors and peripherals at a rapid pace – each more powerful and faster than the last versions. Firms that specialize in areas where a dominant standard has yet to evolve are especially vulnerable to the risk of skills becoming obsolete. Working with clients who operate with older systems can be a challenge, since firms must attempt to bridge the gap between old and new technology.

Maintaining Security

Security breaches, particularly those involving financial, personal, or medical information, can result in serious harm to a client. Computer programming services firms are responsible for protecting confidential client data both internally and externally (such as when data is transmitted over networks). Firms often implement sophisticated encryption and authentication technologies to protect sensitive data during the transmission process. With hackers in constant pursuit, programming firms must constantly develop new ways to protect client information.

Company Risks

Dependence on Key Customers

Industry concentration and continued consolidation in many sectors has left some specialized computer programming services firms overly dependent on a small number of key customers. Specialized firms are more vulnerable to downturns in the performance of their client industries. In addition, dependence on a few customers puts firms at a disadvantage when negotiating contracts.

Retaining Technical Staff

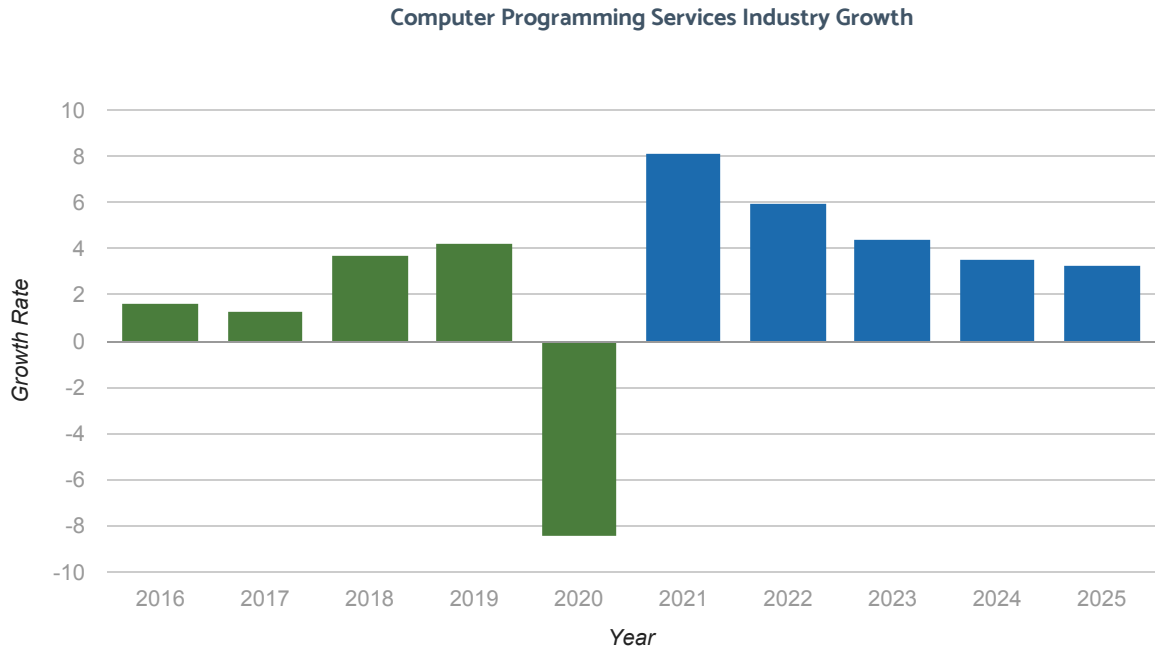
Competition for the best workers can be intense and job switching is common. Firms with a history of restructurings, layoffs, and poor financial performance (relatively common among start-ups) find it especially difficult to attract and retain qualified staff. Turnover within key positions can jeopardize the success of projects, particularly for small firms with limited resources. Limitations in staffing can prevent a firm from pursuing opportunities.

Industry Forecast

Sales for the US computer programming services industry are forecast to grow at a 5.02% compounded annual rate from 2020 to 2025, slower than the growth of the overall economy.

Vertical IQ forecasts are based on the Inforum inter-industry economic model of the US economy. Inforum forecasts were prepared by the Interindustry Economic Research Fund, Inc.

Last Update: August 2021



Source: Interindustry Economic Research Fund, Inc.

Working Capital

Sell and invoice

Computer programming services firms generate revenue by securing contracts with customers to deliver custom computer programs and to provide other computer-related services. Pricing may be based on time and materials or a fixed price. With a fixed price contract, the programming service firm bears the risk of cost overruns. Inaccurate cost estimates can result in firms taking lower margins or even losses. Firms typically receive payment in phases, as a project reaches particular milestones.

> 20% of computer services said they go to their accountant or bookkeeper for cash flow advice, while 17% turn to their banker and 78% do not seek advice, according to a survey of small businesses by Barlow Research Associates.
>
> *Source: Barlow Research Associates.*

Collect

Most firms offer customer credit and generally do not collect payments up-front. Collection periods average 58 to 65 days and receivables account for 36-38% of assets.

Manage Cash

Firms rely on a stable backlog of contracts to maintain steady cash flow. Variability in hourly billing rates affects revenue and profitability. Weak demand or increased competition can create pressure to lower rates to win contracts. Reduced billing rates decrease margins and affect a firm's ability to cover fixed costs. Project setbacks or customer disputes over acceptance of deliverables can delay cash flow.

Pay

Because firms employ highly educated, skilled workers, labor is a significant expense and averages 44-47% of sales. Rent averages about 2-3% of sales.

Report

After-tax net profit averages 4-5% of sales. Firms monitor billing rates and billable hours. Billing rates offered by off-shore outsourcing firms, which tend to have significantly lower labor costs, have become a growing concern for the industry. For fixed price contracts, firm monitor progress versus hours spent as a percentage of total hours in the contract.

Cash Management Challenges

Cash Shortfalls Due To Project Delays Or Overruns

To maintain steady cash flow, firms usually receive progress payments for large projects tied to specific milestones or deliverables. Schedule delays in achieving milestones often occur due to unexpected complexity in programming requirements, changes in specifications, availability of resources, or technical errors. Delays can create short-term strains on cash flow for small firms. Cost overruns for fixed price projects can lead to serious cash problems for firms.

Maintaining Sales Pipeline

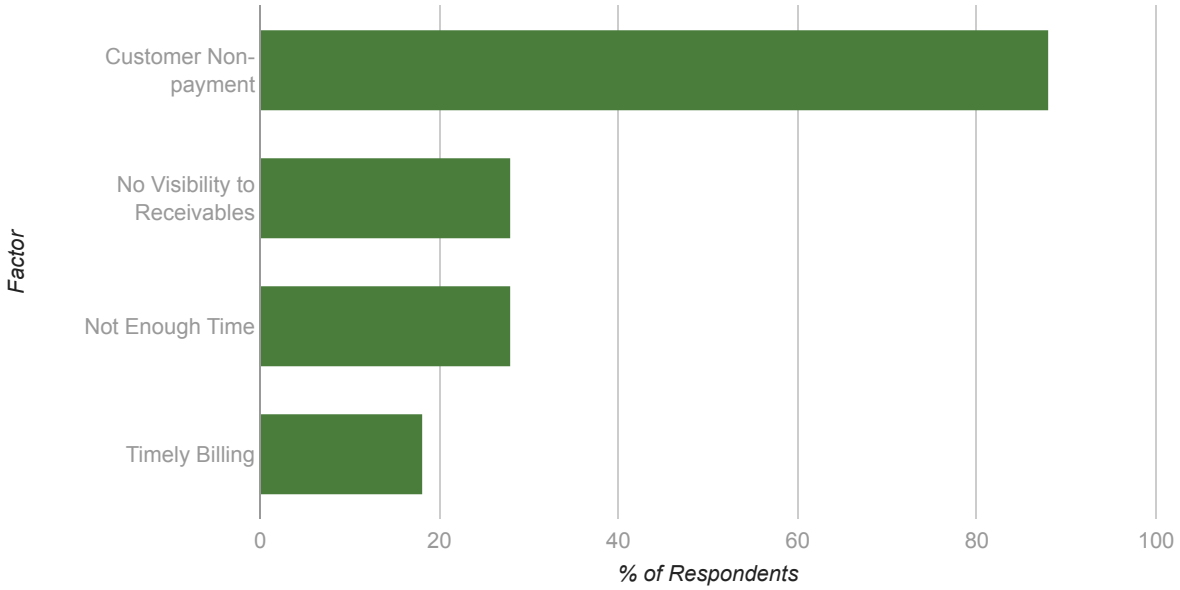
Firms rely on a backlog of projects to achieve steady cash flow. At small computer programming services companies, the owners often act as project managers, lead programmers, and as the primary sale reps. They may become so involved in meeting project deliverables that they don't have time for prospecting to secure new contracts. As a result, new contracts may not be in place when the current project ends and the firm is forced to scramble to win new business. This "boom-bust" cycle can be a major challenge for small

firms unless they have ongoing contracts with some customers.

Funding Staff Training And Tools

Information technology changes rapidly and firms must continually invest in staff training and new tools to keep pace with customer needs and competition. Spending on staff training on the latest technology is important to both win new business and to retain key technical talent. Top programmers want to stay on the "cutting edge" of technology and may change firms if not given the opportunity to enhance their skills.

Factors Causing Cash Flow Stress: Computer Services



Source: Barlow Research Associates

Capital Financing

Small computer programming services firms generally have minimal capital needs, requiring only computer equipment and basic workspace. Solo operators often run their businesses out of their homes. As firms grow, they may require financing to purchase additional equipment, hire more workers, and expand facilities. Small firms rely on personal savings, commercial loans, or private investors for funding.

Medium to large firms often require capital to expand via acquisitions. Large companies may incur debt or rely on private equity firms to fund major projects.

Examples of Equipment Purchases

Laptop Computers

$800 - 2,000

High-performance laptop computer for software development and testing.

Computer Monitors

$200 - 500

Wide-screen monitor for connection with laptop computer to provide dual screen environment for software development and testing.

Server Systems

$3,000

Computer servers for networking, application hosting, data storage, and Internet access.

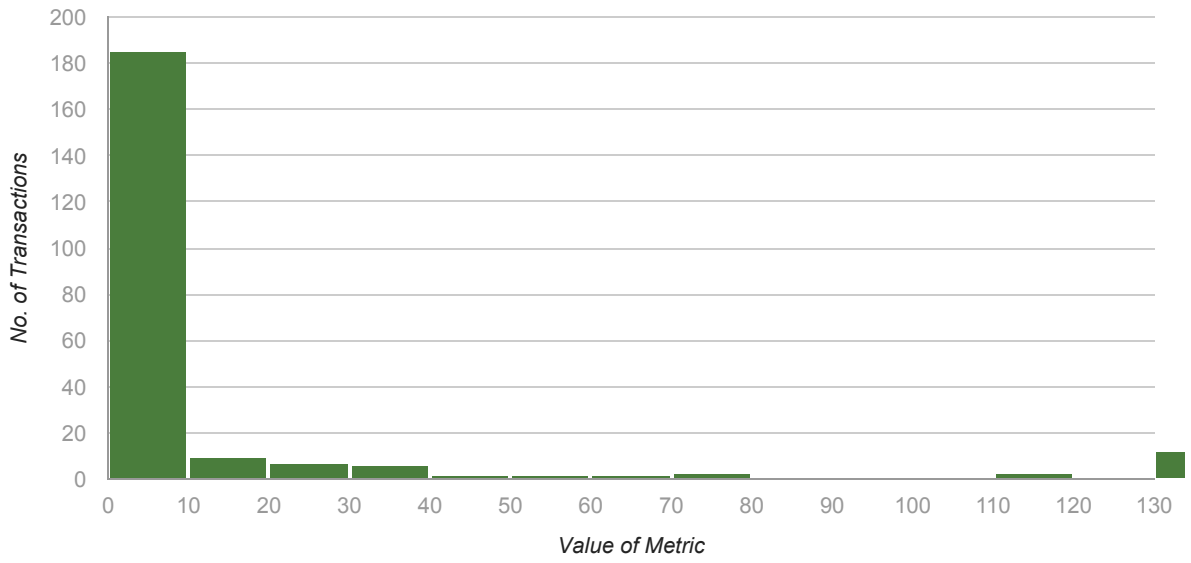
Business Valuation

This data on business valuations is supplied by DealStats, an online database with the most complete financial details on nearly 36,000 acquired companies. These companies are mostly small and medium-sized private firms.

Summary Valuation Data for Computer Programming Services

	MEDIAN	MEAN	# TRANSACTIONS	DATES
Price to Net Sales	1.79	105.06	222	05/31/1995–08/31/2020
Price to Gross Profits	3.42	37.08	195	05/31/1995–08/31/2020
Price to EBITDA	12.02	58.17	106	05/31/1995–08/31/2020
Price to EBIT	12.67	48.58	114	05/31/1995 –08/31/2020

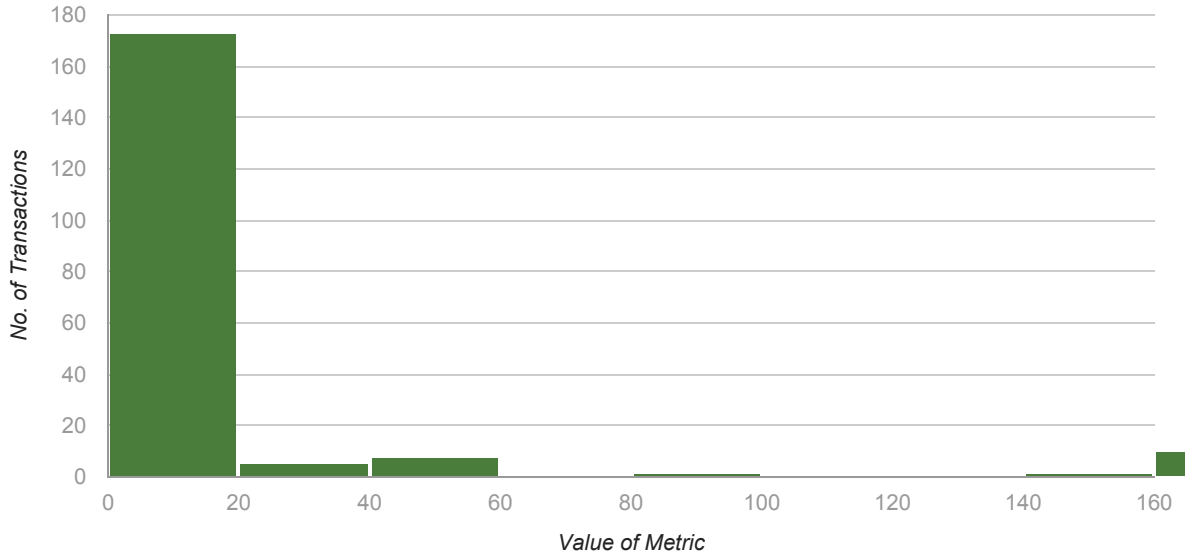
Click on the metric below to see a distribution of transactions for the industry:



Source: DealStats

Count: 222 **Min:** 0.02 **Max:** 9414.11 **Mean:** 105.06 **Median:** 1.79

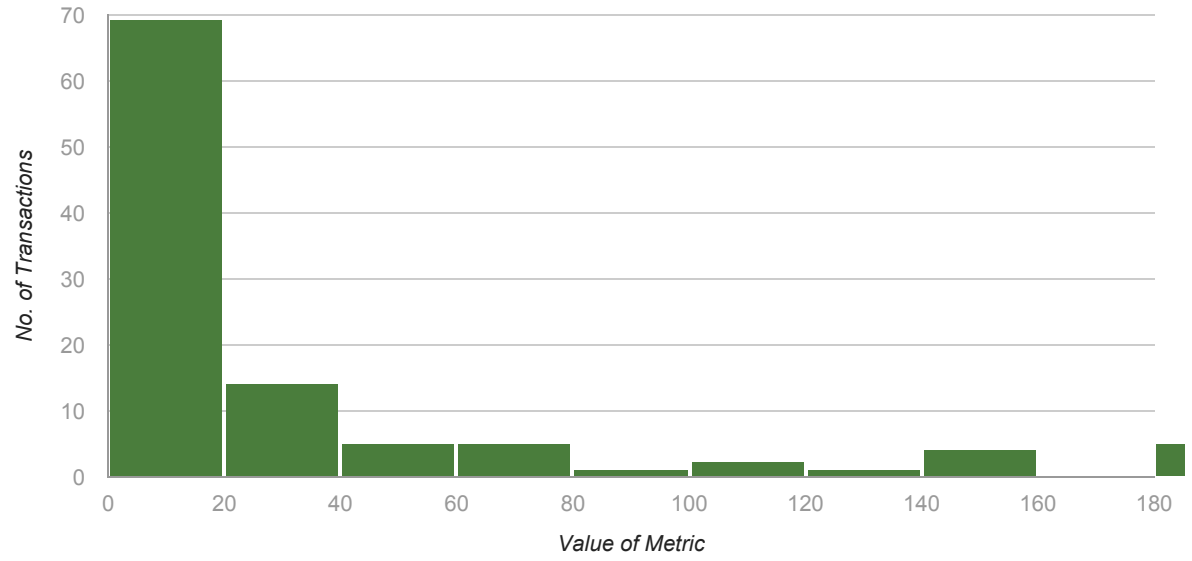
Price to Sales = Selling Price/Net Sales
Date range: 05/31/1995 - 08/31/2020



Source: DealStats

Count: 195 **Min:** 0.04 **Max:** 2216.35 **Mean:** 37.08 **Median:** 3.42

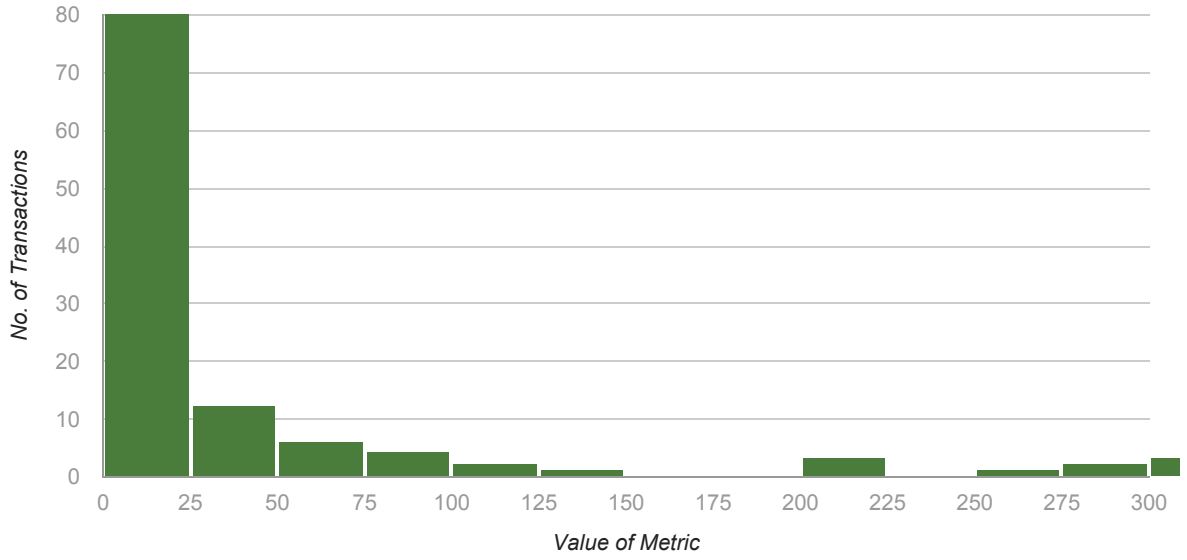
Price to Gross Profit = Selling Price/Gross Profit
Date range: 05/31/1995 - 08/31/2020



Source: DealStats

Count: 106 **Min:** 1.04 **Max:** 1278.89 **Mean:** 58.17 **Median:** 12.02

Price to EBITDA = Selling Price/Operating Profit + Depreciation & Amortization
Date range: 05/31/1995 - 08/31/2020



Source: DealStats

Count: 114 **Min:** 0.9 **Max:** 1192.33 **Mean:** 48.58 **Median:** 12.67

Price to EBIT = Selling Price/Operating Profit
Date range: 05/31/1995 - 08/31/2020

Selling Price, also known as MVIC (Market Value of Invested Capital) *is the total consideration paid to the seller and includes any cash, notes and/or securities that were used as a form of payment plus any interest-bearing liabilities assumed by the buyer. The MVIC price includes the noncompete value and the assumption of interest-bearing liabilities and excludes (1) the real estate value and (2) any earnouts (because they have not yet been earned, and they may not be earned) and (3) the employment/consulting agreement values. In an Asset Sale, the assumption is that all or substantially all operating assets are transferred in the sale. In an Asset Sale, the MVIC may or may not include all current assets, non-current assets and current liabilities (liabilities are typically not transferred in an asset sale).*

Source: DealStats 2019 (Portland, OR; Business Valuation Resources LLC). Used with permission. DealStats is available at https://www.bvresources.com/learn/dealstats

Financial Benchmarks

The following financial benchmark data is based on annual financial statements submitted by member institutions of the Risk Management Association from Q2 of the first year listed through Q1 of the following year.

Financial Ratios (Computer Programming Services, Industry-wide)

MEASURE	2018-19	2019-20	2020-21
Current Ratio	1.33	1.34	1.53
Quick Ratio	1.16	1.14	1.37
Days Inventory	6.4	3.47	5.23
Days Receivables	65	58	54
Days Payables	28.82	27.29	23.84
Pre-tax Return on Revenue	2.89%	3.20%	5.91%
Pre-tax Return on Assets	4.67%	5.60%	9.93%
Pre-tax Return on Net Worth	14.90%	18.96%	26.93%
Interest Coverage	7.04	5.77	10.58
Current Liabilities to Net Worth	1.36	1.38	1.06
Long Term Liabilities to Net Worth	0.84	1	0.65
Total Liabilities to Net Worth	2.19	2.39	1.71
Number of Firms Analyzed	*701*	*535*	*308*

Income Statement (Computer Programming Services, Industry-wide)

ITEM	2018-19	2019-20	2020-21
Revenue	100.0%	100.0%	100.0%
Cost of Sales	57.02%	58.35%	51.74%
Gross Margin	42.98%	41.65%	48.26%
Officers Compensation	1.94%	1.76%	2.53%
Salaries-Wages	16.84%	16.23%	18.23%
Rent	1.02%	0.97%	1.89%
Taxes Paid	1.59%	1.49%	1.97%
Advertising	0.7%	0.67%	1.19%
Benefits-Pensions	1.76%	1.68%	2.4%
Number of Firms Analyzed	*701*	*535*	*308*

ITEM	2018-19	2019-20	2020-21
Repairs	0.25%	0.24%	0.35%
Bad Debt	0.12%	0.12%	0.12%
Other SG&A Expenses	10.21%	9.6%	10.99%
EBITDA	8.55%	8.9%	8.59%
Amortization-Depreciation	2.35%	2.24%	2.36%
Operating Expenses	36.78%	35.0%	42.03%
Operating Income	6.2%	6.65%	6.23%
Interest Expense	1.03%	1.37%	0.98%
Other Income	0.15%	0.21%	-0.74%
Pre-tax Net Profit	5.03%	5.08%	5.99%
Income Tax	0.79%	0.34%	0.22%
After Tax Net Profit	4.24%	4.74%	5.77%
Number of Firms Analyzed	*701*	*535*	*308*

Balance Sheet (Computer Programming Services, Industry-wide)

ASSETS	2018-19	2019-20	2020-21
Cash	24.28%	26.6%	36.19%
Receivables	38.17%	37.92%	29.93%
Inventory	1.74%	1.26%	1.5%
Other Current Assets	5.2%	5.37%	3.6%
Total Current Assets	69.39%	71.16%	71.23%
Net Fixed Assets	8.79%	8.95%	6.98%
Net Intangible Assets	12.16%	9.77%	12.83%
Other Non-Current Assets	9.66%	10.12%	8.97%
Total Assets	*100.0%*	*100.0%*	*100.0%*

LIABILITIES			
Accounts Payable	10.81%	10.96%	8.24%
Loans/Notes Payable	12.81%	9.97%	12.71%
Other Current Liabilities	27.52%	26.15%	24.06%
Number of Firms Analyzed	*701*	*535*	*308*

LIABILITIES			
Total Current Liabilities	51.14%	47.08%	45.01%
Total Long Term Liabilities	22.42%	21.4%	26.38%
Total Liabilities	73.56%	68.47%	71.39%
Net Worth	26.44%	31.53%	28.61%
Total Liabilities & Net Worth	100.0%	100.0%	100.0%
Number of Firms Analyzed	*701*	*535*	*308*

Vertical IQ financial benchmark data is based on data provided by the Risk Management Association (RMA) and Powerlytics, Inc. RMA's Annual Statement Studies provide comparative industry financial benchmarks based on financial statements of small and medium business clients of RMA's member institutions. Additional detail on income statement line items is provided using Powerlytics financial benchmarks, which are based on reporting submitted to the IRS. Additional detail on these data sources can be found at RMA and Powerlytics.

Bank Product Usage

Top Bank Products Used by Computer Programming Services

The following table provides the frequency of bank product usage by Computer Programming Services with less than $10 million in annual revenue. It is provided by Barlow Research Associates, Inc., the premier market research firm in the financial services industry.

BANK PRODUCT	% OF FIRMS
Business checking account services	100.0
Wire transfer services	71.0
Business savings or money market account	70.0
Business debit card or business check card	69.0
Automated clearing house services (ACH)	64.0
Business credit card issued in your company's name (Visa, MasterCard, Amex, etc.)	64.0
Overdraft protection for business checking	53.0
Electronic payments initiated through the Internet (Bill Payment)	52.0
Point-of-sale credit card processing	51.0
Remote deposit capture (scanning checks at your office or by mobile device for electronic deposit)	39.0
Account reconciliation processing (ARP)	29.0
Money market mutual funds or short-term investments	29.0
Payroll processing	28.0
Company sponsored 401(k), SEP, pension or profit sharing plan	23.0
Certificates of deposit	18.0
Unsecured short-term loans or working capital line of credit (less than one year)	15.0
SBA loans	13.0
Credit lines secured by receivables, inventory, property or other assets	12.0
Overnight investment or sweep accounts	11.0
International (foreign exchange, import/export letters of credit)	11.0
Commercial real estate mortgage (company occupied building)	11.0
Commercial real estate mortgage	11.0
Term loans or equipment financing (one year +)	7.0
Accounts receivable collection (lockbox)	7.0
Commercial real estate mortgage (investment property)	3.0
Equipment leasing	2.0

Barlow's Small Business Banking program is a multi-client research program sponsored by leading banks. Each quarter, a stratified random sample of businesses throughout the United States with sales between $100,000 to $10 million compiled from an independent list provider are invited to participate in a comprehensive banking survey of over 100 questions. The results measure channel adoption, bank satisfaction, brand power, account management, service quality, business product usage and the selling abilities of leading providers. The results in this chapter are calculated directly from the business product usage section and represent usage for the average small business ($100K-<$10MM).

For more information on Barlow's banking research, go to http://www.barlowresearch.com/

Quarterly Insight

1st Quarter 2022

Job Growth Continues

Technology companies hired 11,000 workers during December 2021, marking the 13th consecutive month of industry employment growth, according to CompTIA. The industry is trending in a positive direction even as the overall economy produced job numbers generally viewed as underwhelming. IT industry unemployment decreased to just 2% in December 2021 while the overall US unemployment rate was 3.9%. Technology employers posted an additional 332,564 job openings in December 2021, 22,500 more than reported in November and the highest monthly total since the COVID-19 pandemic began affecting employment following March 2020.

4th Quarter 2021

NATO Launches AI Strategy

The North Atlantic Treaty Organization (NATO), the military alliance of 30 countries that border the North Atlantic Ocean, announced that it would adopt its first artificial intelligence (AI) strategy. NATO Secretary-General Jens Stoltenberg said that a $1 billion fund established for the effort was in response to "authoritarian regimes racing to develop new technologies." NATO's AI strategy will cover areas including data analysis, imagery, and cyberdefense, he added. The announcement came after a senior cybersecurity official at the Pentagon resigned in protest because of the slow pace of technological development at the department. Nicolas Chaillan, former chief software officer at the Air Force, said that the US has "no competing fighting chance against China" in 15 to 20 years, characterizing the AI and cyber defenses in some government agencies as being at "kindergarten level."

3rd Quarter 2021

Executive Order May Set Security Standard for Entire Industry

President Biden has issued an executive order that directs the National Institute of Standards and Technology to establish guidelines for secure software development for government suppliers. Analysts say that the standards are likely to become private sector industry standards too. The driving force behind the Biden administration's executive order on improving the nation's cybersecurity was the recent SolarWinds breach. The breach allowed the Russian intelligence service to get into the systems of at least nine federal agencies and numerous prominent private-sector companies via a software supply-chain hack that exploited SolarWinds software updates. The government's software vendors include well-known firms serving the private sector, such as Cisco, IBM, Microsoft, SAP, and Workday.

2nd Quarter 2021

Still No Consensus on Vaccination Passports

The Biden administration has said that there are no plans for a national vaccine passport or certificate of vaccination for the entire US, but states and foreign jurisdictions are taking positions on the matter. New York state, for instance, issues Excelsior Passes to residents who have been vaccinated or tested negative for COVID-19 so they can gain admittance to certain venues and events. Florida Governor Ron DeSantis, on the other hand, signed an executive order banning vaccine passports. The European Union is still developing official standards, while Israel requires fully immunized residents to furnish a paper or digital "Green Pass" to access public places like gyms, theaters and hotels.

1st Quarter 2021

Firms Take On Vaccination Passports

Several companies, trade groups, and non-profits are developing so-called digital passports intended to show proof of coronavirus

vaccination and testing status. The Vaccination Credential Initiative, a coalition of health and technology organizations, and The International Air Transport Association are among the largest and perhaps most influential of those attempting to create a system that will be accepted as a worldwide standard. There is currently no international or national coordination on the best practices for implementing vaccine passes. Many industry experts say that the variety of approaches means that a single unified system is unlikely to emerge. Multiple proofs may be needed: one credential for an airline, a Wallet pass to show school, and a different app to attend a sports game.

4th Quarter 2020

Trump Administration Makes H-1B Visa Program Changes

The US Department of Labor (DOL) announced in early October a significant revision to the wage scale used by employers to price the salaries of high-skilled foreign workers. Meanwhile, the Department of Homeland Security (DHS) indicated it would boost degree requirements among those applying for the H-1B visa program and amplify enforcement efforts to ensure compliance. The new rules are meant to discourage employers from paying foreign workers less than what US citizens in the same role might earn.

3rd Quarter 2020

President Trump Adds New Visa Restrictions

President Donald Trump signed an executive order in early August barring workers on H-1B visas from replacing American workers on federal contracts. The executive order requires employers to prove they are not replacing qualified American workers with people from other countries and prevents federal contractors from shifting H-1B workers to other job sites in a manner that would "displace American workers." President Trump ordered in June a temporarily halt to visas for foreign workers through the end of the year, a moratorium that targeted the H-1B and H-4 visas issued to workers in the tech industry.

2nd Quarter 2020

H-1B Visa Issues Arise

A coalition of trade groups is calling for relief for foreign-born workers who are in the US through the H-1B visa program. Many of these workers will lose their legal status by June, as H-1B workers who are terminated have 60 days to find another job, transfer to a different visa, or leave the country. The US Citizenship and Immigration Services has not responded to requests for visa deadline extensions but said it may provide special support for people affected by circumstances beyond their control when requested. New H-1B petition for initial employment denial rates rose from 6% in FY 2015 to 30% in Q1 2020, according to a National Foundation for American Policy analysis. Large technology companies that had denial rates of only 1% in FY 2015 experienced much higher denial rates for H-1B petitions for initial employment during Q1 2020. Amazon's H-1B petition for initial employment denial rate was 16% in Q1 2020, Google's was 14%, Facebook's was 8% and Apple's H-1B denial rate was 8%.

Industry Terms

Cloud Computing

Hosted services that are offered over the Internet; sold on demand.

Computer-assisted software engineering (CASE tools)

Tools which aid in the planning, coding, implementation, and testing of software.

H1-B

Visa that allows U.S. employers to temporarily employ foreign workers in specialty occupations.

Migration

Changing from one operating environment to a new operating environment; typically involves new hardware, operating systems, or other underlying software systems.

Open Source Software

Software that is distributed with source code, which allows user modification. Generally offered at no charge.

Platform

Hardware or software system that provides a foundation on which applications can run. Some applications are platform-specific.

Software as a Service (SaaS)

Software delivery model that uses cloud computing; utilized for business applications, such as accounting, CRM, ERP, and human resources.

Telematics

The integrated use of telecommunications and informatics (vehicle navigation systems, vehicle management systems).

Web Links

InfoWorld

News, trends, and white papers.

CompTIA

News, trends, and regulatory issue coverage from IT industry trade association.

Computer Economics

News, trends, research, and surveys.

Software & Information Industry Association

News, trends, and public policy information for software and digital content industries.

Everest Group

News, trends, and statistics for the service marketplace.

ComputerWorld

News, trends, and white papers.

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