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EMERGING TRENDS

TOP 100

SaaS Companies Survey 2022

Capitalization of Development Costs and Sales Commissions

TOP 100

SaaS Companies Survey 2022

Sales commissions and software development costs (including website or application development costs) continue to be among the top expenditures for software-as-a-service (SaaS) companies. Chief financial officers (CFOs), chief accounting officers (CAOs) and other finance and accounting executives of SaaS companies need to continually evaluate and monitor the industry for emerging trends pertaining to the accounting of these costs. Our annual SaaS survey provides a useful tool to gauge how your organization compares to its peers in these key areas.

The 2022 survey includes 100 of the top publicly traded SaaS companies (ranked principally using market cap). We collected the survey information from participants' most recently filed Form 10-Ks, reflecting data for the most recent fiscal year ending prior to May 1, 2022. In addition to looking at capitalization over time, we also looked at capitalization by revenue and by auditor.

At a high level, the survey results show that the percentage of companies capitalizing commissions paid to sales professionals rose sharply, more than tripling compared to our survey five years ago (85% in 2022 versus 22% in 2017). This is not surprising, given that the revenue recognition rules (ASC 606) took effect for public companies in 2018. The percentage of companies capitalizing development costs, which are not impacted by ASC 606, also increased during this same period (71% in 2022 versus 62% in 2017).

01 GAAP Rules

For reference, here are the rules specific to development costs and commissions capitalization.

Development Cost Capitalization

SaaS development costs are subject to “internal use” software capitalization rules, which typically have a longer window of time for eligible costs to be capitalized, versus the “external use” rules for software licensing companies. The tables below provide summaries of the applicable Financial Accounting Standards Board (FASB) rules.

SaaS

Internal Use Software	Subtopic 350-40	Capitalization of costs begins when the preliminary project stage is completed, management has committed to funding the project and it is probable that the project will be completed and the software will be used to perform the function intended. Capitalization ceases when the project is substantially complete and is ready for its intended purpose.
Website Development Costs	Subtopic 350-50	Costs incurred to purchase software tools, or costs incurred during the application development stage for internally developed tools, shall be capitalized.

Traditional Software License

Costs of Software to Be Sold, Leased or Marketed	Subtopic 985-20	Development costs of software to be sold, leased or otherwise marketed are subject to capitalization beginning when technological feasibility has been established and ending when the product is available for general release.

Commissions Capitalization

ASC 606 mandated that companies capitalize sales commissions if such costs are expected to be recovered through future revenues unless the amortization period is one year or less. The capitalization of costs incremental to obtaining a contract and determining the period of amortization is one of the most significant areas affected by ASC 606, as companies no longer have the option to immediately "expense as you go."

TCJA Amendment to IRC §174 Regarding R&D Expensing

Companies have been able to expense R&D costs as paid or incurred allowing for an immediate tax deduction under Internal Revenue Code (IRC) §174. In addition, the R&D tax credit has previously allowed SaaS companies to reinvest earnings and their outside funding directly into R&D spend, causing many to be "loss" companies for both GAAP and tax purposes.

Beginning in 2022, immediate R&D expensing is no longer an option. In December of 2017, the Tax Cuts and Jobs Act (TCJA) amended IRC §174 to require R&D expenditures to be capitalized and amortized over a period of 5-15 years for amounts paid in tax years beginning after December 31, 2021. Additionally, internal software development costs are specifically included as R&D expenditures under the amended IRC §174 and are therefore required to be capitalized and amortized.

With these changes taking effect in 2022, you may find you have a substantial amount of taxable income that you weren't expecting. This first year could have a significant impact as only half-year amortization is allowed. For example, assume SaaS Company, Inc. spends $70M on R&D in 2022 and has an overall GAAP loss of $30M for the year. The company will have to capitalize the entire $70M of R&D spend for tax purposes. Assuming five-year amortization and the required midpoint convention, the company would only be entitled to a $7M amortization tax deduction in 2022. Absent any other tax adjustments, the company would have $33M in taxable income for 2022. The table on the following page demonstrates how SaaS Company, Inc. is affected by the IRC §174 changes from 2021 to 2022.

	2021 ("old" IRC §174 in effect)	2022 ("new" IRC §174 in effect)
GAAP EBIT	-$30M	-$30M
R&D Spend	—	+$70M
5-Year Tax Amortization - R&D	—	-$7M
Taxable Income*	-$30M	+$33M

**Assumes no other tax adjustments*

Even with an unexpected taxable income position, companies may assume they have tax attribute carryforwards to offset the income (e.g., net operating losses [NOL] and tax credits). These attributes are often limited and not available to offset taxable income.

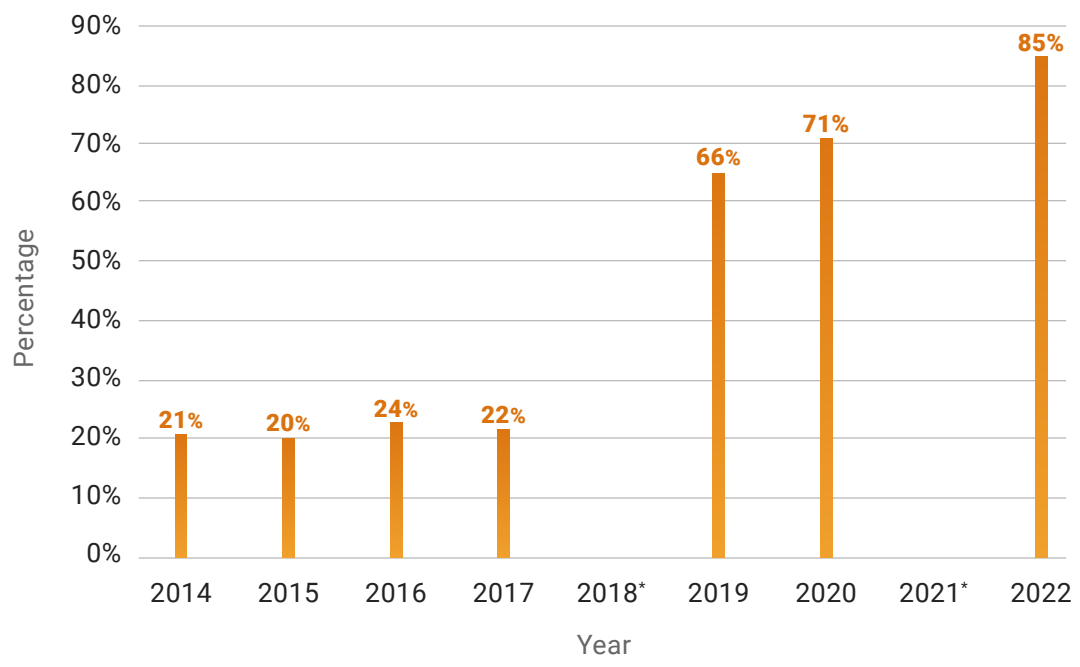
For example, IRC §382 limits the amount of tax attributes due to ownership changes that may have occurred. Furthermore, post-2017 Federal NOLs are limited to 80% of taxable income. Most states conform to the amended §174 and have similar limits on tax attribute utilization. Additionally, many states have specific attribute limitations in place as revenue raisers for their fiscal budgets. (Connecticut only allows taxable income to be offset by 50% of carryforward NOLs and Illinois has a $100K cap on any NOL utilization.)

02 Capitalization Over Time

Sales Commissions

ASC 606 dramatically changed the revenue recognition landscape in 2018, effectively mandating that companies capitalize commissions, if material. As a result, the rate of capitalization in the **2019 survey** (66%) tripled compared to the 2017 survey (22%), as shown in the below graph. This further increased in 2022, with 85% of companies capitalizing commissions.

% COMPANIES THAT CAPITALIZE SALES COMMISSIONS



**We did not publish a survey in 2018 or 2021*

In 2022, companies that did not disclose commissions capitalized (either claimed commissions were immaterial or were related to deals of less than one year) represented 15% of companies surveyed, down from 34% in 2019. This number remains higher than expected, given that most SaaS companies pay significant commissions, and sales teams typically focus on multi-year deals.

Not surprisingly, the SEC has issued comment letters to certain registrants in connection with similar costs to obtain contracts under ASC 606.

Examples of such comments (adapted) are as follows:

"The SEC notes as a result of adopting ASU 2014-09, Revenue from Contracts with Customers (Topic 606), Registrant identified that the new standard required it to adjust its presentation of costs associated with selling extended service plans and treatment of the amortization of certain bonus and profit-sharing arrangements related to third-party credit card programs. The capitalization and amortization of "certain costs" associated with selling extended service plans was discontinued and are now expensed as incurred. Please tell us the nature of these "certain costs" and why your accounting complies with ASC 606. Please also tell us the nature of the costs that are capitalized."

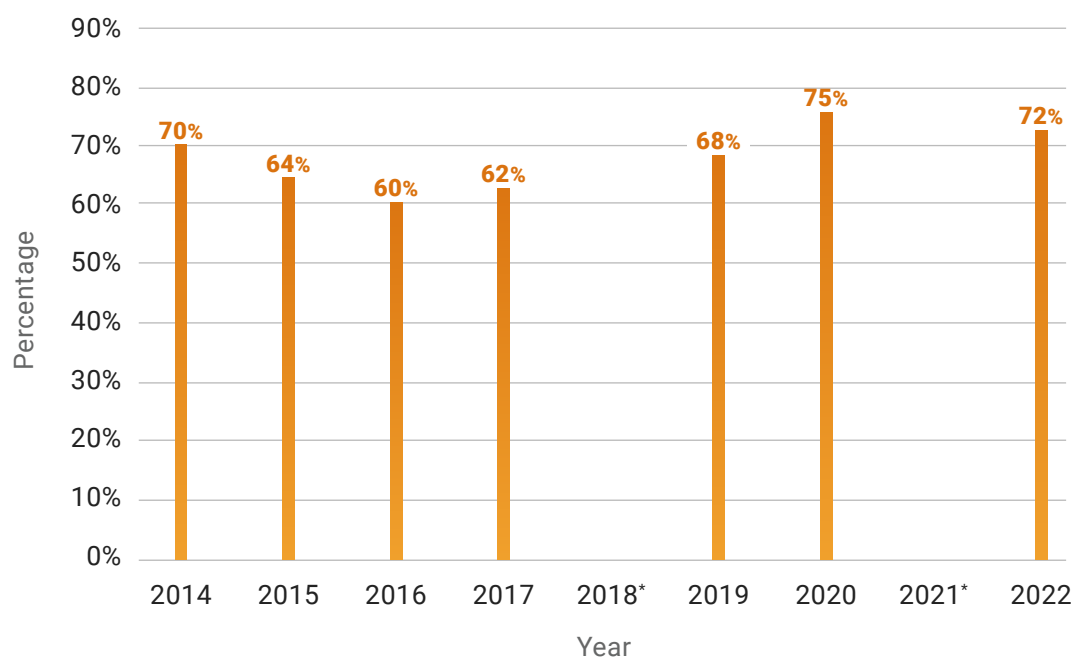
"Registrant discloses that it pays sales commissions based on contract value upon signing a new arrangement with a customer and upon renewals. Registrant further discloses that it amortizes deferred sales commissions over the expected customer life which is approximately five years. Please tell us, and revise to clarify, whether commissions paid upon renewal are commensurate with initial commissions. Also disclose how commissions paid for renewals are considered in your five-year period of benefit for the initial commission. Finally, disclose the period of time over which you amortize commission costs related to contract renewals. Refer to ASC 340-40-35-1 and 340-40-50-2(b)."

"The SEC notes that the Registrant has applied the practical expedient related to commissions and continues to expense the commissions as incurred since the majority of its contract periods are one year or less. The SEC also notes that you have applied the practical expedient related to quantifying remaining performance obligations since the majority of your contracts are one year or less. Please tell us if you have applied these practical expedients to contracts with terms in excess of one year and, if so, how your application of these practical expedients is consistent with ASC 340-40-25-4 and ASC 606-10-50-14."

Development Costs

The percentage of companies capitalizing software development costs decreased from 75% to 72% in the years **2020** to 2022, shown in the graph below. This is the first year that this percentage has not grown, perhaps indicating a levelling out of the number of companies seeking to capitalize these costs.

% COMPANIES THAT CAPITALIZE SOFTWARE DEVELOPMENT COSTS



We did not publish a survey in 2018 or 2021

03 Capitalization by Revenue

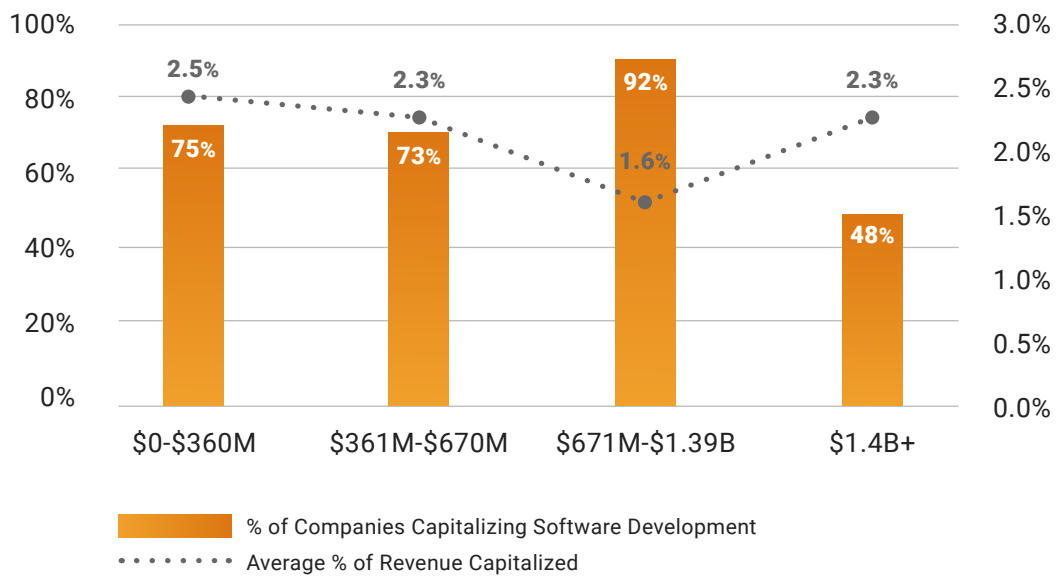
In this year's survey we also sorted the firms by revenue into four brackets, with roughly 25 firms in each bracket: $0 to $360 million, $361 million to $670 million, $671 million to $1.39 billion and $1.4 billion and over.

Development Cost Capitalization

In 2020, the data showed that companies with higher revenue tended to capitalize software development costs more often than companies with relatively lower revenue. However, in 2022, the reverse was true. The data shows that companies with lower revenue tend to capitalize software development costs more often than companies with higher revenue. Companies in the three lower revenue quartiles capitalized development costs more than 70% of the time while only 48% of companies in the largest quartile ($1.4B+) did so.

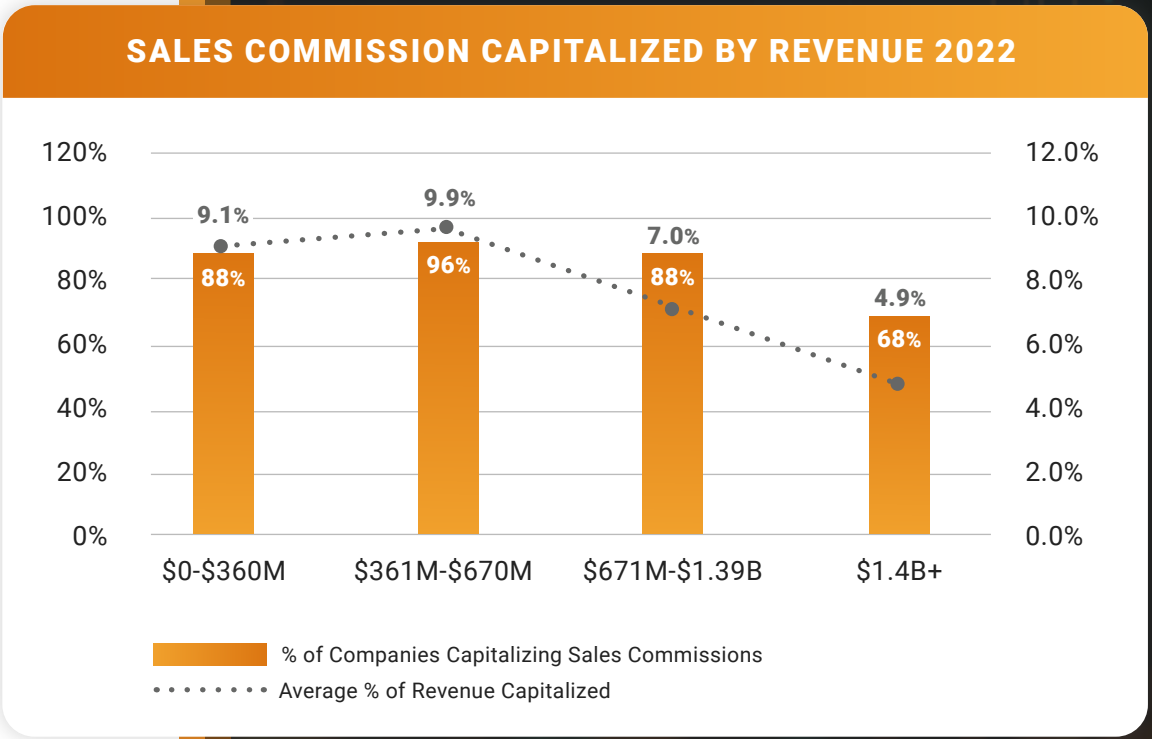
The graph below shows that in 2022, the average capitalized software development among the companies in the different quartiles ranges from 1.6-2.5%. This is less varied than 2020, with companies in the different quartiles ranging from 0.9-3.7%.

SOFTWARE DEVELOPMENT CAPITALIZED BY REVENUE 2022



Commission Capitalization

In 2020, companies with relatively lower revenue tended to capitalize sales commission costs more often than companies with higher revenue. The same is true for 2022. The next graph shows that roughly 68% of companies in the $1.4 billion and over bracket capitalized commission costs, while 88%, 96% and 88% of companies in the $671 million to $1.39 billion, $361 million to $670 million and $0 to $360 million brackets capitalized commission costs, respectively.



The amount of commission costs capitalized as a portion of revenue also trended upward, from roughly 6.4% in 2020 to approximately 7.9% in the current year. Interestingly, the largest revenue bracket ($1.4 billion and over) only capitalized commissions at a rate of 4.9% of revenues, which is about half of the highest capitalization rate of 9.9% for the $361 million to $670 million revenue range.

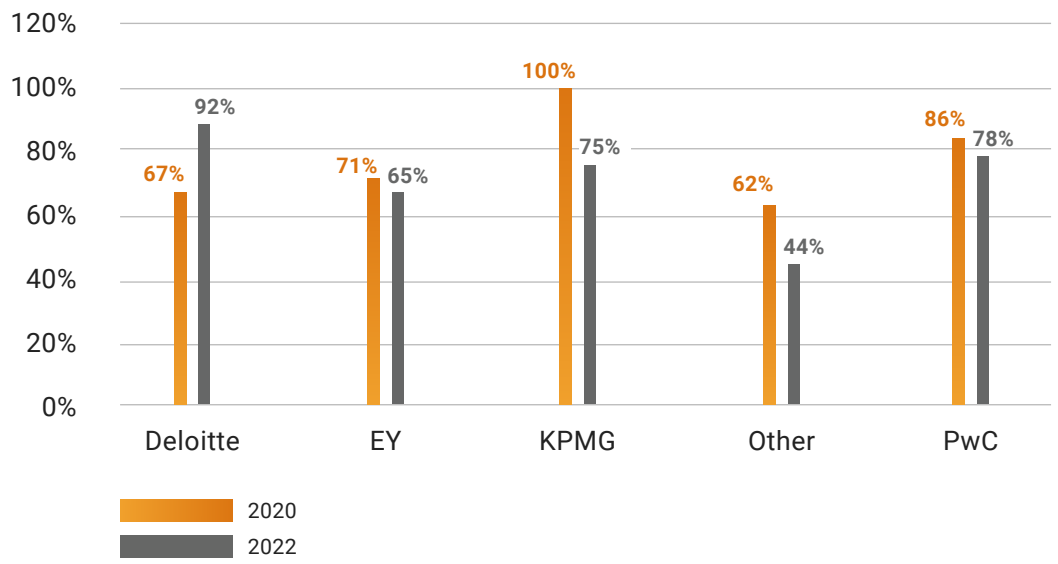
Auditor Correlation to Costs Capitalized

We also analyzed capitalization practices based on the companies' independent registered public accounting firms (auditors). The data showed a wide disparity in practices based on the audit firm.

Of the 100 companies surveyed, 91 used Big Four auditors. The graphs below show the capitalization practices of companies for each Big Four auditor, and for the nine companies that did not use a Big Four audit firm.

Among the registrants audited by the Big Four, 92% of Deloitte's clients capitalized software development costs in 2022, while EY had the lowest percentage at 65%. Notably, the percentage of Deloitte clients capitalizing software development costs increased from 67% in 2020 to 92% in 2022. Among registrants audited by other firms (not Big Four), 44% capitalized software development costs.

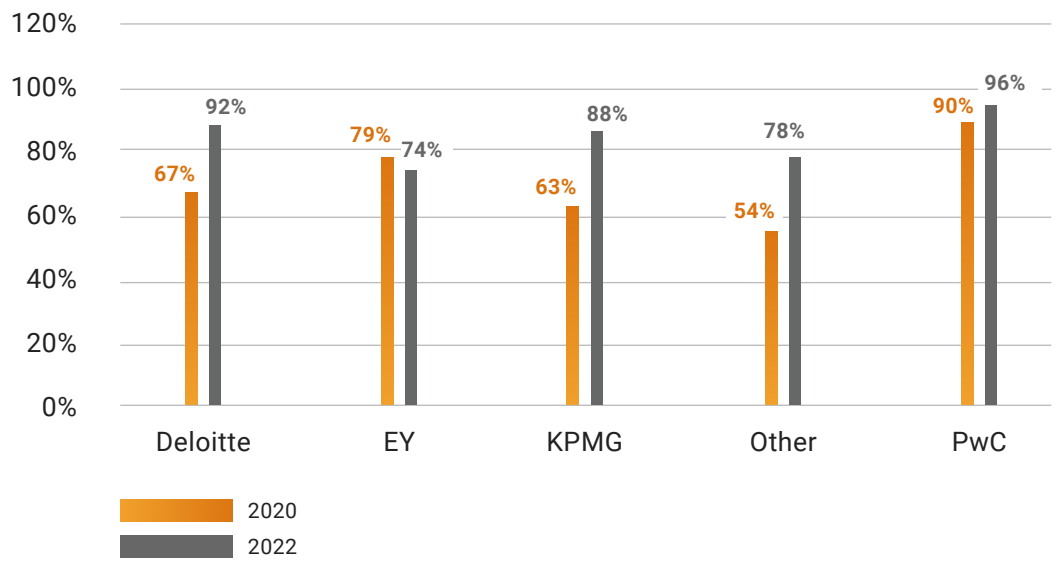
% COMPANIES CAPITALIZING SOFTWARE DEVELOPMENT COSTS, BY AUDITOR



Among the registrants audited by the Big Four, PwC had the highest percentage of clients (96%) that capitalized commissions in 2022, while EY had the lowest percentage at 74%. The increase in Deloitte clients capitalizing commissions was in line with the Deloitte clients capitalizing development costs (67% in 2020 to 92% in 2022). Among registrants audited by other firms (not Big Four), 78% capitalized commissions.

Interestingly, 85% of registrants capitalized commissions in 2022 compared 71% of registrants who capitalized development costs in 2020.

% COMPANIES CAPITALIZING SALES COMMISSION, BY AUDITOR



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Final Thoughts

In light of the survey findings and the ASC 606 standard, SaaS companies should continuously evaluate their decisions on capitalizing software development and commission costs, as there are several short- and long-term implications. They should also consult with their auditors and, ultimately, adopt the method they believe most closely aligns with the intent of the rules.

As of October 2022, the FASB was in the initial deliberation stage of reviewing the accounting for and disclosure of software costs, which they added to their agenda in June 2022. The goal of the FASB's review is to 1) modernize the accounting for software costs and 2) enhance the transparency about an entity's software costs. Any updates should be beneficial to SaaS companies' decision-making process.

Appendix

Top 100 SaaS Companies Surveyed in 2022

Dollars in Thousands. ND=Not Disclosed N/A= Not Applicable

Ranking	Company Name	Ticker Symbol	Auditor	Capitalize Software or Website Development Costs?	Capitalize Commissions?	YE Date	Revenues, Current Year (CY)	Software Dev. Costs Capitalized on Balance Sheet (BS)	Software Dev. Costs Capitalized (CY)	Amortization Expense of Software Development Costs (CY)	Amortization Period (Years)	NET Commissions Capitalized (BS)	Commissions Deferred/ Capitalized (CY)	Commissions Amortized (CY)	Amortization Period (Years)
1	Microsoft	MSFT	Deloitte	No	No	6/30/2021	$168,088,000	ND	ND	ND	ND	ND	ND	ND	ND
2	Oracle	ORCL	EY	No	No	5/31/2022	$42,440,000	ND	ND	ND	ND	ND	ND	ND	4
3	Salesforce Com Inc	CRM	EY	No	Yes	1/31/2022	$26,492,000	ND	ND	ND	ND	$3,796,000	$2,283,000	$1,348,000	4
4	Block	SQ	EY	Yes	No	12/31/2021	$17,661,203	$116,827	$39,200	$33,400	1.5	ND	ND	ND	N/A
5	Adobe	ADBE	KPMG	No	Yes	12/3/2021	$15,785,000	ND	ND	ND	ND	$611,000	$293,000	$212,000	5
6	Intuit Inc	INTU	EY	Yes	No	7/31/2021	$9,633,000	ND	$72,000	ND	3-6	ND	ND	ND	3-4
7	Servicenow	NOW	PwC	No	Yes	12/31/2021	$5,896,000	ND	ND	ND	3-5	$926,000	$565,000	$294,000	5
8	Workday	WDAY	EY	No	Yes	1/31/2022	$5,138,798	ND	ND	ND	ND	$494,216	$238,453	$138,797	5
9	Shopify	SHOP	PwC	No	No	12/31/2021	$4,611,856	$203	ND	$1,597	2-3	ND	ND	ND	ND
10	Autodesk Inc	ADSK	EY	No	Yes	1/31/2022	$4,386,400	ND	ND	ND	3	$138,500	$135,400	$117,800	ND
11	Zoom Video	ZM	KPMG	Yes	Yes	1/31/2022	$4,099,864	$41,894	$20,200	ND	3	$363,980	$247,371	$177,283	3
12	Paychex	PAYX	PwC	Yes	Yes	5/31/2022	$4,611,700	ND	ND	ND	3-5	$550,200	$239,100	$177,100	8
13	Change Healthcare	CHNG	Deloitte	Yes	Yes	3/31/2022	$3,480,815	$382,384	$240,513	$129,766	3	$91,829	ND	$10,878	1-3
14	Akamai	AKAM	PwC	Yes	Yes	12/31/2021	$3,461,223	$558,849	$216,261	$69,096	2-7	$43,562	$56,509	$58,433	3
15	Citrix Systems	CTXS	EY	Yes	No	12/31/2021	$3,217,170	$81,674	$34,800	ND	2-7	ND	ND	ND	ND
16	Twilio Inc	TWLO	KPMG	Yes	Yes	12/31/2021	$2,841,839	$113,599	$63,100	ND	3	$193,400	ND	$31,541	5
17	Splunk	SPLK	PwC	Yes	Yes	1/31/2022	$2,673,664	$16,460	$12,900	$7,100	3	$303,198	$177,700	$144,850	5
18	F5	FFIV	PwC	No	Yes	9/30/2021	$2,603,416	$37,447	ND	ND	3-5	$77,836	$41,719	$34,279	3-4.5
19	Dropbox	DBX	EY	No	Yes	12/31/2021	$2,157,900	ND	ND	ND	ND	$30,800	$36,400	$32,300	5
20	DocuSign	DOCU	PwC	Yes	Yes	1/31/2022	$2,107,213	$37,364	$39,000	$10,300	3-5	$315,158	$169,322	$112,931	5
21	Atlassian Corp Plc	TEAM	EY	No	No	6/30/2021	$2,089,132	ND	$0	ND	ND	ND	ND	ND	ND
22	Veeva Systems Inc	VEEV	KPMG	No	Yes	1/31/2022	$1,850,777	ND	ND	ND	3	$33,000	ND	$26,000	1-3
23	RingCentral	RNG	KPMG	Yes	Yes	12/31/2021	$1,594,754	$94,600	$50,100	ND	3-5	$826,020	$178,358	$74,165	5
24	Palantir Technologies	PLTR	EY	No	No	12/31/2021	$1,541,889	ND	ND	ND	ND	ND	ND	ND	ND
25	Crowdstrike Holdings	CRWD	PwC	Yes	Yes	1/31/2022	$1,451,594	$38,600	$30,700	$12,400	3	ND	$1,632	ND	4
26	Zendesk	ZEN	EY	Yes	Yes	12/31/2021	$1,338,603	$26,466	$13,925	$7,000	3-5	$145,000	$108,000	$68,000	3
27	Hubspot	HUBS	PwC	Yes	Yes	12/31/2021	$1,300,658	$39,858	$33,139	$22,047	2-5	$102,530	$96,500	$66,800	1-3
28	Okta	OKTA	EY	Yes	Yes	1/31/2022	$1,300,201	$12,149	$4,336	$4,692	3	$265,757	$170,577	$57,177	2
29	Wix.com Ltd.	WIX	EY	Yes	Yes	12/31/2021	$1,269,657	$2,502	$2,519	ND	3	$3,187	$2,225	$110	ND
30	Snowflake	SNOW	PwC	Yes	Yes	1/31/2022	$1,219,327	$43,590	$12,772	$4,200	3	$175,915	$95,877	$37,876	5
31	Unity Software	U	EY	Yes	Yes	12/31/2021	$1,110,526	$1,825	$1,200	$1,407	2-3	$16,600	$14,800	$5,600	3
32	Qualtrics International	XM	KPMG	Yes	Yes	12/31/2021	$1,075,664	$22,297	ND	$13,500	2	ND	$99,900	$50,000	5
33	Paycom Software	PAYC	Grant Thornton	Yes	Yes	12/31/2021	$1,055,524	$110,898	$52,900	$36,500	3	$272,919	$77,644	$37,308	10
34	Datadog	DDOG	Deloitte	Yes	Yes	12/31/2021	$1,028,784	$49,696	$26,069	ND	2	$65,297	$42,775	$17,866	4
35	Ceridian HCM Holding	CDAY	KPMG	Yes	No	12/31/2021	$1,024,200	$92,800	$20,500	$6,400	2-7	ND	ND	ND	5
36	Bentley Systems	BSY	KPMG	Yes	No	12/31/2021	$965,046	$38,363	$6,608	$7,020	3	ND	ND	ND	ND
37	2U	TWOU	KPMG	Yes	No	12/31/2021	$945,682	$87,409	ND	$36,535	3-5	ND	ND	N/A	ND
38	Dynatrace	DT	BDO	No	Yes	3/31/2022	$929,445	$191,900	ND	$600	3-5	$126,036	$89,899	$61,487	3
39	Blackbaud	BLKB	PwC	Yes	Yes	12/31/2021	$927,740	$121,377	$40,489	$31,000	3-7	$78,465	$30,200	$35,500	5
40	UiPath	PATH	Grant Thornton	Yes	Yes	1/31/2022	$892,252	$11,500	$2,950	$1,900	5	$130,150	$130,206	$39,257	5
41	Box Inc	BOX	EY	Yes	Yes	1/31/2022	$874,332	ND	$5,785	ND	5	$118,909	$59,240	$45,866	5
42	MongoDB	MDB	PwC	No	Yes	1/31/2022	$873,782	ND	ND	ND	ND	$203,300	$84,742	$49,100	5
43	Elastic N.V.	ESTC	PwC	Yes	Yes	4/30/2022	$862,374	ND	$4,932	ND	3	$118,047	$92,433	$60,738	5
44	New Relic	NEWR	Deloitte	Yes	Yes	3/31/2022	$785,521	$28,000	$16,400	$10,700	3	$34,521	$2,345	$36,600	3
45	Zoominfo Technologies	ZI	KPMG	Yes	Yes	12/31/2021	$747,200	$23,829	ND	ND	4	$59,600	$61,000	$41,700	1-3
46	Guidewire Software	GWRE	KPMG	Yes	Yes	7/31/2021	$743,267	$9,335	$9,846	$3,400	3-5	ND	$10,078	ND	5
47	ZipRecruiter	ZIP	PwC	Yes	Yes	12/31/2021	$741,141	$13,657	$9,666	$7,200	3	$8,651	$1,212	$4,300	3
48	Coupa Software	COUP	EY	Yes	Yes	1/31/2022	$725,289	$21,576	$11,900	$9,900	3	$69,658	$35,906	$18,600	5
49	Avalara	AVLR	Deloitte	Yes	Yes	12/31/2021	$698,977	$14,854	$16,600	ND	3-6	$68,519	$32,721	$15,072	6
50	Zscaler	ZS	PwC	Yes	Yes	7/31/2021	$673,100	$23,108	$16,500	$5,900	3	$207,030	$137,673	$40,558	5
51	Cloudflare	NET	KPMG	Yes	Yes	12/31/2021	$656,426	$38,283	$14,752	$17,900	3	$70,320	$55,411	$29,267	3
52	Five9	FIVN	KPMG	No	Yes	12/31/2021	$609,591	$227	ND	ND	3	$117,958	$71,380	$26,050	5
53	Anaplan	PLAN	KPMG	Yes	Yes	1/31/2022	$592,176	$20,175	$19,300	$11,100	2-3	$159,168	$85,736	$42,635	5
54	Smartsheet	SMAR	Deloitte	Yes	Yes	1/31/2022	$550,832	ND	$8,600	$5,700	3	$91,312	$74,463	$43,680	3
55	Alteryx	AYX	Deloitte	Yes	Yes	12/31/2021	$536,135	ND	$9,000	ND	3-4	$69,817	$66,738	$47,604	4
56	Rapid7 Inc	RPD	KPMG	Yes	Yes	12/31/2021	$535,404	$18,099	$9,854	$3,855	3	$87,165	$48,951	$26,425	5
57	LiveRamp Holdings	RAMP	KPMG	No	Yes	3/31/2022	$528,657	ND	ND	ND	4	$30,594	$8,000	ND	4
58	Procore Technologies	PCOR	PwC	Yes	Yes	12/31/2021	$514,821	$27,062	$20,081	$11,557	2	$42,919	$25,978	$16,111	4
59	Q2 Holdings	QTWO	EY	Yes	Yes	12/31/2021	$498,720	$6,776	$5,900	$1,300	3-5	$52,006	$10,500	$12,600	5-7
60	Sprinklr	CXM	KPMG	Yes	Yes	1/31/2022	$492,394	$8,408	$7,000	$3,400	3	$83,000	$57,700	$35,500	3
61	Paylocity Holding	PCTY	KPMG	Yes	Yes	6/30/2021	$467,633	$45,018	$31,700	$23,227	2-3	$214,893	$95,407	$11,079	7
62	Momentive Global	MNTV	EY	Yes	Yes	12/31/2021	$443,786	$28,158	$8,443	$11,900	3	$21,145	$12,598	$6,900	4
63	Workiva	WK	EY	No	Yes	12/31/2021	$443,285	ND	ND	ND	ND	ND	$64,200	$34,100	3
64	DigitalOcean Holdings	DOCN	EY	Yes	No	12/31/2021	$428,561	$23,240	$7,307	$13,424	3	ND	ND	ND	ND
65	Samsara	IOT	Deloitte	Yes	Yes	1/29/2022	$428,345	$6,747	$5,035	$3,332	2	$117,757	$76,700	$45,900	5
66	BlackLine	BL	PwC	Yes	Yes	12/31/2021	$425,706	$23,547	$14,536	$9,000	3	$79,961	$43,381	$22,400	5
67	Descartes Systems	DSGX	KPMG	No	Yes	1/31/2022	$424,690	ND	ND	ND	N/A	$16,600	$8,400	$4,700	4-6
68	Qualys	QLYS	Grant Thornton	No	Yes	12/31/2021	$411,172	ND	ND	ND	ND	$12,614	ND	$4,000	5
69	Yext	YEXT	EY	Yes	Yes	1/31/2022	$390,577	$9,600	ND	$5,800	2-3	$61,284	$47,800	$39,500	3
70	Confluent	CFLT	PwC	Yes	Yes	12/31/2021	$387,864	$5,933	$5,342	ND	3	$78,824	$57,922	$26,697	5
71	SPS Commerce	SPSC	KPMG	Yes	Yes	12/31/2021	$385,276	$14,073	ND	ND	3	ND	ND	ND	2
72	Asana	ASAN	PwC	Yes	Yes	1/31/2022	$378,437	$2,353	$1,750	$753	3	$22,771	$19,325	$8,647	3
73	Freshworks	FRSH	Deloitte	Yes	Yes	12/31/2021	$371,022	$8,300	$4,100	$9,000	3	$29,647	$24,218	$12,844	3
74	Appian Corporation	APPN	BDO	No	Yes	12/31/2021	$369,259	ND	ND	ND	N/A	$73,685	$51,283	$29,695	5
75	Everbridge	EVBG	EY	Yes	Yes	12/31/2021	$368,433	$22,720	$15,300	$9,000	3	$32,800	ND	$14,400	4
76	Jamf Holding .	JAMF	EY	No	Yes	12/31/2021	$366,388	$621	ND	ND	3	$42,746	$24,795	$12,534	5
77	AppFolio	APPF	PwC	Yes	Yes	12/31/2021	$359,370	$41,212	$27,200	$21,500	3	ND	$12,400	$6,800	3
78	Fastly	FSLY	Deloitte	Yes	Yes	12/31/2021	$354,330	$27,900	$13,479	$4,600	3	$23,830	ND	$6,294	5
79	Consensus Cloud	CCSI	BDO	No	No	12/31/2021	$352,664	ND	ND	ND	1-5	ND	ND	ND	ND
80	Zuora	ZUO	KPMG	Yes	Yes	1/31/2022	$346,738	$11,534	$5,785	ND	3	$41,807	$24,127	$16,330	5
81	Hashi	HCP	Deloitte	Yes	Yes	1/31/2022	$320,769	$9,867	$9,900	$1,400	5	$89,331	$64,834	$25,748	5
82	Monday.com Ltd.	MNDY	Deloitte	Yes	No	12/31/2021	$308,150	$4,793	$3,702	$547	3	ND	ND	ND	ND
83	Ping Identity	PING	PwC	Yes	Yes	12/31/2021	$299,449	$33,174	$20,200	ND	3-4	$29,840	$24,734	$10,823	4
84	PagerDuty	PD	EY	Yes	Yes	1/31/2022	$281,396	$5,200	$4,700	ND	3	$42,831	$26,167	$14,923	4
85	nCino	NCNO	EY	No	Yes	1/31/2022	$273,865	ND	ND	ND	ND	$23,986	$14,731	$5,800	4-5
86	Benefitfocus	BNFT	EY	Yes	Yes	12/31/2021	$263,097	$16,292	$7,467	$9,117	3	$4,418	$1,765	$2,971	4-5
87	Duck Creek Tech	DCT	KPMG	Yes	Yes	8/31/2021	$260,350	$4,432	$926	$2,040	3	$14,056	$3,716	$2,100	8
88	Domo	DOMO	EY	Yes	Yes	1/31/2022	$257,961	$14,686	$7,300	$4,300	3	$38,594	$22,258	$15,835	4
89	C3.ai	AI	Deloitte	Yes	Yes	4/30/2022	$252,759	ND	$3,000	$700	ND	$23,900	ND	ND	5
90	GitLab	GTLB	KPMG	No	Yes	1/31/2022	$252,653	ND	ND	ND	N/A	$39,106	$41,998	$33,368	3
91	Sumo Logic	SUMO	PwC	Yes	Yes	1/31/2022	$242,125	$1,200	$182	$700	3	$49,799	$24,999	$15,847	5
92	Bill.com Holdings	BILL	EY	Yes	Yes	6/30/2021	$238,265	$4,898	$2,304	ND	3	$10,711	ND	$3,600	4-10
93	Braze	BRZE	EY	Yes	Yes	1/31/2022	$238,035	$3,135	$2,400	$1,200	3	$41,689	$31,967	$17,710	4
94	BigCommerce Holdings	BIGC	EY	No	Yes	12/31/2021	$219,855	ND	ND	ND	ND	$9,686	$7,000	$3,500	4
95	JFrog Ltd.	FROG	EY	No	Yes	12/31/2021	$206,683	ND	ND	ND	3	$14,391	$10,843	$4,684	4
96	SentinelOne	S	Deloitte	Yes	Yes	1/31/2022	$204,799	$12,856	$10,600	$2,100	4	$68,568	$53,565	$21,670	4
97	Sprout Social	SPT	PwC	No	Yes	12/31/2021	$187,859	ND	ND	ND	ND	$28,317	$23,113	$12,175	3
98	ChannelAdvisor	ECOM	EY	Yes	No	12/31/2021	$167,729	$4,800	$3,395	$2,700	3	$26,959	$14,776	$9,150	5
99	Amplitude	AMPL	KPMG	Yes	Yes	12/31/2021	$167,261	$2,608	$2,072	$585	3	$28,685	$16,077	$6,832	5
100	Olo	OLO	EY	Yes	Yes	12/31/2021	$149,368	$1,883	$1,452	$600	3	$6,183	$3,790	$2,783	3

Footnotes from Top 100 SaaS Companies' 10-Ks

Rank	Company	Year	Footnote(s) in Cost of Revenue	Footnote(s) in Sales & Marketing Expenses	Footnote(s) in Research & Development Expenses	Footnote(s) in General & Administrative Expenses
1	Microsoft	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
2	Microsoft	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
3	Microsoft	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
4	Salesforce	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
5	Salesforce	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
6	Salesforce	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
7	Adobe	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
8	Adobe	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
9	Adobe	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
10	Oracle	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
11	Oracle	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
12	Oracle	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
13	Intuit	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
14	Intuit	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
15	Intuit	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
16	Workday	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
17	Workday	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
18	Workday	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
19	Cisco	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
20	Cisco	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
21	Cisco	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
22	Vmware	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
23	Vmware	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
24	Vmware	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
25	Ibm	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
26	Ibm	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
27	Ibm	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
28	Sap	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
29	Sap	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
30	Sap	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
31	Servicenow	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
32	Servicenow	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
33	Servicenow	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
34	Intel	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
35	Intel	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
36	Intel	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
37	Amd	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
38	Amd	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
39	Amd	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
40	Qualcomm	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
41	Qualcomm	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
42	Qualcomm	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
43	Texas Instruments	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
44	Texas Instruments	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
45	Texas Instruments	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
46	Broadcom	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
47	Broadcom	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
48	Broadcom	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
49	Micron	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
50	Micron	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
51	Micron	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
52	Qualtrics	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
53	Qualtrics	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
54	Qualtrics	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
55	Ibm - Red Hat	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
56	Ibm - Red Hat	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
57	Ibm - Red Hat	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
58	Qualtrics - Sap	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
59	Qualtrics - Sap	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
60	Qualtrics - Sap	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
61	Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
62	Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
63	Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
64	Twitter - Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
65	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
66	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
67	Twitter - Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
68	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
69	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
70	Twitter - Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
71	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
72	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
73	Twitter - Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
74	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
75	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
76	Twitter - Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
77	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
78	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
79	Twitter - Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
80	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
81	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
82	Twitter - Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
83	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
84	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
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87	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
88	Twitter - Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
89	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
90	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
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92	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
93	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
94	Twitter - Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
95	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
96	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
97	Twitter - Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
98	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
99	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
100	Twitter - Twitter	2021	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
101	Twitter - Twitter	2020	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]
102	Twitter - Twitter	2019	Cost of revenue includes the costs of hosting and delivering services, amortization of acquisition-related intangibles, and amortization of capitalized software-related assets.	Sales and marketing expenses are comprised of [illegible]	Research and development expenses are comprised of [illegible]	General and administrative expenses are comprised of [illegible]

1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
32	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
33	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
36	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
37	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
38	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
39	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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56	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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58	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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60	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
61	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
62	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
63	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
64	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
65	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
66	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
67	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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76	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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93	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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99	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Possible *(Re)Defined*™

Armanino delivers impactful, bold solutions that increase clarity and spark success for today and tomorrow. Our integrated audit, tax, consulting and technology services serve a wide range of organizations in the U.S. and globally.

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