

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended June 30, 2021
OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM TO
Commission File Number 001-36164

Twitter, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

20-8913779

(I.R.S. Employer
Identification No.)

1355 Market Street, Suite 900
San Francisco, California 94103
(Address of principal executive offices and Zip Code)
(415) 222-9670
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class
Common Stock, par value \$0.000005 per share

Trading Symbol(s)
TWTR

Name of each exchange on which registered
New York Stock Exchange

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES NO

The number of shares of the registrant's common stock outstanding as of July 23, 2021 was 797,966,577.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which statements involve substantial risks and uncertainties. Forward-looking statements generally relate to future events or our future financial or operating performance. In some cases, you can identify forward-looking statements because they contain words such as "may," "will," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans or intentions. Forward-looking statements contained in this Quarterly Report on Form 10-Q include, but are not limited to, statements about:

- our ability to attract and retain people on Twitter and increase their level of engagement, including ad engagement, and its impact on revenue;
- our expectations regarding our revenue growth, including the impact of COVID-19 and Apple's changes related to its App Tracking Transparency policy, and our cost and expenses growth;
- our expectations regarding our monetizable DAUs (mDAU) growth and growth rates and related opportunities as well as the continued usage of our mobile applications, including the impact of seasonality;
- our plans regarding health and safety and our other top priorities, including our expectations regarding the impact on our reported metrics, policies, enforcement and preventing manipulation of our platform;
- the impact of the COVID-19 pandemic and related responses of businesses and governments to the pandemic on our operations and personnel, and on commercial activity and advertiser demand across our platform and on our operating results;
- our expectations regarding mDAU, changes in cost per ad engagement and changes in ad engagements;
- our ability to develop or acquire new products, product features and services, improve our existing products and services, including with respect to Promoted Products, video and performance advertising, and increase the value of our products and services;
- our business strategies, plans and priorities, including our plans for headcount growth, investment in our research and development efforts and our plans to scale capacity and enhance capability and reliability of our infrastructure and new data center, including capital expenditures;
- our ability to provide new content from third parties, including our ability to secure live streaming video content on terms that are acceptable to us;
- our ability to attract advertisers to our platforms, products and services and increase the amount that advertisers spend with us;
- our ability to improve monetization of our products and services;
- our future financial performance, including trends in cost per ad engagement, revenue (including data licensing revenue), costs and expenses (including stock-based compensation) and income taxes;
- our expectations regarding certain deferred tax assets and fluctuations in our tax expense and cash taxes;
- the impact of laws and regulations relating to privacy, data protection and security;
- the impact of content- or copyright-related legislation or regulation;
- our expectations regarding outstanding litigation or the decisions of the courts and the results of the draft complaint we received from the Federal Trade Commission;
- the effects of seasonal trends on our results of operations;
- the impact of our future transactions and corporate structuring on our income and other taxes;
- the sufficiency of our cash and cash equivalents, short-term investment balance and credit facility together with cash generated from operations to meet our working capital and capital expenditure requirements;
- our ability to timely and effectively develop, invest in, scale and adapt our existing technology and network infrastructure;
- our ability to successfully acquire and integrate companies and assets; and
- our expectations regarding international operations and foreign exchange gains and losses.

We caution you that the foregoing list may not contain all of the forward-looking statements made in this Quarterly Report on Form 10-Q.

You should not rely upon forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this Quarterly Report on Form 10-Q primarily on our current expectations and projections about future events and trends that we believe may affect our business, financial condition, operating results, cash flows or prospects. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties and other factors described in the section titled "Risk Factors" and elsewhere in this Quarterly Report on Form 10-Q. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Quarterly Report on Form 10-Q. We cannot assure you that the results, events and circumstances reflected in the forward-looking statements will be achieved or occur, and actual results, events or circumstances could differ materially from those described in the forward-looking statements.

The forward-looking statements made in this Quarterly Report on Form 10-Q relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statements made in this Quarterly Report on Form 10-Q to reflect events or circumstances after the date of this Quarterly Report on Form 10-Q or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

NOTE REGARDING KEY METRICS

We review a number of metrics, including monetizable daily active usage or users, or mDAU, changes in ad engagements and changes in cost per ad engagement, to evaluate our business, measure our performance, identify trends affecting our business, formulate business plans and make strategic decisions. See the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations— Key Metrics” for a discussion of how we calculate mDAU, changes in ad engagements and changes in cost per ad engagement.

We define mDAU as people, organizations, or other accounts who logged in or were otherwise authenticated and accessed Twitter on any given day through twitter.com or Twitter applications that are able to show ads. Average mDAU for a period represents the number of mDAU on each day of such period divided by the number of days for such period. Changes in mDAU are a measure of changes in the size of our daily logged in or otherwise authenticated active total accounts. To calculate the year-over-year change in mDAU, we subtract the average mDAU for the three months ended in the previous year from the average mDAU for the same three months ended in the current year and divide the result by the average mDAU for the three months ended in the previous year. Additionally, our calculation of mDAU is not based on any standardized industry methodology and is not necessarily calculated in the same manner or comparable to similarly titled measures presented by other companies. Similarly, our measures of mDAU growth and engagement may differ from estimates published by third parties or from similarly-titled metrics of our competitors due to differences in methodology.

The numbers of mDAU presented in this Quarterly Report on Form 10-Q are based on internal company data. While these numbers are based on what we believe to be reasonable estimates for the applicable period of measurement, there are inherent challenges in measuring usage and engagement across our large number of total accounts around the world. Furthermore, our metrics may be impacted by our information quality efforts, which are our overall efforts to reduce malicious activity on the service, inclusive of spam, malicious automation, and fake accounts. For example, there are a number of false or spam accounts in existence on our platform. We have performed an internal review of a sample of accounts and estimate that the average of false or spam accounts during the second quarter of 2021 represented fewer than 5% of our mDAU during the quarter. The false or spam accounts for a period represents the average of false or spam accounts in the samples during each monthly analysis period during the quarter. In making this determination, we applied significant judgment, so our estimation of false or spam accounts may not accurately represent the actual number of such accounts, and the actual number of false or spam accounts could be higher than we have estimated. We are continually seeking to improve our ability to estimate the total number of spam accounts and eliminate them from the calculation of our mDAU, and have made improvements in our spam detection capabilities that have resulted in the suspension of a large number of spam, malicious automation, and fake accounts. We intend to continue to make such improvements. After we determine an account is spam, malicious automation, or fake, we stop counting it in our mDAU, or other related metrics. We also treat multiple accounts held by a single person or organization as multiple mDAU because we permit people and organizations to have more than one account. Additionally, some accounts used by organizations are used by many people within the organization. As such, the calculations of our mDAU may not accurately reflect the actual number of people or organizations using our platform.

In addition, geographic location data collected for purposes of reporting the geographic location of our mDAU is based on the IP address or phone number associated with the account when an account is initially registered on Twitter. The IP address or phone number may not always accurately reflect a person’s actual location at the time they engaged with our platform. For example, someone accessing Twitter from the location of the proxy server that the person connects to rather than from the person’s actual location.

We regularly review and may adjust our processes for calculating our internal metrics to improve their accuracy.

PART I — FINANCIAL INFORMATION

Item 1. Financial Statements

TWITTER, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except par value)
(Unaudited)

	June 30, 2021	December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	\$ 4,125,595	\$ 1,988,429
Short-term investments	4,481,468	5,483,873
Accounts receivable, net of allowance for doubtful accounts of \$14,237 and \$16,946	954,265	1,041,743
Prepaid expenses and other current assets	166,813	123,063
Total current assets	9,728,141	8,637,108
Property and equipment, net	1,884,790	1,493,794
Operating lease right-of-use assets	1,153,017	930,139
Intangible assets, net	57,513	58,338
Goodwill	1,325,200	1,312,346
Deferred tax assets, net	936,121	796,326
Other assets	238,443	151,039
Total assets	\$ 15,323,225	\$ 13,379,090
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	\$ 325,446	\$ 194,281
Accrued and other current liabilities	775,102	663,532
Convertible notes, short-term	953,565	917,866
Operating lease liabilities, short-term	203,806	177,147
Total current liabilities	2,257,919	1,952,826
Convertible notes, long-term	3,554,847	1,875,878
Senior notes, long-term	693,491	692,994
Operating lease liabilities, long-term	1,026,006	819,748
Deferred and other long-term tax liabilities, net	40,791	31,463
Other long-term liabilities	34,043	36,099
Total liabilities	7,607,097	5,409,008
Commitments and contingencies (Note 14)		
Stockholders' equity:		
Preferred stock, \$0.000005 par value-- 200,000 shares authorized; none issued and outstanding	—	—
Common stock, \$0.000005 par value-- 5,000,000 shares authorized; 797,941 and 796,000 shares issued and outstanding	4	4
Additional paid-in capital	8,457,717	9,167,138
Treasury stock, at cost-- 77 and 98 shares	(5,298)	(5,297)
Accumulated other comprehensive loss	(89,056)	(66,094)
Accumulated deficit	(647,239)	(1,125,669)
Total stockholders' equity	7,716,128	7,970,082
Total liabilities and stockholders' equity	\$ 15,323,225	\$ 13,379,090

The accompanying notes are an integral part of these consolidated financial statements.

TWITTER, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue	\$ 1,190,427	\$ 683,438	\$ 2,226,445	\$ 1,491,075
Costs and expenses				
Cost of revenue	416,932	288,039	797,940	572,076
Research and development	299,859	215,806	550,568	416,194
Sales and marketing	301,902	207,286	536,494	428,573
General and administrative	141,482	246,237	259,009	355,605
Total costs and expenses	1,160,175	957,368	2,144,011	1,772,448
Income (loss) from operations	30,252	(273,930)	82,434	(281,373)
Interest expense	(13,893)	(39,828)	(27,078)	(73,098)
Interest income	9,202	25,013	20,203	57,910
Other income (expense), net	55,739	(361)	55,745	(8,080)
Income (loss) before income taxes	81,300	(289,106)	131,304	(304,641)
Provision (benefit) for income taxes	15,651	1,088,899	(2,350)	1,081,760
Net income (loss)	\$ 65,649	\$ (1,378,005)	\$ 133,654	\$ (1,386,401)
Net income (loss) per share attributable to common stockholders:				
Basic	\$ 0.08	\$ (1.75)	\$ 0.17	\$ (1.77)
Diluted	\$ 0.08	\$ (1.75)	\$ 0.16	\$ (1.77)
Numerator used to compute net income (loss) per share attributable to common stockholders:				
Basic	\$ 65,649	\$ (1,378,005)	\$ 133,654	\$ (1,386,401)
Diluted	\$ 68,501	\$ (1,378,005)	\$ 138,896	\$ (1,386,401)
Weighted-average shares used to compute net income (loss) per share attributable to common stockholders:				
Basic	796,472	785,909	795,992	783,303
Diluted	869,180	785,909	870,622	783,303

The accompanying notes are an integral part of these consolidated financial statements.

TWITTER, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Net income (loss)	\$ 65,649	\$ (1,378,005)	\$ 133,654	\$ (1,386,401)
Other comprehensive income (loss), net of tax:				
Change in unrealized gain (loss) on investments in available-for-sale securities	(3,791)	48,551	(14,809)	22,191
Change in foreign currency translation adjustment	11,667	16,446	(8,153)	(44,657)
Net change in accumulated other comprehensive income (loss)	7,876	64,997	(22,962)	(22,466)
Comprehensive income (loss)	\$ 73,525	\$ (1,313,008)	\$ 110,692	\$ (1,408,867)

The accompanying notes are an integral part of these consolidated financial statements.

TWITTER, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)
(Unaudited)

	Three Months Ended June 30,				Six Months Ended June 30,				
	2021		2020		2021		2020		
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	
Common stock									
of period	Balance, beginning	798,083	\$ 4	784,100	\$ 4	796,000	\$ 4	779,619	\$ 4
	Issuance of common stock in connection with RSU vesting	4,247	—	3,946	—	8,647	—	8,171	—
	Issuance of common stock in connection with acquisitions	—	—	—	—	—	—	33	—
	Issuance of restricted stock in connection with acquisitions accounted for as stock-based compensation	31	—	1,002	—	69	—	1,381	—
	Exercise of stock options	1	—	83	—	524	—	264	—
	Issuance of common stock upon purchases under employee stock purchase plan	1,539	—	1,395	—	1,539	—	1,395	—
	Shares withheld related to net share settlement of equity awards	(88)	—	(100)	—	(243)	—	(437)	—
	Repurchases of common stock	(5,872)	—	—	—	(8,595)	—	—	—
period	Balance, end of	797,941	\$ 4	790,426	\$ 4	797,941	\$ 4	790,426	\$ 4
Additional paid-in capital									
of period	Balance, beginning	—	\$ 8,551,763	—	\$ 8,952,059	—	\$ 9,167,138	—	\$ 8,763,330
	Issuance of common stock in connection with acquisitions	—	—	—	—	—	—	—	1,312
	Exercise of stock options	—	29	—	118	—	1,986	—	423
	Issuance of common stock upon purchases under employee stock purchase plan	—	39,531	—	34,395	—	39,531	—	34,395
	Shares withheld related to net share settlement of equity awards	—	(4,928)	—	(2,925)	—	(15,497)	—	(14,618)
	Stock-based compensation	—	205,134	—	143,848	—	330,533	—	250,444
	Equity component of the convertible note issuance, net	—	—	—	—	—	—	—	92,209
	Purchase of convertible note hedge	—	—	—	—	—	(213,469)	—	—
	Tax related to purchase of convertible note hedge	—	—	—	—	—	49,262	—	—
	Issuance of warrants	—	—	—	—	—	161,144	—	—
	Repurchases of common stock	—	(333,812)	—	—	—	(495,364)	—	—
	Cumulative-effect adjustment from adoption of new accounting standard	—	—	—	—	—	(567,547)	—	—
period	Balance, end of	—	\$ 8,457,717	—	\$ 9,127,495	—	\$ 8,457,717	—	\$ 9,127,495
Treasury stock									
of period	Balance, beginning	—	\$ (5,297)	—	\$ —	—	\$ (5,297)	—	\$ —
	Retirement of treasury stock	—	5,297	—	—	—	10,594	—	—
	Repurchases of common stock	—	(5,298)	—	—	—	(10,595)	—	—
period	Balance, end of	—	\$ (5,298)	—	\$ —	—	\$ (5,298)	—	\$ —
Accumulated other comprehensive loss									
of period	Balance, beginning	—	\$ (96,932)	—	\$ (157,997)	—	\$ (66,094)	—	\$ (70,534)
	Other comprehensive income (loss)	—	7,876	—	64,997	—	(22,962)	—	(22,466)
period	Balance, end of	—	\$ (89,056)	—	\$ (93,000)	—	\$ (89,056)	—	\$ (93,000)
Retained earnings (Accumulated deficit)									
of period	Balance, beginning	—	\$ (712,888)	—	\$ 1,561	—	\$ (1,125,669)	—	\$ 11,586
	Cumulative-effect adjustment from adoption of new accounting standards	—	—	—	—	—	344,776	—	(1,629)
	Net income (loss)	—	65,649	—	(1,378,005)	—	133,654	—	(1,386,401)
period	Balance, end of	—	\$ (647,239)	—	\$ (1,376,444)	—	\$ (647,239)	—	\$ (1,376,444)
equity	Total stockholders'	797,941	\$ 7,716,128	790,426	\$ 7,658,055	797,941	\$ 7,716,128	790,426	\$ 7,658,055

The accompanying notes are an integral part of these consolidated financial statements.

TWITTER, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Six Months Ended June 30,	
	2021	2020
Cash flows from operating activities		
Net income (loss)	\$ 133,654	\$ (1,386,401)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Depreciation and amortization expense	265,864	244,486
Stock-based compensation expense	289,075	230,779
Amortization of discount on convertible notes	—	48,060
Bad debt expense	391	17,495
Deferred income taxes	(23,017)	(26,037)
Deferred tax assets valuation allowance establishment	—	1,101,374
Impairment (gain) on investments in privately-held companies	(51,894)	8,503
Other adjustments	1,467	(5,185)
Changes in assets and liabilities, net of assets acquired and liabilities assumed from acquisitions:		
Accounts receivable	88,969	234,281
Prepaid expenses and other assets	(44,520)	2,957
Operating lease right-of-use assets	104,049	78,117
Accounts payable	2,818	(26,234)
Accrued and other liabilities	99,243	4,575
Operating lease liabilities	(93,948)	(78,987)
Net cash provided by operating activities	<u>772,151</u>	<u>447,783</u>
Cash flows from investing activities		
Purchases of property and equipment	(460,376)	(287,083)
Proceeds from sales of property and equipment	4,837	3,905
Purchases of marketable securities	(2,165,696)	(3,122,764)
Proceeds from maturities of marketable securities	2,084,537	2,481,134
Proceeds from sales of marketable securities	1,092,794	858,669
Purchases of investments in privately-held companies	(31,497)	(1,339)
Investments in Finance Justice Fund	(22,700)	—
Business combinations, net of cash acquired	(22,937)	(34,285)
Other investing activities	(8,385)	(11,050)
Net cash provided by (used in) investing activities	<u>470,577</u>	<u>(112,813)</u>
Cash flows from financing activities		
Proceeds from issuance of convertible notes	1,437,500	1,000,000
Purchases of convertible note hedges	(213,469)	—
Proceeds from issuance of warrants concurrent with note hedges	161,144	—
Debt issuance costs	(16,769)	(14,662)
Repurchases of common stock	(495,364)	—
Taxes paid related to net share settlement of equity awards	(15,497)	(14,618)
Payments of finance lease obligations	(565)	(16,456)
Proceeds from exercise of stock options	1,986	423
Proceeds from issuances of common stock under employee stock purchase plan	39,531	34,395
Net cash provided by financing activities	<u>898,497</u>	<u>989,082</u>
Net increase in cash, cash equivalents and restricted cash	2,141,225	1,324,052
Foreign exchange effect on cash, cash equivalents and restricted cash	(3,999)	(15,778)
Cash, cash equivalents and restricted cash at beginning of period	2,011,276	1,827,666
Cash, cash equivalents and restricted cash at end of period	<u>\$ 4,148,502</u>	<u>\$ 3,135,940</u>
Supplemental disclosures of non-cash investing and financing activities		
Common stock issued in connection with acquisitions	\$ —	\$ 1,312
Changes in accrued property and equipment purchases	\$ 138,257	\$ 40,249
Reconciliation of cash, cash equivalents and restricted cash as shown in the consolidated statements of cash flows		
Cash and cash equivalents	\$ 4,125,595	\$ 3,112,454
Restricted cash included in prepaid expenses and other current assets	3,286	2,900
Restricted cash included in other assets	19,621	20,586
Total cash, cash equivalents and restricted cash	<u>\$ 4,148,502</u>	<u>\$ 3,135,940</u>

The accompanying notes are an integral part of these consolidated financial statements.

TWITTER, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Note 1. Summary of Significant Accounting Policies

Basis of Presentation

The consolidated financial statements include the accounts of Twitter, Inc. and its wholly-owned subsidiaries (collectively, "Twitter" or the "Company"). All intercompany accounts and transactions have been eliminated in consolidation.

The accompanying unaudited consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America (GAAP). The unaudited interim consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements and reflect, in management's opinion, all adjustments of a normal, recurring nature that are necessary for the fair statement of the Company's financial position, results of operations and cash flows for the interim periods, but are not necessarily indicative of the results expected for the full fiscal year or any other period.

The accompanying interim consolidated financial statements and these related notes should be read in conjunction with the consolidated financial statements and related notes included in the Company's Annual Report on Form 10-K for the year ended December 31, 2020.

Prior Period Reclassifications

Certain prior period amounts have been reclassified to conform to the current period presentation.

Use of Estimates

The preparation of the Company's consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, as well as related disclosure of contingent assets and liabilities. Actual results could differ materially from the Company's estimates due to risks and uncertainties, including uncertainty in the current economic environment due to the global impact of the COVID-19 pandemic. To the extent that there are material differences between these estimates and actual results, the Company's financial condition or operating results will be affected. The Company bases its estimates on past experience and other assumptions that the Company believes are reasonable under the circumstances, and the Company evaluates these estimates on an ongoing basis.

Recent Accounting Pronouncements

Recently adopted accounting pronouncements

In August 2020, the Financial Accounting Standards Board (FASB) issued a new accounting standard update to simplify the accounting for convertible debt and other equity-linked instruments. The new guidance simplifies the accounting for convertible instruments by eliminating the cash conversion and beneficial conversion feature models used to separately account for embedded conversion features as a component of equity. Instead, the entity will account for the convertible debt or convertible preferred stock securities as a single unit of account, unless the conversion feature requires bifurcation and recognition as derivatives. Additionally, the guidance requires entities to use the if-converted method for all convertible instruments in the diluted earnings per share calculation and include the effect of potential share settlement for instruments that may be settled in cash or shares. The Company early adopted this new guidance using the modified retrospective method as of January 1, 2021. The adoption of this new guidance resulted in an increase of \$254.6 million and \$34.7 million to "Convertible notes, long-term" and "Convertible notes, short-term", respectively, to reflect the full principal amount of the Convertible Notes (as defined below) outstanding, net of issuance costs, a reduction of \$567.5 million to additional paid-in capital, net of estimated income tax effects, to remove the equity component separately recorded for the conversion features associated with the Convertible Notes, an increase to deferred tax assets, net of \$66.6 million, and a cumulative-effect adjustment of \$344.8 million, net of estimated income tax effects, reducing the beginning balance of accumulated deficit as of January 1, 2021. The adoption of this new guidance reduced interest expense by \$28.5 million and \$56.1 million in the three and six months ended June 30, 2021. In addition, the adoption requires the use of the if-converted method for all convertible notes in the diluted net income (loss) per share calculation and the inclusion of the effect of potential share settlement of the convertible notes, if the effect is more dilutive. The use of the if-converted method increased the number of potentially dilutive shares by 46.1 million and 46.2 million shares in the three and six months ended June 30, 2021, respectively, and had no impact on the diluted income per share amount in the three and six months ended June 30, 2021.

With the exception of the standards discussed above, there have been no other recent accounting pronouncements or changes in accounting pronouncements during the six months ended June 30, 2021, as compared to the recent accounting pronouncements described in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2020, that are of significance or potential significance to the Company.

Significant Accounting Policies

There have been no material changes to the Company's significant accounting policies from its Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

Note 2. Revenue**Revenue Recognition**

Revenue is recognized when the control of promised goods or services is transferred to customers at an amount that reflects the consideration to which the Company expects to be entitled to in exchange for those goods or services. The Company identifies its contracts with customers and all performance obligations within those contracts. The Company then determines the transaction price and allocates the transaction price to the performance obligations within the Company's contracts with customers, recognizing revenue when, or as the Company satisfies its performance obligations. While the majority of the Company's revenue transactions are based on standard business terms and conditions, the Company also enters into sales agreements with advertisers and data partners that sometimes involve multiple performance obligations and occasionally include non-standard terms or conditions.

Revenue by geography is based on the billing address of the customers. The following tables set forth revenue by services and revenue by geographic area (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue by services:				
Advertising services	\$ 1,053,411	\$ 561,994	\$ 1,952,251	\$ 1,244,186
Data licensing and other	137,016	121,444	274,194	246,889
Total revenue	\$ 1,190,427	\$ 683,438	\$ 2,226,445	\$ 1,491,075

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue by geographic area:				
United States	\$ 653,075	\$ 364,881	\$ 1,209,295	\$ 833,311
Japan	151,443	108,239	321,407	239,371
Rest of World	385,909	210,318	695,743	418,393
Total revenue	\$ 1,190,427	\$ 683,438	\$ 2,226,445	\$ 1,491,075

Contract Balances

The Company enters into contracts with its customers, which may give rise to contract liabilities (deferred revenue) and contract assets (unbilled revenue). The payment terms and conditions within the Company's contracts vary by the type and location of its customer and products or services purchased, the substantial majority of which are due in less than one year. When the timing of revenue recognition differs from the timing of payments made by customers, the Company recognizes either unbilled revenue (its performance precedes the billing date) or deferred revenue (customer payment is received in advance of performance).

Unbilled Revenue (Contract Assets)

The Company presents unbilled revenue in the consolidated balance sheets within prepaid expenses and other current assets and within other assets. The Company's contracts do not contain material financing components. The Company's unbilled revenue primarily consists of amounts that have yet to be billed under contracts with escalating fee structures. Specifically, because the Company generally recognizes revenue on a straight-line basis for data licensing arrangements with escalating fee structures, revenue recognized represents amounts to which the Company is contractually entitled; however, the revenue recognized exceeds the amounts the Company has a right to bill as of the period end, thus resulting in unbilled revenue. As of June 30, 2021, the Company recorded an immaterial amount of allowance for credit losses on unbilled revenue.

Deferred Revenue (Contract Liabilities)

The Company presents deferred revenue primarily within accrued and other current liabilities in the consolidated balance sheets and there is not expected to be any material non-current contract liabilities given the Company's contracting provisions. The Company's deferred revenue balance primarily consists of cash payments due in advance of satisfying its performance obligations relating to data licensing contracts and performance obligations given to customers based on their spend relating to advertising contracts, for which the Company defers, as they represent material rights. The Company recognizes deferred revenue relating to its data licensing contracts on a straight-line basis over the period in which the Company provides data. The Company recognizes deferred revenue relating to its advertising contracts based on the amount of customer spend and the relative standalone selling price of the material rights.

The following table presents contract balances (in thousands):

	June 30, 2021	December 31, 2020
Unbilled revenue	\$ 43,327	\$ 44,063
Deferred revenue	\$ 104,650	\$ 62,191

The amount of revenue recognized in the three months ended June 30, 2021 that was included in the deferred revenue balance as of March 31, 2021 was \$46.6 million. The amount of revenue recognized in the six months ended June 30, 2021 that was included in the deferred revenue balance as of December 31, 2020 was \$61.5 million. This revenue consists primarily of revenue recognized as a result of the utilization of bonus ads inventory earned by and material rights provided to customers in prior periods and the satisfaction of the Company's performance obligations relating to data licensing contracts with advance cash payments or material rights.

The amount of revenue recognized from obligations satisfied (or partially satisfied) in prior periods was not material.

The decrease in the unbilled revenue balance from December 31, 2020 to June 30, 2021 was primarily attributable to differences between revenue recognized and amounts billed in the Company's data licensing arrangements with escalating fee structures due to recognizing such fees as revenue on a straight-line basis.

The increase in the deferred revenue balance from December 31, 2020 to June 30, 2021 was primarily due to cash payments received or due in advance of satisfying the Company's performance obligations for data licensing contracts and bonus ads inventory offered to customers during the period, offset by the delivery of performance obligations and bonus ads inventory.

Remaining Performance Obligations

As of June 30, 2021, the aggregate amount of the transaction price allocated to remaining performance obligations in contracts with an original expected duration exceeding one year is \$636.3 million. This total amount primarily consists of long-term data licensing contracts and excludes deferred revenue related to the Company's short-term advertising service arrangements. The Company expects to recognize this amount as revenue over the following time periods (in thousands):

	Remaining Performance Obligations			
	Total	Remainder of 2021	2022	2023 and Thereafter
Revenue expected to be recognized on remaining performance obligations	\$ 636,310	\$ 151,394	\$ 203,966	\$ 280,950

Note 3. Cash, Cash Equivalents and Short-term Investments

Cash, cash equivalents and short-term investments consist of the following (in thousands):

	June 30, 2021	December 31, 2020
Cash and cash equivalents:		
Cash	\$ 296,316	\$ 285,002
Money market funds	3,631,105	1,158,927
Corporate notes, commercial paper and certificates of deposit	198,174	544,500
Total cash and cash equivalents	\$ 4,125,595	\$ 1,988,429
Short-term investments:		
U.S. government and agency securities	\$ 638,951	\$ 910,259
Corporate notes, commercial paper and certificates of deposit	3,819,096	4,572,394
Marketable equity securities	23,421	1,220
Total short-term investments	\$ 4,481,468	\$ 5,483,873

The contractual maturities of debt securities classified as available-for-sale as of June 30, 2021 were as follows (in thousands):

	June 30, 2021	
Due within one year	\$	2,093,244
Due after one year through five years		2,364,803
Total	\$	4,458,047

The following tables summarize unrealized gains and losses related to available-for-sale debt securities classified as short-term investments on the Company's consolidated balance sheets (in thousands):

	June 30, 2021			
	Gross Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Aggregated Estimated Fair Value
U.S. government and agency securities	\$ 639,023	\$ 264	\$ (336)	\$ 638,951
Corporate notes, commercial paper and certificates of deposit	3,805,960	14,299	(1,163)	3,819,096
Total available-for-sale debt securities classified as short-term investments	\$ 4,444,983	\$ 14,563	\$ (1,499)	\$ 4,458,047

	December 31, 2020			
	Gross Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Aggregated Estimated Fair Value
U.S. government and agency securities	\$ 909,092	\$ 1,177	\$ (10)	\$ 910,259
Corporate notes, commercial paper and certificates of deposit	4,545,687	26,939	(232)	4,572,394
Total available-for-sale debt securities classified as short-term investments	\$ 5,454,779	\$ 28,116	\$ (242)	\$ 5,482,653

The gross unrealized loss on available-for-sale debt securities in a continuous loss position for 12 months or longer was not material as of June 30, 2021 and December 31, 2020.

The Company evaluates whether the unrealized loss on available-for-sale debt securities is the result of the credit worthiness of the corporate notes it held, or other non-credit-related factors such as liquidity by reviewing a number of factors such as the implied yield of the corporate note based on the market price, the nature of the invested entity's business or industry, market capitalization relative to debt, changes in credit ratings, and the market prices of the corporate notes subsequent to period end. As of June 30, 2021, the gross unrealized loss on available-for-sale debt securities was immaterial and there were no expected credit losses related to the Company's available-for-sale debt securities. The Company has determined that all unrealized losses are temporary. As of June 30, 2021, no allowance for credit losses in short-term investments was recorded.

Note 4. Fair Value Measurements

The Company measures its cash equivalents, short-term investments and derivative financial instruments at fair value. The Company classifies its cash equivalents, short-term investments and derivative financial instruments within Level 1 or Level 2 because the Company values these investments using quoted market prices or alternative pricing sources and models utilizing market observable inputs. The fair value of the Company's Level 1 financial assets is based on quoted market prices of the identical underlying security. The fair value of the Company's Level 2 financial assets is based on inputs that are directly or indirectly observable in the market, including the readily-available pricing sources for the identical underlying security that may not be actively traded.

The following tables set forth the fair value of the Company's financial assets and liabilities measured at fair value on a recurring basis as of June 30, 2021 and December 31, 2020 based on the three-tier fair value hierarchy (in thousands):

	June 30, 2021		
	Level 1	Level 2	Total
Assets			
Cash equivalents:			
Money market funds	\$ 3,631,105	\$ —	\$ 3,631,105
Commercial paper	—	198,174	198,174
Short-term investments:			
U.S. government and agency securities	—	638,951	638,951
Corporate notes	—	2,676,023	2,676,023
Commercial paper	—	666,284	666,284
Certificates of deposit	—	476,789	476,789
Marketable equity securities	23,421	—	23,421
Other current assets:			
Foreign currency contracts	—	624	624
Total	\$ 3,654,526	\$ 4,656,845	\$ 8,311,371
Liabilities			
Other current liabilities:			
Foreign currency contracts	\$ —	\$ 7,566	\$ 7,566
Total	\$ —	\$ 7,566	\$ 7,566

	December 31, 2020		
	Level 1	Level 2	Total
Assets			
Cash equivalents:			
Money market funds	\$ 1,158,927	\$ —	\$ 1,158,927
Corporate notes	—	1,347	1,347
Commercial paper	—	543,153	543,153
Short-term investments:			
U.S. government and agency securities	—	910,259	910,259
Corporate notes	—	2,829,521	2,829,521
Commercial paper	—	1,240,670	1,240,670
Certificates of deposit	—	502,203	502,203
Marketable equity securities	1,220	—	1,220
Other current assets:			
Foreign currency contracts	—	5,529	5,529
Total	\$ 1,160,147	\$ 6,032,682	\$ 7,192,829
Liabilities			
Other current liabilities:			
Foreign currency contracts	\$ —	\$ 1,028	\$ 1,028
Total	\$ —	\$ 1,028	\$ 1,028

The following table sets forth the estimated fair value of the Company's convertible and senior notes outstanding as of June 30, 2021 based on the three-tier fair value hierarchy (in thousands):

	June 30, 2021		
	Level 2	Level 3	Total
\$954.0 million in aggregate principal amount of 1.00% convertible senior notes due in 2021 (the 2021 Notes)	973,557	—	973,557
\$1.15 billion in aggregate principal amount of 0.25% convertible senior notes due in 2024 (the 2024 Notes)	1,574,925	—	1,574,925
\$1.0 billion in aggregate principal amount of 0.375% convertible senior notes due in 2025 (the 2025 Notes)	—	1,703,670	1,703,670
\$1.44 billion in aggregate principal amount of 0% convertible senior notes due in 2026 (the 2026 Notes)	1,375,831	—	1,375,831
\$700.0 million in aggregate principal amount of 3.875% senior notes due in 2027 (the 2027 Notes)	743,750	—	743,750
Total	4,668,063	1,703,670	6,371,733

The estimated fair value of the 2021 Notes, the 2024 Notes, the 2026 Notes, and the 2027 Notes is determined based on a market approach, using the estimated or actual bids and offers of the respective notes in an over-the-counter market on the last business day of the period. The estimated fair value of the 2025 Notes is determined based on a binomial model, using inputs including risk free rate, volatility and discount yield. Refer to Note 10 – Convertible Notes and Senior Notes for further details on the Notes.

Derivative Financial Instruments

The Company enters into foreign currency forward contracts with financial institutions to reduce the risk that its earnings may be adversely affected by the impact of exchange rate fluctuations on monetary assets or liabilities denominated in currencies other than the functional currency of a subsidiary. These contracts do not subject the Company to material balance sheet risk due to exchange rate movements because gains and losses on these derivatives are intended to offset gains and losses on the hedged foreign currency denominated assets and liabilities. These foreign currency forward contracts are not designated as hedging instruments.

The Company recognizes these derivative instruments as either assets or liabilities in the consolidated balance sheets at fair value based on a Level 2 valuation. The Company records changes in the fair value (i.e., gains or losses) of the derivatives in other income (expense), net in the consolidated statements of operations. The notional principal of foreign currency contracts outstanding was equivalent to \$621.3 million and \$729.8 million as of June 30, 2021 and December 31, 2020, respectively.

The fair values of outstanding derivative instruments for the periods presented on a gross basis are as follows (in thousands):

Assets	Balance Sheet Location	June 30,	December 31,
		2021	2020
Foreign currency contracts not designated as hedging instruments	Other current assets	\$ 624	\$ 5,529
Liabilities			
Foreign currency contracts not designated as hedging instruments	Other current liabilities	\$ 7,566	\$ 1,028

The Company recognized \$5.3 million and \$3.2 million of net gains on its foreign currency contracts in the three and six months ended June 30, 2021, respectively. The Company recognized a \$0.5 million net gain and an \$11.2 million net loss on its foreign currency contracts in the three and six months ended June 30, 2020, respectively.

Note 5. Property and Equipment, Net

The following tables set forth property and equipment, net by type and by geographic area for the periods presented (in thousands):

	June 30, 2021	December 31, 2020
Property and equipment, net		
Equipment	\$ 2,060,074	\$ 1,830,459
Furniture and leasehold improvements	385,163	362,766
Capitalized software	868,373	811,371
Construction in progress	595,043	349,935
Total	3,908,653	3,354,531
Less: Accumulated depreciation and amortization	(2,023,863)	(1,860,737)
Property and equipment, net	\$ 1,884,790	\$ 1,493,794

	June 30, 2021	December 31, 2020
Property and equipment, net:		
United States	\$ 1,850,334	\$ 1,460,163
International	34,456	33,631
Total property and equipment, net	\$ 1,884,790	\$ 1,493,794

Note 6. Operating Leases

The Company has operating leases primarily for office space and data center facilities. The Company subleases certain leased office space to third parties when it determines there is excess leased capacity. Operating lease right-of-use assets obtained in exchange for operating lease obligations were \$330.5 million and \$25.2 million in the six months ended June 30, 2021 and 2020, respectively.

Future lease payments under operating leases and sublease income as of June 30, 2021 were as follows (in thousands):

	Operating Leases	Sublease Income
Year Ending December 31,		
Remainder of 2021	\$ 113,313	\$ (5,461)
2022	275,133	(3,903)
2023	230,473	(2,617)
2024	230,386	(1,633)
2025	225,446	(120)
Thereafter	871,742	—
Total future lease payments (receipts)	1,946,493	\$ (13,734)
Less: leases not yet commenced	(549,388)	
Less: imputed interest	(167,293)	
Total operating lease liabilities	\$ 1,229,812	
Reconciliation of operating lease liabilities as shown in the consolidated balance sheets		
Operating lease liabilities, short-term	\$ 203,806	
Operating lease liabilities, long-term	1,026,006	
Total operating lease liabilities	\$ 1,229,812	

There were no other material changes in the Company's operating leases in the three and six months ended June 30, 2021, as compared to the disclosure in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

Note 7. Goodwill and Intangible Assets

The following table presents the goodwill activities for the periods presented (in thousands):

Goodwill			
Balance as of December 31, 2020		\$	1,312,346
Acquisitions			13,893
Other			(1,039)
Balance as of June 30, 2021		\$	1,325,200

For each of the periods presented, gross goodwill balance equaled the net balance since no impairment charges have been recorded. The following table presents the detail of intangible assets for the periods presented (in thousands):

	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
June 30, 2021:			
Patents and developed technologies	\$ 119,862	\$ (66,672)	\$ 53,190
Other	11,138	(6,815)	4,323
Total	\$ 131,000	\$ (73,487)	\$ 57,513
December 31, 2020:			
Patents and developed technologies	\$ 110,153	\$ (53,265)	\$ 56,888
Other	1,800	(350)	1,450
Total	\$ 111,953	\$ (53,615)	\$ 58,338

Amortization expense associated with intangible assets was \$11.7 million and \$7.6 million for the three months ended June 30, 2021 and 2020, respectively, and \$19.8 million and \$12.6 million for the six months ended June 30, 2021 and 2020, respectively.

Estimated future amortization expense as of June 30, 2021 is as follows (in thousands):

Remainder of 2021	\$	17,917
2022		17,369
2023		7,843
2024		6,026
2025		1,863
Thereafter		6,495
Total	\$	57,513

Note 8. Accrued and Other Current Liabilities

The following table presents the detail of accrued and other current liabilities for the periods presented (in thousands):

	June 30,	December 31,
	2021	2020
Accrued compensation	\$ 194,900	\$ 171,681
Federal Trade Commission accrual (see Note 14)	150,000	150,000
Deferred revenue	104,532	58,976
Accrued professional services	41,111	27,404
Accrued tax liabilities	37,588	40,384
Accrued publisher, content and ad network costs	37,076	42,541
Accrued other	209,895	172,546
Total	\$ 775,102	\$ 663,532

Note 9. Acquisitions and Other Investments

2021 Acquisitions

During the six months ended June 30, 2021, the Company made a number of acquisitions, which were accounted for as business combinations. The total purchase price for these acquisitions was \$24.1 million, which was allocated as follows: \$9.7 million to developed technologies, \$0.5 million to net assets assumed based on their estimated fair value on the acquisition date, and the excess \$13.9 million of the purchase price over the fair value of net assets acquired to goodwill. The goodwill from the acquisitions is mainly attributable to assembled workforce, expected synergies and other benefits. \$2.1 million of the goodwill is tax deductible. Developed technologies will be amortized on a straight-line basis over their estimated useful lives of up to one year.

The results of operations for these acquisitions have been included in the Company's consolidated statements of operations since the date of each respective acquisition. Actual and pro forma revenue and results of operations for these acquisitions have not been presented because they do not have a material impact on the consolidated results of operations.

Investments in Privately-Held Companies

The Company makes strategic investments in privately-held companies. The Company evaluates each investee to determine if the investee is a variable interest entity and, if so, whether the Company is the primary beneficiary of the variable interest entity. The Company has determined, as of June 30, 2021, there were no variable interest entities required to be consolidated in the Company's consolidated financial statements. The Company's investments in privately-held companies are primarily non-marketable equity securities without readily determinable fair values. The Company accounts for its investments in privately-held companies either under equity method accounting or by adjusting the carrying value of its non-marketable equity securities to fair value upon observable transactions for identical or similar investments of the same issuer or upon impairment (referred to as the measurement alternative). All gains and losses on non-marketable equity securities, realized and unrealized, are recognized in other income (expense), net. The maximum loss the Company can incur for its investments is their carrying value. These investments in privately-held companies are included within other assets on the consolidated balance sheets. The Company's non-marketable equity securities had a combined carrying value of \$152.5 million and \$85.8 million as of June 30, 2021 and December 31, 2020, respectively.

In the three months ended March 31, 2021, the Company funded \$60.0 million of bridge financing in the form of convertible loans to a privately-held company in which it had an existing investment. In April 2021, the Company converted \$30.0 million of the \$60.0 million of the convertible loans into preferred stock, and sold the remaining \$30.0 million of the convertible loans at face value to an unaffiliated third party. As of June 30, 2021, the \$30.0 million of the preferred stock is included within other assets on the consolidated balance sheets. In the three and six months ended June 30, 2021, the Company recorded an upward adjustment (unrealized gain) of \$36.0 million on its investment in this privately-held company in other income (expense), net in the consolidated statements of operations. The upward adjustment represents the difference between fair value and carrying value of the preferred stock, resulting from observable price changes in orderly transactions for similar investments related to subsequent rounds of financing completed by the privately-held company. The estimated fair value of the preferred stock is determined based on an option pricing model, which represents a Level 3 valuation. The option pricing model allocates equity value to individual securities within the investees' capital structure based on contractual rights and preferences. The inputs in the option pricing model are transaction price per share of those similar securities along with time to liquidity and volatility. No upward adjustment was recorded in the three and six months ended June 30, 2020.

The Company periodically evaluates the carrying value of its investments in privately-held companies when events and circumstances indicate that the carrying amount of the investment may not be recovered. The Company estimates the fair value of the investments to assess whether impairment losses shall be recorded using Level 3 inputs. These investments include the Company's holdings in privately-held companies that are not exchange traded and therefore not supported with observable market prices; hence, the Company may determine the fair value by reviewing equity valuation reports, current financial results, long-term plans of the privately-held companies, the amount of cash that the privately-held companies have on-hand, the ability to obtain additional financing and overall market conditions in which the privately-held companies operate or based on the price observed from the most recent completed financing. No impairment charge was recorded in the three and six months ended June 30, 2021. The Company recorded impairment charges of \$0.5 million and \$8.5 million in the three and six months ended June 30, 2020, respectively, within other income (expense), net in the consolidated statements of operations.

Note 10. Convertible Notes and Senior Notes

Convertible Notes

2026 Notes

In March 2021, the Company issued \$1.44 billion in aggregate principal amount of 0% convertible senior notes due 2026 (or the 2026 Notes) in a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended. The total net proceeds from this offering, after deducting debt issuance costs, were approximately \$1.42 billion.

The 2026 Notes represent senior unsecured obligations of the Company. The 2026 Notes do not bear interest except in special circumstances described below, and the principal amount of the 2026 Notes does not accrete. The 2026 Notes mature on March 15, 2026.

Each \$1,000 of principal of the notes will initially be convertible into 7.6905 shares of the Company's common stock, which is equivalent to an initial conversion price of approximately \$130.03 per share, subject to adjustment upon the occurrence of certain specified events set forth in the indenture governing the 2026 Notes. Holders of the 2026 Notes may convert their 2026 Notes at their option at any time on or after December 15, 2025 until close of business on the second scheduled trading day immediately preceding the maturity date of March 15, 2026. Further, holders of the 2026 Notes may convert all or any portion of their 2026 Notes at their option prior to the close of business on the business day immediately preceding December 15, 2025, only under the following circumstances:

- 1) during any calendar quarter commencing after June 30, 2021 (and only during such calendar quarter), if the last reported sale price of the common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;
- 2) during the five business day period after any five consecutive trading day period (the measurement period) in which the trading price (as defined in the indenture governing the 2026 Notes) per \$1,000 principal amount of the 2026 Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day; or
- 3) upon the occurrence of certain specified corporate events.

Upon conversion of the 2026 Notes, the Company will pay or deliver, as the case may be, cash, shares of its common stock or a combination of cash and shares of its common stock, at the Company's election. If the Company satisfies its conversion obligation solely in cash or through payment and delivery, as the case may be, of a combination of cash and shares of its common stock, the amount of cash and shares of common stock, if any, due upon conversion will be based on a daily conversion value (as set forth in the indenture governing the 2026 Notes) calculated on a proportionate basis for each trading day in a 30 trading day observation period.

The Company may not redeem the 2026 Notes prior to the maturity date and no sinking fund is provided for the 2026 Notes. If a fundamental change (as defined in the indenture governing the 2026 Notes) occurs prior to the maturity date, holders of the 2026 Notes may require the Company to repurchase all or a portion of their notes for cash at a repurchase price equal to 100% of the principal amount of the 2026 Notes, plus any accrued and unpaid interest to, but excluding, the repurchase date. In addition, if specific corporate events occur prior to the maturity date of the 2026 Notes, the Company will be required to increase the conversion rate for holders who elect to convert their 2026 Notes in connection with such corporate events.

Concurrent with the offering of the 2026 Notes, the Company entered into convertible note hedge transactions with certain bank counterparties whereby the Company has the option to purchase initially (subject to adjustment for certain specified events) a total of approximately 11.1 million shares of its common stock at a price of approximately \$130.03 per share. The total cost of such convertible note hedge transactions was \$213.5 million. In addition, the Company sold warrants to certain bank counterparties whereby the holders of the warrants have the option to purchase initially (subject to adjustment for certain specified events) a total of approximately 11.1 million shares of the Company's common stock at a price of \$163.02 per share. The Company received \$161.1 million in cash proceeds from the sale of these warrants.

Taken together, the purchase of such convertible note hedges and the sale of such warrants are intended to offset any actual dilution from the conversion of the 2026 Notes and to effectively increase the overall conversion price from \$130.03 to \$163.02 per share. As these transactions meet certain accounting criteria, such convertible note hedges and warrants are recorded in stockholders' equity and are not accounted for as derivatives. The net cost incurred in connection with such convertible note hedge and warrant transactions was recorded as a reduction to additional paid-in capital in the consolidated balance sheets as of June 30, 2021.

2021 Notes, 2024 Notes, and 2025 Notes

In 2014, the Company issued \$954.0 million in aggregate principal amount of the 1.00% convertible senior notes due 2021, or the 2021 Notes, in a private placement to qualified institutional buyers pursuant to Rule 144A of the Securities Act of 1933, as amended. The total net proceeds from this offering were approximately \$939.5 million, after deducting \$14.3 million of debt discount and \$0.2 million of debt issuance costs in connection with the issuance of the 2021 Notes.

In 2018, the Company issued \$1.15 billion aggregate principal amount of the 0.25% convertible senior notes due 2024, or the 2024 Notes, in a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended. The total net proceeds from this offering were approximately \$1.14 billion, after deducting \$12.3 million of debt issuance costs in connection with the 2024 Notes.

In 2020, the Company entered into an investment agreement (the Investment Agreement) with Silver Lake Partners V DE (AIV), L.P. (Silver Lake) relating to the issuance and sale to Silver Lake of \$1.0 billion in aggregate principal amount of the Company's 0.375% convertible senior notes due 2025, or the 2025 Notes. The total net proceeds from this offering were approximately \$985.3 million, after deducting \$14.7 million of debt issuance costs in connection with the 2025 Notes.

The 2021 Notes, 2024 Notes, and 2025 Notes are senior unsecured obligations of the Company. The interest rate of the 2021 Notes is fixed at 1.00% per annum and interest is payable semi-annually in arrears on March 15 and September 15 of each year. The interest rate of the 2024 Notes is fixed at 0.25% per annum and interest is payable semi-annually in arrears on June 15 and December 15 of each year. The interest rate of the 2025 Notes is fixed at 0.375% per annum and interest is payable semi-annually in arrears on March 15 and September 15 of each year. The 2021 Notes, 2024 Notes and 2025 Notes mature on September 15, 2021, June 15, 2024, and March 15, 2025, respectively.

Each \$1,000 of principal of the 2021 Notes, 2024 Notes, and 2025 Notes will initially be convertible into 12.8793, 17.5001, and 24.0964 shares, respectively, of the Company's common stock, which is equivalent to an initial conversion price of approximately \$77.64, \$57.14, and \$41.50 per share, respectively, in each case, subject to adjustment upon the occurrence of specified events set forth in the indenture governing such series of Convertible Notes.

Holders of the 2021 Notes may convert their 2021 Notes at their option at any time on or after March 15, 2021 until close of business on the second scheduled trading day immediately preceding the maturity date of September 15, 2021. Holders of the 2024 Notes may convert their 2024 Notes at their option at any time on or after March 15, 2024 until close of business on the second scheduled trading day immediately preceding the maturity date of June 15, 2024. The 2025 Notes are convertible at the option of the holder at any time until the scheduled trading day prior to the maturity date, including in connection with a redemption by the Company.

Further, holders of the 2021 Notes and 2024 Notes may convert all or any portion of the notes of the applicable series at the option of such holder prior to March 15, 2021 and March 15, 2024 for the 2021 Notes and 2024 Notes, respectively, only under the following circumstances:

- 1) during any calendar quarter, if the last reported sale price of the common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price for the applicable series of Convertible Notes on each applicable trading day;
- 2) during the five business day period after any five consecutive trading day period (the measurement period) in which the trading price (as defined in the indenture governing the applicable series of Convertible Notes) per \$1,000 principal amount of such series of Convertible Notes for each trading day of the applicable measurement period was less than 98% of the product of the last reported sale price of Twitter's common stock and the conversion rate for the applicable series of Convertible Notes on each such trading day; or
- 3) upon the occurrence of certain specified corporate events.

Upon conversion of the 2021 Notes, 2024 Notes, and 2025 Notes, the Company will pay or deliver, as the case may be, cash, shares of its common stock or a combination of cash and shares of its common stock, at the Company's election. If the Company satisfies its conversion obligation solely in cash or through payment and delivery of a combination of cash and shares of its common stock, the amount of cash and shares of common stock, if any, due upon conversion, will be based on a daily conversion value (as defined in the indenture governing the applicable series of Convertible Notes) calculated on a proportionate basis for each trading day in the applicable 30 trading day observation period.

On or after March 20, 2022, the 2025 Notes will be redeemable by the Company in the event that the closing sale price of the Company's common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which the Company provides the redemption notice at a redemption price of 100% of the principal amount of such 2025 Notes, plus accrued and unpaid interest to, but excluding, the redemption date.

If a fundamental change (as defined in the indenture governing the applicable series of Convertible Notes) occurs prior to the applicable maturity date, holders of the 2021 Notes, 2024 Notes, or 2025 Notes, as applicable, may require the Company to repurchase all or a portion of their notes for cash at a repurchase price equal to 100% of the principal amount of such notes, plus any accrued and unpaid interest to, but excluding, the repurchase date of such series of notes. In addition, if specific corporate events occur prior to the applicable maturity date of the 2021 Notes, 2024 Notes, or 2025 Notes, the Company will be required to increase the conversion rate for holders who elect to convert their notes in connection with such corporate events.

Pursuant to the Investment Agreement related to the 2025 Notes, and subject to certain exceptions, Silver Lake will be restricted from transferring or entering into an agreement that transfers the economic consequences of ownership of the 2025 Notes or converting the 2025 Notes prior to the earlier of (i) the two year anniversary of the original issue date of the 2025 Notes or (ii) immediately prior to the consummation of a change of control of the Company. Exceptions to such restrictions on transfer include, among others: a) transfers to affiliates of Silver Lake, b) transfers to the Company or any of its subsidiaries, c) transfers to a third party where the net proceeds of such sale are solely used to satisfy a margin call or repay a permitted loan or d) transfers in connection with certain merger and acquisition events.

Concurrent with the offering of the 2021 Notes and the 2024 Notes, the Company entered into convertible note hedge transactions with certain bank counterparties whereby the Company has the option to purchase initially (subject to adjustment for certain specified events) a total of approximately 12.3 million and 20.1 million shares, respectively, of its common stock at a price of approximately \$77.64 and \$57.14 per share, respectively. The total cost of the convertible note hedge transactions was \$233.5 million and \$268.0 million, respectively. In addition, the Company sold warrants to certain bank counterparties whereby the holders of the warrants have the option to purchase initially (subject to adjustment for certain specified events) a total of approximately 12.3 million and 20.1 million shares, respectively, of the Company's common stock at an initial strike price of \$105.28 and \$80.20 per share, respectively. The Company received \$172.9 million and \$186.8 million in cash proceeds from the sale of these warrants, respectively.

Taken together, the purchase of the convertible note hedges and the sale of warrants in connection with the issuance of the Convertible Notes are intended to offset any actual dilution from the conversion of such notes and to effectively increase the overall conversion price from \$77.64 to \$105.28 per share, in the case of the 2021 Notes, and from \$57.14 to \$80.20 per share, in the case of the 2024 Notes. As these transactions meet certain accounting criteria, the convertible note hedges and warrants are recorded in stockholders' equity and are not accounted for as derivatives. The net cost incurred in connection with the convertible note hedge and warrant transactions was recorded as a reduction to additional paid-in capital in the consolidated balance sheets as of June 30, 2021.

Senior Notes

2027 Notes

In 2019, the Company issued \$700.0 million aggregate principal amount of the 3.875% senior notes due 2027, or the 2027 Notes, in a private placement to qualified institutional buyers pursuant to Rule144A under the Securities Act of 1933, as amended, and outside the United States pursuant to Regulation S under the Securities Act of 1933, as amended. The total net proceeds from this offering were approximately \$691.9 million, after deducting \$8.1 million of debt issuance costs in connection with the issuance of the 2027 Notes. The 2027 Notes represent senior unsecured obligations of the Company. The interest rate is fixed at 3.875% per annum and interest is payable semi-annually in arrears on June 15 and December 15 of each year, which commenced on June 15, 2020. The 2027 Notes mature on December 15, 2027.

Convertible Notes and Senior Notes

The Notes consisted of the following (in thousands):

	June 30, 2021				
	2021 Notes	2024 Notes	2025 Notes	2026 Notes	2027 Notes
Principal amounts:					
Principal	\$ 954,000	\$ 1,150,000	\$ 1,000,000	\$ 1,437,500	\$ 700,000
Unamortized debt discount and issuance costs ⁽¹⁾	(435)	(6,086)	(10,869)	(15,698)	(6,509)
Net carrying amount	\$ 953,565	\$ 1,143,914	\$ 989,131	\$ 1,421,802	\$ 693,491
Carrying amount of the equity component ⁽²⁾	\$ —	\$ —	\$ —	\$ —	\$ —

	December 31, 2020			
	2021 Notes	2024 Notes	2025 Notes	2027 Notes
Principal amounts:				
Principal	\$ 954,000	\$ 1,150,000	\$ 1,000,000	\$ 700,000
Unamortized debt discount and issuance costs ⁽¹⁾	(36,134)	(160,297)	(113,825)	(7,006)
Net carrying amount	\$ 917,866	\$ 989,703	\$ 886,175	\$ 692,994
Carrying amount of the equity component ⁽²⁾	\$ 283,283	\$ 254,981	\$ 121,413	\$ —

(1) Included in the consolidated balance sheets within "convertible notes, short-term"; "convertible notes, long-term"; and "senior notes, long-term", and amortized over the remaining lives of the Notes. The decrease of unamortized debt discount and issuance costs balance as of June 30, 2021 compared to December 31, 2020 was mainly due to the adoption of the new convertible debt standard on January 1, 2021.

(2) The Company adopted the new accounting standard update which simplifies the accounting for convertible debt instruments on January 1, 2021 using the modified retrospective method. The adoption eliminates the cash conversion and beneficial conversion feature models used to separately account for embedded conversion features as a component of equity. As of December 31, 2020, these amounts were included in the consolidated balance sheets within additional paid-in capital.

In the three and six months ended June 30, 2021, the effective interest rate for the 2021 Notes, 2024 Notes, 2025 Notes, and 2027 Notes was 1.00%, 0.25%, 0.375%, and 3.875%, respectively. The 2026 Notes do not bear regular interest. In the three and six months ended June 30, 2020 the effective interest rate for the 2021 Notes, 2024 Notes, 2025 Notes, and 2027 Notes was 6.25%, 4.46%, 2.99%, and 3.875%, respectively. During the three months ended June 30, 2021 and 2020, the Company recognized \$2.9 million and \$29.1 million, respectively, of interest expense related to the amortization of debt discount and issuance costs prior to capitalization of interest. During the six months ended June 30, 2021 and 2020, the Company recognized \$5.1 million and \$52.8 million, respectively, of interest expense related to the amortization of debt discount and issuance costs prior to capitalization of interest. The decreases in the effective interest rate and interest expense are due to the elimination of interest expense related to the conversion features of the Convertible Notes as a result of the adoption of the new accounting standard update to simplify the accounting for convertible debt on January 1, 2021. Refer to Note 1 - Summary of Significant Accounting Policies for more detail. During the three months ended June 30, 2021 and 2020, the Company recognized \$10.9 million and \$10.8 million, respectively, of coupon interest expense. During the six months ended June 30, 2021 and 2020, the Company recognized \$21.6 million and \$20.8 million, respectively, of coupon interest expense.

As of June 30, 2021, the remaining life of the 2021 Notes, the 2024 Notes, the 2025 Notes, the 2026 Notes, and the 2027 Notes is approximately 2 months, 35 months, 44 months, 56 months, and 77 months, respectively.

Note 11. Net Income (Loss) per Share

Basic net income (loss) per share is computed by dividing net income (loss) attributable to common stockholders by the weighted-average common shares outstanding during the period. The weighted-average common shares outstanding is adjusted for shares subject to repurchase such as unvested restricted stock granted to employees in connection with acquisitions, contingently returnable shares and escrowed shares supporting indemnification obligations that are issued in connection with acquisitions and unvested stock options exercised.

Diluted net income (loss) per share is computed by dividing net income (loss) attributable to common stockholders by the weighted-average number of common shares outstanding during the period, including potential dilutive securities. When the convertible notes are dilutive, interest expense, net of tax, is added back to net income attributable to common stockholders to calculate diluted net income per share.

The following table presents the calculation of basic and diluted net income (loss) per share for periods presented (in thousands, except per share data):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Basic net income (loss) per share:				
Numerator				
Net income (loss)	\$ 65,649	\$ (1,378,005)	\$ 133,654	\$ (1,386,401)
Denominator				
Weighted-average common shares outstanding	798,451	787,954	798,061	785,186
Weighted-average restricted stock subject to repurchase	(1,979)	(2,045)	(2,069)	(1,883)
Weighted-average shares used to compute basic net income (loss) per share	796,472	785,909	795,992	783,303
Basic net income (loss) per share attributable to common stockholders	\$ 0.08	\$ (1.75)	\$ 0.17	\$ (1.77)
Diluted net income (loss) per share:				
Numerator				
Net income (loss)	\$ 65,649	\$ (1,378,005)	\$ 133,654	\$ (1,386,401)
Interest expense on convertible notes, net of tax	2,852	—	5,242	—
Numerator used to compute diluted net income (loss) per share	68,501	(1,378,005)	138,896	(1,386,401)
Denominator				
Number of shares used in basic computation	796,472	785,909	795,992	783,303
Weighted-average effect of dilutive securities:				
Convertible notes	55,277	—	55,277	—
RSUs	15,247	—	16,411	—
Stock options	496	—	625	—
Other	1,688	—	2,317	—
Weighted-average shares used to compute diluted net income (loss) per share	869,180	785,909	870,622	783,303
Diluted net income (loss) per share attributable to common stockholders	\$ 0.08	\$ (1.75)	\$ 0.16	\$ (1.77)

The following numbers of potential common shares at the end of each period were excluded from the calculation of diluted net income (loss) per share attributable to common stockholders because their effect would have been anti-dilutive for the periods presented (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Warrants	43,467	32,412	43,467	32,412
Convertible notes	12,287	—	12,287	—
RSUs	13,119	41,437	14,239	41,437
Shares subject to repurchase and others	2,515	8,135	2,515	8,135
Stock options	3	2,992	3	2,992

Prior to January 1, 2021, the Company used the treasury stock method for calculating any potential dilutive effect of the conversion spread on diluted net income (loss) per share, if applicable. In the three and six months ended June 30, 2020, the Company's potential common stock instruments such as stock options, RSUs, shares to be purchased under the 2013 Employee Stock Purchase Plan, shares subject to repurchases, the Convertible Notes and the warrants were not included in the computation of diluted loss per share as the effect of including these shares in the calculation would have been anti-dilutive. On January 1, 2021, the Company adopted the accounting standard update to simplify the accounting for convertible debt instruments. The Company now uses the if-converted method for all Convertible Notes in the diluted net income (loss) per share calculation and includes the effect of potential share settlement for the Convertible Notes, if the effect is more dilutive. In the three and six months ended June 30, 2021, the 2024 Notes, the 2025 Notes and the 2026 Notes were included in the computation of diluted income per share as the effect of including these shares in the calculation is more dilutive. The 2021 Notes were not included in the computation of diluted income per share as the effect of including these shares in the calculation would have been anti-dilutive. The use of the if-converted method increased the number of potentially dilutive shares by 46.1 million and 46.2 million shares in the three and six months ended June 30, 2021, respectively, and had no impact on the diluted income per share amount in the three and six months ended June 30, 2021.

If the average market price of the common stock exceeds the exercise price of the warrants, \$105.28 for the 2021 Notes, \$80.20 for the 2024 Notes, and \$163.02 for the 2026 Notes, the warrants will have a dilutive effect on the earnings per share assuming that the Company is profitable. Since the average market price of the common stock is below \$80.20 for all periods presented, the warrants are anti-dilutive.

Note 12. Stockholders' Equity

Equity Incentive Plans

The Company's 2013 Equity Incentive Plan serves as the successor to the 2007 Equity Incentive Plan. The number of shares of the Company's common stock available for issuance under the 2013 Equity Incentive Plan have been and will be increased on the first day of each fiscal year beginning with the 2014 fiscal year, in an amount equal to the least of (i) 60,000,000 shares, (ii) 5% of the outstanding shares on the last day of the immediately preceding fiscal year, or (iii) such number of shares determined by the Company's Board of Directors.

Share Repurchases

In March 2020, the Company's Board of Directors authorized a program to repurchase up to \$2.0 billion of the Company's common stock over time. Repurchases may be made from time to time through open market purchases or through privately negotiated transactions subject to market conditions, applicable legal requirements and other relevant factors. The repurchase program does not obligate the Company to acquire any particular amount of its common stock, and may be suspended at any time at the Company's discretion. In the three and six months ended June 30, 2021, the Company repurchased 5.9 million and 8.6 million shares for an aggregate amount of \$333.8 million and \$495.4 million, respectively. The repurchases include 77,000 shares for \$5.3 million that were not settled as of June 30, 2021 and that are presented as treasury stock on the consolidated balance sheets as of such date.

Employee Stock Purchase Plan

The number of shares available for sale under the Employee Stock Purchase Plan (ESPP) has been and will be increased on the first day of each fiscal year beginning with the 2014 fiscal year, in an amount equal to the least of (i) 11.3 million shares; (ii) 1% of the outstanding shares of the Company's common stock as of the last day of the immediately preceding fiscal year; or (iii) such other amount as determined by the Company's Board of Directors.

During the three and six months ended June 30, 2021, employees purchased an aggregate of 1.5 million shares under the ESPP at a weighted-average price of \$25.69 per share. During the three and six months ended June 30, 2020, employees purchased an aggregate of 1.4 million shares under the ESPP at a weighted-average price of \$24.65 per share.

Restricted Common Stock

The Company has granted restricted common stock to certain continuing employees in connection with certain of its acquisitions. Vesting of this stock is dependent on the respective employee's continued employment at the Company during the requisite service period, which is generally up to four years from the issuance date, and the Company has the right to repurchase the unvested shares upon termination of employment. The fair value of the restricted common stock issued to employees is recorded as compensation expense on a straight-line basis over the requisite service period.

The Company had 1.6 million and 2.0 million shares of unvested restricted common stock as of June 30, 2021 and December 31, 2020, respectively. The Company's restricted common stock activity was not material during the six months ended June 30, 2021.

Stock Option Activity

The Company had 0.9 million and 1.4 million shares of stock options outstanding as of June 30, 2021 and December 31, 2020, respectively. The Company's stock option activity was not material during the six months ended June 30, 2021.

Performance Restricted Stock Units Activity

The Company grants restricted stock units to certain of its executive officers periodically that vest based on the Company's attainment of the annual financial performance goals and the executives' continued employment through the vesting date (PRSUs). These PRSUs are granted when the annual performance targets are set and the awards are approved by the Compensation Committee of the Board of Directors, generally in the first half of each financial year. The Company granted PRSUs with a vesting period of one year prior to 2020, and three years since 2020.

The following table summarizes the activity related to the Company's PRSUs for the six months ended June 30, 2021 (in thousands, except per share data):

	PRSUs Outstanding		
	Shares	Average Grant-Date Fair Value	Weighted-Average Grant-Date Fair Value Per Share
Unvested and outstanding at December 31, 2020	729	\$	27.77
Granted (100% target level)	348	\$	71.22
Unearned performance shares canceled related to 2020 grants	(365)	\$	27.77
Vested (50% target level for 2020 performance period)	(121)	\$	27.77
Unvested and outstanding at June 30, 2021	591	\$	53.34

The total fair value of PRSUs vested during the six months ended June 30, 2021 and 2020 was \$9.4 million and \$22.7 million, respectively.

The Company also grants restricted stock units to certain of its executive officers that vest based on Twitter stock price performance relative to a broad-market index over a performance period of two or three calendar years and the executives' continued employment through the vesting date (TSR RSUs). The Company granted TSR RSUs with a vesting period of two years prior to 2020, and three years since 2020.

The following table summarizes the activity related to the Company's TSR RSUs for the six months ended June 30, 2021 (in thousands, except per share data):

	TSR RSUs Outstanding		
	Shares	Average Grant-Date Fair Value	Weighted-Average Grant-Date Fair Value Per Share
Unvested and outstanding at December 31, 2020	917	\$	30.90
Granted (100% target level)	232	\$	98.28
Unearned performance shares canceled related to 2019 grants	(207)	\$	30.60
Vested (52% target level for 2019-2020 performance period)	(224)	\$	30.60
Unvested and outstanding at June 30, 2021	718	\$	52.82

The total fair value of TSR RSUs vested during the six months ended June 30, 2021 and 2020 was \$17.2 million and \$13.4 million, respectively.

RSU Activity

The following table summarizes the activity related to the Company's RSUs, excluding PRSUs and TSR RSUs, for the six months ended June 30, 2021. For purposes of this table, vested RSUs represent the shares for which the service condition had been fulfilled as of each respective date (in thousands, except per share data):

	RSUs Outstanding	
	Shares	Weighted-Average Grant-Date Fair Value Per Share
Unvested and outstanding at December 31, 2020	36,611	\$ 32.28
Granted	16,047	\$ 64.11
Vested	(8,302)	\$ 33.23
Canceled	(2,669)	\$ 35.89
Unvested and outstanding at June 30, 2021	41,687	\$ 44.12

The total fair value of RSUs vested during the three months ended June 30, 2021 and 2020 was \$241.8 million and \$112.0 million, respectively. The total fair value of RSUs vested during six months ended June 30, 2021 and 2020 was \$462.5 million and \$215.9 million, respectively.

Stock-Based Compensation Expense

Stock-based compensation expense is allocated based on the cost center to which the award holder belongs. Total stock-based compensation expense by function is as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Cost of revenue	\$ 13,120	\$ 8,996	\$ 21,852	\$ 14,752
Research and development	103,312	77,988	168,468	138,575
Sales and marketing	36,371	29,183	57,542	48,022
General and administrative	25,399	16,709	41,213	29,430
Total stock-based compensation expense	\$ 178,202	\$ 132,876	\$ 289,075	\$ 230,779

The Company capitalized \$27.0 million and \$10.8 million of stock-based compensation expense associated with the cost for developing software for internal use in the three months ended June 30, 2021 and 2020, respectively, and \$41.5 million and \$18.9 million in the six months ended June 30, 2021 and 2020, respectively.

As of June 30, 2021, there was \$1.82 billion of gross unamortized stock-based compensation expense related to unvested awards which is expected to be recognized over a weighted-average period of 3.0 years. The Company accounts for forfeitures as they occur.

Note 13. Income Taxes

The Company's tax provision or benefit for income taxes for interim periods has generally been determined using an estimate of its annual effective tax rate, adjusted for discrete items, if any. Under certain circumstances where the Company is unable to make a reliable estimate of the annual effective tax rate, the accounting guidance permits the use of the actual effective tax rate for the year-to-date period. In the three and six months ended June 30, 2021, the Company used this approach because it was unable to reasonably estimate its annual effective tax rate due to the variability of the rate as a result of fluctuations in forecasted income and the effects of being taxed in multiple tax jurisdictions.

The Company recorded a provision for income taxes of \$15.7 million and a benefit from income taxes of \$2.4 million for the three and six months ended June 30, 2021, respectively. The Company recorded a provision for income taxes of \$1.09 billion and \$1.08 billion for the three and six months ended June 30, 2020, respectively. For the three and six months ended June 30, 2020, the provision for income taxes consisted of a provision for income taxes related to the establishment of a valuation allowance against deferred tax assets of \$1.10 billion of a foreign subsidiary, which was offset by income tax benefits of \$12.5 million and \$19.6 million, respectively. The primary difference between the effective tax rate and the federal statutory tax rate relates to the valuation allowance establishment in the three months ended June 30, 2020, foreign tax rate differences, tax deductions for stock-based compensation, and research and development credits.

The Company reassessed the ability to realize deferred tax assets by considering the available positive and negative evidence. As of June 30, 2020, the Company concluded that the deferred tax assets in a foreign subsidiary were not more-likely-than-not to be realized and recorded a full valuation allowance against such deferred tax assets in the approximate amount of \$1.10 billion. As of June 30, 2021, there have been no changes to the Company's conclusion.

As of June 30, 2021, the Company had \$936.1 million of deferred tax assets for which it has not established a valuation allowance, related to the U.S. federal, states other than Massachusetts and California, and certain international subsidiaries. The Company completed its reassessment of the ability to realize these assets and concluded that a valuation allowance was not required.

As of June 30, 2021, the Company had \$375.5 million of unrecognized tax benefits, of which \$291.2 million could result in a reduction of the Company's effective tax rate, if recognized. The remainder of the unrecognized tax benefits would not affect the effective tax rate due to the full valuation allowance recorded for California and Massachusetts deferred tax assets.

The Company is subject to taxation in the United States and various foreign jurisdictions. Earnings from non-U.S. activities are subject to local country income tax. The material jurisdictions where the Company is subject to potential examination by tax authorities include the United States, California and Ireland. The Company believes that it has reserved adequate amounts for these jurisdictions.

Note 14. Commitments and Contingencies

Credit Facility

The Company has a revolving credit agreement with certain lenders, which provides for a \$500.0 million unsecured revolving credit facility maturing on August 7, 2023. The Company is obligated to pay interest on loans under the credit facility and other customary fees for a credit facility of this size and type, including an upfront fee and an unused commitment fee. The interest rate for the credit facility is determined based on calculations using certain market rates as set forth in the credit agreement. In addition, the credit facility contains restrictions on payments including cash payments of dividends. In March 2021, the Company entered into an amendment to the revolving credit agreement to increase the amount of indebtedness the Company may incur from \$4.5 billion to \$6.0 billion and to permit the convertible note issuance and hedge transactions associated with the 2026 Notes. As of June 30, 2021, no amounts had been drawn under the credit facility.

Contractual Obligations

The Company's principal commitments consist of obligations under the Notes (including principal and coupon interest), operating and finance leases for equipment, office space and co-located data center facilities, as well as non-cancellable contractual commitments.

During the six months ended June 30, 2021, the Company issued \$1.44 billion in aggregate principal amount of the 2026 Notes. As of June 30, 2021, the Company's contractual obligation to settle commitments related to the 2026 Notes is \$1.44 billion for the year ended December 31, 2026.

Other than as described above, there were no material changes outside the Company's normal course of business in its commitments under contractual obligations from those disclosed in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

Legal Proceedings

Beginning in September 2016, multiple putative class actions and derivative actions were filed in state and federal courts in the United States against the Company and the Company's directors and/or certain former officers alleging that false and misleading statements, made in 2015, are in violation of securities laws and breached fiduciary duty. The putative class actions were consolidated in the U.S. District Court for the Northern District of California. On October 16, 2017, the court granted in part and denied in part the Company's motion to dismiss. On July 17, 2018, the court granted plaintiffs' motion for class certification in the consolidated securities action. In January 2021, the Company entered into a binding agreement to settle the pending shareholder derivative lawsuits. The proposed settlement resolves all claims asserted against the Company and the other named defendants in the derivative lawsuits without any liability or wrongdoing attributed to them personally or the Company. Under the terms of the proposed settlement, the Company's board of directors will adopt and implement certain corporate governance modifications. In addition, the Company will receive \$38.0 million of insurance proceeds to be used for general corporate purposes. The settlement will not require the Company to make any payment, aside from covering certain administrative costs related to the settlement. The settlement agreement is subject to final approval by the Court of Chancery of the State of Delaware, which is scheduled for July 27, 2021. The shareholder class action remains pending and is scheduled for trial on September 20, 2021.

Beginning in October 2019, putative class actions were filed in the U.S. District Court for the Northern District of California against the Company and certain of the Company's officers alleging violations of securities laws in connection with the Company's announcements that it had discovered and taken steps to remediate issues related to certain user settings designed to target advertising that were not working as expected and seeking unspecified damages. The Company disputes the claims and intends to defend the lawsuit vigorously. In December 2020, the district court dismissed the plaintiffs' claims. The case is currently on appeal to the United States Court of Appeal for the Ninth Circuit.

From time to time the Company notifies the Irish Data Protection Commission, its designated European privacy regulator under the European Union General Data Protection Regulation, or GDPR, and other regulators, of certain personal data breaches and privacy issues, and is subject to inquiries and investigations regarding various aspects of our regulatory compliance. The Company is currently the subject of inquiries by the Irish Data Protection Commission with respect to its compliance with the GDPR.

On July 28, 2020, the Company received a draft complaint from the Federal Trade Commission (FTC) alleging violations of the Company's 2011 consent order with the FTC and the Federal Trade Commission Act. The allegations relate to the Company's use of phone number and/or email address data provided for safety and security purposes for targeted advertising during periods between 2013 and 2019. The Company estimates that the range of probable loss in this matter is \$150.0 million to \$250.0 million and recorded an accrual of \$150.0 million in the three months ended June 30, 2020. The accrual is included in accrued and other current liabilities in the consolidated balance sheets as of June 30, 2021. The matter remains unresolved, and there can be no assurance as to the timing or the terms of any final outcome.

On January 15, 2021, a derivative action was filed in the Delaware Chancery Court against certain directors of the Company alleging that the directors violated their fiduciary duties in deciding to enter into the Cooperation Agreement with certain affiliates of Elliott Management Corporation, to enter into the Investment Agreement with an affiliate of Silver Lake Partners, and to authorize a program to repurchase up to \$2.0 billion of the Company's common stock. The Company and the directors dispute the claims and intend to defend the lawsuit vigorously. The defendants moved to dismiss the complaint on March 19, 2021 and a hearing on the motion to dismiss is scheduled for September 10, 2021.

On February 22, 2021, a derivative action was filed in the Delaware Chancery Court against Jack Dorsey alleging that Mr. Dorsey violated his fiduciary duties relating to various alleged privacy and cybersecurity issues. The Company and Mr. Dorsey dispute the claims and intend to defend the lawsuit vigorously.

The Company is also currently involved in, and may in the future be involved in, legal proceedings, claims, investigations, and government inquiries and investigations arising in the ordinary course of business. These proceedings, which include both individual and class action litigation and administrative proceedings, have included, but are not limited to matters involving content on the platform or the Company's actions related thereto, intellectual property, privacy, data protection, consumer protection, securities, employment, and contractual rights. Legal fees and other costs associated with such actions are expensed as incurred.

The Company assesses, in conjunction with its legal counsel, the need to record a liability for litigation and contingencies. With respect to the cases, actions, and inquiries described above, the Company evaluates the associated developments on a regular basis and accrues a liability when it believes a loss is probable and the amount can be reasonably estimated. In addition, the Company believes there is a reasonable possibility that it may incur a loss in some of these matters and the loss may be material or exceed its estimated ranges of possible loss. With respect to the matters described above that do not include an estimate of the amount of loss or range of possible loss, such losses or range of possible losses either are not material or may be material but cannot be estimated.

The outcomes of the matters described in this section, such as whether the likelihood of loss is remote, reasonably possible, or probable, or if and when the reasonably possible range of loss is estimable, are inherently uncertain. If one or more of these matters were resolved against the Company for amounts above management's estimates, the Company's financial condition and results of operations, including in a particular reporting period in which any such outcome becomes probable and estimable, could be materially adversely affected.

Non-Income Taxes

The Company is under various non-income tax audits by domestic and foreign tax authorities. These audits primarily revolve around routine inquiries, refund requests, and employee benefits. The Company accrues non-income taxes that may result from these audits when they are probable and can be reasonably estimated. Due to the complexity and uncertainty of some of these matters, however, as well as the judicial process in certain jurisdictions, the final outcome of these audits may be materially different from the Company's expectations.

Indemnification

In the ordinary course of business, the Company often includes standard indemnification provisions in its arrangements with its customers, partners, suppliers and vendors. Pursuant to these provisions, the Company may be obligated to indemnify such parties for losses or claims suffered or incurred in connection with its service, breach of representations or covenants, intellectual property infringement or other claims made against such parties. These provisions may limit the time within which an indemnification claim can be made. It is not possible to determine the maximum potential amount under these indemnification obligations due to the limited history of prior indemnification claims and the unique facts and circumstances involved in each particular agreement. The Company has never incurred significant expense defending its licensees against third-party claims, nor has it ever incurred significant expense under its standard service warranties or arrangements with its customers, partners, suppliers and vendors. Accordingly, the Company had no liabilities recorded for these provisions as of June 30, 2021 and December 31, 2020.

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the consolidated financial statements and related notes thereto included in Item 1 "Financial Statements" in this Quarterly Report on Form 10-Q. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those discussed below. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those discussed in the section titled "Risk Factors" included elsewhere in this Quarterly Report on Form 10-Q.

Highlights of Quarterly Results

Revenue for the three months ended June 30, 2021 totaled \$1.19 billion, an increase of 74% year over year.

- Advertising revenue totaled \$1.05 billion, an increase of 87% year over year.
- Data licensing and other revenue totaled \$137.0 million, an increase of 13% year over year.
- U.S. revenue totaled \$653.1 million, an increase of 79% year over year.
- International revenue totaled \$537.4 million, an increase of 69% year over year.
- Total ad engagements increased 32% year over year.
- Cost per engagement increased 42% year over year.

Net income was \$65.6 million for the three months ended June 30, 2021 compared to net loss of \$1.38 billion for the three months ended June 30, 2020, which was inclusive of a \$1.10 billion provision for income taxes related to the establishment of a valuation allowance against deferred tax assets.

Income from operations was \$30.3 million, or 3% of total revenue, for the three months ended June 30, 2021, compared to loss from operations of \$273.9 million, or 40% of total revenue, for the three months ended June 30, 2020. Loss from operations in the three months ended June 30, 2020 includes a non-recurring expense of \$150.0 million related to an ongoing FTC matter.

Cash, cash equivalents and short-term investments in marketable securities totaled \$8.61 billion as of June 30, 2021.

Average monetizable daily active usage (mDAU) for the three months ended June 30, 2021 was 206 million, an increase of 11% year over year.

Overview

The COVID-19 pandemic has resulted in public health responses including travel bans, restrictions, social distancing requirements, and shelter-in-place orders, which have impacted our business, operations, and financial performance in different ways. As a result of the COVID-19 pandemic, we experienced a reduction in advertiser demand in the first half of 2020. In the second half of 2020 and the first half of 2021, advertisers around the world increased their investment on Twitter. We saw continued momentum across key markets around the world, driven by revenue product improvements, strong sales execution, and increased advertiser demand for digital ads in general. The ongoing impact of the COVID-19 pandemic on our business and on global economic activity continues to evolve and may again in the future adversely affect our business, operations and financial results.

Given our execution and confidence in our strategy, as we enter the second half of the year, we are updating our outlook for expense growth and revenue. We now expect headcount, along with total costs and expenses to grow 30% or more on a year-over-year basis for the full year of 2021 with a focus on engineering and product. In addition, Apple has released its changes related to its App Tracking Transparency policy, which has affected and may continue to affect our ability to deliver targeted advertising and measurement to advertisers on our platform, thereby impacting our advertising revenue. We have taken action to adapt to and mitigate the impact of these changes in compliance with Apple's rules, and we will continue to evolve our approach as we understand more and the ecosystem adapts to these changes. We continue to expect total revenue to grow faster than expenses in 2021, assuming the COVID-19 pandemic continues to improve and that we continue to see modest impact from the rollout of Apple's App Tracking Transparency policy. How much faster will depend on various factors, including our execution on our direct response roadmap and macroeconomic factors.

Our business, operations and financial performance have been, and may in the future be, negatively impacted by the COVID-19 pandemic. Our past results may not be indicative of our future performance, and historical trends in revenue, income (loss) from operations, net income (loss), and net income (loss) per share may differ materially. The risks related to the COVID-19 pandemic on our business are further described in "Part II—Other Information, Item 1A. Risk Factors."

Key Metrics

We review a number of metrics, including the following key metrics, to evaluate our business, measure our performance, identify trends affecting our business, formulate business plans and make strategic decisions.

Monetizable Daily Active Usage or Users (mDAU). We define mDAU as people, organizations, or other accounts who logged in or were otherwise authenticated and accessed Twitter on any given day through twitter.com or Twitter applications that are able to show ads. We believe that mDAU, and its related growth, is the best way to measure our success against our objectives and to show the size of our audience and engagement. Average mDAU for a period represents the number of mDAU on each day of such period divided by the number of days for such period. Changes in mDAU are a measure of changes in the size of our daily logged in or otherwise authenticated active total accounts. To calculate the year-over-year change in mDAU, we subtract the average mDAU for the three months ended in the previous year from the average mDAU for the same three months ended in the current year and divide the result by the average mDAU for the three months ended in the previous year. Additionally, our calculation of mDAU is not based on any standardized industry methodology and is not necessarily calculated in the same manner or comparable to similarly titled measures presented by other companies.

In the three months ended June 30, 2021, we had 206 million average mDAU, which represents an increase of 11% from the three months ended June 30, 2020. The increase was driven by ongoing product improvements and global conversation around current events. In the three months ended June 30, 2021, we had 37 million average mDAU in the United States and 169 million average mDAU in the rest of the world, which represent increases of 3% and 12%, respectively, from the three months ended June 30, 2020.

Looking ahead, the significant COVID-19-related surge we saw last year creates challenging comparisons, and may lead to mDAU growth rates in the low double digits on a year-over-year basis in the third and fourth quarter of 2021, with the low point of the year likely behind us in the second quarter of 2021.

For additional information on how we calculate changes in mDAU and factors that can affect this metric, see the section titled "Note Regarding Key Metrics."

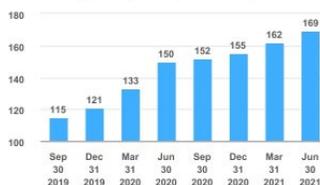
Monetizable Daily Active Usage: Worldwide
(quarterly average in millions)*



Monetizable Daily Active Usage: United States
(quarterly average in millions)



Monetizable Daily Active Usage: International
(quarterly average in millions)



* Please note the sum of average mDAU in the United States and average mDAU in the rest of the world may not equal total average mDAU indicated due to rounding.

Changes in Ad Engagements and Changes in Cost per Ad Engagement. We define an ad engagement as an interaction with one of our pay-for-performance advertising products. Ad engagements with our advertising products are based on the completion of an objective set out by an advertiser such as expanding, Retweeting, liking or replying to a Promoted Ad (previously branded as Promoted Tweet), viewing an embedded video, downloading or engaging with a promoted mobile application, clicking on a website link, signing up for marketing emails from advertisers, following the account that Tweets a Promoted Ad, or completing a transaction on an external website. We believe changes in ad engagements is one way to measure engagement with our advertising products. Cost per ad engagement is an output of our ads auction process, and will vary from one period to another based on geographic performance, auction dynamics, the strength of demand for various ad formats, and campaign objectives.

In the three months ended June 30, 2021, ad engagements increased 32% from the three months ended June 30, 2020, due to our growing audience and increased demand for ads on a year-over-year basis. In the three months ended June 30, 2021, cost per ad engagement increased by 42% compared to the three months ended June 30, 2020, primarily driven by like-for-like price increases across most ad formats due to the impact of the COVID-19 pandemic last year.



Results of Operations

The following tables set forth our consolidated statements of operations data for each of the periods presented (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue				
Advertising services	\$ 1,053,411	\$ 561,994	\$ 1,952,251	\$ 1,244,186
Data licensing and other	137,016	121,444	274,194	246,889
Total revenue	1,190,427	683,438	2,226,445	1,491,075
Costs and expenses ⁽¹⁾				
Cost of revenue	416,932	288,039	797,940	572,076
Research and development	299,859	215,806	550,568	416,194
Sales and marketing	301,902	207,286	536,494	428,573
General and administrative	141,482	246,237	259,009	355,605
Total costs and expenses	1,160,175	957,368	2,144,011	1,772,448
Income (loss) from operations	30,252	(273,930)	82,434	(281,373)
Interest expense	(13,893)	(39,828)	(27,078)	(73,098)
Interest income	9,202	25,013	20,203	57,910
Other income (expense), net	55,739	(361)	55,745	(8,080)
Income (loss) before income taxes	81,300	(289,106)	131,304	(304,641)
Provision (benefit) for income taxes	15,651	1,088,899	(2,350)	1,081,760
Net income (loss)	\$ 65,649	\$ (1,378,005)	\$ 133,654	\$ (1,386,401)

(1) Costs and expenses include stock-based compensation expense as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Cost of revenue	\$ 13,120	\$ 8,996	\$ 21,852	\$ 14,752
Research and development	103,312	77,988	168,468	138,575
Sales and marketing	36,371	29,183	57,542	48,022
General and administrative	25,399	16,709	41,213	29,430
Total stock-based compensation expense	\$ 178,202	\$ 132,876	\$ 289,075	\$ 230,779

The following table sets forth our consolidated statements of operations data for each of the periods presented as a percentage of revenue:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue				
Advertising services	88 %	82 %	88 %	83 %
Data licensing and other	12	18	12	17
Total revenue	100	100	100	100
Costs and expenses				
Cost of revenue	35	42	36	38
Research and development	25	32	25	28
Sales and marketing	25	30	24	29
General and administrative	12	36	12	24
Total costs and expenses	97	140	96	119
Income (loss) from operations	3	(40)	4	(19)
Interest expense	(1)	(6)	(1)	(5)
Interest income	1	4	1	4
Other income (expense), net	5	—	3	(1)
Income (loss) before income taxes	7	(42)	6	(20)
Provision (benefit) for income taxes	1	159	—	73
Net income (loss)	6 %	(202) %	6 %	(93) %

Revenue

We generate the substantial majority of our revenue from the sale of advertising services. We also generate revenue by licensing our data to third parties and providing mobile advertising exchange services.

Advertising Services

We generate most of our advertising revenue by selling our Promoted Products. Currently, our Promoted Products consist of the following:

- *Promoted Ads and Twitter Amplify.* Promoted Ads, which are labeled as "promoted," appear within a timeline, search results or profile pages just like an ordinary Tweet regardless of device, whether it be desktop or mobile. Using our proprietary algorithms and understanding of the interests of each account, we can deliver Promoted Ads that are intended to be relevant to a particular account. We enable our advertisers to target an audience based on an individual account's interest graph. Our Promoted Ads are pay-for-performance or pay-for-impression delivered advertising that are priced through an auction. Our Promoted Ads include objective-based features that allow advertisers to pay only for the types of engagement selected by the advertisers, such as Tweet engagements (e.g., Retweets, replies and likes), website clicks, mobile application installs or engagements, obtaining new followers, or video views.
- *Follower Ads.* Follower Ads (previously branded as Promoted Accounts), which are labeled as "promoted," provide a way for our advertisers to build and grow an audience that is interested in their business, product or service. Our Follower Ads are pay-for-performance advertising priced through an auction.
- *Twitter Takeover.* Twitter Takeover (previously branded as Promoted Trends), which are labeled as "promoted," appear at the top of the list of trending topics or timeline for an entire day in a particular country or on a global basis. We sell our Twitter Takeover on a fixed-fee-per-day basis.

While the majority of the Promoted Products we sell to our advertisers are placed on Twitter, we also generate advertising revenue by placing advertising products that we sell to advertisers on third-party publishers' websites, applications or other offerings.

Data Licensing and Other

We generate data licensing and other revenue by (i) offering data products and data licenses that allow our data partners to access, search and analyze historical and real-time data on our platform (which consists of public Tweets and their content), and (ii) providing mobile advertising exchange services through our MoPub exchange. Our data partners generally purchase licenses to access all or a portion of our data for a fixed period. We recognize data licensing revenue as our data partners consume and benefit from their use of the licensed data. In addition, we operate a mobile ad exchange and receive service fees from transactions completed on the exchange. Our mobile ad exchange enables buyers and sellers to purchase and sell advertising inventory and matches buyers and sellers. We have determined we are not the principal as it relates to the purchase and sale of advertising inventory in transactions between third-party buyers and sellers on the exchange. Therefore, we report revenue related to our ad exchange services on a net basis.

	Three Months Ended June 30,			% Change	Six Months Ended June 30,			% Change		
	2021	2020			2021	2020				
	(in thousands)									
Advertising services	\$ 1,053,411	\$ 561,994		87	%	\$ 1,952,251	\$ 1,244,186		57	%
Data licensing and other	137,016	121,444		13	%	274,194	246,889		11	%
Total revenue	\$ 1,190,427	\$ 683,438		74	%	\$ 2,226,445	\$ 1,491,075		49	%

Revenue in the three and six months ended June 30, 2021 increased by \$507.0 million or 74% and \$735.4 million or 49%, respectively, compared to the three and six months ended June 30, 2020.

Advertising revenue in the three and six months ended June 30, 2021 increased by \$491.4 million or 87% and \$708.1 million or 57%, respectively, compared to the three and six months ended June 30, 2020. The increase in advertising revenue in the three and six months ended June 30, 2021 as compared to the prior year was driven by revenue product improvements, strong sales execution and a broad increase in advertiser demand, as we continued to improve our brand and direct response ad products, with updated formats, measurement, and prediction, as well as the decrease in global advertising spend in the same periods in 2020 due to the COVID-19 pandemic and U.S. civil unrest.

The increase in advertising revenue in the three and six months ended June 30, 2021 was attributable to increases in the number of ad engagements of 32% and 21%, respectively, and increases in cost per ad engagement of 42% and 30%, respectively, compared to the same periods in 2020. The increase in the number of ad engagements was due to our growing audience and increased demand for ads on a year-over-year basis. The increase in cost per ad engagement was primarily driven by like-for-like price increases across most ad formats due to the impact of the COVID-19 pandemic last year.

Looking ahead, we will continue to invest in revenue products as we work to improve our ad formats to deliver increased value to advertisers around the world. As our mDAU grows, we believe the potential to increase our revenue grows.

In the three and six months ended June 30, 2021, data licensing and other revenue increased by 13% and 11% compared to the three and six months ended June 30, 2020. The increase was attributable to an increase in mobile ad exchange revenue and the timing of revenue recognition for our Twitter Developer Platform (formerly Developer and Enterprise Solutions). We continue to expect mid-single digit growth in data licensing and other revenue in 2021 after a significant renewal cycle last year for many of our largest data licensing customers.

Cost of Revenue

Cost of revenue includes infrastructure costs, other direct costs including revenue share expenses, amortization of acquired intangible assets and amortization of capitalized labor costs for internally developed software, allocated facilities costs, as well as traffic acquisition costs (TAC). Infrastructure costs consist primarily of data center costs related to our co-located facilities, which include lease and hosting costs, related support and maintenance costs and energy and bandwidth costs, public cloud hosting costs, as well as depreciation of servers and networking equipment, and personnel-related costs, including salaries, benefits and stock-based compensation, for our operations teams. TAC consists of costs we incur with third parties in connection with the sale to advertisers of our advertising products that we place on third-party publishers' websites, and applications or other offerings collectively resulting from acquisitions. Certain elements of our cost of revenue are fixed and cannot be reduced in the near term.

	Three Months Ended June 30,			% Change	Six Months Ended June 30,			% Change		
	2021	2020			2021	2020				
	(in thousands)									
Cost of revenue	\$ 416,932	\$ 288,039		45	%	\$ 797,940	\$ 572,076		39	%
Cost of revenue as a percentage of revenue	35	42			%	36	38			%

In the three months ended June 30, 2021, cost of revenue increased by \$128.9 million compared to the three months ended June 30, 2020. The increase was attributable to an \$89.5 million increase in other direct costs, primarily driven by an increase in revenue share expenses and personnel-related costs mainly driven by an increase in employee headcount, and a \$39.4 million increase in infrastructure costs.

In the six months ended June 30, 2021, cost of revenue increased by \$225.9 million compared to the six months ended June 30, 2020. The increase was attributable to a \$150.3 million increase in other direct costs, primarily driven by an increase in revenue share expenses, TAC and personnel-related costs mainly driven by an increase in employee headcount, and a \$75.6 million increase in infrastructure costs.

We plan to continue to scale the capacity and enhance the capability and reliability of our infrastructure to support mDAU growth and increased activity on our platform. We expect that cost of revenue will increase in absolute dollar amounts and vary as a percentage of revenue over time.

Research and Development

Research and development expenses consist primarily of personnel-related costs, including salaries, benefits and stock-based compensation, for our engineers and other employees engaged in the research and development of our products and services. In addition, research and development expenses include amortization of acquired intangible assets, allocated facilities costs, and other supporting overhead costs.

	Three Months Ended June 30,			% Change	Six Months Ended June 30,			% Change						
	2021	(in thousands)			2020	2021	(in thousands)		2020					
Research and development	\$	299,859		\$	215,806		39	\$	550,568		\$	416,194		32
Research and development as a percentage of revenue		25	%		32	%			25	%		28	%	

In the three months ended June 30, 2021, research and development expenses increased by \$84.1 million compared to the three months ended June 30, 2020. The increase was attributable to a \$105.7 million increase in personnel-related costs mainly driven by an increase in employee headcount as we continue to focus investments in engineering, product, design, and research, and a \$28.8 million net increase in facilities costs and other administrative expenses, offset by a \$50.4 million increase in the capitalization of costs associated with developing software for internal use.

In the six months ended June 30, 2021, research and development expenses increased by \$134.4 million compared to the six months ended June 30, 2020. The increase was attributable to a \$169.4 million increase in personnel-related costs mainly driven by an increase in employee headcount as we continue to focus investments in engineering, product, design, and research, and a \$41.0 million net increase in facilities costs and other administrative expenses, offset by a \$76.0 million increase in the capitalization of costs associated with developing software for internal use.

We plan to continue to invest in key areas of our business to ensure that we have an appropriate level of engineering, product management and design personnel and related resources to support our research and development efforts on key priorities. We expect that research and development expenses will increase in absolute dollar amounts and vary as a percentage of revenue over time.

Sales and Marketing

Sales and marketing expenses consist primarily of personnel-related costs, including salaries, commissions, benefits and stock-based compensation for our employees engaged in sales, sales support, business development and media, marketing, corporate communications and customer service functions. In addition, marketing and sales-related expenses also include advertising costs, market research, trade shows, branding, marketing, public relations costs, amortization of acquired intangible assets, allocated facilities costs, and other supporting overhead costs.

	Three Months Ended June 30,			% Change	Six Months Ended June 30,			% Change						
	2021	(in thousands)			2020	2021	(in thousands)		2020					
Sales and marketing	\$	301,902		\$	207,286		46	\$	536,494		\$	428,573		25
Sales and marketing as a percentage of revenue		25	%		30	%			24	%		29	%	

In the three months ended June 30, 2021, sales and marketing expenses increased by \$94.6 million compared to the three months ended June 30, 2020. The increase was attributable to a \$41.8 million increase in sales related expenses due to higher revenue as well as in marketing expenses, a \$32.4 million increase in personnel-related costs mainly driven by an increase in employee headcount, and a \$20.4 million increase in facilities costs and other administrative expenses.

In the six months ended June 30, 2021, sales and marketing expenses increased by \$107.9 million compared to the six months ended June 30, 2020. The increase was attributable to a \$46.9 million increase in sales related expenses due to higher revenue as well as in marketing expenses, a \$45.6 million increase in personnel-related costs mainly driven by an increase in employee headcount, and a \$15.4 million increase in facilities costs and other administrative expenses.

We continue to evaluate key areas in our business to ensure we have an appropriate level of sales and marketing expenses to execute on our key priorities and objectives. We expect that sales and marketing expenses will increase in absolute dollar amounts and vary as a percentage of revenue over time.

General and Administrative

General and administrative expenses consist primarily of personnel-related costs, including salaries, benefits and stock-based compensation, for our executive, finance, legal, information technology, human resources and other administrative employees. In addition, general and administrative expenses include fees and costs for professional services, including consulting, third-party legal and accounting services and facilities costs and other supporting overhead costs that are not allocated to other departments.

	Three Months Ended June 30,			Six Months Ended June 30,		
	2021	2020	% Change	2021	2020	% Change
	(in thousands)			(in thousands)		
General and administrative	\$ 141,482	\$ 246,237	(43) %	\$ 259,009	\$ 355,605	(27) %
General and administrative as a percentage of revenue	12 %	36 %		12 %	24 %	

In the three months ended June 30, 2021, general and administrative expenses decreased by \$104.8 million compared to the three months ended June 30, 2020. The decrease was attributable to the absence of a \$150.0 million legal expense related to an ongoing FTC matter recorded in the second quarter of 2020 and a net decrease of \$14.3 million in facilities costs and other administrative expenses, offset by a \$59.5 million increase in personnel-related costs, mainly driven by an increase in employee headcount, and professional service fees.

In the six months ended June 30, 2021, general and administrative expenses decreased by \$96.6 million compared to the six months ended June 30, 2020. The decrease was attributable to the absence of a \$150.0 million legal expense related to an ongoing FTC matter recorded in the second quarter of 2020 and a net decrease of \$26.7 million in facilities costs and other administrative expenses, offset by an \$80.1 million increase in personnel-related costs, mainly driven by an increase in employee headcount, and professional service fees.

We plan to continue to invest in general and administrative functions to ensure we have an appropriate level of support for our key objectives. Absent one-time general and administrative expenses such as the \$150.0 million expense recorded for the FTC matter in 2020, we expect that general and administrative expenses will increase in absolute dollar amounts and vary as a percentage of revenue over time.

Interest Expense

Interest expense consists primarily of interest expense incurred in connection with the \$954.0 million principal amount of 1.00% convertible senior notes due in 2021, or the 2021 Notes, the \$1.15 billion principal amount of 0.25% convertible senior notes due in 2024, or the 2024 Notes, the \$1.44 billion principal amount of 0% convertible senior notes due 2026, or the 2026 Notes, the \$700.0 million principal amount of 3.875% senior notes due in 2027, or the 2027 Notes, and the \$1.0 billion principal amount of 0.375% convertible senior notes due in 2025, or the 2025 Notes, and interest expense related to finance leases and other financing facilities.

	Three Months Ended June 30,			Six Months Ended June 30,		
	2021	2020	% Change	2021	2020	% Change
	(in thousands)			(in thousands)		
Interest expense	\$ 13,893	\$ 39,828	(65) %	\$ 27,078	\$ 73,098	(63) %

In the three and six months ended June 30, 2021, interest expense decreased by \$25.9 million and \$46.0 million compared to the three and six months ended June 30, 2020, respectively. The decreases were primarily attributable to our adoption of the accounting standard update to simplify the accounting for convertible debt on January 1, 2021. Interest expense is estimated to decrease by approximately \$100.0 million during the year ending December 31, 2021 due to the adoption of the new convertible debt accounting standard on January 1, 2021.

Interest Income

Interest income is generated from our cash equivalents and short-term investments net of the related amortization of premium paid on such investments.

	Three Months Ended June 30,			Six Months Ended June 30,		
	2021	2020	% Change	2021	2020	% Change
	(in thousands)			(in thousands)		
Interest income	\$ 9,202	\$ 25,013	(63) %	\$ 20,203	\$ 57,910	(65) %

In the three and six months ended June 30, 2021, interest income decreased by \$15.8 million and \$37.7 million compared to the three and six months ended June 30, 2020, respectively. The decreases were primarily attributable to lower interest rates.

Other Income (Expense), Net

Other income (expense), net, consists primarily of unrealized foreign exchange gains and losses due to re-measurement of monetary assets and liabilities denominated in non-functional currencies and realized foreign exchange gains and losses on foreign exchange transactions, and gains and losses on investments in privately-held companies. We expect our foreign exchange gains and losses will vary depending upon movements in the underlying exchange rates.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
	(in thousands)		(in thousands)	
Other income (expense), net	\$ 55,739	\$ (361)	\$ 55,745	\$ (8,080)

In the three and six months ended June 30, 2021, other income, net was \$55.7 million, compared to other expense, net, of \$0.4 million and \$8.1 million in the three and six months ended June 30, 2020, respectively. The change was primarily attributable to a \$51.9 million gain on investments in privately-held companies in the three and six months ended June 30, 2021, compared to impairment charges of \$0.5 million and \$8.5 million on investments in privately-held companies in the three and six months ended June 30, 2020, respectively.

Provision (Benefit) for Income Taxes

Our provision (benefit) for income taxes consists of federal and state income taxes in the United States and income taxes in certain foreign jurisdictions. Our provision (benefit) for income taxes for interim periods has generally been determined using an estimate of our annual effective tax rate, adjusted for discrete items, if any. Under certain circumstances where we are unable to make a reliable estimate of the annual effective tax rate, the accounting guidance permits the use of the actual effective tax rate for the year-to-date period. In the three and six months ended June 30, 2021, we used this approach because we were unable to reasonably estimate our annual effective tax rate due to the variability of the rate as a result of fluctuations in forecasted income and the effects of being taxed in multiple tax jurisdictions.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
	(in thousands)		(in thousands)	
Provision (benefit) for income taxes	\$ 15,651	\$ 1,088,899	\$ (2,350)	\$ 1,081,760

We recorded a provision for income taxes of \$15.7 million and a benefit from income taxes of \$2.4 million for the three and six months ended June 30, 2021, respectively. We recorded a provision for income taxes of \$1.09 billion and \$1.08 billion for the three and six months ended June 30, 2020, respectively. For the three and six months ended June 30, 2020, the provision for income taxes consisted of a provision for income taxes related to the establishment of a valuation allowance against deferred tax assets of \$1.10 billion of a foreign subsidiary, which was offset by income tax benefits of \$12.5 million and \$19.6 million, respectively. The change in income taxes was primarily due to the valuation allowance establishment in the three months ended June 30, 2020, foreign tax rate differences, tax deductions for stock-based compensation, and research and development credits.

We reassessed the ability to realize deferred tax assets by considering the available positive and negative evidence. As of June 30, 2020, we concluded that the deferred tax assets in a foreign subsidiary are not more-likely-than-not to be realized and recorded a full valuation allowance against such deferred tax assets in the approximate amount of \$1.10 billion. As of June 30, 2021, there have been no changes to our conclusion.

As of June 30, 2021, we had \$936.1 million of deferred tax assets for which we have not established a valuation allowance, related to the U.S. federal, states other than Massachusetts and California, and certain international subsidiaries. We completed our reassessment of the ability to realize these assets and concluded that a valuation allowance was not required.

Our effective tax rate could be affected by our jurisdictional mix of income (loss) before taxes, including our allocation of centrally incurred costs to foreign jurisdictions, changes in tax rates and tax regulations, the impact of tax examinations, the impact of business combinations, changes in our corporate structure, changes in the geographic location of business functions or assets, tax effects of stock-based compensation, and changes in management's assessment of the ability to realize deferred tax assets. In addition, the provision is impacted by deferred income taxes reflecting the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

Liquidity and Capital Resources

	Six Months Ended June 30,	
	2021	2020
	(in thousands)	
Net income (loss)	\$ 133,654	\$ (1,386,401)
Net cash provided by operating activities	\$ 772,151	\$ 447,783
Net cash provided by (used in) investing activities	\$ 470,577	\$ (112,813)
Net cash provided by financing activities	\$ 898,497	\$ 989,082

Our principal sources of liquidity are our cash, cash equivalents, and short-term investments in marketable securities. Our cash equivalents and marketable securities are invested primarily in short-term fixed income securities, including government and investment-grade debt securities and money market funds. In March 2021, we also received net proceeds of approximately \$1.42 billion from the issuance of the 2026 Notes, after deducting the debt issuance costs.

In March 2020, our Board of Directors authorized a program to repurchase up to \$2.0 billion of our common stock over time. Repurchases may be made from time to time through open market purchases or through privately negotiated transactions subject to market conditions, applicable legal requirements and other relevant factors. The repurchase program does not obligate us to acquire any particular amount of our common stock and may be suspended at any time at our discretion. In the three and six months ended June 30, 2021, we repurchased 5.9 million and 8.6 million shares for an aggregate amount of \$333.8 million and \$495.4 million, respectively. The repurchases include 77,000 shares for \$5.3 million that were not settled as of June 30, 2021 and that are presented as treasury stock on the consolidated balance sheets as of such date.

As of June 30, 2021, we had \$8.61 billion of cash, cash equivalents and short-term investments in marketable securities, of which \$279.5 million was held by our foreign subsidiaries. We do not plan to indefinitely reinvest these funds held by our foreign subsidiaries and have accrued the incremental taxes due as part of repatriation. We believe that our existing cash, cash equivalents and short-term investment balances, and our credit facility, together with cash generated from operations will be sufficient to meet our working capital and capital expenditure requirements for at least the next 12 months, and to repay the \$954.0 million principal associated with our 2021 Notes due in September 2021.

Credit Facility

We have a revolving credit agreement with certain lenders which provides for a \$500.0 million revolving unsecured credit facility maturing on August 7, 2023. We are obligated to pay interest on loans under the credit facility and other customary fees for a credit facility of this size and type, including an upfront fee and an unused commitment fee. The interest rate for the credit facility is determined based on calculations using certain market rates as set forth in the credit agreement. In addition, the credit facility contains restrictions on payments including cash payments of dividends. In March 2021, we entered into an amendment to the revolving credit agreement to increase the amount of indebtedness we may incur from \$4.5 billion to \$6.0 billion and to permit the convertible note issuance and hedge transactions associated with the 2026 Notes. As of June 30, 2021, no amounts had been drawn under the credit facility.

Operating Activities

Cash provided by operating activities consists of net income (loss) adjusted for certain non-cash items including depreciation and amortization, stock-based compensation, amortization of discount on our Notes, deferred income taxes, impairment of investments in privately-held companies, non-cash restructuring charges, as well as the effect of changes in working capital and other activities. We expect that cash provided by operating activities will fluctuate in future periods as a result of a number of factors, including fluctuations in our revenue, increases in operating expenses and costs related to acquisitions. For additional discussion, see "Part II—Other Information, Item 1A. Risk Factors."

Cash provided by operating activities in the six months ended June 30, 2021 was \$772.2 million, an increase of \$324.4 million compared to the six months ended June 30, 2020. Cash provided by operating activities was driven by net income of \$133.7 million, as adjusted for the exclusion of non-cash expenses and other adjustments totaling \$481.9 million, including \$289.1 million of stock-based compensation expense and \$265.9 million of depreciation and amortization expense, and the effect of changes in working capital and other carrying balances that resulted in cash inflows of \$156.6 million.

Cash provided by operating activities in the six months ended June 30, 2020 was \$447.8 million. Cash provided by operating activities was driven by net loss of \$1.39 billion, as adjusted for the exclusion of non-cash expenses and other adjustments totaling \$1.62 billion, of which \$1.10 billion was due to a provision for income taxes related to the establishment of a valuation allowance against deferred tax assets, \$244.5 million was related to depreciation and amortization expense, and \$230.6 million was related to stock-based compensation expense, and the effect of changes in working capital and other carrying balances that resulted in cash inflows of \$214.7 million.

Investing Activities

Our primary investing activities consist of purchases of property and equipment, particularly purchases of servers and networking equipment, leasehold improvements for our facilities, purchases and disposal of marketable securities, strategic investments in privately-held companies, acquisitions of businesses and other activities.

Cash provided by investing activities in the six months ended June 30, 2021 was \$470.6 million, compared to cash used in investing activities of \$112.8 million in the six months ended June 30, 2020. The change was primarily due to a \$957.1 million decrease in purchases of marketable securities, a \$234.1 million increase in proceeds from sales of marketable securities, an \$11.3 million decrease in cash used in business combinations, a \$2.8 million decrease in cash used in other investing activities, and a \$0.9 million increase in proceeds from sales of property and equipment, offset by a \$396.6 million decrease in proceeds from maturities of marketable securities, a \$173.3 million increase in purchases of property and equipment, a \$30.2 million increase in purchases of investments in privately-held companies, and \$22.7 million of investments in the Finance Justice Fund, a socially responsible investment that aims to bring capital from corporate and philanthropic partners to individuals and communities in America most underestimated by mainstream finance, in the six months ended June 30, 2021.

We anticipate making capital expenditures in 2021 of approximately \$900 million to \$950 million as we complete the final buildout of our new data center in 2021 and support our existing data centers and infrastructure needs.

Financing Activities

Our primary financing activities consist of issuances of securities, including common stock issued under our employee stock purchase plan and issuances of our Notes, repurchases of common stock under our share repurchase program, repayment of Convertible Notes, payments of finance lease obligations, and stock option exercises by employees and other service providers.

Cash provided by financing activities in the six months ended June 30, 2021 was \$898.5 million, a decrease of \$90.6 million compared to the six months ended June 30, 2020. The decrease was primarily due to \$495.4 million of repurchases of common stock in the six months ended June 30, 2021 and a \$0.9 million increase in tax payments related to net share settlements of equity awards, offset by \$1.42 billion of net proceeds from the issuance of the 2026 Notes net of issuance costs, which was reduced by a net cash outflow of \$52.3 million for the purchase of convertible note hedges and sale of warrants entered into in connection with the issuance of the 2026 Notes in the six months ended June 30, 2021, compared to \$985.3 million of net proceeds from the issuance of the 2025 Notes net of issuance costs in the six months ended June 30, 2020, a \$15.9 million decrease in payments of finance lease obligations, a \$5.1 million increase in proceeds from the issuance of shares of stock from the ESPP, and a \$1.6 million increase in proceeds from option exercises.

Contractual Obligations

Our principal commitments consist of obligations under the Notes (including principal and coupon interest), finance and operating leases for equipment, office space and co-located data center facilities, as well as non-cancellable contractual commitments. Refer to Note 14 – Commitments and Contingencies for more details.

Off Balance Sheet Arrangements

We do not have any off-balance sheet arrangements and did not have any such arrangements as of June 30, 2021.

Critical Accounting Policies and Estimates

We prepare our consolidated financial statements and related notes in accordance with GAAP. In doing so, we make estimates and assumptions that affect our reported amounts of assets, liabilities, revenue and expenses, as well as related disclosure of contingent assets and liabilities. To the extent that there are material differences between these estimates and actual results, our financial condition or operating results would be affected. We base our estimates on past experience and other assumptions that we believe are reasonable under the circumstances, and we evaluate these estimates on an ongoing basis. We refer to accounting estimates of this type as critical accounting policies and estimates. Please refer to "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained in Part II, Item 7 of our Annual Report on Form 10-K for the fiscal year ended December 31, 2020 for a more complete discussion of our critical accounting policies and estimates.

There have been no material changes to our critical accounting policies and estimates as compared to the critical accounting policies and estimates described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

Recent Accounting Pronouncements

For information with respect to recent accounting pronouncements and the impact of these pronouncements on our consolidated financial statements, see Note 1 – "Description of Business and Summary of Significant Accounting Policies" in the notes to the consolidated financial statements included in Part I of this Quarterly Report on Form 10-Q.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We have operations both within the United States and internationally, and we are exposed to market risks in the ordinary course of our business. These risks include primarily interest rate and foreign exchange risks.

Interest Rate Fluctuation Risk

Our investment portfolio mainly consists of short-term fixed-income securities, including government and investment-grade debt securities and money market funds. These securities are classified as available-for-sale and, consequently, are recorded in the consolidated balance sheets at fair value with unrealized gains or losses, net of tax reported as a separate component of accumulated other comprehensive loss. Our investment policy and strategy is focused on the preservation of capital and supporting our liquidity requirements. We do not enter into investments for trading or speculative purposes.

A rise in interest rates could have a material adverse impact on the fair value of our investment portfolio. Based on our investment portfolio balance as of June 30, 2021, a hypothetical increase in interest rates of 100 basis points would result in a decrease of approximately \$40.6 million in the fair value of our available-for-sale securities. We currently do not hedge these interest rate exposures.

As of June 30, 2021, we had \$4.54 billion aggregate principal amount of Convertible Notes outstanding and \$700.0 million aggregate principal amount of 2027 Notes outstanding. We carry the Notes at face value less amortized discount on the consolidated balance sheets. Since the 2021 Notes, 2024 Notes, 2025 Notes, and 2027 Notes bear interest at fixed rates, we have no financial statement risk associated with changes in interest rates. However, the fair value of the Notes changes when the market price of our stock fluctuates or interest rates change.

Foreign Currency Exchange Risk

Transaction Exposure

We transact business in various foreign currencies and have international revenue, as well as costs denominated in foreign currencies, primarily the Euro, British Pound, Singapore Dollar and Japanese Yen. This exposes us to the risk of fluctuations in foreign currency exchange rates. Accordingly, changes in exchange rates, and in particular a continuing strengthening of the U.S. dollar, would negatively affect our revenue and other operating results as expressed in U.S. dollars.

We have experienced and will continue to experience fluctuations in our net income (loss) as a result of transaction gains or losses related to revaluing and ultimately settling certain asset and liability balances that are denominated in currencies other than the functional currency of the entities in which they are recorded. Foreign currency gains and losses were immaterial for the three and six months ended June 30, 2021 and 2020. We currently utilize foreign currency forward contracts with financial institutions to reduce the risk that our earnings may be adversely affected by the impact of exchange rate fluctuations on monetary assets or liabilities denominated in currencies other than the local currency of a subsidiary. These contracts are not designated as hedging instruments. We may in the future enter into other derivative financial instruments if it is determined that such hedging activities are appropriate to further reduce our foreign currency exchange risk. Based on our foreign currency exposures from monetary assets and liabilities net of our open hedge position, we estimated that a 10% change in exchange rates against the U.S. dollar would have resulted in a gain or loss of approximately \$6.8 million as of June 30, 2021.

Translation Exposure

We are also exposed to foreign exchange rate fluctuations as we translate the financial statements of our foreign subsidiaries into U.S. dollars in consolidation. If there is a change in foreign currency exchange rates, the translating adjustments resulting from the conversion of our foreign subsidiaries' financial statements into U.S. dollars would result in a gain or loss recorded as a component of accumulated other comprehensive loss which is part of stockholders' equity.

Item 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. The design of disclosure controls and procedures and internal control over financial reporting must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of June 30, 2021, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) or 15d-15(d) of the Exchange Act that occurred during the period covered by this Quarterly Report on Form 10-Q that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. LEGAL PROCEEDINGS

We are currently involved in, and may in the future be involved in, legal proceedings, claims, investigations, and government inquiries and investigations arising in the ordinary course of business. These proceedings, which include both individual and class action litigation and administrative proceedings, have included, but are not limited to matters involving content on the platform or our actions related thereto, intellectual property, privacy, data protection, consumer protection, securities, employment, and contractual rights. Legal risk may be enhanced in jurisdictions outside the United States where our protection from liability for content published on our platform by third parties may be unclear, and where we may be less protected under local laws than we are in the United States. Future litigation may be necessary, among other things, to defend ourselves, and the people on Twitter or to establish our rights. For information regarding legal proceedings in which we are involved, see "Legal Proceedings" in Note 14 of the accompanying notes to our consolidated financial statements, which is incorporated herein by reference.

Item 1A. RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information in this Quarterly Report on Form 10-Q, including the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes, before making a decision to invest in our common stock. The risks and uncertainties described below may not be the only ones we face. If any of the risks actually occurs, our business, financial condition, operating results, cash flows and prospects could be materially and adversely affected. In that event, the market price of our common stock could decline, and you could lose part or all of your investment.

Risk Factor Summary

Our business operations are subject to numerous risks and uncertainties, including those outside of our control, that could cause our business, financial condition or operating results to be harmed, including risks regarding the following:

Business and Operational Factors

- our ability to increase our mDAU, ad engagement or other general engagement on our platform;
- the loss of advertising revenue;
- competition in our industry;
- our prioritization of the long-term health of our service;
- our prioritization of product innovation;
- our ability to maintain and promote our brand;
- our ability to hire, retain and motivate highly skilled personnel;
- the interoperability of our products and services across third-party services and systems;
- the impact of spam and fake accounts on our platform experience;
- actual or perceived security breaches, as well as errors, vulnerabilities or defects in our software and in products of third-party providers;
- our international operations;
- the impact of the COVID-19 pandemic and responsive measures;
- our significant past operating losses and any inability to maintain profitability or accurately predict fluctuations in the future;
- our reliance on assumptions and estimates to calculate certain key metrics;
- catastrophic events and interruptions by man-made problems;

Intellectual Property and Technology

- our ability to scale our existing technology and infrastructure;
- our failure to protect our intellectual property rights;
- our use of open source software;
- current and future litigation related to intellectual property rights;

Regulatory and Legal

- complex and evolving U.S. and foreign laws and regulations;
- regulatory investigations and adverse settlements;
- lawsuits or liability as a result of content published through our products and services;
- our ability to maintain an effective system of disclosure controls and internal control over financial reporting;

Financial and Transactional Risks

- our ability to make and successfully integrate acquisitions and investments or complete divestitures;
- our debt obligations;
- our tax liabilities;
- our ability to use our net operating loss carryforwards;
- the impairment of our goodwill or intangible assets;

Governance Risks and Risks related to Ownership of our Capital Stock

- provisions of Delaware law and our certificate of incorporation and bylaws could impair a takeover attempt if deemed undesirable by our board of directors;
- the volatility of the trading price of our common stock; and
- our note hedge and warrant transactions.

Business and Operational Factors

If we fail to increase our mDAU, ad engagement or other general engagement on our platform, our revenue, business and operating results may be harmed.

Our mDAU and their level of engagement with advertising are critical to our success and our long-term financial performance will continue to be significantly determined by our success in increasing the growth rate of our mDAU as well as the number of ad engagements. Our mDAU growth rate has fluctuated over time, and it may slow or decline in general or in certain geographies or among certain groups. To the extent our mDAU growth rate slows or the absolute number of mDAU declines, our revenue growth will become dependent on our ability to increase levels of engagement on Twitter, generate advertiser demand, and increase revenue growth from third-party publishers' websites and applications, data licensing and other offerings. We generate a substantial majority of our revenue based upon engagement with the ads that we display. A number of factors have affected and could potentially negatively affect mDAU growth and engagement, including if:

- accounts, including influential accounts, such as those of world leaders, government officials, celebrities, athletes, journalists, sports teams, media outlets and brands or certain age demographics, do not contribute unique or engaging content, or engage with other products, services or activities as an alternative to ours;
- we are unable to convince people of the value and usefulness of our products and services;
- there is a decrease in the perceived quality, usefulness, trustworthiness or relevance of the content generated by people on Twitter or by our content partners;
- the actions we take to better foster a healthy conversation or to improve relevancy negatively impact, or are perceived to negatively impact, people's experiences on the platform;
- there are concerns related to communication, privacy, data protection, safety, security, spam, manipulation or other hostile or inappropriate usage or other factors, or our health efforts result in the removal of certain accounts;

- we remove certain influential accounts from our platform for violations of our terms of service or otherwise;
- our content partners terminate their relationships with us or do not renew their agreements on economic or other terms that are favorable to us;
- technical or other problems prevent us from delivering our products or services in a rapid and reliable manner or otherwise affect people's experiences on Twitter;
- people have difficulty installing, updating, or otherwise accessing our products or services on mobile devices as a result of actions by us or third parties that we rely on to distribute our products and deliver our services;
- changes in our products or services that are mandated by, or that we elect to make to address, laws (such as the General Data Protection Regulation (GDPR) and the California Consumer Protection Act (CCPA)) or legislation, inquiries from legislative bodies, regulatory authorities or litigation (including settlements or consent decrees) adversely affect our products or services;
- we fail to provide adequate customer service; or
- we do not maintain our brand image or reputation.

We have made certain projections regarding our mDAU growth. If we are unable to achieve these projections, or to generally increase our mDAU or engagement, or if these metrics decline, our products and services could be less attractive to people on Twitter, as well as to advertisers, content partners and platform partners, which would have a material and adverse impact on our business, financial condition and operating results.

We generate the substantial majority of our revenue from advertising. The loss of advertising revenue could harm our business.

The substantial majority of our revenue is currently generated from third parties advertising on Twitter. We generate substantially all of our advertising revenue through the sale of our Promoted Products: Promoted Ads, Twitter Amplify, Follower Ads and Twitter Takeover. As is common in our industry, our advertisers do not have long-term advertising commitments with us.

In addition, many of our advertisers purchase our advertising services through one of several large advertising agencies' holding companies. To sustain or increase our revenue, we must add new advertisers and encourage existing advertisers to maintain or increase the amount of advertising inventory purchased through our platform and adopt new features and functionalities that we add to our platform. However, advertising agencies and potential new advertisers may view our Promoted Products or any new products or services we offer as experimental and unproven, and we may need to devote additional time and resources to educate them about our products and services. Further, our advertisers' ability to effectively target their advertising to our audience's interests may be impacted by the degree to which people on Twitter agree in our settings to certain types of personalization or ad targeting, which could have an impact on our revenue. People that already have accounts may change their choices as a result of changes to our privacy control settings that we have implemented or may implement in the future, and people new to Twitter may choose varied levels of personalization, whether in connection with future changes we make to product privacy settings, regulations, regulatory actions, the customer experience, or otherwise.

Changes to operating systems' practices and policies, such as Apple's changes related to its App Tracking Transparency policy, have reduced and may continue to reduce the quantity and quality of the data and metrics that can be collected or used by us and our partners or harm our ability to target advertising. These limitations have affected and may continue to adversely affect both our and our advertisers' ability to effectively target advertisements and measure their performance, thereby reducing the demand and pricing for our advertising products and harming our business. The impact of these changes on the overall mobile advertising ecosystem, our business, and the developers, partners, and advertisers in the ecosystem are evolving and their ultimate impact is not yet clear. Over time, personalization rates will impact our ability to grow our performance advertising business. Advertisers also may choose to use our free products and services instead of our Promoted Products. Advertisers will not continue to do business with us, or they will reduce the prices they are willing to pay to advertise with us, if we do not deliver ads in an effective manner, or if they do not believe that their investment in advertising with us will generate a competitive return on investment relative to alternatives, including online, mobile and traditional advertising platforms. In addition, competition for advertising is becoming increasingly more intense, and our advertising revenue could be further impacted by escalating competition for digital ad spending.

Our advertising revenue growth is primarily driven by increases in mDAU, increases in ad pricing or number of ads shown and increases in our clickthrough rate. To date, our available advertising inventory has been greater than demand. Our future revenue growth, however, may be limited by available advertising inventory for specific ad types on certain days if we do not increase our mDAU or monetize our larger global audience. Our advertising revenue also could be affected by a number of other factors, including advertiser reaction to content published on our platform or our policies and responses thereto, bugs or other product issues that may impact our ability to effectively help advertisers target ads or share data with our measurement and ad partners. The occurrence of any of these factors could result in a reduction in demand for our ads, which may reduce the prices we receive for our ads, either of which would adversely impact our revenue, business, financial condition and operating results.

If we are unable to compete effectively for people to use our platform, and for content and data partners, our business and operating results could be harmed.

We face intense competition for people to use our platform, and for content and data partners. We compete for our audience against a variety of social networking platforms, messaging companies and media companies, some of which have greater financial resources, larger audiences or more established relationships with advertisers, such as Facebook (including Instagram and WhatsApp), Alphabet (including Google and YouTube), Microsoft (including LinkedIn), Snapchat, TikTok, and Verizon Media Group, or in certain regions WeChat, Kakao and Line. New or existing competitors may draw people towards their products or services and away from ours by introducing new product features, including features similar to those we offer, investing their greater resources in audience acquisition efforts or otherwise developing products or services that audiences choose to engage with rather than Twitter, any of which could decrease mDAU growth or engagement and negatively affect our business.

We also compete with respect to content generated by our content partners and the availability of applications developed by platform partners. We may not establish and maintain relationships with content partners who publish on our platform or platform partners who develop applications that integrate with our platform. Our content and platform partners may choose to publish content on, or develop applications for, other platforms, and if they cease to utilize our platform or decrease their use of our platform, then mDAU, engagement, and advertising revenue may decline.

We believe that our ability to compete effectively for audiences and content partners depends upon many factors both within and beyond our control, including:

- the popularity, usefulness, ease of use, performance and reliability of our products and services compared to those of our competitors, as well as our reputation and brand, and our ability to adapt to continuously evolving preferences and expectations of people on Twitter, advertisers, content partners, platform partners and developers;
- the amount, quality and timeliness of content generated on our platform, including the relative mix of ads;
- the timing and market acceptance of our products and services;
- the prominence of our applications in application marketplaces and of our content in search engine results, as well as those of our competitors;
- our ability, in and of itself, and in comparison to the ability of our competitors, to develop new products and services and enhancements to existing products and services, and to maintain the reliability and security of our products and services as usage increases globally;
- changes mandated by, or that we elect to make to address legislation, regulatory authorities or litigation, including settlements, antitrust matters, consent decrees and privacy and data protection regulations, some of which may have a disproportionate effect on us compared to our competitors; and
- the continued adoption and monetization of our products and services internationally.

Additionally, in recent years, there have been significant acquisitions and consolidation by and among our actual and potential competitors. We anticipate this trend of consolidation will continue, which will present heightened competitive challenges for our business. Acquisitions by our competitors may result in reduced functionality of our products and services. For example, following Facebook's acquisition of Instagram, Facebook disabled Instagram's photo integration with Twitter such that Instagram photos were no longer viewable within Tweets and people are instead re-directed to Instagram to view Instagram photos through a link within a Tweet. As a result, people who use Twitter may be less likely to click on links to Instagram photos in Tweets, and people who use Instagram may be less likely to Tweet or remain active on Twitter. Any similar elimination of integration with Twitter in the future, whether by Facebook or other competitors, may adversely impact our business and operating results. Consolidation may also enable our larger competitors to offer bundled or integrated products that feature alternatives to our platform and provide alternative opportunities for advertisers.

If we are not able to compete effectively for audience, content and platform partners, our mDAU and engagement would decline and our business and operating results would be materially and adversely impacted.

If we are unable to compete effectively for advertising spend, our business and operating results could be harmed.

We face significant competition for advertiser spend. We compete against online and mobile businesses and traditional media outlets, such as television, radio and print, for advertising budgets. We also compete with advertising networks, exchanges, demand side platforms and other platforms, such as Google Ad Manager, Google AdMob, PubMatic, Magnite, AppLovin, and IronSource, for marketing budgets and in the development of the tools and systems for managing and optimizing advertising campaigns. In order to grow our revenue and improve our operating results, we must increase our share of spending on advertising relative to our competitors, many of which are larger companies that offer more traditional and widely accepted advertising products. In addition, some of our larger competitors have substantially broader product or service offerings and leverage their relationships based on other products or services to gain additional share of advertising budgets.

We believe that our ability to compete effectively for advertiser spend depends upon many factors both within and beyond our control, including:

- the size and composition of our audience relative to those of our competitors;
- our ad targeting and measurement capabilities, and those of our competitors;
- the timing and market acceptance of our advertising services, and those of our competitors, including our ability to demonstrate to advertisers the value of our advertising services, particularly during the periods in which they are determining their budgets, which may be annually or biannually;
- our marketing and selling efforts, and those of our competitors;
- the pricing of our advertising services, including the actual or perceived return our advertisers receive from our advertising services, and those of our competitors; and
- our reputation and the strength of our brand relative to our competitors, including advertisers' perception of the health and safety of our platform.

If we are not able to compete effectively for advertiser spend, our mDAU and engagement would decline and our business and operating results would be materially and adversely impacted.

Our prioritization of the long-term health of our service may adversely impact our short-term operating results.

We believe that our long-term success depends on our ability to improve the health of the public conversation on Twitter. We have made this one of our top priorities and have focused our efforts on improving the quality of that conversation, including by devoting substantial internal resources to our strategy. These efforts include the reduction of abuse, harassment, spam, manipulation and malicious automation on the platform, as well as a focus on improving information quality (including information around elections and the COVID-19 pandemic), and the health of conversation on Twitter. Some of the health initiatives that we have implemented as part of our ongoing commitment to a healthy public conversation have negatively impacted, and may in the future negatively impact, our publicly reported metrics in a few ways.

First, our health efforts include the removal of accounts pursuant to our terms and services that are abusive, spammy, fake or malicious, and these accounts may have been included in our mDAU, as well as actions taken to detect and challenge potentially automated, spammy or malicious accounts during the sign-up process. If we make a sudden improvement to one of the algorithms we use to detect spammy or suspicious behavior, we may remove a larger number of accounts as a result and impact the year-over-year average of mDAU growth. Additionally, we may remove certain influential accounts for violations of our terms of service and the removal of such accounts has in the past reduced and may in the future reduce our mDAU growth and engagement.

Second, we are also making active decisions to prioritize certain health-related initiatives over other near-term product improvements that may drive more usage of Twitter as a daily utility. These decisions may not be consistent with the short-term expectations of our advertising customers or investors and may not produce the long-term benefits that we expect, in which case our mDAU growth and engagement, our relationships with advertisers and our business and operating results could be harmed.

Our decision to invest in the long-term health of our service may not produce the long-term benefits that we expect, in which case our mDAU growth and engagement, our relationships with advertisers and our business and operating results would be adversely impacted, and may not be consistent with the expectations of investors, which could have a negative effect on the trading price of our common stock.

Our prioritization of innovations to improve the experience of people using our products and services and performance for advertisers in the long term may adversely impact our short-term operating results and our new or enhanced products, product features or services may fail to increase engagement on our platform or generate revenue.

We encourage employees to quickly develop and help us launch new and innovative features. We focus on improving the experience for people using our products and services, which includes measures to help protect the privacy of people on Twitter. Similarly, we prioritize developing new and improved products and services for advertisers on our platform. We frequently make product, product feature and service decisions that may reduce our short-term operating results if we believe that the decisions are consistent with our goals to improve the long-term experience for people on Twitter and/or performance for advertisers, which we believe will improve our operating results over the long term.

Our industry is subject to rapid and frequent changes in technology, evolving customer needs and the frequent introduction by our competitors of new and enhanced offerings. We must constantly assess the playing field and determine whether we need to improve or re-allocate resources amongst our existing products and services or create new ones (independently or in conjunction with third parties). Our ability to increase mDAU and engagement, attract content partners, advertisers and platform partners and generate revenue will depend on those decisions. We may introduce significant changes to our existing products and services or develop and introduce new and unproven products and services, including technologies with which we have little or no prior development or operating experience. For example, we are in the early stages of exploring additional potential revenue product opportunities that could, if successful, complement our advertising business in the future, although we do not expect any revenue attributable to these opportunities in the near-term and these opportunities may not prove successful at all. We are also continuing our work to increase the stability, performance and scale of our ads platform and our Mobile Application Promotion (MAP) product, and such work will take place over multiple quarters, and any positive revenue impact will be gradual in its impact.

If our decisions to invest in product innovations rather than short-term results do not produce the long-term benefits that we expect, and if our new or enhanced products, product features or services fail to engage people on Twitter, content partners and advertisers, we may fail to attract or retain mDAU or to generate sufficient revenue or operating profit to justify our investments, and our business, financial condition and operating results would be adversely impacted.

If we are unable to maintain and promote our brand, our business and operating results may be harmed.

We believe that maintaining and promoting our brand is critical to increasing mDAU, content partners and advertiser spend. Maintaining and promoting our brand will depend largely on our ability to continue to provide timely, useful, reliable and innovative products and services with a focus on a positive experience on Twitter, which we may not do successfully. We may introduce new features, products, services or terms of service that people on Twitter, content partners, advertisers or platform partners do not like, which may negatively affect our brand. Additionally, the actions of content partners may affect our brand if people do not have a positive experience using third-party applications or websites integrated with Twitter or that make use of Twitter content. We will also continue to experience media, legislative or regulatory scrutiny of our decisions regarding privacy, data protection, security, content (including our removal of certain influential accounts for violations of our terms of service) and other issues, which may adversely affect our reputation and brand. Our brand may also be negatively affected by the actions of people that are hostile or inappropriate to other people, by accounts impersonating other people, by accounts identified as spam, by use or perceived use, directly or indirectly, of our products or services by people (including governments and government-sponsored actors) to disseminate information that may be viewed as misleading (or intended to manipulate people's opinions), by accounts introducing excessive amounts of spam on our platform, by third parties obtaining control over people's accounts, such as the security breach in July 2020 whereby attackers gained control of certain highly-visible accounts, or by other security or cybersecurity incidents. Maintaining and enhancing our brand may require us to make substantial investments and these investments may not achieve the desired goals.

Additionally, we and our executive leadership receive a high degree of media coverage around the world. Negative publicity about our company or executives, including about the quality and reliability of our products or of content shared on our platform, changes to our products, policies and services, our privacy, data protection, policy enforcement and security practices (including actions taken or not taken with respect to certain accounts or reports regarding government surveillance or compliance with government legal requests), litigation, regulatory activity, the actions of certain accounts (including actions taken by prominent accounts on our platform or the dissemination of information that may be viewed as misleading or manipulative), even if inaccurate, could adversely affect our reputation. Such negative publicity and reputational harm could adversely affect mDAU and their confidence in and loyalty to our platform and could result in decreased revenue or increased costs to reestablish our brand, which would adversely impact our business, financial condition and operating results.

We depend on highly skilled personnel to grow and operate our business. If we are unable to hire, retain and motivate our personnel, we may not be able to grow effectively.

Our future success and strategy will depend upon our continued ability to identify, hire, develop, motivate and retain highly skilled personnel. We depend on contributions from our employees, and, in particular, our senior management team, to execute efficiently and effectively. We do not have employment agreements other than offer letters with any member of our senior management or other key employees, and we do not maintain key person life insurance for any employee. We also face significant competition for experienced employees, whose talents are in high demand. As a result, we may not be able to retain our existing employees or hire new employees quickly enough to meet our needs.

From time to time, we have also experienced high voluntary attrition, and in those times, the resulting influx of new leaders and other employees has required us to expend time, attention and resources to recruit and retain talent, restructure parts of our organization and train and integrate new employees. In addition, to attract and retain skilled personnel, we have had to offer, and believe we will need to continue to offer, highly competitive compensation packages. We may need to invest significant amounts of cash and equity to attract and retain new employees and we may not realize sufficient return on these investments. In addition, changes to U.S. immigration and work authorization laws and regulations can be significantly affected by political forces and levels of economic activity. Our business may be materially and adversely affected if legislative or administrative changes to immigration or visa laws and regulations impair our hiring processes or projects involving personnel who are not citizens of the country where the work is to be performed. If we are not able to effectively attract and retain employees, we may not be able to innovate or execute quickly on our strategy and our ability to achieve our strategic objectives will be adversely impacted, and our business will be harmed.

We also believe that our culture and core values have been, and will continue to be, a key contributor to our success and our ability to foster the innovation, creativity and teamwork we believe we need to support our operations. We allow our employees to work where they feel most productive, whether that is working full-time from home, from a Twitter office or splitting their time between their home and a Twitter office. If we fail to effectively manage our hiring needs and successfully integrate our new hires, our efficiency and ability to meet our forecasts as well as our culture, employee morale, productivity and retention could suffer, and our business and operating results would be adversely impacted.

Our products, mDAU growth, and engagement depend upon the availability of a variety of third-party services and systems and the effective interoperation with operating systems, networks, devices, web browsers and standards. We do not control all of these systems and cannot guarantee their availability, and we cannot guarantee that third parties will not take actions that harm our products or profitability.

One of the reasons people come to Twitter every day is for real-time information, and our products and the success of our business is dependent upon the ability of people to access the Internet and the proper functioning of the various operating systems, platforms, and services upon which we rely. These systems are provided and controlled by factors outside of our control, including nation-state actors who may suppress or censor our products, and broadband and Internet access marketplace, including incumbent telephone companies, cable companies, mobile communications companies, government-owned service providers, device manufacturers and operating system providers. Any of these actors could take actions that degrade, disrupt or increase the cost of access to our products or services, which would, in turn, negatively impact our business. The adoption or repeal of any laws or regulations that adversely affect the growth, popularity or use of the Internet, including laws or practices limiting Internet neutrality, could decrease the demand for, or the usage of, our products and services, increase our cost of doing business and adversely affect our operating results. For example, access to Twitter is blocked in China and has been intermittently blocked in Turkey in the past.

We also rely on other companies to maintain reliable network systems that provide adequate speed, data capacity and security. We utilize third-party cloud computing services in connection with certain aspects of our business and operations, and any disruption of, or interference with, our use of such cloud services could adversely impact our business and operations. As the Internet continues to experience growth in the number of consumers, frequency of use and amount of data transmitted, the Internet infrastructure that we rely on may be unable to support the demands placed upon it. The failure of the Internet infrastructure that we rely on, even for a short period of time, could undermine our operations and harm our operating results.

Furthermore, these systems, devices or software or services may experience changes, bugs or technical issues that may affect the availability of services or the accessibility of our products. We have experienced, and may in the future experience, service disruptions, outages and other performance problems due to a variety of factors, including infrastructure changes, human or software errors, hardware failure, capacity constraints due to an overwhelming number of people accessing our products and services simultaneously, computer viruses and denial of service or fraud or security attacks. In the past, we have experienced brief service outages during which Twitter.com and Twitter mobile clients were inaccessible as a result, in part, of software misconfigurations. Additionally, although we are investing significantly to improve the capacity, capability and reliability of our infrastructure, we are not currently serving traffic equally through our co-located data centers that support our platform. Accordingly, in the event of a significant issue at the data center supporting most of our network traffic, some of our products and services may become inaccessible to the public or the public may experience difficulties accessing our products and services. Any disruption or failure in our infrastructure could hinder our ability to handle existing or increased traffic on our platform, which could significantly harm our business.

The availability of these services are also dependent upon our relationships with third parties, which may change, including if they change their terms of service or policies that diminish the functionality of our products and services, make it difficult for people to access our content, limit our ability to target or measure the effectiveness of ads, impose fees related to our products or services or give preferential treatment to competitive products or services could adversely affect usage of our products and services. Additionally, some of our mobile carriers have experienced infrastructure issues due to natural disasters, which have caused deliverability errors or poor quality communications with our products. Because a majority of people on Twitter access our products and services through mobile devices, we are particularly dependent on the interoperability of our products and services with mobile devices and operating systems in order to deliver our products and services. We also may not be successful in developing relationships with key participants in the mobile industry or in developing products or services that operate effectively with these operating systems, networks, devices, web browsers and standards. Further, if the number of platforms for which we develop our product expands, it will result in an increase in our operating expenses. In order to deliver high quality products and services, it is important that our products and services work well with a range of operating systems, networks, devices, web browsers and standards that we do not control. In the event that it is difficult for people to access and use our products and services, particularly on their mobile devices, our mDAU growth and engagement could be harmed, and our business and operating results could be adversely impacted.

Our release of new products, product features and services on mobile devices is dependent upon and can be impacted by digital storefront operators, such as the Apple App Store and Google Play Store review teams, which decide what guidelines applications must operate under and how to enforce such guidelines. Such review processes can be difficult to predict and certain decisions may harm our business. Additionally, changes to operating systems' practices and policies, such as Apple's changes related to its App Tracking Transparency policy, have reduced and may continue to reduce the quantity and quality of the data and metrics that can be collected or used by us and our partners or our ability to target advertising. These limitations have affected and may continue to adversely affect both our and our advertisers' ability to effectively target advertisements and measure their performance, thereby reducing the demand and pricing for our advertising products and harming our business.

Spam and fake accounts could diminish the experience on our platform, which could damage our reputation and deter people from using our products and services.

"Spam" on Twitter refers to a range of abusive activities that are prohibited by our terms of service and is generally defined as unsolicited, repeated actions that negatively impact other people with the general goal of drawing attention to a given account, site, product or idea. This includes posting large numbers of unsolicited mentions of an account, duplicate Tweets, malicious automation, misleading links (e.g., to malware or "click-jacking" pages) or other false or misleading content, and aggressively following and unfollowing accounts, adding accounts to lists, sending invitations, Retweeting and liking Tweets to inappropriately attract attention. Our terms of service prohibit the creation of serial or bulk accounts, both manually or using automation, for disruptive or abusive purposes, such as to Tweet spam or to artificially inflate the popularity of accounts seeking to promote themselves on Twitter. Although we continue to invest resources to reduce spam and fake accounts on Twitter, which includes our investments to improve the health of the public conversation on Twitter, we expect spammers will continue to seek ways to act inappropriately on our platform. In addition, we expect that increases in the number of accounts on our platform will result in increased efforts by spammers to misuse our platform. We continuously combat spam and fake accounts, including by suspending or terminating accounts we believe to be spammers and launching algorithmic changes focused on curbing abusive activities. Our actions to combat spam and fake accounts require significant resources and time. If spam and fake accounts increase on Twitter, this could hurt our reputation for delivering relevant content or reduce mDAU growth rate and mDAU engagement and result in continuing operational cost to us.

Our products may contain errors or our security measures may be breached, resulting in the exposure of private information. Our products and services may be subject to attacks that degrade or deny the ability of people to access our products and services. These issues may result in the perception that our products and services are not secure, and people on Twitter and advertisers may curtail or stop using our products and services and our business and operating results could be harmed.

Our products and services involve the storage and transmission of people's and advertisers' information, and security incidents, including those caused by unintentional errors and those intentionally caused by third parties, may expose us to a risk of loss of this information, litigation, increased security costs and potential liability. We and our third-party service providers experience cyber-attacks of varying degrees on a regular basis. We expect to incur significant costs in an effort to detect and prevent security breaches and other security-related incidents, including those that our third-party suppliers and service providers may suffer, and we may face increased costs in the event of an actual or perceived security breach or other security-related incident. In particular, the COVID-19 pandemic has increased the opportunities available to criminals, as more companies and individuals work online, and as such, the risk of a cybersecurity incident potentially occurring has increased. We cannot provide assurances that our preventative efforts will be successful. If an actual or perceived breach of our security occurs, the market perception of the effectiveness of our security measures could be harmed, people on Twitter and our advertisers may be harmed, lose trust and confidence in us, decrease the use of our products and services or stop using our products and services in their entirety. We may also incur significant legal and financial exposure, including legal claims, higher transaction fees and regulatory fines and penalties. Any of these actions could have a material and adverse effect on our business, reputation and operating results. While our insurance policies include liability coverage for certain of these matters, if we experienced a significant security incident, we could be subject to liability or other damages that exceed our insurance coverage.

Our products and services incorporate complex software and we encourage employees to quickly develop and help us launch new and innovative features. Our software, including any open source software that is incorporated into our code, has contained, and may now or in the future contain, errors, bugs or vulnerabilities. For example, in 2019, we discovered, and took steps to remediate, bugs that primarily affected our legacy MAP product, impacting our ability to target ads and share data with our measurement and ad partners. We also discovered that certain personalization and data settings were not operating as expected. As was the case with these errors, errors in our software code may only be discovered after the product or service has been released. Errors, vulnerabilities, or other design defects within the software on which we rely may result in a negative experience for people on Twitter, partners and advertisers who use our products, delay product introductions or enhancements, result in targeting, measurement, or billing errors, compromise our ability to protect the data of the people on Twitter and/or our intellectual property or lead to reductions in our ability to provide some or all of our services. We have policies and procedures in place to address security as part of our software development, testing, evaluation, and deployment process. Additionally, we have implemented and maintain vulnerability scanning and management policies and procedures, including a bug bounty program. However, these measures may not be sufficient in all cases. Any errors, bugs or vulnerabilities discovered in our code after release could result in damage to our reputation, loss of accounts, loss of content or platform partners, loss of advertisers or advertising revenue or liability for damages or other relief sought in lawsuits, regulatory inquiries or other proceedings, any of which could adversely impact our business and operating results.

Our products operate in conjunction with, and we are dependent upon, third-party products and components across a broad ecosystem. There have been and may continue to be significant attacks on certain third-party providers, and we cannot guarantee that our or our third-party providers' systems and networks have not been breached or that they do not contain exploitable defects or bugs that could result in a breach of or disruption to our systems and networks or the systems and networks of third parties that support us and our services. If there is a security vulnerability, error, or other bug in one of these third-party products or components and if there is a security exploit targeting them, we could face increased costs, liability claims, reduced revenue, or harm to our reputation or competitive position. The natural sunset of third-party products and operating systems that we use requires that our infrastructure teams reallocate time and attention to migration and updates, during which period potential security vulnerabilities could be exploited.

Unauthorized parties may also gain access to Twitter handles and passwords without attacking Twitter directly and, instead, access people's accounts by using credential information from other recent breaches, using malware on victim machines that are stealing passwords for all sites, or a combination of both. In addition, some of our developers or other partners, such as third-party applications to which people have given permission to Tweet on their behalf, may receive or store information provided by us or by people on Twitter through mobile or web applications integrated with us. If these third parties or developers fail to adopt or adhere to adequate data security practices, or in the event of a breach of their networks, our data or data of people on Twitter may be improperly accessed, used or disclosed. Unauthorized parties have obtained, and may in the future obtain, access to our data, data of people on Twitter or our advertisers' data. Any systems failure or actual or perceived compromise of our security that results in the unauthorized access to or release of data of people on Twitter or our advertisers' data, such as credit card data, could significantly limit the adoption of our products and services, as well as harm our reputation and brand and, therefore, our business.

Our security measures may also be breached due to employee error, malfeasance or otherwise. Additionally, outside parties may attempt to fraudulently induce employees, people on Twitter, or advertisers to disclose sensitive information in order to gain access to our data, data of people on Twitter or advertisers' data, or may otherwise obtain access to such data or accounts. Since people on Twitter and our advertisers may use Twitter to establish and maintain online identities, unauthorized communications from Twitter accounts that have been compromised may damage their personal security, reputations and brands as well as our reputation and brand. Because the techniques used to obtain unauthorized access, disable or degrade service or sabotage systems change frequently and often are not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures.

For example, in July 2020, we became aware of what we believe to be a coordinated social engineering attack by people who successfully targeted one or more of our employees with access to internal systems and tools. The attackers used this access to target a small group of accounts (130) and to gain control of a subset of these accounts and send Tweets from those accounts and access non-public information relating to at least some of those accounts. This security breach may have harmed the people and accounts affected by it. It may also impact the market perception of the effectiveness of our security measures, and people may lose trust and confidence in us, decrease the use of our products and services or stop using our products and services in their entirety. It may also result in damage to our reputation, loss of accounts, loss of content or platform partners, loss of advertisers or advertising revenue, or legal and financial exposure, including legal claims, regulatory inquiries or other proceedings. Any of these effects could have a material and adverse impact on our business, reputation and operating results.

Our international operations are subject to increased challenges and risks.

We have offices and employees around the world and our products and services are available in multiple languages. However, our ability to manage our business, monetize our products and services and conduct our operations internationally requires considerable management attention and resources and is subject to the particular challenges of supporting a rapidly growing business in an environment of multiple languages, cultures, customs, legal and regulatory systems, alternative dispute systems and commercial markets. Our international operations have required and will continue to require us to invest significant funds and other resources. Operating internationally subjects us to new risks and may increase risks that we currently face, including risks associated with:

- recruiting and retaining talented and capable employees in foreign countries and maintaining our company culture across all geographies;
- providing our products and services and operating across a significant distance, in different languages and among different cultures, including the potential need to modify our products, services, content and features to ensure that they are culturally relevant in different countries;
- increased competition from largely regional websites, mobile applications and services that provide real-time communications and have strong positions in particular countries, which have expanded and may continue to expand their geographic footprint;
- differing and potentially lower levels of mDAU growth, engagement and ad engagement in new and emerging geographies;
- different levels of advertiser demand, including fluctuations in advertiser demand due to regional activities, regional economic effects of the COVID-19 pandemic and political upheaval;
- greater difficulty in monetizing our products and services, including costs to adapt our products and services in light of the manner in which people access Twitter in such jurisdictions, such as the use of feature phones in certain emerging markets such as India and Pakistan, and challenges related to different levels of Internet access or mobile device adoption in different jurisdictions;
- compliance with applicable foreign laws and regulations, including laws and regulations with respect to privacy, data protection, data localization, data security, taxation, consumer protection, copyright, fake news, hate speech, spam and content, as well as laws regarding the environment and climate change, and the risk of penalties to the people who use our products and services and individual members of management if our practices are deemed to be out of compliance;
- actions by governments or others to restrict access to Twitter or censor content on Twitter, such as how domestic Internet service providers in China have blocked access to Twitter and other countries, including Iran, Libya,

Pakistan, Turkey, Syria and Nigeria, have intermittently restricted access to Twitter, whether these actions are taken for political reasons, in response to decisions we make regarding governmental requests or content generated by people on Twitter, or otherwise;

- actions by governments or others that may result in Twitter being unable or unwilling to continue to operate in a particular country or jurisdiction;
- longer payment cycles in some countries;
- credit risk and higher levels of payment fraud;
- operating in jurisdictions that do not protect intellectual property rights to the same extent as the United States;
- compliance with anti-bribery laws including, without limitation, compliance with the Foreign Corrupt Practices Act and the U.K. Bribery Act, including by our business partners;
- currency exchange rate fluctuations, as we conduct business in currencies other than U.S. dollars but report our operating results in U.S. dollars and any foreign currency forward contracts into which we enter may not mitigate the impact of exchange rate fluctuations;
- foreign exchange controls that might require significant lead time in setting up operations in certain geographic territories and might prevent us from repatriating cash earned outside the United States;
- political and economic instability in some countries;
- double taxation of our international earnings and potentially adverse tax consequences due to changes in the tax laws of the United States or the foreign jurisdictions in which we operate; and
- higher costs of doing business internationally, including increased accounting, travel, infrastructure and legal compliance costs.

If our revenue from our international operations, and particularly from our operations in the countries and regions where we have focused our spending, does not exceed the expense of establishing and maintaining these operations, our business and operating results will suffer. In addition, mDAU may grow more rapidly than revenue in international regions where our monetization of our products and services is not as developed. If we are unable to successfully expand our business, manage the complexity of our global operations or monetize our products and services internationally, it could adversely impact our business, financial condition and operating results.

The COVID-19 pandemic has disrupted and harmed, and may in the future disrupt and harm, our business, financial condition and operating results. We are unable to predict the extent to which it may impact our business, financial condition and operating results and the achievement of our strategic objectives in the future.

Our business, operations and financial performance have been, and may in the future be, negatively impacted by the COVID-19 pandemic and related public health responses, such as travel bans, restrictions, social distancing requirements and shelter-in-place orders. The pandemic and these related responses have caused, and may in the future cause, decreased advertiser demand for our platform, global slowdown of economic activity, disruptions of major events, volatility and disruption of financial markets, and changes in consumer behavior.

Our past results may not be indicative of our future performance, and historical trends in revenue, income (loss) from operations, net income (loss), and net income (loss) per share may differ materially. For example, to the extent the pandemic continues to disrupt economic activity globally, it could adversely affect our business, financial condition and operating results through prolonged decreases in advertising spend, credit deterioration of our customers, depressed economic activity, or declines in capital markets. While the economy is reopening in various parts of the world, some countries and locations are reinstating lockdowns and other restrictions that make a full recovery difficult to predict. We continue to monitor the evolving situation and guidance from international and domestic authorities, including federal, state and local public health authorities, and there may be developments outside our control requiring us to adjust our operating plan.

We have incurred significant operating losses in the past, and we may not be able to maintain profitability or accurately predict fluctuations in our operating results from quarter to quarter.

While we have been profitable on a generally accepted accounting principles in the United States (GAAP) basis at times, our quarterly operating results have fluctuated in the past and will fluctuate in the future. As a result, our past quarterly operating results are not necessarily indicators of future performance. Our operating results in any given quarter can be influenced by numerous factors, many of which we are unable to predict or are outside of our control, including:

- our ability to attract and retain mDAU, advertisers, content partners and platform partners;
- the occurrence of planned significant events or changes to the timing of events, such as major sporting events, political elections, or awards shows, or unplanned significant events, such as natural disasters and political revolutions, as well as seasonality which may differ from our expectations;

- the impacts of the COVID-19 pandemic and governmental and business actions in response thereto on the global economy;
- the pricing of our advertising services or data licensing, and our ability to maintain or improve revenue and margins;
- the development and introduction of new products or services, changes in features of existing products or services or de-emphasis or termination of existing products, product features or services;
- the actions of our competitors;
- increases in research and development, marketing and sales and other operating expenses that we may incur to grow and expand our operations and to remain competitive, including stock-based compensation expense and costs related to our technology infrastructure;
- costs related to the acquisition of businesses, talent, technologies or intellectual property, including potentially significant amortization costs;
- system failures resulting in the inaccessibility of our products and services;
- actual or perceived breaches of security or privacy, and the costs associated with remediating any such breaches;
- adverse litigation judgments, settlements or other litigation-related costs, and the fees associated with investigating and defending claims;
- changes in the legislative or regulatory environment, including with respect to security, tax, privacy, data protection, or content, or enforcement by government regulators, including fines, orders or consent decrees;
- changes in reserves or other non-cash credits or charges, such as establishment or releases of deferred tax assets valuation allowance, impairment charges or purchase accounting adjustments;
- changes in our expected estimated useful life of property and equipment and intangible assets;
- fluctuations in currency exchange rates and changes in the proportion of our revenue and expenses denominated in foreign currencies;
- changes in U.S. generally accepted accounting principles; and
- changes in global or regional business or macroeconomic conditions.

Given the rapidly evolving markets in which we compete, our historical operating results may not be useful to you in predicting our future operating results. If our revenue growth rate slows, we expect that the seasonality in our business may become more pronounced and may in the future cause our operating results to fluctuate. For example, advertising spending is traditionally seasonally strong in the fourth quarter of each year, and we believe that this seasonality affects our quarterly results, which generally reflect higher sequential advertising revenue growth from the third to fourth quarter compared to sequential advertising revenue growth from the fourth quarter to the subsequent first quarter. Additionally, certain new revenue products or product features may carry higher costs relative to our other products, which may decrease our margins, and we may incur increased costs to scale our operations if mDAU and engagement on our platform increase. If we are unable to generate adequate revenue growth and to manage our expenses, we may incur significant losses in future periods and may not be able to maintain profitability.

We rely on assumptions and estimates to calculate certain of our key metrics, and real or perceived inaccuracies in such metrics may harm our reputation and negatively affect our business.

We calculate our mDAU using internal company data that has not been independently verified. While these numbers are based on what we believe to be reasonable calculations for the applicable period of measurement, there are inherent challenges in measuring mDAU and mDAU engagement. For example, there are a number of false or spam accounts in existence on our platform. We estimate that the average of false or spam accounts during the second quarter of 2021 continued to represent fewer than 5% of our mDAU during the quarter. However, this estimate is based on an internal review of a sample of accounts and we apply significant judgment in making this determination. As such, our estimation of false or spam accounts may not accurately represent the actual number of such accounts, and the actual number of false or spam accounts could be higher than we have currently estimated. We are continually seeking to improve our ability to estimate the total number of spam accounts and eliminate them from the calculation of our mDAU, but we otherwise treat multiple accounts held by a single person or organization as multiple accounts for purposes of calculating our mDAU because we permit people and organizations to have more than one account. Additionally, some accounts used by organizations are used by many people within the organization. As such, the calculations of our mDAU may not accurately reflect the actual number of people or organizations using our platform. We regularly review and may adjust our processes for calculating our internal metrics to improve their accuracy. Our measures of mDAU growth and engagement may differ from estimates published by third parties or from similarly-titled metrics of our competitors due to differences in methodology. If advertisers, content or platform partners or investors do not perceive our metrics to be accurate representations of our total accounts or mDAU engagement, or if we discover material inaccuracies in our metrics, our reputation may be harmed and content partners, advertisers and platform partners may be less willing to allocate their budgets or resources to our products and services, which could negatively affect our business and operating results. Further, as our business develops, we may revise or cease reporting metrics if we determine that such metrics are no longer accurate or appropriate measures of our performance. If investors, analysts or customers do not believe our reported measures, such as mDAU, are sufficient or accurately reflect our business, we may receive negative publicity and our operating results may be adversely impacted.

Our business is subject to the risks of earthquakes, fire, power outages, floods and other catastrophic events, and to interruption by man-made problems such as terrorism.

A significant natural disaster, such as the COVID-19 pandemic or an earthquake, fire, flood or significant power outage could have a material adverse impact on our business, operating results, and financial condition. For example, the COVID-19 pandemic led to certain business disruptions, including travel bans and restrictions, shelter-in-place orders and the postponement or cancellation of major events, which adversely affected demand for our advertising products and the economy as a whole, and which may have an adverse effect on our business, financial condition and operating results in the future. We have offices and a significant number of employees in the San Francisco Bay Area, a region known for seismic activity. Additionally, despite any precautions we may take, the occurrence of a natural disaster or other unanticipated problems at our data centers could result in lengthy interruptions in our services. In addition, our employees, offices, and infrastructure have recently been the subject of increased threats by extremists. Acts of terrorism and other geo-political unrest could cause disruptions in our business. All of the aforementioned risks may be further increased if our disaster recovery plans prove to be inadequate. We have implemented a disaster recovery program, which allows us to move production to a back-up data center in the event of a catastrophe. Although this program is functional, we do not currently serve network traffic equally from each data center, so if our primary data center shuts down, there will be a period of time that our products or services, or certain of our products or services, will remain inaccessible or people may experience severe issues accessing our products and services. We do not carry business interruption insurance sufficient to compensate us for the potentially significant losses, including the potential harm to our business that may result from interruptions in our ability to provide our products and services. Any such natural disaster or man-made problem could adversely impact our business, financial condition and operating results.

Intellectual Property and Technology

Our business and operating results may be harmed by our failure to timely and effectively scale and adapt our existing technology and infrastructure.

As accounts generate more content, including photos and videos hosted by Twitter, we may be required to expand and adapt our technology and infrastructure to continue to reliably store, serve and analyze this content. It may become increasingly difficult to maintain and improve the performance of our products and services, especially during peak usage times, as our products and services become more complex and our account traffic increases. In addition, because we lease our data center facilities, we cannot be assured that we will be able to expand our data center infrastructure to meet demand in a timely manner, or on favorable economic terms. If people are unable to access Twitter or we are not able to make information available rapidly on Twitter, people may seek other channels to obtain the information, and may not return to Twitter or use Twitter as often in the future, or at all. This would negatively impact our ability to attract new people to Twitter, content partners and advertisers and increase the frequency of people returning to Twitter. We expect to continue to make significant investments to maintain and improve the capacity, capability and reliability of our infrastructure. To the extent that we do not effectively address capacity constraints, upgrade our systems as needed and continually develop our technology and infrastructure to accommodate actual and anticipated changes in technology, our business and operating results may be harmed.

We continue to scale the capacity of, and enhance the capability and reliability of, our infrastructure to support mDAU growth and increased activity on our platform. We expect that investments and expenses associated with our infrastructure will continue to grow, including the expansion and improvement of our data center operations and related operating costs, additional servers and networking equipment to increase the capacity of our infrastructure, increased utilization of third-party cloud computing and associated costs thereof, increased bandwidth costs and costs to secure our customers' data. The improvement of our infrastructure requires a significant investment of our management's time and our financial resources. If we fail to efficiently scale and manage our infrastructure, our business, financial condition and operating results would be adversely impacted.

Our intellectual property rights are valuable, and any inability to protect them could reduce the value of our products, services and brand.

Intellectual property rights are important assets of our business and we seek protection for such rights as appropriate. To establish and protect our trade secrets, trademarks, copyrights, and patents as well as restrictions in confidentiality, license and intellectual property assignment agreements we enter into with our employees, consultants and third parties. Various circumstances and events outside of our control, however, pose threats to our intellectual property rights. We may fail to obtain effective intellectual property protection, effective intellectual property protection may not be available in every country in which our products and services are available, or such laws may provide only limited protection. Also, the efforts we have taken to protect our intellectual property rights may not be sufficient or effective, and any of our intellectual property rights may be challenged, circumvented, infringed or misappropriated which could result in them being narrowed in scope or declared invalid or unenforceable. There can be no assurance our intellectual property rights will be sufficient to protect against others offering products or services that are substantially similar to ours and compete with our business.

We rely on restrictions on the use and disclosure of our trade secrets and other proprietary information contained in agreements we sign with our employees, contractors, and other third parties to limit and control access to and disclosure of our trade secrets and confidential information. These agreements may be breached, or this intellectual property may otherwise be disclosed or become known to our competitors, including through hacking or theft, which could cause us to lose any competitive advantage resulting from these trade secrets and proprietary information.

We are pursuing registration of trademarks and domain names in the United States and in certain jurisdictions outside of the United States. Effective protection of trademarks and domain names is expensive and difficult to maintain, both in terms of application and registration costs as well as the costs of defending and enforcing those rights. We may be required to protect our rights in an increasing number of countries, a process that is expensive and may not be successful or which we may not pursue in every country in which our products and services are distributed or made available.

We are party to numerous agreements that grant licenses to third parties to use our intellectual property. For example, many third parties distribute their content through Twitter, or embed Twitter content in their applications or on their websites, and make use of our trademarks in connection with their services. We have a policy designed to assist third parties in the proper use of our trademarks, and an internal team dedicated to enforcing this policy and protecting our brand. This team routinely reviews reports of improper and unauthorized use of the Twitter trademarks and issues takedown notices or initiates discussions with the third parties to correct the issues. However, there can be no assurance that we will be able to protect against the unauthorized use of our brand or trademarks. If the licensees of our trademarks are not using our trademarks properly and we fail to maintain and enforce our trademark rights, we may limit our ability to protect our trademarks which could result in diminishing the value of our brand or in our trademarks being declared invalid or unenforceable. There is also a risk that one or more of our trademarks could become generic, which could result in such trademark being declared invalid or unenforceable. For example, there is a risk that the word "Tweet" could become so commonly used that it becomes synonymous with any short comment posted publicly on the Internet, and if this happens, we could lose protection of this trademark.

We also seek to obtain patent protection for some of our technology. We may be unable to obtain patent protection for our technologies. Even if patents are issued from our patent applications, which is not certain, our existing patents, and any patents that may be issued in the future, may not provide us with competitive advantages or distinguish our products and services from those of our competitors. In addition, any patents may be contested, circumvented, or found unenforceable or invalid, and we may not be able to prevent third parties from infringing or otherwise violating them. Effective protection of patent rights is expensive and difficult to maintain, both in terms of application and maintenance costs, as well as the costs of defending and enforcing those rights.

Our Innovator's Patent Agreement, or IPA, also can limit our ability to prevent infringement of our patents. In May 2013, we implemented the IPA, which we enter into with our employees and consultants, including our founders. The IPA, which applies to our current and future patents, allows us to assert our patents defensively. The IPA also allows us to assert our patents offensively with the permission of the inventors of the applicable patent. Under the IPA, an assertion of claims is considered to be for a defensive purpose if the claims are asserted: (i) against an entity that has filed, maintained, threatened or voluntarily participated in a patent infringement lawsuit against us or any person on Twitter, or any of our affiliates, customers, suppliers or distributors; (ii) against an entity that has used its patents offensively against any other party in the past ten years, so long as the entity has not instituted the patent infringement lawsuit defensively in response to a patent litigation threat against the entity; or (iii) otherwise to deter a patent litigation threat against us or people on Twitter, or any of our affiliates, customers, suppliers or distributors. In addition, the IPA provides that the above limitations apply to any future owner or exclusive licensee of any of our patents, which could limit our ability to sell or license our patents to third parties. In this case, while we may be able to claim protection of our intellectual property under other rights (such as trade secrets or contractual obligations with our employees not to disclose or use confidential information), we may be unable to assert our patent rights against third parties that we believe are infringing our patents, even if such third parties are developing products and services that compete with our products and services. For example, in the event that an inventor of one of our patents goes to work for another company and that company uses the inventor's patented invention to compete with us, we would not be able to assert that patent against such other company unless the assertion of the patent right is for a defensive purpose since it would be unlikely the employee would consent to offensive use of the patent against his or her current employer. In such event, we would need to rely on trade secret protection or the contractual obligation of the inventor to us not to disclose or use our confidential information. In addition, the terms of the IPA could affect our ability to monetize our intellectual property portfolio.

Significant impairments of our intellectual property rights, and limitations on our ability to assert our intellectual property rights against others, could harm our business and our ability to compete.

Also, obtaining, maintaining and enforcing our intellectual property rights is costly and time consuming. Any increase in the unauthorized use of our intellectual property would adversely impact our business, financial condition and operating results.

Many of our products and services contain open source software, and we license some of our software through open source projects, which may pose particular risks to our proprietary software, products, and services in a manner that could adversely impact our business.

We use open source software in our products and services and will use open source software in the future. In addition, we regularly contribute software source code to open source projects under open source licenses or release internal software projects under open source licenses, and anticipate doing so in the future. The terms of many open source licenses to which we are subject have not been interpreted by U.S. or foreign courts, and there is a risk that open source software licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to provide or distribute our products or services. Additionally, under some open source licenses, if we combine our proprietary software with open source software in a certain manner, third parties may claim ownership of, or demand release of, the open source software or derivative works that we developed using such software, which could include our proprietary source code. Such third parties may also seek to enforce the terms of the applicable open source license through litigation which, if successful, could require us to make our proprietary software source code freely available, purchase a costly license or cease offering the implicated products or services unless and until we can re-engineer them to avoid infringement. This re-engineering process could require significant additional research and development resources, and we may not be able to complete it successfully. In addition to risks related to open source license requirements, use of certain open source software may pose greater risks than use of third-party commercial software, since open source licensors generally do not provide warranties or controls on the origin of software. Any of these risks could be difficult to eliminate or manage, and, if not addressed, could adversely impact our business, financial condition and operating results.

We are currently, and expect to be in the future, party to intellectual property rights claims that are expensive and time consuming to defend, and, if resolved adversely, would adversely impact our business, financial condition and operating results.

Companies in the internet, technology and media industries are subject to litigation based on allegations of infringement, misappropriation or other violations of intellectual property rights. Many companies in these industries, including many of our competitors, have substantially larger patent and intellectual property portfolios than we do, which could make us a target for litigation as we may not be able to assert counterclaims against parties that sue us for patent, or other intellectual property infringement. In addition, various "non-practicing entities" that own patents and other intellectual property rights often attempt to assert claims in order to extract value from technology companies. From time to time we receive claims from third parties which allege that we have infringed upon their intellectual property rights. Further, from time to time we may introduce new products, product features and services, including in areas where we currently do not have an offering, which could increase our exposure to patent and other intellectual property claims from competitors and non-practicing entities. In addition, although our standard terms and conditions for our Promoted Products and public APIs do not provide advertisers and platform partners with indemnification for intellectual property claims against them, some of our agreements with advertisers, content partners, platform partners and data partners require us to indemnify them for certain intellectual property claims against them, which could require us to incur considerable costs in defending such claims, and may require us to pay significant damages in the event of an adverse ruling. Such advertisers, content partners, platform partners and data partners may also discontinue use of our products, services and technologies as a result of injunctions or otherwise, which could result in loss of revenue and adversely impact our business.

We presently are involved in a number of intellectual property lawsuits, and as we face increasing competition and develop new products, the number of patent and other intellectual property claims against us may grow. There may be intellectual property or other rights held by others, including issued or pending patents, that cover significant aspects of our products and services, and we cannot be sure that we are not infringing or violating, and have not infringed or violated, any third-party intellectual property rights or that we will not be held to have done so or be accused of doing so in the future. Any claim or litigation alleging that we have infringed or otherwise violated intellectual property or other rights of third parties, with or without merit, and whether or not settled out of court or determined in our favor, could be time-consuming and costly to address and resolve, and could divert the time and attention of our management and technical personnel. Some of our competitors have substantially greater resources than we do and are able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than we could. The outcome of any litigation is inherently uncertain, and there can be no assurances that favorable final outcomes will be obtained in all cases. In addition, plaintiffs may seek, and we may become subject to, preliminary or provisional rulings in the course of any such litigation, including potential preliminary injunctions requiring us to cease some or all of our operations. We may decide to settle such lawsuits and disputes on terms that are unfavorable to us. Similarly, if any litigation to which we are a party is resolved adversely, we may be subject to an unfavorable judgment that may not be reversed upon appeal. The terms of such a settlement or judgment may require us to cease some or all of our operations or pay substantial amounts to the other party. In addition, we may have to seek a license to continue practices found to be in violation of a third-party's rights. If we are required, or choose to enter into royalty or licensing arrangements, such arrangements may not be available on reasonable terms, or at all, and may significantly increase our operating costs and expenses. As a result, we may also be required to develop or procure alternative non-infringing technology, which could require significant effort and expense or discontinue use of the technology. An unfavorable resolution of the disputes and litigation referred to above would adversely impact our business, financial condition and operating results.

Regulatory and Legal

Our business is subject to complex and evolving U.S. and foreign laws and regulations. These laws and regulations are subject to change and uncertain interpretation, and could result in claims, changes to our business practices, monetary penalties, increased cost of operations or declines in mDAU growth, mDAU engagement or ad engagement, or otherwise harm our business.

We are subject to a variety of laws and regulations in the United States and abroad that involve matters central to our business, including privacy, data protection, data security, advertising, rights of publicity, content regulation, intellectual property, competition, protection of minors, consumer protection, provision of online payment services and credit card processing, securities law compliance, and taxation, as well as laws and regulations regarding the environment and climate change. For example, new content regulation laws may affect our ability to operate in certain markets and/or subject us to significant fines or penalties. Compliance with these laws may be onerous and/or inconsistent with our work to serve the public conversation. Many of these laws and regulations are still evolving and being tested in courts and new laws and regulations are being proposed. As a result, it is possible that these laws and regulations may be interpreted and applied in a manner that is inconsistent from country to country and inconsistent with our current policies and practices and in ways that could harm our business, particularly in the new and rapidly evolving industry in which we operate. Additionally, the introduction of new products or services may subject us to additional laws and regulations.

From time to time, governments, regulators and others have expressed concerns about whether our products, services or practices compromise the privacy or data protection rights of the people on Twitter and others. While we strive to comply with applicable laws and regulations relating to privacy, data protection and data security, our privacy policies and other obligations we may have with respect to privacy, data protection and data security, the failure or perceived failure to comply may result, and in some cases has resulted, in inquiries and other proceedings or actions against us by governments, regulators or others. A number of proposals have recently been adopted or are currently pending before federal, state and foreign legislative and regulatory bodies that could significantly affect our business. For example, the California Consumer Privacy Act (CCPA) went into effect on January 1, 2020. The CCPA requires, among other things, covered companies to provide new disclosures to California consumers and afford such consumers new abilities to opt-out of certain sales of personal information. Similar legislation has been proposed or adopted in other states. Additionally, on November 3, 2020, a ballot initiative in California passed a new privacy law, the California Privacy Rights Act (CPRA). The CPRA would significantly modify the CCPA, potentially resulting in further uncertainty and requiring us to incur additional costs and expenses. On March 2, 2021, Virginia enacted the Virginia Consumer Data Protection Act, or CDPA, a comprehensive privacy statute that becomes effective on January 1, 2023 and shares similarities with the CCPA, CPRA, and legislation proposed in other states. Aspects of the CCPA, the CPRA and these other state laws and regulations, as well as their enforcement, remain unclear, and we may be required to modify our practices in an effort to comply with them. Moreover, foreign data protection, privacy, and other laws and regulations are often more restrictive or burdensome than those in the United States. For example, the GDPR imposes stringent operational requirements for entities processing personal information and significant penalties for non-compliance, including fines of up to €20 million or 4% of total worldwide revenue, whichever is higher. Additionally, we have historically relied upon a variety of legal bases to transfer certain personal information outside of the European Economic Area, including the EU-U.S. Privacy Shield Framework, the Swiss-U.S. Privacy Shield Framework, and EU Standard Contractual Clauses (SCCs). These legal bases all have been, and may be, the subject of legal challenges and on July 16, 2020, the Court of Justice of the European Union (CJEU) invalidated the U.S.-EU Privacy Shield framework and imposed additional obligations on companies when relying on the SCCs. This CJEU decision may result in different European Economic Area data protection regulators applying differing standards for, or require ad hoc verification of measures taken with respect to, certain data flows. The CJEU's decision and continued guidance from the European Commission and European Data Protection Board (EDPB) may require us to take additional steps to legitimize impacted personal data transfers, and we may find it necessary or desirable to modify our data handling practices in connection with this decision or future legal challenges relating to cross-border data transfers. This could result in increased costs of compliance and limitations on our customers, vendors, and us. This CJEU decision or future legal challenges also could result in us being required to implement duplicative, and potentially expensive, information technology infrastructure and business operations in Europe or could limit our ability to collect or process personal information in Europe, and may serve as a basis for our personal data handling practices, or those of our customers and vendors, to be challenged. Any of these changes with respect to EU data protection law could disrupt our business and otherwise adversely impact our business, financial condition and operating results.

Further, the UK officially left the EU in 2020 (often referred to as Brexit). The effect of Brexit will depend on agreements, if any, the UK makes to retain access to EU markets. Brexit creates economic and legal uncertainty in the region and could adversely affect the tax, currency, operational, legal and regulatory regimes to which our business is subject, including with respect to privacy and data protection. Brexit may adversely affect our revenues and subject us to new regulatory costs and challenges, in addition to other adverse effects that we are unable effectively to anticipate. The UK has implemented a Data Protection Act, effective in May 2018 and statutorily amended in 2019, and legislation referred to as the UK GDPR, that substantially implements the GDPR, with penalties for non-compliance of up to the greater of £17.5 million or four percent of worldwide revenues. Brexit has, however, created uncertainty with regard to the future regulation of data protection in the UK. For example, the EU-UK Trade and Cooperation Agreement provided for a transition period of four months, in which the European Commission treated the UK as if it remained an EU member state with respect to personal data transfers. On June 28, 2021, the European Commission adopted an adequacy decision with respect to the UK, which allows cross-border data transfers from the EEA to the UK for a four-year period, subject to renewal and the potential for earlier modification or termination. Nevertheless, substantial uncertainty remains regarding the interpretation and application of the GDPR and how the UK will approach and address the GDPR, and we may face challenges and significant costs and expenses in addressing applicable requirements and making necessary changes to our policies and practices.

Legislative changes in the United States, at both the federal and state level, could impose new obligations in areas such as moderation of content posted on our platform by third parties, including with respect to requests for removal based on claims of copyright. Further, there are various Executive and Congressional efforts to restrict the scope of the protections from legal liability for content moderation decisions and third-party content posted on online platforms that are currently available to online platforms under Section 230 of the Communications Decency Act, and our current protections from liability for content moderation decisions and third-party content posted on our platform in the United States could decrease or change, potentially resulting in increased liability for content moderation decisions and third-party content posted on our platform and higher litigation costs. Additionally, recent amendments to U.S. patent laws may affect the ability of companies, including us, to protect their innovations and defend against claims of patent infringement.

In April 2019, the EU passed the Directive on Copyright in the Digital Single Market (the EU Copyright Directive), which expands the liability of online platforms for third-party content posted on the platform. Each EU member state has had two years to implement it, with a deadline of June 7, 2021. The EU Copyright Directive may increase our costs of operations, our liability for third-party content posted on our platform, and our litigation costs.

Additionally, we have relationships with third parties that perform a variety of functions such as payments processing, tokenization, vaulting, currency conversion, fraud prevention and data security audits. The laws and regulations related to online payments and other activities of these third parties, including those relating to the processing of data, are complex, subject to change, and vary across different jurisdictions in the United States and globally. As a result, we may be required to spend significant time, effort and expense to comply with applicable laws and regulations. Any failure or claim of our failure to comply, or any failure or claim of failure by the above-mentioned third parties to comply, could increase our costs or could result in liabilities. Additionally, because we accept payment via credit cards, we are subject to global payments industry operating rules and certification requirements governed by the PCI Security Standards Council, including the Payment Card Industry Data Security Standard. Any failure by us to comply with these operating rules and certification requirements also may result in costs and liabilities and may result in us losing our ability to accept certain payment cards. We recently announced new subscription and paid features on Twitter. Depending on how these products and features evolve, we may also be subject to other laws and regulations related to online payments, money transmission, prepaid access, electronic fund transfers or other financial laws or regulations, and we may need to register as a money services business with the U.S. Treasury Department and obtain state money transmitter licenses in the United States and an Electronic Money (E-money) license in the European Economic to permit us to conduct certain activities. These licenses and other legal requirements will generally require us to demonstrate compliance with many domestic and foreign laws in these areas, including anti-money laundering, counter-terrorist financing, government sanctions, cybersecurity, privacy, and consumer protection laws, and failure to do so may limit our ability to offer these products and features as they evolve.

The U.S. and foreign laws and regulations described above, as well as any associated inquiries or investigations or any other regulatory actions, may be onerous and costly to comply with and may be inconsistent from jurisdiction to jurisdiction, further increasing the cost of compliance and doing business. Any such costs may delay or impede the development of new products and services, result in negative publicity, increase our operating costs, require significant management time and attention, and subject us to remedies that may result in a loss of mDAU or advertisers and otherwise harm our business, including fines or demands or orders that we modify or cease existing business practices.

We currently allow use of our platform without the collection of extensive personal information. We may experience additional pressure to expand our collection of personal information in order to comply with new and additional legal or regulatory demands or we may independently decide to do so. If we obtain such additional personal information, we may be subject to additional legal or regulatory obligations.

Regulatory investigations and settlements could cause us to incur additional expenses or change our business practices in a manner material and adverse to our business.

From time to time we notify the Irish Data Protection Commission and other regulators of certain personal data breaches and privacy or data protection issues, and are subject to inquiries and investigations regarding various aspects of our regulatory compliance. We are currently the subject of inquiries by the Irish Data Protection Commission with respect to our compliance with the GDPR. In the past, we have been subject to regulatory investigations and orders, and we expect to continue to be subject to regulatory scrutiny as our business grows and awareness of our brand increases.

In March 2011, to resolve an investigation into various incidents, we entered into a consent order with the FTC that, among other things, required us to establish an information security program designed to protect non-public consumer information and also requires that we obtain biennial independent security assessments. The obligations under the consent order remain in effect until the later of March 2, 2031, or the date 20 years after the date, if any, on which the U.S. government or the FTC files a complaint in federal court alleging any violation of the order. We expect to continue to be the subject of regulatory inquiries, investigations and audits in the future by the FTC and other regulators around the world. Violation of existing or future regulatory orders, settlements or consent decrees could subject us to substantial fines, penalties and costs that would adversely impact our financial condition and operating results. For example, on July 28, 2020, we received a draft complaint from the FTC alleging violations of the 2011 consent order with the FTC and the FTC Act. The allegations relate to our use of phone number and/or email address data provided for safety and security purposes for targeted advertising during periods between 2013 and 2019. We estimate that the range of probable loss in this matter is \$150.0 million to \$250.0 million. The matter remains unresolved, and there can be no assurance as to the timing or the terms of any final outcome.

It is possible that a regulatory inquiry, investigation or audit could cause us to incur substantial fines and costs, result in reputational harm, prevent us from offering certain products, services, features or functionalities, require us to change our policies or practices, divert management and other resources from our business, or otherwise materially and adversely impact our business, financial condition and operating results.

We may face lawsuits or incur liability as a result of content published or made available through our products and services.

We have faced and will continue to face claims relating to content that is published or made available through our products and services or third-party products or services. In particular, the nature of our business exposes us to claims related to defamation, intellectual property rights, rights of publicity and privacy, illegal content, misinformation, content regulation and personal injury torts. The laws relating to the liability of providers of online products or services for activities of the people who use them remains somewhat unsettled, both within the United States and internationally. For example, there are various Executive and Congressional efforts to restrict the scope of the protections from legal liability for content moderation decisions and third-party content posted on online platforms that are currently available to online platforms under Section 230 of the Communications Decency Act, and our current protections from liability for content moderation decisions and third-party content posted on our platform in the United States could decrease or change, potentially resulting in increased liability for content moderation decisions and third-party content posted on our platform and higher litigation costs. This risk may be enhanced in certain jurisdictions outside the United States where we may be less protected under local laws than we are in the United States. For example, we are subject to legislation in Germany that may impose significant fines for failure to comply with certain content removal and disclosure obligations. Other countries, including Singapore, India, Australia and the United Kingdom, have implemented or are considering similar legislation imposing penalties for failure to remove certain types of content. In addition, the public nature of communications on our platform exposes us to risks arising from the creation of impersonation accounts intended to be attributed to people on Twitter or our advertisers. We could incur significant costs investigating and defending these claims. If we incur material costs or liability as a result of these occurrences, our business, financial condition and operating results would be adversely impacted.

If we fail to maintain an effective system of disclosure controls and internal control over financial reporting, our ability to produce timely and accurate financial statements or comply with applicable regulations could be impaired.

As a public company, we are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act, and the listing standards of the New York Stock Exchange. The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. In order to maintain and improve the effectiveness of our disclosure controls and procedures and internal control over financial reporting, we have expended, and anticipate that we will continue to expend, significant resources, including accounting-related costs and significant management oversight.

Any failure to develop or maintain effective controls, or any difficulties encountered in their implementation or improvement, could cause us to be subject to one or more investigations or enforcement actions by state or federal regulatory agencies, stockholder lawsuits or other adverse actions requiring us to incur defense costs, pay fines, settlements or judgments. Any such failures could also cause investors to lose confidence in our reported financial and other information, which would likely have a negative effect on the trading price of our common stock. In addition, if we are unable to continue to meet these requirements, we may not be able to remain listed on the New York Stock Exchange.

Financial and Transactional Risks

Acquisitions, divestitures and investments could disrupt our business and harm our financial condition and operating results.

Our success will depend, in part, on our ability to expand our products, product features and services, and grow our business in response to changing technologies, demands of people on Twitter and our advertisers and competitive pressures. In some circumstances, we may determine to do so through the acquisition of complementary businesses and technologies rather than through internal development, including, for example, our acquisitions of CrossInstall, a demand side platform, and MoPub, a mobile-focused advertising exchange. The identification of suitable acquisition candidates can be difficult, time-consuming and costly, and we may not be able to successfully complete identified acquisitions. The risks we face in connection with acquisitions include:

- diversion of management time and focus from operating our business to addressing acquisition integration challenges;
- retention of key employees from the acquired company;
- cultural challenges associated with integrating employees from the acquired company into our organization;
- integration of the acquired company's accounting, management information, human resources and other administrative systems and processes;
- the need to implement or improve controls, procedures, and policies at a business that prior to the acquisition may have lacked effective controls, procedures and policies;
- liability for activities of the acquired company before the acquisition, including intellectual property infringement claims, violations of laws, commercial disputes, tax liabilities and other known and unknown liabilities;
- unanticipated write-offs or charges; and
- litigation or other claims in connection with the acquired company, including claims from terminated employees, former stockholders or other third parties.

Our failure to address these risks or other problems encountered in connection with our past or future acquisitions and investments could cause us to fail to realize the anticipated benefits of these acquisitions or investments, cause us to incur unanticipated liabilities, and harm our business generally. Future acquisitions could also result in dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities, amortization expenses, incremental operating expenses or the impairment of goodwill, any of which could adversely impact our financial condition and operating results.

We also make investments in privately-held companies in furtherance of our strategic objectives. Many of the instruments in which we invest are non-marketable at the time of our initial investment. We may not realize a return and may recognize a loss on such investments.

In certain cases, we have also divested or stopped investing in certain products, including products that we acquired. In these cases, we have needed to and we may in the future need to restructure operations, terminate employees and/or incur other expenses. We may not realize the expected benefits and cost savings of these actions and our operating results may be adversely impacted.

Our debt obligations could adversely affect our financial condition.

In 2014, we issued \$954.0 million in aggregate principal amount of 1.00% convertible senior notes due 2021, or the 2021 Notes. In 2018, we issued an additional \$1.15 billion in aggregate principal amount of 0.25% convertible senior notes due 2024, or the 2024 Notes. In 2019, we issued \$700.0 million in aggregate principal amount of 3.875% senior notes due 2027, which we refer to as the 2027 Notes. In 2020, we issued \$1.0 billion in aggregate principal amount of 0.375% convertible senior notes due 2025, or the 2025 Notes. In March 2021, we issued \$1.44 billion in aggregate principal amount of 0% convertible senior notes due 2026, or the 2026 Notes. We refer to the 2021 Notes, the 2024 Notes, the 2025 Notes, and the 2026 Notes as the Convertible Notes, and we refer to the Convertible Notes and the 2027 Notes as the Notes. As of June 30, 2021, we had \$5.24 billion in aggregate principal amount of outstanding Notes. As of June 30, 2021, we also had an undrawn unsecured revolving credit facility providing for loans in the aggregate principal amount of \$500.0 million.

Our debt obligations could adversely impact us. For example, these obligations could:

- require us to use a substantial portion of our cash flow from operations to pay principal and interest on debt, including the Notes, or to repurchase our Notes when required upon the occurrence of certain change of control events or otherwise pursuant to the terms thereof, which will reduce the amount of cash flow available to fund working capital, capital expenditures, acquisitions, and other business activities;
- require us to use cash and/or issue shares of our common stock to settle any conversion obligations of the Convertible Notes;

- result in certain of our debt instruments, including the Notes, being accelerated or being deemed to be in default if certain terms of default are triggered, such as applicable cross payment default and/or cross-acceleration provisions;
- adversely impact our credit rating, which could increase future borrowing costs;
- limit our future ability to raise funds for capital expenditures, strategic acquisitions or business opportunities, and other general corporate requirements;
- restrict our ability to create or incur liens and enter into sale-leaseback financing transactions;
- increase our vulnerability to adverse economic and industry conditions;
- with respect to indebtedness other than the Notes, increase our exposure to interest rate risk from variable rate indebtedness;
- dilute our earnings per share as a result of the conversion provisions in the Convertible Notes; and
- place us at a competitive disadvantage compared to our less leveraged competitors.

Our ability to meet our payment obligations under our debt instruments depends on our ability to generate significant cash flows in the future. This, to some extent, is subject to market, economic, financial, competitive, legislative, and regulatory factors as well as other factors that are beyond our control. There can be no assurance that our business will generate cash flow from operations, or that additional capital will be available to us, in amounts sufficient to enable us to meet our debt payment obligations and to fund other liquidity needs. Additionally, events and circumstances may occur which would cause us to not be able to satisfy applicable draw-down conditions and utilize our revolving credit facility. If we are unable to generate sufficient cash flows to service our debt payment obligations, we may need to refinance or restructure our debt, sell assets, reduce or delay capital investments, or seek to raise additional capital. If we are unable to implement one or more of these alternatives on commercially reasonable terms or at all, we may be unable to meet our debt payment obligations, which would materially and adversely impact our business, financial condition and operating results.

We may have exposure to greater than anticipated tax liabilities, which could adversely impact our operating results.

Our income tax obligations are based in part on our corporate operating structure, including the manner in which we develop, value, manage, protect and use our intellectual property and the scope of our international operations. We are subject to review and audit by tax authorities in the United States (federal and state), Ireland, and other foreign jurisdictions and the laws in those jurisdictions are subject to interpretation. Tax authorities may disagree with and challenge some of the positions we have taken and any adverse outcome of such an audit could have a negative effect on our financial position and operating results. In addition, our future income taxes could be adversely affected by earnings being lower than anticipated in jurisdictions that have lower statutory tax rates and higher than anticipated in jurisdictions that have higher statutory tax rates, by changes in the valuation of our deferred tax assets and liabilities, or by changes in tax laws, regulations or accounting principles, as well as certain discrete items. For example, the legislation commonly referred to as the 2017 Tax Cuts and Jobs Act (the Tax Act) significantly affected U.S. tax law by changing how U.S. income tax is assessed on multinational corporations. The U.S. Department of Treasury has issued and will continue to issue regulations and interpretive guidance that may significantly impact how we will apply the law and impact our results of operations.

In addition, the Organization for Economic Cooperation and Development (OECD) has published proposals covering a number of issues, including country-by-country reporting, permanent establishment rules, transfer pricing rules, tax treaties and taxation of the digital economy. A significant majority of countries in the OECD's Inclusive Framework have agreed in principle to a proposed solution to address the tax challenges arising from the digitalization of the economy. Future tax reform resulting from these developments may result in changes to long-standing tax principles, which could adversely affect our effective tax rate or result in higher cash tax liabilities. The OECD's proposed solution envisages new international tax rules and the removal of all Digital Services Taxes (DST). Notwithstanding this, some countries, in the European Union and beyond, continue to operate a DST regime to capture tax revenue on digital services more immediately. Such laws may increase our tax obligations in those countries or change the manner in which we operate our business.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

As of December 31, 2020, we had U.S. federal net operating loss carryforwards of \$2.19 billion and state net operating loss carryforwards of \$1.28 billion. As of December 31, 2020, we had federal and state research and development credit carryforwards of \$398.4 million and \$297.1 million, respectively. A portion of the net operating loss carryforwards and tax credit carryforwards could be subject to ownership change limitations governed by Section 382 or 383 of the Internal Revenue Code. Any such limitations on the ability to use our net operating loss carryforwards and other tax assets could adversely impact our business, financial condition and operating results.

If our goodwill or intangible assets become impaired, we may be required to record a significant charge to earnings.

Under GAAP, we review our intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Goodwill is required to be tested for impairment at least annually. An adverse change in market conditions or financial results, particularly if such change has the effect of changing one of our critical assumptions or estimates, could result in a change to the estimation of fair value that could result in an impairment charge to our goodwill or intangible assets. Any such material charges may have a material and adverse impact on our operating results.

Governance Risks and Risks related to Ownership of our Capital Stock

Anti-takeover provisions contained in our amended and restated certificate of incorporation and amended and restated bylaws, as well as provisions of Delaware law, could impair a takeover attempt.

Our amended and restated certificate of incorporation, amended and restated bylaws and Delaware law contain provisions which could have the effect of rendering more difficult, delaying, or preventing an acquisition deemed undesirable by our board of directors. Among other things, our amended and restated certificate of incorporation and amended and restated bylaws include provisions:

- providing for a classified board of directors whose members serve staggered three-year terms;
- authorizing "blank check" preferred stock, which could be issued by our board of directors without stockholder approval and may contain voting, liquidation, dividend and other rights superior to our common stock;
- limiting the liability of, and providing indemnification to, our directors and officers;
- limiting the ability of our stockholders to call and bring business before special meetings;
- requiring advance notice of stockholder proposals for business to be conducted at meetings of our stockholders and for nominations of candidates for election to our board of directors; and
- controlling the procedures for the conduct and scheduling of stockholder meetings.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in our management, and amendment of our amended and restated certificate of incorporation to change or modify certain of these provisions requires approval of a super-majority of our stockholders, which we may not be able to obtain.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation law, which prevents certain stockholders holding more than 15% of our outstanding common stock from engaging in certain business combinations without approval of the holders of at least two-thirds of our outstanding common stock not held by such 15% or greater stockholder.

Any provision of our amended and restated certificate of incorporation, amended and restated bylaws or Delaware law that has the effect of delaying, preventing or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

The market price of our common stock has been and will likely continue to be volatile, and you could lose all or part of your investment.

The market price of our common stock has been and may continue to be highly volatile in response to various factors, some of which are beyond our control. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this report, factors that could cause fluctuations in the market price of our common stock include the following:

- price and volume fluctuations in the overall stock market from time to time, including fluctuations due to general economic uncertainty or negative market sentiment, including related to the COVID-19 pandemic;
- volatility in the market prices and trading volumes of technology stocks;
- changes in operating performance and stock market valuations of other technology companies generally, or those in our industry in particular;
- sales of shares of our common stock by us or our stockholders;
- rumors and market speculation involving us or other companies in our industry;
- changes in the recommendations of securities analysts regarding our common stock, changes in financial estimates by securities analysts who follow our company, or our failure to meet these estimates or the expectations of investors;

- the financial or non-financial metric projections we may provide to the public, any changes in those projections or our failure to meet those projections;
- announcements by us or our competitors of new products or services;
- the public's reaction to our press releases, other public announcements and filings with the SEC;
- actual or anticipated changes in our operating results or fluctuations in our operating results;
- actual or anticipated developments in our business, our competitors' businesses or the competitive landscape generally;
- our issuance of shares of our common stock, whether in connection with an acquisition or upon conversion of some or all of our outstanding Convertible Notes;
- litigation or regulatory action involving us, our industry or both, or investigations by regulators into our operations or those of our competitors;
- developments or disputes concerning our intellectual property or other proprietary rights;
- announced or completed acquisitions of businesses or technologies by us or our competitors;
- new laws or regulations or new interpretations of existing laws or regulations applicable to our business and our responses thereto;
- changes in accounting standards, policies, guidelines, interpretations or principles;
- any significant change in our management; and
- general economic conditions and slow or negative growth of our markets.

In addition, in the past, following periods of volatility in the overall market and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. Any securities litigation can result in substantial costs and a diversion of our management's attention and resources. We are currently subject to securities litigation and may experience more such litigation following any future periods of volatility.

The note hedge and warrant transactions may affect the value of our common stock.

Concurrent with the issuance of the 2021 Notes, 2024 Notes and 2026 Notes we entered into note hedge transactions with certain financial institutions, which we refer to as the option counterparties. The note hedge transactions are generally expected to reduce the potential dilution upon any conversion of the 2021 Notes, 2024 Notes and 2026 Notes and/or offset any cash payments we are required to make in excess of the principal amount converted with respect to the 2021 Notes, 2024 Notes, or 2026 Notes as the case may be. We also entered into warrant transactions with the option counterparties. However, the warrant transactions could separately have a dilutive effect to the extent that the market price of our common stock exceeds the applicable strike price of the warrants.

The option counterparties or their respective affiliates may modify their initial hedge positions by entering into or unwinding various derivatives contracts with respect to our common stock and/or purchasing or selling our common stock or other securities of ours in secondary market transactions prior to the maturity of the 2021 Notes, 2024 Notes and 2026 Notes, as applicable (and are likely to do so during any applicable observation period related to a conversion of the 2021 Notes, 2024 Notes and 2026 Notes as applicable, or following any repurchase of the 2021 Notes, 2024 Notes and 2026 Notes, as applicable, by us on any fundamental change repurchase date or otherwise). This activity could cause or avoid an increase or a decrease in the market price of our common stock.

In addition, if any such convertible note hedge and warrant transactions fail to become effective, the option counterparties or their respective affiliates may unwind their hedge positions with respect to our common stock, which could adversely affect the value of our common stock.

Item 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS**Unregistered Sales of Equity Securities**

During the three months ended June 30, 2021, we issued a total of 31,446 shares of our common stock in connection with the acquisition of one company to certain former shareholders of the acquired company.

The foregoing transaction did not involve any underwriters, any underwriting discounts or commissions, or any public offering. We believe the offer, sale, and issuance of the above securities was exempt from registration under the Securities Act of 1933, as amended (the "Act") by virtue of Section 4(a)(2) of the Act, because the issuance of securities to the recipients did not involve a public offering. The recipients of the securities in the transaction represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in the transaction. All recipients had adequate access, through their relationships with us or otherwise, to information about us. The issuance of these securities was made without any general solicitation or advertising.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

The following table summarizes the share repurchase activity for the three months ended June 30, 2021:

Period	Total Number of Shares Purchased (in thousands) ⁽¹⁾	Average Price Paid Per Share ⁽²⁾	Total Number of Shares Purchased as Part of Publicly Announced Programs (in thousands) ⁽¹⁾	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program (in millions) ⁽¹⁾
April 1 - 30	829	\$ 67.11	829	\$ 1,532
May 1 - 31	4,092	\$ 53.76	4,092	\$ 1,312
June 1 - 30	945	\$ 61.69	945	\$ 1,254
Total	5,866		5,866	

⁽¹⁾ In March 2020, our board of directors authorized a program to repurchase up to \$2.0 billion of our common stock over time. Repurchases may be made from time to time through open market purchases or through privately negotiated transactions, under trading plans complying with Rules 10b5-1 and 10b-18 under the Exchange Act, subject to market conditions, applicable legal requirements and other relevant factors. The repurchase program does not obligate us to acquire any particular amount of our common stock, and may be suspended at any time at our discretion. The program does not have an expiration date. Please refer to Note 12 of the Notes to Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q for additional information.

⁽²⁾ Average price paid per share includes costs associated with the repurchases.

Item 6. EXHIBITS

The documents listed in the Exhibit Index of this Quarterly Report on Form 10-Q are incorporated by reference or are filed with this Quarterly Report on Form 10-Q, in each case as indicated therein (numbered in accordance with Item 601 of Regulation S-K).

EXHIBIT INDEX						
Number	Exhibit	Exhibit Description	Form	File No.	Incorporated by Reference Exhibit	Filing Date
31.1		Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
31.2		Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
32.1†		Certifications of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
101		The following financial statements from the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2021, formatted in Inline XBRL: (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Operations, (iii) Consolidated Statements of Comprehensive Income (Loss), (iv) Consolidated Statements of Stockholders' Equity, (v) Consolidated Statements of Cash Flows, and (vi) Notes to Consolidated Financial Statements.				
104		Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)				

† The certifications attached as Exhibit 32.1 that accompany this Quarterly Report on Form 10-Q, are deemed furnished and not filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Twitter, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Quarterly Report on Form 10-Q, irrespective of any general incorporation language contained in such filing

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Quarterly Report on Form 10-Q to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: July 27, 2021

TWITTER, INC.

By: /s/ Jack Dorsey

Jack Dorsey
Chief Executive Officer
(Principal Executive Officer)

Date: July 27, 2021

By: /s/ Ned Segal

Ned Segal
Chief Financial Officer
(Principal Financial Officer)

**CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002**

I, Jack Dorsey, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Twitter, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and;
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 27, 2021

/s/ Jack Dorsey
Jack Dorsey
Chief Executive Officer
(Principal Executive Officer)

**CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002**

I, Ned Segal, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Twitter, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and;
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 27, 2021

/s/ Ned Segal
Ned Segal
Chief Financial Officer
(Principal Financial Officer)

**CERTIFICATIONS OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

I, Jack Dorsey, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q of Twitter, Inc. for the fiscal quarter ended June 30, 2021 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Quarterly Report on Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of Twitter, Inc.

Date: July 27, 2021

By: /s/ Jack Dorsey
Name: Jack Dorsey
Title: Chief Executive Officer

I, Ned Segal, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q of Twitter, Inc. for the fiscal quarter ended June 30, 2021 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Quarterly Report on Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of Twitter, Inc.

Date: July 27, 2021

By: /s/ Ned Segal
Name: Ned Segal
Title: Chief Financial Officer