Hewlett Packard (HPE)

$14.19 (As of 02/11/21)

Price Target (6-12 Months): **$15.00**

Long Term: 6-12 Months	**Zacks Recommendation:** **Neutral**
	(Since: 02/02/21)
	Prior Recommendation: Underperform
Short Term: 1-3 Months	**Zacks Rank:** (1-5) **3-Hold**
	Zacks Style Scores: VGM:B
	Value: A	Growth: C	Momentum: D

Summary

Hewlett Packard Enterprise is benefiting from strong executions in clearing backlogs, improved supply-chain and increased customer acceptance. HPE's efforts to shift focus to higher margin offerings like Intelligent Edge and Aruba Central Hyperconverged Infrastructure is aiding its bottom-line results. Additionally, its target of saving at least $800 million annually by fiscal 2022-end through cost optimization plan is a positive. Moreover, its multi-billion-dollar investment plan across expanding networking capabilities will help diversify business from server and hardware storage markets, and boost margins over the long run. Nonetheless, organizations are pushing back their investments in big and expensive technology products due to global economic slowdown concerns, which can undermine HPE's near-term growth prospects.
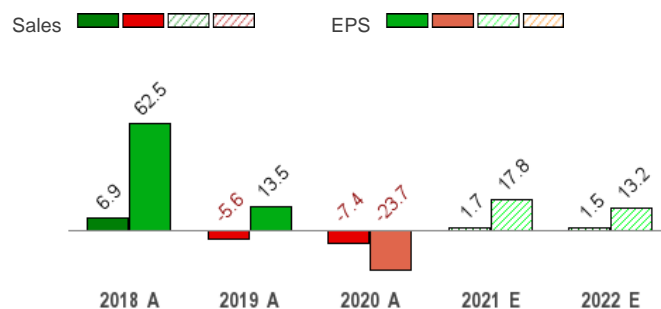
Price, Consensus & Surprise

Source: Zacks Investment Research

Data Overview

52-Week High-Low	$14.82 - $7.43
20-Day Average Volume (Shares)	9,084,723
Market Cap	$18.4 B
Year-To-Date Price Change	19.8%
Beta	1.36
Dividend / Dividend Yield	$0.48 / 3.4%
Industry	Computer - Integrated Systems
Zacks Industry Rank	Bottom 18% (208 out of 253)
Last EPS Surprise	8.8%
Last Sales Surprise	4.8%
EPS F1 Estimate 4-Week Change	1.5%
Expected Report Date	03/02/2021
Earnings ESP	7.1%
P/E TTM	10.5
P/E F1	8.9
PEG F1	1.8
P/S TTM	0.7

Sales and EPS Growth Rates (Y/Y %)

Sales Estimates (millions of $)

	Q1	Q2	Q3	Q4	Annual*
2022	6,935 E	6,803 E	6,884 E	7,290 E	27,856 E
2021	6,799 E	6,497 E	6,757 E	7,170 E	27,442 E
2020	6,949 A	6,009 A	6,816 A	7,208 A	26,982 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2022	$0.44 E	$0.45 E	$0.47 E	$0.54 E	$1.80 E
2021	$0.40 E	$0.34 E	$0.40 E	$0.47 E	$1.59 E
2020	$0.44 A	$0.22 A	$0.32 A	$0.37 A	$1.35 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 02/11/2021. The report's text and the analyst-provided price target are as of 02/12/2021.

Overview

Headquartered in Palo Alto, CA, Hewlett Packard Enterprise Company was formed as a result of the split of Hewlett-Packard Company into two separate entities – one focusing on the enterprise-facing hardware and service business and the other focusing on the consumer-facing computer and printer segments.

Effective Nov 1, 2015, the enterprise and service business-oriented company, Hewlett Packard Enterprise, started trading under the ticker symbol "HPE", while the PC-focused business named, HP Inc., continues to trade under the symbol "HPQ". During fiscal 2017, the company divested its two business segments — Enterprise Services and Software.

Effective first-quarter fiscal 2020, Hewlett Packard started reporting financial results under six Qsegments – Compute, High Performance Compute & Mission-Critical Systems (HPC & MCS), Storage, Advisory and Professional Services (A & PS), Intelligent Edge and Financial Services. In fiscal 2020, the company reported revenues of $27 billion.

Compute segment (45% of fiscal 2020 revenues) includes general purpose server and certain workload optimized server portfolios.

HPC & MCS division (11%) consists of high performance compute, mission-critical systems, and edge compute offerings.

EPS Hist. and Est.

Sales Hist. and Est.

Storage unit (17%) combines the former Hybrid IT-Storage business unit, the related operational services business and the hyperconverged infrastructure products.

A & PS segment (4%) consists of the consultative-led services which were previously a part of the Hybrid IT-HPE Pointnext business unit.

Intelligent Edge (11%) includes HPE Aruba and HPE Aruba Services, containing primarily the WLAN portion of the old "networking" segment with a small portion of the old "technology services" segment.

The Financial Services segment (12%) offers leasing, financing, IT consumption and utility programs, and asset management services.

The company markets and sells its products through distribution partners, resellers, original equipment manufacturers (OEMs), systems integrators, independent software vendors, and advisory firms.
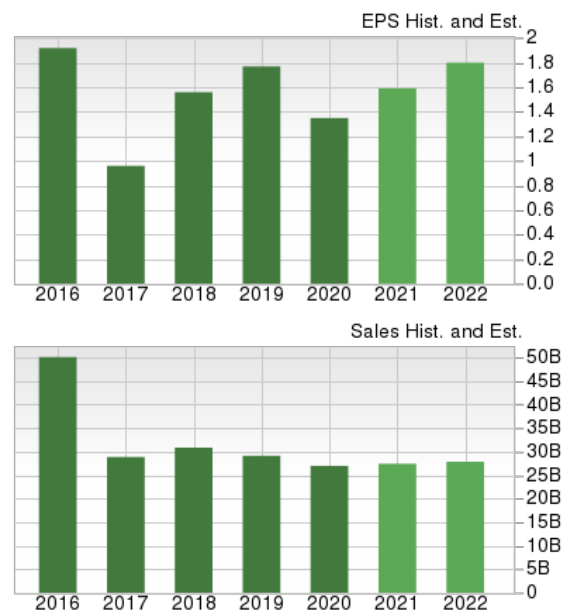
Source: Zacks Investment Research

Reasons To Buy:

▲ After the split from its parent company, Hewlett Packard Enterprise has made it clear that it will focus on restructuring and realigning its businesses to drive long-term sustainable growth and improvise margins. This indicates that we may see Hewlett Packard Enterprise becoming even smaller with spin offs, or acquiring assets to enhance its capabilities in the hybrid IT model. By trimming its size, the company intends to focus more on high margin businesses including enterprise class server and storage markets. Moreover, by selling assets which are not doing well and have limited growth potential, the company will be able to mobilize resources to the fast-growing areas of the cloud such as software defined networks (SDN) and converged and hyper-converged infrastructure. This will also help it to better compete with players like Oracle, Cisco and NetApp.

> Hewlett Packard's efforts to shift focus to higher margin offerings like Intelligent Edge and Aruba Central Hyperconverged Infrastructure are expected to drive its bottom-line results in the long-run.

▲ The spin-off of Enterprise Services business and merger of the same with Computer Sciences has opened new avenues of growth for the combined entity as well as has unlocked value for Hewlett Packard Enterprise's shareholders. The deal has combined Computer Sciences' strength in insurance, healthcare and financial services with Hewlett Packard Enterprise's expertise in fields such as transportation, pharma, technology, media and telecom. Post-merger, the combined entity — DXC Technology — has become the world's second-largest IT services company after Accenture plc, generating revenues of approximately $21 billion annually.

▲ Hewlett Packard Enterprise has been pursuing acquisitions to focus more on high-margin hybrid IT models that leverage on-premises and cloud-computing power. Last year's acquisitions of Cray and MapR strengthened its capabilities in high-performance computing and data-analytics platforms. In 2018, Hewlett Packard Enterprise acquired five businesses mainly focused on expanding its footprint in the hybrid IT models. We believe the company's focus on hybrid IT model will drive growth in the long run. Some other notable acquisitions by Hewlett Packard Enterprise in the hybrid IT space are SimpliVity and Cloud Technology Partners.

▲ Hewlett Packard Enterprise views Artificial Intelligence (AI), Industrial Internet of Things (IoT), and distributed computing as the next major markets. Therefore, the company in 2018 decided to invest $4 billion through 2022 to enhance its capabilities across the aforementioned space. Hewlett Packard Enterprise has linked these businesses to its fast-growing networking business arm — Aruba Networks. The strategy would also help Hewlett Packard Enterprise diversify its business from server and hardware storage markets. Notably, server and hardware storage markets have been witnessing stagnant growth for the past several quarters as more and more organizations are shifting to cloud computing due to their cost-effectiveness and anywhere accessibility features.

▲ Hewlett Packard Enterprise can be considered as a below-average leveraged company as its current total debt to total capital ratio of 0.35 is significantly lower than the industry average of 0.62. As of Oct 31, 2020, the company had debt (long-term including current maturities) of approximately $15.9 billion while had cash and cash equivalents of just $4.2 billion. Though its low cash balance in comparison with debt is a concern, the company's strong cash-flow generation capabilities have helped it serve financial obligations efficiently. Hewlett Packard has generated approximately $2.2 billion of operating cash flow in the trailing 12 months, signifying its ability to generate enough operating income to service its financial obligations without any problems.

▲ Hewlett Packard Enterprise's strong operating cash flow has helped it return cash through regular quarterly dividend payment and share repurchases. In the trailing 12 months, the company has generated approximately $2.2 billion of operating cash flow and distributed approximately $975 million through share repurchases and dividend payments. Share repurchases and dividend payments are good way of returning cash to investors while boosting the company's earnings. The company completed its plan to return $7 billion to shareholders in the form of share repurchases and dividends over fiscal years 2018 and 2019.

Reasons To Sell:

▼ Hewlett Packard Enterprise is facing weaker server demand due to macroeconomic uncertainties. The company is witnessing demand and supply disruptions for its servers due to the coronavirus outbreak in China, one of its biggest markets. Capacity constraint in the North American facility is also impacting server-component supply. Furthermore, organizations are pushing back their big and expensive technology products due to a slowdown in global economic growth. Additionally, more and more organizations continue to shift to cloud computing owing to their maintenance-free and cost effectiveness compared with standalone servers.

▼ The acquisition of EMC by Dell has posed new challenges for Hewlett Packard Enterprise. With the acquisition, Dell has become one of the major players in the cloud services and data storage market. EMC Corporation (stylized as EMC) offers data storage, information security, virtualization, analytics, cloud computing and other products and services that enable businesses to store, manage, protect, and analyze data. VMware is its subsidiary that focuses on cloud and virtualization software and services for its parent company. Therefore, the acquisition of EMC along with its privately-controlled structure will provide Dell an unmatched scale, strength and flexibility to deepen its relationships with customers of all sizes.

▼ Hewlett Packard Enterprise's market share and revenues necessarily depend on client relationships and the number of contracts it secures. This, along with the limited scope for product differentiation, makes the renegotiation of large contracts extremely important. Competition from bigger companies is a major concern. Hewlett Packard Enterprise has to deal with strong competition at each of its business segments on the basis of technology, innovation, price, quality, reliability, etc. The company's business units are pitted against IBM, Dell, Cisco and Microsoft. Its Financial Services business faces competition from captive financing companies, mainly IBM Global Financing, as well as banks and other financial institutions. Such intense competition across the business segments naturally increases pricing pressure, which may have a negative impact on the company's profitability.

▼ Usually, more than 60% of Hewlett Packard Enterprise's total revenues come from businesses outside the United States. An economic condition, which impacts the foreign currency exchange rates, results in transaction exposure, inducing fluctuation in profits. The U.S. dollar value being stronger in comparison to other currencies, the top line of the company is likely to be negatively impacted over the next few quarters.

▼ The United States and China's tit-for-tat trade war is a major threat to the company. Further, longer sales cycles, which are stretching the time to close certain deals is a major overhang. Execution challenges faced by the company in Intelligent Edge segment around Aruba sales are hurting its top-line growth.

Weaker server demand due to macroeconomic uncertainties, supply constraint, and ongoing shift to cloud computing is likely to continue hurting Hewlett Packard's near-term results.

Last Earnings Report

Hewlett Packard Q4 Earnings & Revenues Beat Estimates

Hewlett Packard delivered fourth-quarter fiscal 2020 non-GAAP earnings of 37 cents per share, which surpassed the Zacks Consensus Estimate of 34 cents. However, the reported figure comes in lower than the year-ago number of 49 cents.

Revenues of $7.2 billion were down 0.1% from the prior-year quarter. However, the top line grew 6% sequentially and 5% at constant currency, mainly driven by solid execution in clearing a backlog of approximately $250 million. The reported figure beat the Zacks Consensus Estimate of $6.88 billion.

Quarter Ending	10/2020
Report Date	Dec 01, 2020
Sales Surprise	4.77%
EPS Surprise	8.82%
Quarterly EPS	0.37
Annual EPS (TTM)	1.35

The top-line growth was primarily driven by strong momentum in the as-a-service platform and significant contributions from growth businesses such as HPC & MCS and Intelligent Edge.

Moreover, higher demand for the company's edge-to-cloud and software-as-a-service data storage solutions in the coronavirus-induced remote working environment was a major growth driver. Also, growing traction of its cloud-native Aruba Edge Services platform has benefited the company's quarterly results.

Further, the annualized revenue run-rate (ARR) was up 30% year over year and 11% sequentially, to $585 million.

Quarterly Details

Segment-wise, the company registered sequential sales growth across most of its business segments.

Revenues from the Storage business were up 8% sequentially to $1.2 billion on improved operations, execution and reduction in backlog. HPC & MCS revenues grew 50% quarter on quarter to $975 million, primarily due to strong adoption of Cray, HPC-Apollo and MCS.

Revenues in the Intelligent Edge division rose 15% sequentially to $786 million during the quarter. A&PS sales rose 8% quarter on quarter to $245 million and Financial Service revenues were up 5% sequentially to $849 million.

Additionally, a significant contribution from the company's solid partner base, which includes Citrix, Nutanix, NVIDIA Corporation, VMware and Wipro, has driven customer base expansion in the fourth quarter.

However, The Compute division's sales declined 6% quarter on quarter to $3.2 billion.

Notably, the company partnered with Red Hat and NVIDIA to launch HPE Inference Solution on HP ProLiant servers to facilitate machine learning in Artificial Intelligence (AI) and containers market.

Further, Hewlett Packard completed the acquisition of Silver Peak in the recently concluded quarter. Management expects this acquisition to fuel growth for the company's Aruba SD-WAN (Software-Defined Wide Area Network) solution.

Operating Results

Non-GAAP gross margin of 30.6% contracted 270 basis points (bps) on a year-over-year basis while increasing 20 bps sequentially.

HPE's non-GAAP operating profit climbed 15.1% quarter on quarter to $557 million. Non-GAAP operating margin of 7.7% improved 60 bps sequentially but shrunk 250 bps from the year-ago quarter's level.

Balance Sheet and Cash Flow

The company ended the fiscal fourth quarter with $4.23 billion in cash and cash equivalents compared with the $8.47 billion recorded at the end of the third quarter.

During the reported period, Hewlett Packard generated operating and free cash flows of $747 million and $223 million, respectively. During fiscal 2020, it generated operating and free cash flows of $2.24 billion and $560 million, respectively.

Moreover, management provided an update on its cost-optimization plan, which will be implemented through fiscal 2022, including changes to the company's workforce, real estate model and business process improvements. Hewlett Packard continues to expect at least $800 million in annualized savings by the end of fiscal 2022.

Guidance

For first-quarter fiscal 2021, Hewlett Packard expects non-GAAP earnings between 40 cents and 44 cents per share. Further, the company expects strong consumer demand for its cloud services to continue in the fiscal first quarter. Moreover, the contribution from Silver Peak's acquisition is expected to serve as a key catalyst for the company's SD-WAN platform.

Additionally, the company raised its fiscal 2021 non-GAAP earnings outlook to $1.60-$1.78 from $1.56-$1.76 forecasted earlier.

Recent News

On Feb 11, HPE furthered its efforts in space exploration and increasing self-sufficiency for astronauts with real-time data processing enabled advanced commercial edge computing in space.

On Feb 10, HPE unveiled a supercomputer for the U.S. Air Force to support weather modeling and forecasting projects for the U.S. Army and Air Force missions worldwide. The system, powered by the HPE Cray EX supercomputers, was built in partnership with the U.S. Department of Energy's Oak Ridge National Laboratory.

On Jan 27, Hewlett Packard announced winning a $35 million contract to build a new supercomputer using its end-to-end high performance computing (HPC) technologies for the National Center for Atmospheric Research (NCAR).

On Dec. 15, Hewlett Packard announced that LendingTree has standardized on Aruba ESP (Edge Services Platform) in its North Carolina headquarters and across its branch offices, to enable a mobile-first work environment and elevated user experiences for its employees.

On Dec 14, Hewlett Packard announced that the National Tree Company has restructured their IT infrastructure with HPE Nimble Storage dHCI for better performance when processing customer orders.

On Nov 10, Hewlett Packard announced new GreenLake VDI cloud services which leverage on technologies from key HPE partners including Citrix, Nutanix, NVIDIA and VMware, to provide optimized solutions to remote employees.

Further, Hewlett Packard announced that it will deliver its secure Virtual Desktop Infrastructure (VDI) solutions to remote and onsite hospital staff at Erasmus Medical Center (MC), located in Rotterdam, Netherlands

Moreover, Hewlett Packard announced that it has planned to partner with Wipro Limited to enable the latter to deliver hybrid cloud and infrastructure solutions as a service to its customers with the help of HPE GreenLake.

On Nov 9, Hewlett Packard announced enhancements to the HPE Partner Ready Program to enable their partners to capture market opportunities and drive revenue growth in the small- and medium-sized business (SMB) segment.

On Nov 2, Hewlett Packard announced that HPE GreenLake was selected by Macrogen for the modernization of their IT operations and to meet the challenging demands of the latest genomic analysis systems.

On Oct 28, Hewlett Packard announced that HPE GreenLake was selected by Center of Corporate Solutions (CSS), a service provider for NLMK Group and UCL Holding, to support its digital modernization efforts and meet the increased demand for its corporate services.

On Oct 26, Hewlett Packard announced that Pentagon has selected Aruba's ESP-based infrastructure to modernize its classified and unclassified networks to support over tens of thousands of devices daily.

On Oct 21, Hewlett Packard announced that it has been awarded a contract of more than $160 million by the European High-Performance Computing Joint Undertaking (EuroHPC JU) to build one of the world's fastest supercomputers that will be based in Finland.

On Oct 1, Hewlett Packard announced that it is building a new supercomputer with quadrupled performance1 for the U.S. Department of Energy's National Nuclear Security Administration (NNSA).

Valuation

Hewlett Packard shares gained 25.1% in the 6-month period while has lost 12.4% over the trailing 12-month period. Stocks in the Zacks sub-industry have increased 0.3% while the Zacks Computer & Technology sector is up 18.7% in the last six months. Over the past year, while the Zacks sub-industry has decreased 17.1%, the sector gained 36.5%.

The S&P 500 Index has increased 13.8% in the 6-month period and 16% in the past year.

The stock is currently trading at 8.59X forward 12-month earnings, which compares to 14.26X for the Zacks sub-industry, 29.3X for the Zacks sector and 22.86X for the S&P 500 index.

Over the past five years, the stock has traded as high as 34.19X and as low as 4.33X with a 5-year median of 9.92X. Our Neutral recommendation indicates that the stock will perform in-line with the market. Our $15 price target reflects 9.02X forward 12-month earnings.

The table below shows summary valuation data for HPE

Valuation Multiples - HPE

		Stock	Sub-Industry	Sector	S&P 500
P/E F12M	Current	8.59	14.26	29.3	22.86
	5-Year High	34.19	14.26	29.3	23.8
	5-Year Low	4.33	7.96	16.94	15.3
	5-Year Median	9.92	10.57	19.96	17.85
P/S F12M	Current	0.67	1.4	5.00	4.54
	5-Year High	1.01	1.84	5.00	4.54
	5-Year Low	0.36	1.1	2.78	3.20
	5-Year Median	0.71	1.45	3.49	3.77
EV/EBITDA TTM	Current	5.01	7.8	12.09	11.25
	5-Year High	13.35	10.74	12.72	12.86
	5-Year Low	2.99	5.71	8.73	8.28

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 6 of 13

| | 5-Year Median | 4.73 | 8.4 | 11.35 | 11.22 |

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 18% (208 out of 253)

Source: Zacks Investment Research

Top Peers

Company (Ticker)	Rec	Rank
Agilysys, Inc. **(AGYS)**	Neutral	3
FARO Technologies, Inc. **(FARO)**	Neutral	3
International Business Machines Corporation **(IBM)**	Neutral	3
NCR Corporation **(NCR)**	Neutral	3
PAR Technology Corporation **(PAR)**	Neutral	3
USA Technologies, Inc. **(USAT)**	Neutral	3
ZoomInfo Technologies Inc. **(ZI)**	Neutral	3
Iteris, Inc. **(ITI)**	Underperform	5

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

Industry Comparison Industry: Computer - Integrated Systems   Industry Peers

	HPE	X Industry	S&P 500	FARO	NCR	PAR
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	3	-	-	3	3	3
VGM Score	B	-	-	D	A	C
Market Cap	18.35 B	1.32 B	27.73 B	1.41 B	4.48 B	1.81 B
# of Analysts	6	3	13	1	6	1
Dividend Yield	3.38%	0.00%	1.43%	0.00%	0.00%	0.00%
Value Score	A	-	-	D	A	F
Cash/Price	0.25	0.10	0.06	0.12	0.34	0.03
EV/EBITDA	8.06	-20.82	14.86	-29.96	7.05	-252.47
PEG F1	1.80	1.38	2.36	NA	NA	NA
P/B	1.13	4.39	3.88	4.51	4.26	22.93
P/CF	3.47	8.98	15.06	46.37	7.31	NA
P/E F1	9.01	44.85	20.72	68.91	13.81	NA
P/S TTM	0.68	2.10	3.05	4.49	0.72	8.71
Earnings Yield	11.21%	1.45%	4.73%	1.45%	7.26%	-1.42%
Debt/Equity	0.76	0.09	0.68	0.00	3.11	1.57
Cash Flow ($/share)	4.09	0.00	6.76	1.71	4.75	-0.13
Growth Score	C	-	-	C	C	B
Historical EPS Growth (3-5 Years)	-3.60%	-4.35%	9.27%	-15.81%	-5.26%	NA
Projected EPS Growth (F1/F0)	17.90%	50.35%	14.04%	470.97%	48.82%	23.23%
Current Cash Flow Growth	6.14%	-18.41%	3.29%	13.79%	-19.53%	621.28%
Historical Cash Flow Growth (3-5 Years)	-4.42%	-4.05%	7.74%	-4.05%	0.23%	NA
Current Ratio	0.88	1.50	1.38	3.05	1.19	3.05
Debt/Capital	43.09%	14.10%	41.33%	0.00%	77.12%	61.10%
Net Margin	-1.19%	-1.28%	10.58%	-24.28%	-1.37%	-14.14%
Return on Equity	10.73%	1.08%	14.86%	-1.58%	21.20%	-22.99%
Sales/Assets	0.49	0.75	0.51	0.68	0.66	0.96
Projected Sales Growth (F1/F0)	1.70%	1.99%	6.33%	25.53%	5.68%	17.26%
Momentum Score	D	-	-	C	B	B
Daily Price Change	1.65%	0.06%	-0.09%	-0.68%	0.12%	0.70%
1-Week Price Change	6.48%	6.48%	4.58%	11.11%	10.91%	27.18%
4-Week Price Change	13.70%	8.48%	0.84%	7.81%	0.43%	19.91%
12-Week Price Change	35.27%	33.54%	8.82%	20.99%	33.54%	59.34%
52-Week Price Change	-3.47%	11.45%	8.85%	40.51%	4.96%	166.80%
20-Day Average Volume (Shares)	9,084,723	224,324	2,105,275	86,835	1,290,839	224,011
EPS F1 Estimate 1-Week Change	0.00%	0.00%	0.00%	0.00%	0.94%	13.13%
EPS F1 Estimate 4-Week Change	1.47%	0.00%	0.62%	0.00%	2.10%	13.13%
EPS F1 Estimate 12-Week Change	-77.00%	-1.43%	1.93%	0.00%	4.86%	13.13%
EPS Q1 Estimate Monthly Change	-6.25%	-2.29%	0.30%	NA	-0.52%	0.00%

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	A
Growth Score	C
Momentum Score	D
VGM Score	B

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

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.

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 12 of 13

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.