Twitter Inc.(TWTR)

$71.90 (As of 02/12/21)

Price Target (6-12 Months): **$76.00**

Long Term: 6-12 Months	**Zacks Recommendation:**	**Neutral**
	(Since: 08/28/19)	
	Prior Recommendation: Outperform	
Short Term: 1-3 Months	**Zacks Rank:** (1-5)	**4-Sell**
	Zacks Style Scores:	VGM:D
	Value: D	Growth: B	Momentum: F

Summary

Twitter' fourth-quarter 2020 revenues increased year over year on a global, broad-based recovery in advertising revenues driven by continued strength in markets that saw earlier recoveries from the pandemic. Strong brand advertiser demand for digital ads and for Twitter's solutions are major positives. Global conversation around current events and focus on effectively tackling abuse issues are helping it expand the monetized user base. Additionally, product improvement including continued increases in relevance across notifications, search, Explore, and the Home timeline boosted user retention across new and recently reactivated accounts. Notably, shares have outperformed the industry in the year to date period. However, increasing competition for ad dollars from the likes of Facebook and Google doesn't bode well for the stock.
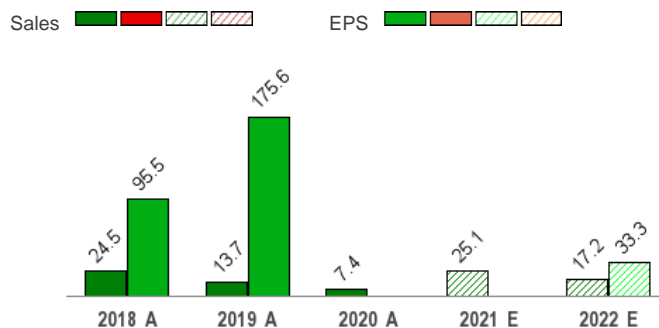
Price, Consensus & Surprise

Source: Zacks Investment Research

Data Overview

52-Week High-Low	**$73.18 - $20.00**
20-Day Average Volume (Shares)	**21,598,222**
Market Cap	**$57.2 B**
Year-To-Date Price Change	**32.8%**
Beta	**0.74**
Dividend / Dividend Yield	**$0.00 / 0.0%**
Industry	**Internet - Software**
Zacks Industry Rank	**Bottom 26% (186 out of 253)**
Last EPS Surprise	**26.7%**
Last Sales Surprise	**8.7%**
EPS F1 Estimate 4-Week Change	**6.3%**
Expected Report Date	**NA**
Earnings ESP	**-4.0%**
P/E TTM	**NA**
P/E F1	**82.6**
PEG F1	**3.5**
P/S TTM	**15.4**

Sales and EPS Growth Rates (Y/Y %)

Sales Estimates (millions of $)

	Q1	Q2	Q3	Q4	Annual*
2022	1,172 E	1,203 E	1,375 E	1,702 E	5,447 E
2021	1,016 E	1,044 E	1,153 E	1,463 E	4,647 E
2020	808 A	683 A	936 A	1,289 A	3,716 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2022	$0.21 E	$0.17 E	$0.28 E	$0.50 E	$1.16 E
2021	$0.15 E	$0.14 E	$0.20 E	$0.38 E	$0.87 E
2020	$0.11 A	-$1.39 A	$0.19 A	$0.38 A	-$0.87 A

*Quarterly figures may not add up to annual.

The data in the charts and tables, including the Zacks Consensus EPS and sales estimates, is as of 02/12/2021. The report's text and the analyst-provided price target are as of 02/15/2021.

Overview

Headquartered in San Francisco, CA, Twitter is a global platform that connects a user to a network of people, news, ideas, opinions and information. A user can tweet his/her take on any subject in real time, which can be retweeted by others. Tweets are limited to 280 characters.

Twitter uses an asymmetric follow model, which means that the relationships between users may not be reciprocal. A user can be followed by other users who may know him/her by name but not personally, such as celebrities and politicians. Twitter enables users to search and discover content in which they are interested including tweets that may have attachments like links, media, photos and other applications.

Twitter reported revenues of $3.71 billion in 2020.

The company measures number of users through the monetizable daily active users (mDAU) metric. mDau is defined as "Twitter users 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."

Average mDAUs were 192 million in fourth-quarter 2020.

Twitter reports revenues in two segments — Advertising Services (86.2% of 2019 revenues) and Data Licensing (13.8%). The company earned most of its revenues from advertisers using its Promoted Products (promoted tweets, accounts and trends). Advertisers can also run short video ads, such as In-Stream video ads, either before or along premium video content. Such content include live premium videos from publishing partners or clips from a variety of interest categories such as news, sports and entertainment.

Twitter's expanding database helps marketers to target audiences on the basis of interest and gender, geography, keyword, television conversation and device. The company also provides mobile advertising exchange services through its MoPub exchange. The mobile ad exchange enables buyers and sellers to purchase and sell advertising inventory, and matches buyers and sellers.

Twitter faces significant competition from the likes of Facebook, Google, Microsoft and Sina Weibo.
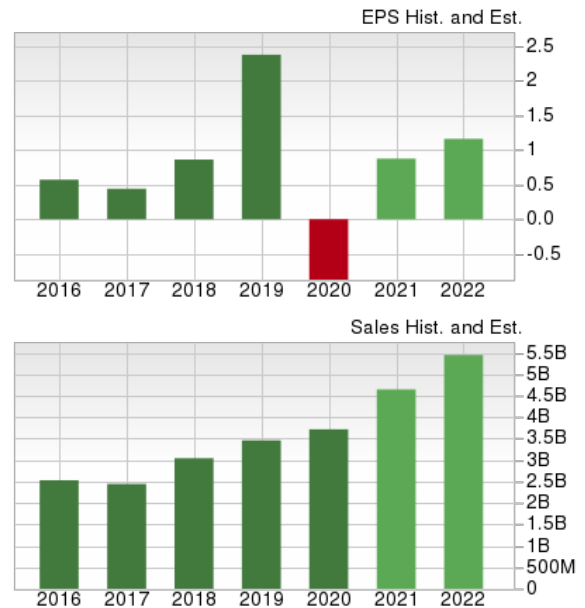
Source: Zacks Investment Research

Reasons To Buy:

▲ Twitter's unique open platform is attractive to due to its openness, real-time content, conversational format and distribution ability. The platform's greatest strength is its simplicity. Increased character limits are helping users express more in a tweet. The company also does not impose restrictions on whom a user can follow, which greatly enhances the breadth and depth of available content and allows users to discover the content they care about most. Further, users can be followed by thousands of other users without requiring a reciprocal relationship. Moreover, users can now directly broadcast live video on its app through just a tweet. Additionally, Twitter has revamped the app, including the latest timeline switch, to improve user experience.

▲ Twitter is focusing on "live" and is expanding into sports live streaming. The live streaming deals with the likes of Turner Sports, WarnerMedia, FOX Sports and NBA expand live-streaming sports offerings for users. The company is also expected to benefit from an expanding live-streaming content portfolio, owing to partnerships with the likes of Viacom, Live Nation, the NFL, ESPN, Bleacher Report, MLS, Activision Blizzard, The Wall Street Journal and TIME. Live streaming has also resulted in an increase in tweet impressions. Moreover, growing adoption of video ad products like Video Website Cards and in-stream pre-roll will continue to drive Twitter's top-line growth.

▲ Twitter continues to ramp up its effort to safeguard its platform and to boost trustworthiness. The company continues to remove accounts and fake pages to make the platform more secure and improve quality of conversation. Moreover, Twitter has been focusing on reducing abuse on its platform. The company has launched author-moderated replies in the United States, Canada and Japan, which give authors the ability to "hide" replies in their conversation thread. The company also improved its ability to proactively identify and remove abusive content on the platform. A safe platform will definitely boost user engagement over the long run.

▲ Acquisitions have played a key role in Twitter's growth trajectory. The company has acquired over 50 companies that not only expanded its product portfolio and infrastructure but also improved its software developer talent base. In addition, it is looking to expand in emerging markets.

▲ Twitter's improved liquidity makes the stock attractive to investors. As of Dec 31, 2020, cash, cash equivalents and short-term investments in marketable securities totaled $7.47 billion compared with $7.68 billion as of Sep 30, 2020. The company has a $500 million revolving unsecured credit facility maturing on Aug 7, 2023. While total debt was $3.6 billion as of Dec 31, 2020, up from $3.5 billion as of Sep 30, 2020, it should not be a bother for Twitter due to its solid cash balance.

> Twitter has been benefiting from the platform's simplicity, increased character limits, live streaming deals and focus on fostering healthy conversation on the platform.

Reasons To Sell:

▼ Lack of revenue diversification is a major concern for Twitter. Brand marketing is one of the primary contributors to the company's revenues. We have always maintained that Twitter's ability to attract advertising revenues amid significant competition from the likes of Facebook and Alphabet will be a key factor determining its growth, considering the fact that investment in product development needs to continue. With troubles emanating from this area, we are more than ever cautious about what lies ahead for this social media company. Also, sluggish user growth can hurt the platform's ability to attract ad dollars.

▼ As Twitter's revenue growth is highly dependent on the size of its user base and user engagement levels, increasing competition from the likes of Facebook, Snapchat, Weibo, and Pinterest pose a threat. In fact, Facebook has witnessed an increase in its user base driven by strong growth across mobile and international users. Additionally, the company has been focused on revamping its other platforms like Messenger, Instagram and WhatsApp which are proving a headwind for Twitter. Moreover, though Snapchat and Weibo are much smaller than Facebook, they pose significant competition for Twitter especially in attracting young demography.

▼ Since Twitter is a social media platform, user growth is of primary importance. In order to boost user growth, the company is investing more in the development of new and innovative customer-centric products, which can keep margins under pressure in the near term. Twitter's continuing investments on product development, international expansion, security measures and marketing & sales is expected to negatively impact profitability in the near term.

▼ Twitter faced criticism for increasing abuse on its platform. The company has been removing accounts that are abusive, spammy, fake or malicious. Although this initiative is expected to foster healthy conversation over the long term, it can hurt user base growth at least in the near term. Moreover, post the implementation of General Data Protection Regulation (GDPR) in May 2018, the company is facing significant regulation in Europe. Along with other social media companies, Twitter is also facing increased scrutiny over its data handling practices and privacy issues. The increasing demand for social media regulation is expected to hurt the company's ability to attract users, which doesn't bode well for its growth prospects.

Sluggish user growth amid increasing competition, lack of revenue diversification, higher expenses related to product development and increasing social media regulations are major concerns.

Last Earnings Report

Twitter Q4 Earnings Rise Y/Y, Ad Revenues Recover

Twitter reported fourth-quarter 2020 adjusted earnings of 27 cents per share that increased 80% year over year. The Zacks Consensus Estimate for earnings was pegged at 30 cents per share for the reported quarter.

Revenues increased 28% year over year to $1.28 billion attributed to a global, broad-based recovery in advertising revenues and beat the Zacks Consensus Estimate by 8.7%.

Quarter Ending	12/2020
Report Date	Feb 09, 2021
Sales Surprise	8.69%
EPS Surprise	26.67%
Quarterly EPS	0.38
Annual EPS (TTM)	-0.71

User Details

Average monetizable daily active users (mDAU) grew 27% year over year to 192 million, driven by global conversation around current events and ongoing product improvements.

Average mDAU grew 5 million sequentially, reflecting increased retention across new and recently reactivated accounts due to the ongoing impact of product improvements, including continued increases in relevance across notifications, search, Explore, and the Home timeline.

Average U.S. mDAU was 37 million, up 21% from the year-ago quarter and increased 1 million sequentially. Average international mDAU was 155 million, rising 28% from the year-ago quarter and 3 million sequentially.

In the fourth quarter, 2020 Twitter launched its transient Fleets feature for iOS and Android users worldwide. Once posted, Fleets can be viewed for 24 hours before they disappear.

The company stated that tests in Brazil, Italy, India, and South Korea have shown that people with Fleets are more likely to Tweet and they create more content in the form of Fleets, Tweets, and Direct Messages than people without Fleets, resulting in measurable increases in both original content production and the number of new content producers.

Topics, launched in fourth-quarter 2019, also drove growth attributed to increased personalization, notifications for new customers about Topics they might want to follow, and an expanded variety of Topics — including an expanded catalogue of TV shows. Twitter stated that as of Dec 31, 2020, there were more than 6,000 Topics, up from over 5,100 Topics in the previous quarter.

Notably, ahead of the presidential elections in the United States, Twitter applied labels, warnings, and additional restrictions on Tweets that included potentially misleading information from Oct 27 to Nov 11, and attempted to get ahead of potentially misleading information by showing everyone on Twitter in the United States a series of prebunk prompts, reminding people that election results were likely to be delayed, and that voting by mail is safe and legitimate.

Additionally, the company announced a multiyear global video content deal with NBCUniversal that will provide people on Twitter with premium content across NBCU properties from key events such as the Golden Globes, Latin American Music Awards, the E! People's Choice Awards, and the Macy's Thanksgiving Day Parade, as well as must-see sports content from NBC Sports, Telemundo Deportes, Sky Sports, and GOLF Channel.

Moreover, building on the enormous success of the #VMAStanCam, ViacomCBS' MTV Entertainment Group created the first-ever #CMTFanCam exclusively on Twitter for the 2020 CMT Music Awards to go along with live streams, on-demand video highlights, and voice Tweets from artists on Twitter during the TV broadcast.

Twitter has been focusing on reducing abuse on its platform. The company has improved its ability to proactively identify and remove abusive content from the platform.

Revenue Details

U.S. revenues (57% of revenues) increased 24% year over year to $732.8 million. International revenues (43% of revenues) increased 34% to $556.1 million.

Japan remained the company's second-largest market in the reported quarter. Revenues from Japan (14% of total revenues) increased 26% to $176 million.

Advertising revenues increased 31% to $1.15 billion mostly driven by strong brand advertiser demand in the United States for most of the quarter, which partially offset a dip in advertiser spend during a short period bracketing the presidential election on Nov 3. This was followed by a strong resumption in demand that continued through the holidays.

U.S. advertising revenues totaled $646 million, up 27% year over year. International ad revenues increased 35% to $509 million.

The company's advertising revenues witnessed a broad-based global rebound, driven by a larger audience, an upswing in advertiser sentiment for digital ads in general and for Twitter's solutions in particular, and the resumption of more events and product launches.

Total ad engagements increased 35%, driven by strong growth in ad impressions due to growing audience and increased demand for ads.

During the quarter, Twitter selected DoubleVerify (DV) and Integral Ad Science (IAS) to be the company's preferred partners for providing independent reporting on the context in which ads appear on Twitter.

However, cost per engagement (CPE) decreased 3%, which was largely a function of supply opportunities outstripping demand.

Data licensing and other revenues increased 9% from the year-ago quarter to $134 million driven by continued growth in Developer and Enterprise Solutions (DES).

Operating Details

Twitter's total costs and expenses were $1.04 million, up 21% on a year-over-year basis driven by higher sales-related expenses, headcount growth, and infrastructure costs.

Research and development expenses grew 25% to $248 million, primarily due to higher personnel-related costs. Sales and marketing expenses grew 1% to $244 million, primarily due to increased outside services and higher sales related expenses. General and administrative expenses grew 12% to $112 million, primarily due to higher personnel-related costs offset by lower travel expenses.

Adjusted EBITDA increased 11.9% year over year to $294 million.

The company reported operating income of $252 million, or 20% of total revenues, compared with operating income of $153 million or 15% in the year-ago quarter.

Balance Sheet

As of Dec 31, 2020, Twitter had $7.47 billion in cash, cash equivalents and marketable securities compared with $7.68 billion as of Sep 30, 2020.

In the fourth quarter, adjusted free cash flow was $38 million compared with $127 million in the year-ago quarter.

Net cash provided by operating activities in the quarter was $330 million, an increase from $277 million in the same period last year.

Outlook

For the first quarter of 2021, the company expects total revenues to be between $940 million and $1.04 billion. GAAP operating income is expected to be between a loss of $50 million and break even.

For the full year, the company expects capital expenditures to be between $900 million and $950 million.

Twitter expects mid-single digit growth in data licensing and other revenues in 2021 besides more than 20% growth in headcount and over 25% growth in total costs and expenses.

Recent News

Per a Reuters report on Feb 11, 2021, Twitter announced that the company is exploring allowing its users to receive tips, or digital payments, from their followers. Chief Executive Jack Dorsey stated that the feature is expected to help the social media platform earn more money and engagement from its base of 192 million daily users.

On Jan 28, 2021, Twitter announced the acquisition of a newsletter publishing startup, Revue. The Netherlands-based startup enables writers to create and publish editorial newsletters for free. Twitter has made Revue's Pro features available for all the accounts for free. Further, the company has reduced the fee charged on paid newsletters to 5%.

On Jan 26, 2021, Twitter announced that it has opened free access to its new application programming interface (API) software for academic researchers, enabling them to study public conversations on its platform but is not providing data from suspended accounts as part of the product.

On Jan 25, 2021, Twitter announced the launch of a pilot program that has users flag tweets that they believe are misleading and write notes to provide context.

On Jan 4, 2021 Twitter announced the acquisition of Breaker, a social broadcasting application. Consequently, the podcasting application's services was shut down on Jan 15.

On Dec 15, Twitter announced that it has selected Amazon Web Services (AWS) to provide global cloud infrastructure to deliver Twitter timelines. Per the multi-year deal, Twitter will leverage AWS's proven infrastructure and portfolio of services to support delivery of millions of daily Tweets.

On Dec 11, Twitter announced the acquisition of Squad, a screen-sharing social application that facilitated screen-sharing on mobile or desktop and allowed users to video chat simultaneously. The application was shut down on Dec 12, post the announcement, and is likely to be integrated with the core Twitter application.

On Nov 17, Twitter announced the launch of its transient Fleets feature for iOS and Android users worldwide. Once posted, Fleets can be viewed for 24 hours before they disappear so other users can no longer access them.

Valuation

Twitter shares are up 32.7% in the year-to-date period and 94.8% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector are up 16.6% and 11.5% in the year-to-date period, respectively. Over the past year, the Zacks sub-industry and sector are up 105.5% and 42.7%, respectively.

The S&P 500 Index has returned 5.2% in the year-to-date period in contrast to 18.4% increase in the year-ago period.

The stock is currently trading at 11.96X forward 12-month sales, which compares to 11.89X for the Zacks sub-industry, 5.1X for the Zacks sector and 4.59X for the S&P 500 index.

Over the past five years, the stock has traded as high as 11.98X and as low as 3.2X, with a 5-year median of 6.71X. Our Neutral recommendation indicates that the stock will perform in-line with the market. Our $76 price target reflects 12.56X forward 12-month sales.

The table below shows summary valuation data for TWTR

Valuation Multiples - TWTR					
		Stock	Sub-Industry	Sector	S&P 500
P/S F12M	Current	11.96	11.89	5.1	4.59
	5-Year High	11.98	11.89	5.10	4.59
	5-Year Low	3.2	3.02	2.79	3.21
	5-Year Median	6.71	5.77	3.5	3.68
P/B TTM	Current	7.18	15.51	10.01	6.7
	5-Year High	7.18	15.51	10.01	6.7
	5-Year Low	1.96	2.43	4.15	3.8
	5-Year Median	3.33	5.97	5.75	4.96
EV/Sales TTM	Current	13.56	14.66	5.96	4.46
	5-Year High	13.56	14.66	5.96	4.46
	5-Year Low	2.61	3.09	2.89	2.61
	5-Year Median	5.63	6.14	3.93	3.58
As of 02/12/2021			Source: Zacks Investment Research		

Past performance is no guarantee of future results. Please see important disclosures and definitions at the end of this report.

Zacks Equity Research   www.zackspro.com   Page 7 of 13

Industry Analysis Zacks Industry Rank: Bottom 26% (186 out of 253)

Source: Zacks Investment Research

Top Peers

Company (Ticker)	Rec	Rank
Baidu, Inc. (BIDU)	Outperform	1
Facebook, Inc. (FB)	Outperform	1
Momo Inc. (MOMO)	Neutral	3
Microsoft Corporation (MSFT)	Neutral	2
Pinterest, Inc. (PINS)	Neutral	2
Snap Inc. (SNAP)	Neutral	4
Sohu.com Inc. (SOHU)	Neutral	2
Tencent Holding Ltd. (TCEHY)	Neutral	3

The positions listed should not be deemed a recommendation to buy, hold or sell.

Industry Comparison Industry: Internet - Software

	TWTR	X Industry	S&P 500	Industry Peers BIDU	FB	MSFT
Zacks Recommendation (Long Term)	Neutral	-	-	Outperform	Outperform	Neutral
Zacks Rank (Short Term)	4	-	-	1	1	2
VGM Score	D	-	-	F	C	D
Market Cap	57.19 B	2.12 B	28.13 B	106.76 B	770.29 B	1,847.77 B
# of Analysts	13	5	13	2	16	16
Dividend Yield	0.00%	0.00%	1.4%	0.00%	0.00%	0.91%
Value Score	D	-	-	F	D	D
Cash/Price	0.17	0.06	0.06	0.23	0.08	0.07
EV/EBITDA	47.03	-2.31	14.95	29.92	17.69	25.88
PEG F1	3.52	5.17	2.36	NA	1.25	2.80
P/B	7.17	11.74	3.85	3.97	6.00	14.19
P/CF	NA	44.06	15.17	23.38	21.39	32.48
P/E F1	82.64	90.93	20.78	27.96	23.99	33.38
P/S TTM	15.39	10.34	3.05	7.03	8.96	12.05
Earnings Yield	1.21%	0.37%	4.73%	3.58%	4.17%	3.00%
Debt/Equity	0.32	0.01	0.68	0.31	0.00	0.42
Cash Flow ($/share)	-0.55	-0.00	6.76	13.39	12.65	7.54
Growth Score	B	-	-	C	B	C
Historical EPS Growth (3-5 Years)	NA%	20.75%	9.27%	10.18%	31.67%	21.45%
Projected EPS Growth (F1/F0)	200.44%	11.67%	14.04%	14.80%	11.75%	27.42%
Current Cash Flow Growth	-120.57%	3.62%	3.29%	-9.22%	48.63%	17.66%
Historical Cash Flow Growth (3-5 Years)	55.36%	19.29%	7.74%	10.85%	42.26%	10.19%
Current Ratio	4.42	1.91	1.38	2.65	5.05	2.58
Debt/Capital	24.38%	5.96%	41.33%	24.16%	0.00%	29.74%
Net Margin	-26.52%	-15.16%	10.58%	22.66%	33.90%	33.47%
Return on Equity	-11.32%	-6.52%	14.86%	10.78%	25.25%	42.19%
Sales/Assets	0.28	0.57	0.51	0.35	0.59	0.51
Projected Sales Growth (F1/F0)	25.03%	16.50%	6.33%	15.34%	26.13%	14.33%
Momentum Score	F	-	-	F	C	C
Daily Price Change	4.87%	0.22%	0.39%	1.10%	0.04%	0.20%
1-Week Price Change	12.37%	10.23%	4.58%	14.94%	3.78%	4.41%
4-Week Price Change	57.02%	15.66%	1.47%	25.70%	10.12%	15.01%
12-Week Price Change	64.83%	49.14%	9.09%	129.34%	-0.89%	15.33%
52-Week Price Change	93.49%	87.50%	8.71%	131.54%	26.91%	33.36%
20-Day Average Volume (Shares)	21,598,222	788,708	2,105,275	7,804,922	20,088,818	30,909,382
EPS F1 Estimate 1-Week Change	2.15%	0.00%	0.00%	0.00%	0.00%	0.00%
EPS F1 Estimate 4-Week Change	6.26%	0.00%	0.62%	19.56%	6.25%	9.11%
EPS F1 Estimate 12-Week Change	13.36%	0.00%	1.93%	31.01%	6.77%	8.92%
EPS Q1 Estimate Monthly Change	-6.85%	0.00%	0.30%	39.44%	10.28%	12.29%

Source: Zacks Investment Research

Zacks Stock Rating System

We offer two rating systems that take into account investors' holding horizons: Zacks Rank and Zacks Recommendation. Each provides valuable insights into the future profitability of the stock and can be used separately or in combination with each other depending on your investment style.

Zacks Recommendation

The Zacks Recommendation aims to predict performance over the next 6 to 12 months. The foundation for the quantitatively determined Zacks Recommendation is trends in the company's estimate revisions and earnings outlook. The Zacks Recommendation is broken down into 3 Levels; Outperform, Neutral and Underperform. Unlike many Wall Street firms, we maintain a balance between the number of Outperform and Neutral recommendations. Our team of 70 analysts are fully versed in the benefits of earnings estimate revisions and how that is harnessed through the Zacks quantitative rating system. But we have given our analysts the ability to override the Zacks Recommendation for the 1200 stocks that they follow. The reason for the analyst over-rides is that there are often factors such as valuation, industry conditions and management effectiveness that a trained investment professional can spot better than a quantitative model.

Zacks Rank

The Zacks Rank is our short-term rating system that is most effective over the one- to three-month holding horizon. The underlying driver for the quantitatively-determined Zacks Rank is the same as the Zacks Recommendation, and reflects trends in earnings estimate revisions.

Zacks Style Scores

The Zacks Style Score is as a complementary indicator to the Zacks rating system, giving investors a way to focus on the highest rated stocks that best fit their own stock picking preferences.

Academic research has proven that stocks with the best Value, Growth and Momentum characteristics outperform the market. The Zacks Style Scores rate stocks on each of these individual styles and assigns a rating of A, B, C, D and F. We also produce the VGM Score (V for Value, G for Growth and M for Momentum), which combines the weighted average of the individual Style Scores into one score. This is perfectly suited for those who want their stocks to have the best scores across the board.

Value Score	D
Growth Score	B
Momentum Score	F
VGM Score	D

As an investor, you want to buy stocks with the highest probability of success. That means buying stocks with a Zacks Recommendation of Outperform, which also has a Style Score of an A or a B.

Disclosures

This report contains independent commentary to be used for informational purposes only. The analysts contributing to this report do not hold any shares of this stock. The analysts contributing to this report do not serve on the board of the company that issued this stock.The EPS and revenue forecasts are the Zacks Consensus estimates, unless indicated otherwise on the reports first page. Additionally, the analysts contributing to this report certify that the views expressed herein accurately reflect the analysts personal views as to the subject securities and issuers. ZIR certifies that no part of the analysts compensation was, is, or will be, directly or indirectly, related to the specific recommendation or views expressed by the analyst in the report.

Additional information on the securities mentioned in this report is available upon request. This report is based on data obtained from sources we believe to be reliable, but is not guaranteed as to accuracy and does not purport to be complete. Any opinions expressed herein are subject to change.

ZIR is not an investment advisor and the report should not be construed as advice designed to meet the particular investment needs of any investor. Prior to making any investment decision, you are advised to consult with your broker, investment advisor, or other appropriate tax or financial professional to determine the suitability of any investment.This report and others like it are published regularly and not in response to episodic market activity or events affecting the securities industry.

This report is not to be construed as an offer or the solicitation of an offer to buy or sell the securities herein mentioned. ZIR or its officers, employees or customers may have a position long or short in the securities mentioned and buy or sell the securities from time to time.ZIR is not a broker-dealer.ZIR may enter into arms-length agreements with broker-dealers to provide this research to their clients.Zacks and its staff are not involved in investment banking activities for the stock issuer covered in this report.

ZIR uses the following rating system for the securities it covers. **Outperform-** ZIR expects that the subject company will outperform the broader U.S. equities markets over the next six to twelve months. **Neutral-** ZIR expects that the company will perform in line with the broader U.S. equities markets over the next six to twelve months. **Underperform-** ZIR expects the company will underperform the broader U.S. equities markets over the next six to twelve months.

No part of this report can be reprinted, republished or transmitted electronically without the prior written authorization of ZIR.

Past performance is no guarantee of future results. Please see important disclosures and definitions at the end of this report.

Zacks Equity Research   www.zackspro.com   Page 9 of 13

Additional Disclosure

This material represents an assessment of the market and economic environment at a specific point in time and is not intended to be a forecast of future events, or a guarantee of future results. Forward-looking statements are subject to certain risks and uncertainties. Any statements that refer to expectations, projections or characterizations of future events or circumstances, including any underlying assumptions, are forwardlooking statements. Actual results, performance, or achievements may differ materially from those expressed or implied.

Returns quoted represent past performance which is no guarantee of future results. Investment returns and principal value will fluctuate so that when shares are redeemed, they may be worth more or less than their original cost. Current performance may be higher or lower than the performance shown.

Investing involves risk; principal loss is possible. There is no guarantee that companies that can issue dividends will declare, continue to pay or increase dividends.

Glossary of Terms and Definitions

52-Week High-Low: The range of the highest and lowest prices at which a stock has traded during the past year. This range is determined based on the stock's daily closing price which may differ from the intra-day high or low. Many investors use it as a technical indicator to determine a stock's current value and future price movement. The idea here is that if price breaks out from the 52-week range, in either direction, the momentum may continue in the same direction.

20-Day Average Volume (Shares): The average number of shares of a company traded in a day over the last 20 days. It is a direct indication of a security's overall liquidity. The higher the average daily trading volume, the easier it is to enter or exit the stock at a desired price with more buyers and sellers being available.

Daily Price Change: This is the percentage difference between a trading day's closing price and the prior trading day's closing price. This item is updated at 9 p.m. EST each day.

1-Week Price Change: This is the percentage change in a stock's closing price over the last 5 trading days. This change reflects the collective buying and selling sentiment over the 1-week period.

A strong weekly price increase for the stock, especially when accompanied by increased volume, is an indication of it gaining momentum.

4-Week Price Change: This is the percentage change in a stock's closing price over the last 20 trading days or past 4 weeks. This is a mediumterm price change metric and an indication of the stock gaining momentum.

12-Week Price Change: This is the percentage change of a stock's closing price over the last 60 trading days or past 12 weeks. Similar to 4-week price change, this is a medium-term price change metric. It shows whether a stock has been enjoying strong investor demand, or if it has been in consolidation, or distress over this period.

52-Week Price Change: This is the percentage change in a stock's closing price over the last 260 trading days or past 52 weeks. This long-term price change metric is a good reference point for investors. Some investors seek stocks with the best percentage price change over the last 52 weeks, expecting the momentum to continue.

Market Cap: The number of outstanding common shares of a company times its latest price per share. This figure represents a company's size, which indicates various characteristics, including price stability and risk, in which investors could be interested.

Year-To-Date Price Change: Change in a stock's daily closing price in the period of time beginning the first day of the current calendar year through to the previous trading day.

# of Analysts: Number of EPS estimates used in calculating the current-quarter consensus. These estimates come from the brokerage analysts tracking this stock. However, the number of such analysts tracking this stock may not match the number of estimates, as all brokerage analysts may not come up with an estimate or provide it to us.

Beta: A measure of risk commonly used to compare the volatility of a stock to the overall market. The S&P 500 Index is the base for calculating beta and carries a value of 1. A stock with beta below 1 is less risky than the market as a whole. And a stock with beta above 1 is riskier.

Dividend: The portion of earnings a company is expected to distribute to its common shareholders in the next 12 months for each share they own. Dividends are usually paid quarterly. Dividend payments reflect positively on a company and help maintain investors' trust. Investors typically find dividend-paying stocks appealing because the dividend adds to any market price appreciation to result in higher return on investment (ROI). Moreover, a steady or increasing dividend payment provides investors a cushion in a down market.

Dividend Yield: The ratio of a company's annual dividend to its share price. The annual dividend used in the ratio is calculated based on the mostrecent dividend paid by the company. Dividend yield is an estimate of the dividend-only return from a stock in the next 12 months. Since dividend itself doesn't change frequently, dividend yield usually changes with a stock's price movement. As a result, often an unusually high dividend yield is a result of weak stock price.

S&P 500 Index: The Standard & Poor's 500 (S&P 500) Index is an unmanaged group of securities considered to be representative of the stock market in general. It is a market-capitalization-weighted index of stocks of the 500 largest U.S. companies. Each stock's weight in the index is proportionate to its market value.

Industry: One of the 250+ groups that Zacks classifies all stocks into based on the nature of business. These groups are termed as expanded (aka "X") industries and map to their respective (economic) sectors; Zacks has 16 sectors.

Past performance is no guarantee of future results. Please see important disclosures and definitions at the end of this report.

Zacks Equity Research   www.zackspro.com   Page 10 of 13

Zacks Industry Rank: The Zacks Industry Rank is determined by calculating the average Zacks Rank for all stocks in the industry and then assigning an ordinal rank to it. For example, an industry with an average Zacks Rank of 1.6 is better than an industry with an average Zacks Rank of 2.3. So, the industry with the better average Zacks Rank would get a better Zacks Industry Rank. If an industry has the best average Zacks Rank, it would be considered the top industry (1 out of 250+), which would place it at the top 1% of Zacks-ranked industries. Studies have shown that roughly half of a stock's price movement can be attributed to the industry group it belongs to. In fact, the top 50% of Zacks-ranked industries outperforms the bottom 50% by a factor of more than 2 to 1.

Last EPS Surprise: The percentage deviation of a company's last reported earnings per share from the Zacks Consensus Estimate. Companies with a positive earnings surprise are more likely to surprise again in the future (or miss again if they recently missed).

Last Sales Surprise: The percentage deviation of a company's last reported sales from the Zacks Consensus Estimate.

Expected Report Date: This is an estimated date of a company's next earnings release. The information originated or gathered by Zacks Investment Research from its information providers or publicly available sources is the basis of this estimate.

Earnings ESP: The Zacks Earnings ESP compares the Most Accurate Estimate to the Zacks Consensus Estimate for the yet-to-be reported quarter. The Most Accurate Estimate is the most recent version of the Zacks Consensus EPS Estimate. The idea here is that analysts revising their estimates closer to an earnings release have the latest information, which could potentially be more accurate than what they and others contributing to the consensus had predicted earlier. Thus, a positive or negative Earnings ESP reading theoretically indicates the likely deviation of the actual earnings from the consensus estimate. However, the model's predictive power is significant for positive ESP readings only. A positive Earnings ESP is a strong predictor of an earnings beat, particularly when combined with a Zacks Rank #1 (Strong Buy), #2 (Buy) or #3 (Hold). Our research shows that stocks with this combination produce a positive surprise nearly 70% of the time.

Periods:

TTM: Trailing 12 months. Using TTM figures is an effective way of analyzing the most-recent financial data in an annualized format that helps neutralize the effects of seasonality and other quarter-to-quarter variation.

F1: Current fiscal year. This period is used to analyze the estimates for the ongoing full fiscal year.

F2: Next fiscal year. This period is used to analyze the estimates for the next full fiscal year.

F12M: Forward 12 months. Using F12M figures is an effective way of analyzing the near-term (the following four unreported quarters) estimates in an annualized manner. Instead of typically representing estimates for the full fiscal year, which may not represent the nitty-gritty of each quarter, F12M figures suggest an all-inclusive annualized estimate for the following four quarters. The annualization helps neutralize the potential effects of seasonality and other quarter-to-quarter variations.

P/E Ratio: The price-to-earnings ratio measures a company's current market price per share relative to its earnings per share (EPS). Usually, the trailing-12-month (TTM) EPS, current-fiscal-year (F1) EPS estimate, or forward-12-month (F12M) EPS estimate is used as the denominator. In essence, this ratio shows what the market is willing to pay today for each dollar of EPS. In other words, this ratio gives a sense of what the relative value of the company is at the already reported level of earnings or at a future level of earnings.

It is one of the most widely-used multiples for determining the value of a company and helps comparing its valuation with that of a competitor, the industry group or a benchmark.

PEG Ratio: The price/earnings to growth ratio is a stock's P/E ratio using current fiscal year (F1) EPS estimate divided by its expected EPS growth rate over the coming 3 to 5 years. This ratio essentially determines a stock's value by factoring in the company's expected earnings growth and is thus believed to provide a more complete picture than just the P/E ratio, particularly for faster-growing companies.

P/S Ratio: The price-to-sales ratio is calculated as a company's current price per share divided by trailing 12 months (TTM) sales or revenues per share. This ratio shows what the market is willing to pay today for each dollar of TTM sales per share. The P/S ratio is at times the only valuation metric when the company has yet to become profitable.

Cash/Price Ratio: The cash-to-price ratio or Cash Yield is calculated as cash and marketable securities per share divided by the company's current share price. Like the earnings yield, which shows the anticipated yield (or return) on a stock from earnings for each dollar invested, the cash yield does the same, with cash being the source of return instead of earnings. For example, a cash/price ratio of 0.08 suggests a return of 8% or 8 cents for every $1 investment.

EV/EBITDA Ratio: The EV/EBITDA ratio, also known as Enterprise Multiple, is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by EBITDA (earnings before interest, taxes, depreciation and amortization). Usually, trailing-12-month (TTM) or forward-12-month (F12M) EBITDA is used as the denominator.

EV/Sales Ratio: The enterprise value-to-sales ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by annual sales. It is an expansion of the P/S valuation, which uses market value instead of enterprise value. The EV/Sales ratio is perceived as more accurate than P/S, in part, because the market capitalization does not take a company's debt into account when valuing it.

EV/CF Ratio: The enterprise value-to-cash flow ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by the trailing-12-month (TTM) operating cash flow. It's a measure of how long it would take to buy the entire business if you were able to use all the company's operating cash flow.

The EV/CF ratio is perceived as more accurate than the P/CF ratio, in part, because the market price does not take a company's debt into account when valuing it.

EV/FCF Ratio: The enterprise value-to-free cash flow metric compares a company's enterprise value to its trailing-12-month (TTM) free cash flow (FCF). This metric is very similar to the EV/CF ratio, but is considered a more exact measure owing to the fact that it uses free cash flow, which subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding growth activities and payments to shareholders.

P/EBITDA Ratio: The P/EBITDA ratio is calculated as a company's per share market value divided by EBITDA (earnings before interest, taxes, depreciation, and amortization). This metric is very similar to the EV/EBITDA ratio, but is considered a little less exact measure as it uses market price, which does not take a company's debt into account. However, since EBITDA is often considered a proxy for cash income, the metric is used as a measure of what the market is willing to pay today for each dollar of the company's cash profitability in the trailing 12 months (TTM) or forward 12 months (F12M).

P/B Ratio: The price-to-book ratio is calculated as a company's current price per share divided by its book value (total assets – liabilities – preferred stocks) per share. In short, the book value is how much a company is worth. In other words, it reflects the total value of a company's assets that its common shareholders would receive if it were to be liquidated. So, the P/B ratio indicates whether you're paying higher or lower than what would remain if the company went bankrupt immediately. Investors typically use this metric to determine how a company's stock price stacks up to its intrinsic value.

P/TB Ratio: The price-to-tangible-book value ratio is calculated as a the per share market value of a company divided by the value of its tangible assets (total assets – liabilities – preferred stocks – intangible assets) per share. Tangible book value is the same thing as book value except it excludes the value of intangible assets to get a step closer to the baseline value of the company.

P/CF Ratio: The price-to-cash flow ratio measures a company's per share market price relative to its trailing-12-month (TTM) operating cash flow per share. This metric is used to determine whether a company is undervalued or overvalued relative to another stock, industry or sector. And like the P/E ratio, a lower number is typically considered better from the value perspective.

One of the reasons why P/CF ratio is often preferred over P/E ratio is the fact that operating cash flow adds back non-cash expenses such as depreciation and amortization to net income. This feature helps valuing stocks that have positive cash flow but are not profitable because of large noncash charges.

P/FCF Ratio: The price-to-free cash flow ratio is an extension of P/CF ratio, which uses trailing-12-month (TTM) free cash flow per share instead of operating cash flow per share. This metric is considered a more exact measure than P/CF ratio, as free cash flow subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding activities that generate additional revenues.

Earnings Yield: The earnings yield is calculated as current fiscal year (F1) EPS estimate divided by the company's current share price. The ratio, which is the inverse of the P/E ratio, measures the anticipated yield (or return) from earnings for each dollar invested in a stock today.

For example, earnings yield for a stock, which is trading at $35 and expected to earn $3 per share in the current fiscal year (F1), would be 0.0857 (3/35 = 0.0857) or 8.57%. In other words, for $1 invested in the stock today, the yield from earnings is anticipated to be 8.57 cents.

Investors most commonly compare the earnings yield of a stock to that of a broad market index (such as the S&P 500) and prevailing interest rates, such as the current 10-year Treasury yield. Since bonds and stocks compete for investors' dollars, stock investors typically demand a higher yield for the extra risk they assume compared to investors of U.S. Treasury-backed securities that offer virtually risk-free returns. This additional return is referred to as the risk premium.

Debt/Equity Ratio: The debt-to-equity ratio is calculated as a company's total liabilities divided by its shareholder equity. This metric is used to gauge a company's financial leverage. In other words, it is a measure of the degree to which a company is financing its operations through debt versus its own funds. The higher the ratio, the higher the risk for shareholders.

However, this ratio is difficult to compare across industry groups where ideal amounts of debt vary. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-equity ratio should be compared with other companies in the same industry.

Cash Flow ($/share): Cash flow per share is calculated as operating cash flow (after-tax earnings + depreciation + other non-cash charges) divided by common shares outstanding. It is used by many investors as a measure of a company's financial strength. Since cash flow per share takes into consideration a company's ability to generate cash by adding back non-cash expenses, it is regarded by some as a more accurate measure of a company's financial situation than earnings per share, which could be artificially deflated.

Current Ratio: The current ratio or liquidity ratio is a company's current assets divided by its current liabilities. It measures a company's ability to pay short-term obligations. A current ratio that is in line with the industry average or slightly higher is generally considered acceptable. A current ratio that is lower than the industry average would indicate a higher risk of distress or default. A higher number is usually better. However, a very high current ratio compared to the industry average could be an indication of inefficient use of assets by management.

Debt/Capital Ratio: Debt-to-capital ratio is a company's total debt (interest-bearing debt + both short- and long-term liabilities) divided its total capital (interest-bearing debt + shareholders' equity). It is a measure of a company's financial leverage. All else being equal, the higher the debt-to-capital ratio, the riskier the stock.

However, this ratio can vary widely from industry to industry, the ideal amount of required debt being different. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-capital ratio should be compared with the same for its industry.

Net Margin: Net margin is calculated as net income divided by sales. It shows how much of each dollar in sales generated by a company translates into profit. For example, if a company's net margin is 15%, its net income is 15 cents for every $1 of sales it makes.

A change in margin can reflect either a change in business conditions, or a company's cost controls, or both. If a company's expenses are growing faster than sales, its net margin will decline. However, different net margin rates are considered good for different industries, so it's better to compare net margin rates of companies in the same industry group.

Return on Equity: Return on equity (ROE) is calculated as trailing-12-month net income divided by trailing-12-month average shareholder equity (including reinvested earnings). This metric is considered a measure of how effectively management is using a company's assets to generate profits. For example, if a company's ROE is 10%, it creates 10 cents profits for every $1 shareholder equity, which is basically the company's assets minus debt. A company's ROE deemed good or bad depends on what's normal for its peers or industry group.

Sales/Assets Ratio: The sales-to-assets ratio or asset utilization ratio or asset turnover ratio is calculated as a company's annual sales divided by average assets (average of assets at the beginning of the year and at the year's end). This metric helps investors understand how effectively a company is using its assets to generate sales. For example, a sales-to-assets ratio of 2.5 indicates that the company generated $2.50 in sales for every $1 of assets on its books.

The higher the sales-to-assets ratio, the better the company is performing. However, similar to many other ratios, the asset turnover ratio tends to be higher for companies in certain industries/sectors than in others. So, a company's sales-to-assets ratio should be compared with the same for its industry/sector.

Historical EPS Growth (3-5 Years): This is the average annual (trailing-12-month) EPS growth rate over the last 3-5 years. This metric helps investors see how a company's EPS has grown from a long-term perspective.

Note: There are many factors that can influence short-term numbers — a recession will reduce this number, while a recovery will inflate it. The longterm perspective helps smooth out short-term events.

Projected EPS Growth (F1/F0): This is the estimated EPS growth rate for the current financial year. It is calculated as the consensus estimate for the current fiscal year (F1) divided by the reported EPS for the last completed fiscal year (F0).

Current Cash Flow Growth: It measures the latest year-over-year change in operating cash flow. Cash flow growth tells an investor how quickly a company is generating inflows of cash from operations. A positive change in the cash flow is desired and shows that more 'cash' is coming in than going out.

Historical Cash Flow Growth (3-5 Years): This is the annualized change in cash flow over the last 3-5 years. The change in a longer period helps put the current reading into proper perspective. By looking at the rate, rather than the actual dollar value, the comparison across the industry and peers becomes easier.

Projected Sales Growth (F1/F0): This metric looks at the estimated sales growth for the current year. It is calculated as sales estimate for the current fiscal year (F1) divided by the reported sales for the last completed fiscal year (F0).

Like EPS growth, a higher rate is better for sales growth. A look at a company's projected sales growth instantly tells you what the outlook is for their products and services. However, different sales growth rates are considered good for different industries, so it's better to compare sales growth rates of companies in the same industry group.

EPS F1 Estimate 1-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past week. The change in a company's consensus EPS estimate (or earnings estimate revision) has proven to be strongly correlated with the near-term price movement of its shares. It is an integral part of the Zacks Rank.

If a stock's consensus EPS estimate is $1.10 now versus $1.00 a week ago, that will be reflected as a 10% upward revision. If, on the other hand, it went from $1.00 to 90 cents, that would be a 10% downward revision.

EPS F1 Estimate 4-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past four weeks.

A stock's earnings estimate revision in a 1-week period is important. But it's more meaningful to look at the longer-term revision. And, of course, the 4-week change helps put the 1-week change into proper perspective.

EPS F1 Estimate 12-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past 12 weeks.

This metric essentially shows how the consensus EPS estimate has changed over a period longer than 1 week or 4 weeks.

EPS Q1 Estimate Monthly Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal quarter over the past four weeks.

While the revision in consensus EPS estimate for the current fiscal year is strongly correlated with the near-term price movement of its shares, the estimate revision for the current fiscal quarter is an important metric as well, especially over the short term, and particularly as a stock approaches its earnings date. If a stock's Q1 EPS estimate decreases ahead of its earnings release, it's usually a negative sign, whereas an increase is a positive sign.