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Industry Observations – September 30, 2019

## Business Services Industry

## Select Business Services Public Company Industry Data As of September 30, 2019

(USD in millions, except per share data)

USD in millions, except per share data

Company Name	Ticker	Market Data					LTM Operating Data			Forward Estimates	
		Price at 09/30/19	% of 52 Week High	Equity Value	Enterprise Value	Debt / Total Capital	Total Assets	LTM Revenue	LTM EBITDA	CY 2019 Revenue Estimate	CY 2019 EBITDA Estimate
Advertising											
Omnicom Group Inc.	OMC	\$ 78.30	92.1%	\$ 17,032.1	\$ 22,200.0	67.9%	\$ 23,653.5	\$ 14,899.2	\$ 2,317.4	\$14,882.69	\$2,360.80
The Interpublic Group of Companies, Inc.	IPG	\$ 21.56	85.9%	\$ 8,348.5	\$ 13,452.7	67.5%	\$ 16,526.9	\$ 8,440.1	\$ 1,354.3	\$8,662.78	\$1,435.26
Lamar Advertising Company (REIT)	LAMR	\$ 81.93	97.0%	\$ 8,223.9	\$ 12,382.4	78.6%	\$ 5,799.2	\$ 1,679.6	\$ 725.4	\$1,747.59	\$777.74
Clear Channel Outdoor Holdings, Inc.	CCO	\$ 2.52	39.5%	\$ 1,164.2	\$ 8,292.8	143.1%	\$ 6,428.0	\$ 2,696.5	\$ 574.4	\$2,690.79	\$604.56
Consumer Credit Reporting, Mercantile Reporting, and Adjustment and Collection Agency											
S&P Global Inc.	SPGI	\$ 244.98	90.9%	\$ 60,338.6	\$ 64,799.6	64.1%	\$ 10,185.0	\$ 6,357.0	\$ 3,149.0	\$6,598.89	\$3,349.22
Moody's Corporation	MCO	\$ 204.83	91.9%	\$ 38,753.8	\$ 43,647.5	91.2%	\$ 9,591.6	\$ 4,496.6	\$ 2,103.0	\$4,699.57	\$2,241.95
Equifax Inc.	EFX	\$ 140.67	94.7%	\$ 17,004.8	\$ 19,891.2	53.5%	\$ 7,473.5	\$ 3,395.6	\$ 672.8	\$3,478.61	\$1,180.71
DNB ASA	DNB	\$ 17.64	93.3%	\$ 27,600.1	\$ -	0.0%	\$337,584.2	\$ 6,319.0	NA	\$55,148.66	\$0.00
Services to Dwellings and Other Buildings											
Rollins, Inc.	ROL	\$ 34.07	77.6%	\$ 11,157.5	\$ 11,598.4	41.8%	\$ 1,729.8	\$ 1,885.4	\$ 372.9	\$2,000.06	\$398.18
Healthcare Services Group, Inc.	HCSG	\$ 24.29	49.8%	\$ 1,800.2	\$ 1,754.0	9.9%	\$ 710.1	\$ 1,944.9	\$ 111.3	\$1,845.80	\$116.64
ABM Industries Incorporated	ABM	\$ 36.32	85.1%	\$ 2,412.2	\$ 3,288.4	38.4%	\$ 3,744.0	\$ 6,499.3	\$ 309.3	\$6,554.04	\$339.09
Miscellaneous Equipment Rental and Leasing											
United Rentals, Inc.	URI	\$ 124.64	74.5%	\$ 9,617.6	\$ 21,904.6	77.2%	\$ 19,405.0	\$ 9,201.0	\$ 2,648.0	\$9,311.36	\$4,398.14
Aaron's, Inc.	AAN	\$ 64.26	93.9%	\$ 4,340.6	\$ 4,975.1	28.4%	\$ 3,180.2	\$ 3,926.5	\$ 615.7	\$3,977.74	\$440.85
TAL Education Group	TAL	\$ 34.24	86.3%	\$ 20,261.3	\$ 19,460.8	29.3%	\$ 5,101.4	\$ 2,715.1	\$ 420.2	\$3,148.55	\$460.70
Apollo Power Ltd	APLP	\$ 0.44	87.5%	\$ 5.4	\$ 5.1	19.0%	\$ 1.3	\$ -	\$ (2.2)	\$0.00	\$0.00
Rent-A-Center, Inc.	RCII	\$ 25.79	91.3%	\$ 1,399.6	\$ 1,858.8	67.5%	\$ 1,744.2	\$ 2,659.3	\$ 216.9	\$2,639.25	\$253.84
Personnel Supply Services											
ManpowerGroup Inc.	MAN	\$ 84.24	86.0%	\$ 5,040.9	\$ 5,866.9	33.0%	\$ 8,747.3	\$ 21,060.1	\$ 848.3	\$20,859.82	\$793.19
Robert Half International Inc.	RHI	\$ 55.66	78.1%	\$ 6,429.3	\$ 6,430.4	19.6%	\$ 2,239.4	\$ 5,932.8	\$ 674.3	\$6,078.06	\$693.99
ASGN Incorporated	ASGN	\$ 62.86	79.1%	\$ 3,325.3	\$ 4,404.7	46.6%	\$ 2,799.0	\$ 3,732.1	\$ 397.3	\$3,900.47	\$445.11
Korn Ferry	KFY	\$ 38.64	77.4%	\$ 2,162.9	\$ 2,223.6	27.6%	\$ 2,406.6	\$ 1,945.0	\$ 280.5	\$1,955.30	\$310.31
TrueBlue, Inc.	TBI	\$ 21.10	79.7%	\$ 817.7	\$ 859.7	9.6%	\$ 1,094.9	\$ 2,471.5	\$ 121.7	\$2,375.04	\$111.68

Notes: LTM (latest twelve months); Enterprise Value (market capitalization less total cash and short-term investments plus short-term borrowings and total long-term debt);

EBITDA (earnings before interest, taxes, depreciation and amortization)

Source: Capital IQ

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## Select Business Services Public Company Industry Data As of September 30, 2019

(USD in millions, except per share data)

USD in millions, except per share data

Company Name	Ticker	Market Data					LTM Operating Data			Forward Estimates	
		Price at 09/30/19	% of 52 Week High	Equity Value	Enterprise Value	Debt / Total Capital	Total Assets	LTM Revenue	LTM EBITDA	CY 2019 Revenue Estimate	CY 2019 EBITDA Estimate
Computer Programming, Data Processing, and Other Computer Related Services											
Alphabet Inc.	GOOG	\$ 1,219.00	94.5%	\$ 845,993.1	\$ 739,163.1	6.9%	\$257,101.0	\$148,299.0	\$43,507.0	\$161,757.81	\$59,017.54
Microsoft Corporation	MSFT	\$ 139.03	97.7%	\$1,061,551.0	\$1,014,174.0	45.8%	\$286,556.0	\$125,843.0	\$54,559.0	\$132,475.23	\$57,744.15
International Business Machines Corporation	IBM	\$ 145.42	94.2%	\$ 128,824.0	\$ 160,982.0	79.8%	\$149,620.0	\$ 77,130.0	\$15,658.0	\$77,156.72	\$18,075.52
Facebook, Inc.	FB	\$ 178.08	85.3%	\$ 508,053.4	\$ 467,661.4	8.5%	\$117,006.0	\$ 62,604.0	\$26,732.0	\$70,240.02	\$37,875.94
Oracle Corporation	ORCL	\$ 55.03	91.0%	\$ 180,636.9	\$ 202,294.9	74.9%	\$106,229.0	\$ 39,531.0	\$16,168.0	\$39,625.58	\$18,612.35
eBay Inc.	EBAY	\$ 38.98	92.8%	\$ 32,695.0	\$ 38,216.0	70.9%	\$ 21,169.0	\$ 10,856.0	\$ 3,141.0	\$10,823.10	\$3,721.35
Booking Holdings Inc.	BKNG	\$1,962.61	94.3%	\$ 83,434.3	\$ 85,935.3	63.7%	\$ 21,494.0	\$ 14,749.0	\$ 5,666.0	\$15,204.59	\$5,910.40
VMware, Inc.	VMW	\$ 150.06	72.6%	\$ 61,319.3	\$ 63,352.3	48.9%	\$ 20,372.0	\$ 9,496.0	\$ 2,517.0	\$10,029.06	\$3,877.64
Automatic Data Processing, Inc.	ADP	\$ 161.42	92.5%	\$ 70,007.7	\$ 70,312.2	29.5%	\$ 41,887.7	\$ 14,175.2	\$ 3,489.4	\$14,564.14	\$3,639.63
Adobe Inc.	ADBE	\$ 276.25	88.2%	\$ 133,726.7	\$ 134,213.4	28.8%	\$ 20,054.9	\$ 10,644.0	\$ 3,566.5	\$11,153.61	\$5,038.75
Cognizant Technology Solutions Corporation	CTSH	\$ 60.27	77.4%	\$ 33,283.8	\$ 31,934.8	13.5%	\$ 15,517.0	\$ 16,458.0	\$ 3,191.0	\$16,693.81	\$3,241.13
Intuit Inc.	INTU	\$ 265.94	89.9%	\$ 69,164.0	\$ 66,860.0	10.4%	\$ 6,283.0	\$ 6,784.0	\$ 2,059.0	\$7,056.13	\$2,501.85
Cerner Corporation	CERN	\$ 68.17	89.1%	\$ 21,704.9	\$ 21,931.6	20.0%	\$ 7,276.3	\$ 5,526.7	\$ 1,203.4	\$5,717.14	\$1,658.79
Fidelity National Information Services, Inc.	FIS	\$ 132.76	93.9%	\$ 81,440.9	\$ 90,359.9	65.1%	\$ 32,859.0	\$ 8,420.0	\$ 2,446.0	\$10,288.25	\$4,398.76
Fiserv, Inc.	FISV	\$ 103.59	94.2%	\$ 70,408.6	\$ 76,124.6	84.8%	\$ 19,640.0	\$ 5,977.0	\$ 1,929.0	\$11,821.50	\$3,922.32
Carrefour SA	CA	\$ 17.51	88.4%	\$ 13,971.0	\$ 34,132.4	63.3%	\$ 57,424.9	\$ 87,812.9	\$ 3,882.6	\$73,727.30	\$4,390.36
TripAdvisor, Inc.	TRIP	\$ 38.68	56.1%	\$ 5,388.1	\$ 4,592.1	9.7%	\$ 2,566.0	\$ 1,602.0	\$ 264.0	\$1,619.57	\$471.83
Symantec Corporation	SYMC	\$ 23.63	90.6%	\$ 14,604.1	\$ 17,576.1	47.1%	\$ 15,369.0	\$ 4,822.0	\$ 1,087.0	\$4,846.29	\$2,118.48
Activision Blizzard, Inc.	ATVI	\$ 52.92	62.5%	\$ 40,591.0	\$ 38,883.0	19.8%	\$ 17,495.0	\$ 7,113.0	\$ 2,362.0	\$6,361.15	\$2,229.56
Miscellaneous Business Services											
Alliance Data Systems Corporation	ADS	\$ 128.13	53.2%	\$ 5,900.0	\$ 27,279.3	91.4%	\$ 30,739.7	\$ 7,695.0	\$ 1,779.5	\$5,766.22	\$1,481.69
ADT Inc.	ADT	\$ 6.27	65.7%	\$ 4,703.1	\$ 14,609.6	71.9%	\$ 16,977.2	\$ 4,860.6	\$ 2,361.2	\$5,094.31	\$2,491.37
InnoTec TSS AG	TSS	\$ 11.34	74.3%	\$ 108.5	\$ 106.5	16.6%	\$ 119.1	\$ 112.3	\$ 16.7	\$0.00	\$0.00
BidEnergy Limited	BID	\$ 0.44	36.9%	\$ 51.0	\$ 48.1	0.0%	\$ 5.3	\$ 3.7	\$ (4.6)	\$6.75	-\$4.77
Shutterfly, Inc.	SFLY	\$ -	#DIV/0!	\$ -	\$ -	63.6%	\$ 1,891.2	\$ 2,116.8	\$ 220.5	\$0.00	\$0.00
Cardtronics plc	CATM	\$ 30.24	80.8%	\$ 1,369.8	\$ 2,206.2	70.7%	\$ 1,778.0	\$ 1,327.2	\$ 269.1	\$1,346.63	\$305.23
TTEC Holdings, Inc.	TTEC	\$ 47.88	94.9%	\$ 2,225.6	\$ 2,565.9	50.8%	\$ 1,179.3	\$ 1,570.9	\$ 185.9	\$1,628.94	\$210.40

Notes: LTM (latest twelve months); Enterprise Value (market capitalization less total cash and short-term investments plus short-term borrowings and total long-term debt);

EBITDA (earnings before interest, taxes, depreciation and amortization)

Source: Capital IQ

## Select Business Services Public Company Valuation Metrics As of September 30, 2019

(USD in millions, except per share data)

USD in millions, except per share data

Company Name	Ticker	LTM Operating Statistics						Trading Multiples			
		Return On Assets	Return On Equity	Return On Capital	Revenue Growth	EBITDA Growth	EBITDA Margin	TEV/ LTM Revenue	TEV/ CY 2018 Revenue	TEV/ LTM EBITDA	TEV/ CY 2018 EBITDA
Advertising											
Omnicom Group Inc.	OMC	5.6%	44.3%	14.4%	-3.1%	-1.4%	15.6%	1.5x	1.5x	9.6x	9.4x
The Interpublic Group of Companies, Inc.	IPG	4.7%	27.3%	11.0%	9.8%	21.3%	16.0%	1.6x	1.6x	9.9x	9.4x
Lamar Advertising Company (REIT)	LAMR	6.2%	32.5%	6.8%	6.4%	7.1%	43.2%	7.4x	7.1x	17.1x	15.9x
Clear Channel Outdoor Holdings, Inc.	CCO	3.0%	NM	4.0%	0.5%	4.4%	21.3%	3.1x	3.1x	14.4x	13.7x
	Mean	4.9%	34.7%	9.1%	3.4%	7.9%	24.0%	3.4x	3.3x	12.8x	12.1x
	Median	5.2%	32.5%	8.9%	3.4%	5.7%	18.7%	2.3x	2.3x	12.2x	11.6x
Consumer Credit Reporting, Mercantile Reporting, and Adjustment and Collection Agency											
S&P Global Inc.	SPGI	18.9%	94.6%	29.2%	1.3%	2.6%	49.5%	10.2x	9.8x	20.6x	19.3x
Moody's Corporation	MCO	13.0%	241.7%	19.3%	-0.7%	-1.8%	46.8%	9.7x	9.3x	20.8x	19.5x
Equifax Inc.	EFX	3.0%	-14.3%	3.8%	-0.6%	-23.8%	19.8%	5.9x	5.7x	29.6x	16.8x
DNB ASA	DNB	0.9%	12.2%	0.0%	5.9%	NM	NM	0.0x	0.0x	N/A	N/A
	Mean	9.0%	83.5%	13.1%	1.5%	-7.7%	38.7%	6.4x	6.2x	23.6x	18.6x
	Median	8.0%	53.4%	11.6%	0.3%	-1.8%	46.8%	7.8x	7.5x	20.8x	19.3x
Services to Dwellings and Other Buildings											
Rollins, Inc.	ROL	13.4%	31.2%	19.2%	7.5%	3.1%	19.8%	6.2x	5.8x	31.1x	29.1x
Healthcare Services Group, Inc.	HCSG	9.2%	19.8%	13.5%	-2.4%	7.9%	5.7%	0.9x	1.0x	15.8x	15.0x
ABM Industries Incorporated	ABM	3.4%	6.0%	5.1%	3.3%	8.0%	4.8%	0.5x	0.5x	10.6x	9.7x
	Mean	8.7%	19.0%	12.6%	2.8%	6.3%	10.1%	2.5x	2.4x	19.2x	18.0x
	Median	9.2%	19.8%	13.5%	3.3%	7.9%	5.7%	0.9x	1.0x	15.8x	15.0x
Miscellaneous Equipment Rental and Leasing											
United Rentals, Inc.	URI	7.8%	32.8%	9.5%	20.1%	13.3%	28.8%	2.4x	2.4x	8.3x	5.0x
Aaron's, Inc.	AAN	11.3%	11.4%	14.3%	8.9%	20.5%	15.7%	1.3x	1.3x	8.1x	11.3x
TAL Education Group	TAL	4.5%	13.1%	7.1%	39.7%	31.0%	15.5%	7.2x	6.2x	46.3x	42.2x
Apollo Power Ltd	APLP	-124.3%	-313.9%	-171.3%	0.0%	NM	0.0%	N/A	N/A	-2.4x	N/A
Rent-A-Center, Inc.	RCII	6.1%	35.2%	9.3%	0.9%	144.5%	8.2%	0.7x	0.7x	8.6x	7.3x
	Mean	-18.9%	-44.3%	-26.2%	13.9%	52.3%	13.6%	2.9x	2.6x	13.8x	16.5x
	Median	6.1%	13.1%	9.3%	8.9%	25.8%	15.5%	1.8x	1.8x	8.3x	9.3x
Personnel Supply Services											
ManpowerGroup Inc.	MAN	5.5%	17.6%	12.1%	-5.3%	-9.9%	4.0%	0.3x	0.3x	6.9x	7.4x
Robert Half International Inc.	RHI	18.2%	40.9%	30.6%	7.4%	10.7%	11.4%	1.1x	1.1x	9.5x	9.3x
ASGN Incorporated	ASGN	6.8%	14.7%	7.9%	28.3%	23.6%	10.6%	1.2x	1.1x	11.1x	9.9x
Korn Ferry	KFY	6.9%	15.4%	9.8%	6.2%	11.5%	14.4%	1.1x	1.1x	7.9x	7.2x
TrueBlue, Inc.	TBI	4.6%	11.4%	7.5%	-1.1%	-2.5%	4.9%	0.3x	0.4x	7.1x	7.7x
	Mean	8.4%	20.0%	13.6%	7.1%	6.7%	9.1%	0.8x	0.8x	8.5x	8.3x
	Median	6.8%	15.4%	9.8%	6.2%	10.7%	10.6%	1.1x	1.1x	7.9x	7.7x

Notes: LTM (latest twelve months); NTM (next twelve months); EBITDA (earnings before interest, taxes, depreciation and amortization); TEV (total enterprise value)

Source: Capital IQ

## Select Business Services Public Company Valuation Metrics As of September 30, 2019

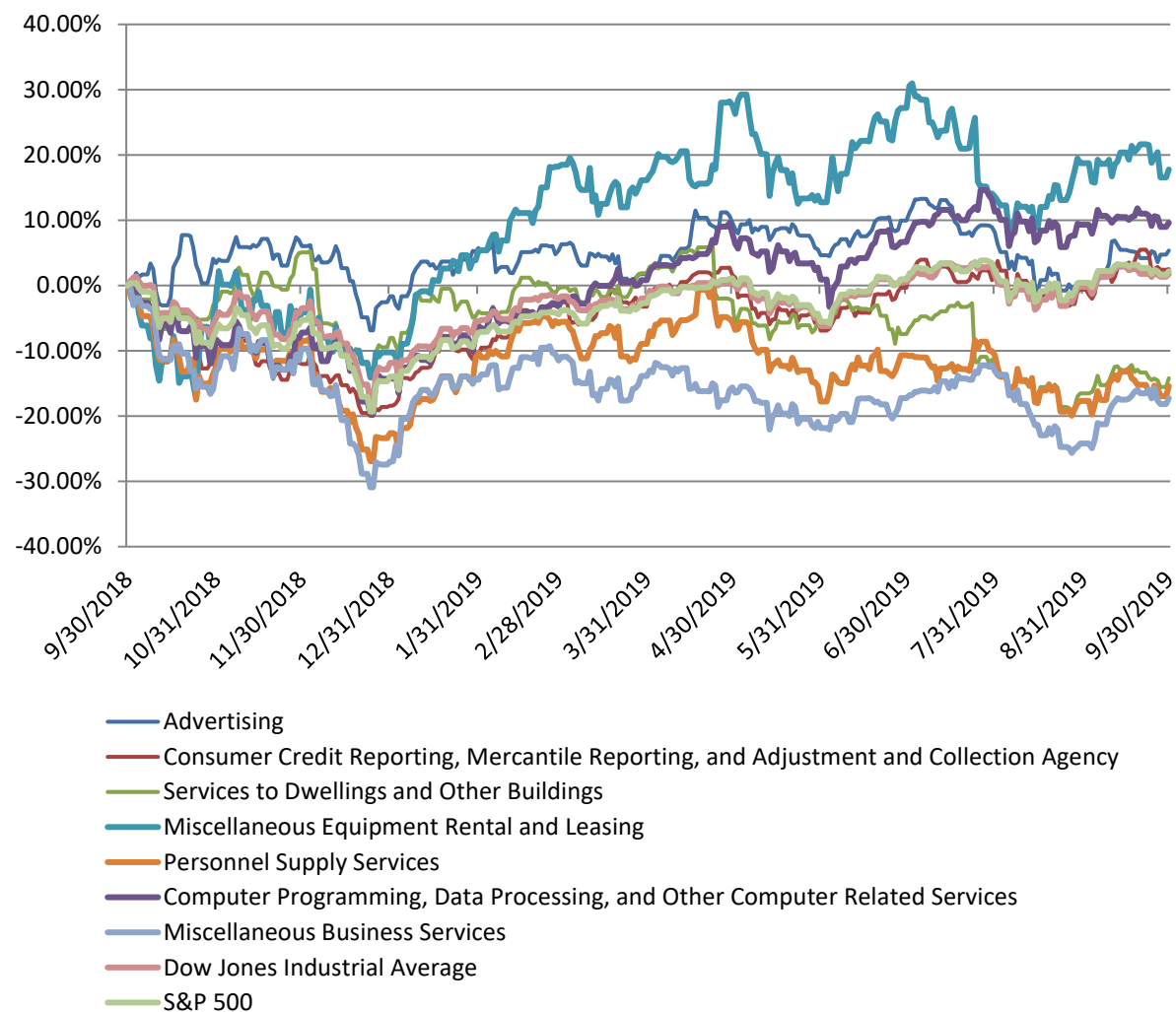
(USD in millions, except per share data)

Company Name	Ticker	LTM Operating Statistics						Trading Multiples			
		Return On Assets	Return On Equity	Return On Capital	Revenue Growth	EBITDA Growth	EBITDA Margin	TEV/ LTM Revenue	TEV/ CY 2018 Revenue	TEV/ LTM EBITDA	TEV/ CY 2018 EBITDA
Computer Programming, Data Processing, and Other Computer Related Services											
Alphabet Inc.	GOOG	8.8%	19.6%	11.1%	19.7%	11.3%	29.3%	5.0x	4.6x	17.0x	12.5x
Microsoft Corporation	MSFT	9.8%	42.4%	15.0%	14.0%	21.4%	43.4%	8.1x	7.7x	18.6x	17.6x
International Business Machines Corporation	IBM	4.7%	40.6%	8.1%	-4.0%	-7.6%	20.3%	2.1x	2.1x	10.3x	8.9x
Facebook, Inc.	FB	13.0%	20.3%	15.3%	29.1%	-2.4%	42.7%	7.5x	6.7x	17.5x	12.3x
Oracle Corporation	ORCL	7.5%	38.0%	10.2%	0.1%	3.0%	40.9%	5.1x	5.1x	12.5x	10.9x
eBay Inc.	EBAY	6.8%	42.8%	10.0%	4.1%	4.7%	28.9%	3.5x	3.5x	12.2x	10.3x
Booking Holdings Inc.	BKNG	13.9%	52.7%	19.3%	7.6%	3.5%	38.4%	5.8x	5.7x	15.2x	14.5x
VMware, Inc.	VMW	6.0%	80.4%	10.6%	13.8%	10.0%	26.5%	6.7x	6.3x	25.2x	16.3x
Automatic Data Processing, Inc.	ADP	4.8%	45.2%	26.7%	6.4%	15.7%	24.6%	5.0x	4.8x	20.2x	19.3x
Adobe Inc.	ADBE	10.6%	29.1%	15.0%	24.2%	15.4%	33.5%	12.6x	12.0x	37.6x	26.6x
Cognizant Technology Solutions Corporation	CTSH	11.1%	19.6%	14.2%	6.1%	-0.4%	19.4%	1.9x	1.9x	10.0x	9.9x
Intuit Inc.	INTU	20.3%	47.4%	31.2%	12.6%	14.5%	30.4%	9.9x	9.5x	32.5x	26.7x
Cerner Corporation	CERN	6.9%	12.4%	8.4%	5.3%	-6.8%	21.8%	4.0x	3.8x	18.2x	13.2x
Fidelity National Information Services,	FIS	3.5%	7.6%	4.1%	-0.2%	0.7%	29.0%	10.7x	8.8x	36.9x	20.5x
Fiserv, Inc.	FISV	6.6%	35.6%	8.1%	3.5%	4.0%	32.3%	12.7x	6.4x	39.5x	19.4x
Carrefour SA	CA	2.5%	1.0%	4.5%	0.5%	-4.1%	4.4%	0.4x	0.5x	8.8x	7.8x
TripAdvisor, Inc.	TRIP	5.5%	9.4%	8.6%	2.0%	56.2%	16.5%	2.9x	2.8x	17.4x	9.7x
Symantec Corporation	SYMC	2.8%	1.9%	4.2%	0.1%	20.2%	22.5%	3.6x	3.6x	16.2x	8.3x
Activision Blizzard, Inc.	ATVI	6.9%	15.1%	8.2%	-2.1%	5.4%	33.2%	5.5x	6.1x	16.5x	17.4x
	Mean	8.0%	29.5%	12.3%	7.5%	8.7%	28.3%	5.9x	5.4x	20.1x	14.9x
	Median	6.9%	29.1%	10.2%	5.3%	4.7%	29.0%	5.1x	5.1x	17.4x	13.2x
Miscellaneous Business Services											
Alliance Data Systems Corporation	ADS	3.0%	39.0%	3.3%	13.2%	11.4%	23.1%	3.5x	4.7x	15.3x	18.4x
ADT Inc.	ADT	1.5%	-13.0%	1.8%	9.6%	4.3%	48.6%	3.0x	2.9x	6.2x	5.9x
InnoTec TSS AG	TSS	6.6%	10.4%	7.5%	0.7%	-18.5%	14.9%	0.9x	N/A	6.4x	N/A
BidEnergy Limited	BID	-54.8%	-105.1%	-66.5%	30.4%	NM	-123.4%	12.9x	7.1x	-10.5x	-10.1x
Shutterfly, Inc.	SFLY	2.7%	1.4%	3.1%	47.8%	14.1%	10.4%	0.0x	N/A	0.0x	N/A
Cardtronics plc	CATM	3.1%	4.6%	4.4%	-8.0%	-16.0%	20.3%	1.7x	1.6x	8.2x	7.2x
TTEC Holdings, Inc.	TTEC	6.8%	17.1%	10.4%	4.0%	4.1%	11.8%	1.6x	1.6x	13.8x	12.2x
	Mean	-4.4%	-6.5%	-5.1%	14.0%	-0.1%	0.8%	3.4x	3.6x	5.6x	6.7x
	Median	3.0%	4.6%	3.3%	9.6%	4.2%	14.9%	1.7x	2.9x	6.4x	7.2x

Notes: LTM (latest twelve months); NTM (next twelve months); EBITDA (earnings before interest, taxes, depreciation and amortization); TEV (total enterprise value)

\*Source: Capital IQ

## Business Services Public Company LTM Equity Performance As of September 30, 2019



Note: The indices are derived from the equity performance of the previously listed companies. Source: Capital IQ



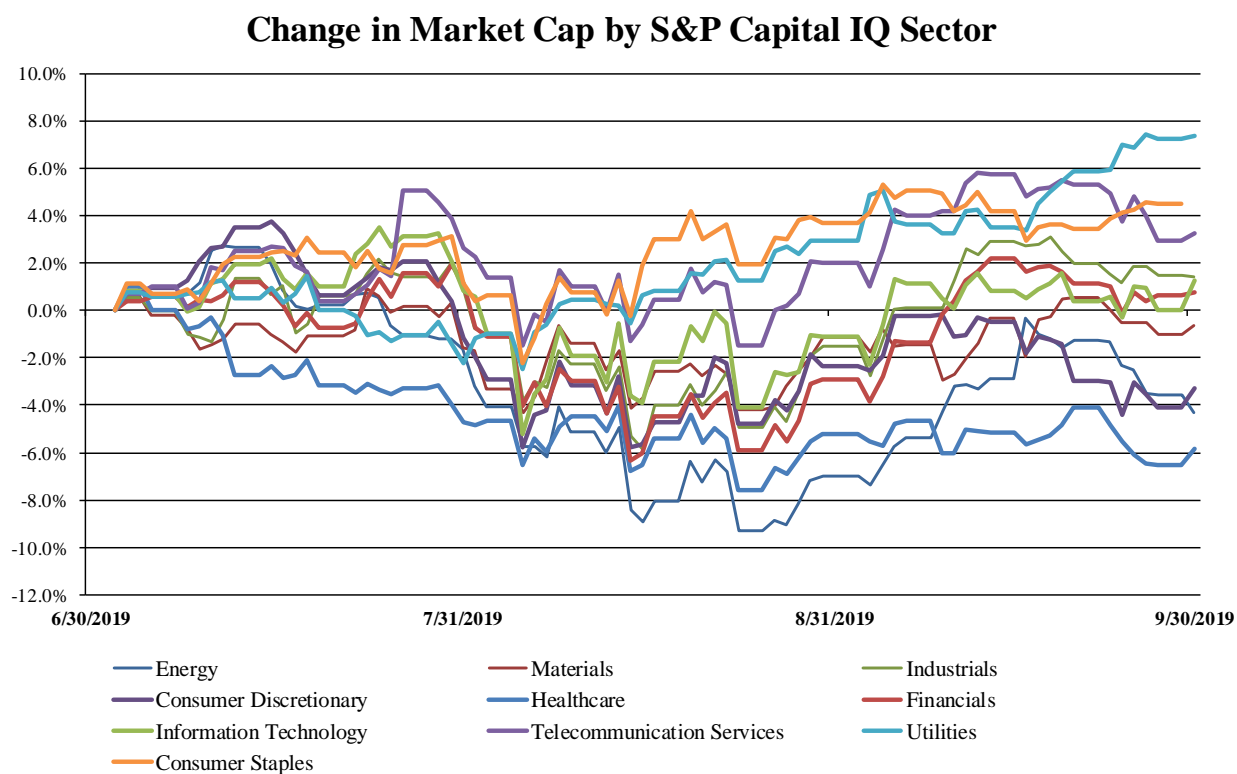
## Recent M&A Activity in the Business Services Industry September 30, 2018 to September 30, 2019

(USD in millions)

Close Date	Target	Acquirer	Target Company Primary Industry	Implied Enterprise Value
7/31/2019	Worldpay, Inc.	Fidelity National Information Services, Inc.	Data Processing and	\$43,374.84
7/29/2019	First Data Corporation	Fiserv, Inc.	Data Processing and	\$41,215.58
7/9/2019	Red Hat, Inc.	International Business Machines Corporation	Systems Software	\$33,923.62
9/17/2019	Total System Services, Inc.	Global Payments Inc.	Data Processing and	\$26,216.33
11/5/2018	CA, Inc.	Broadcom Inc.	Systems Software	\$18,448.02
7/31/2019	Tableau Software, Inc.	salesforce.com, inc.	Systems Software	\$16,322.49
5/3/2019	The Ultimate Software Group, Inc.	Hellman & Friedman LLC; JMI Management, Inc.; The	Application Software	\$10,822.40
10/31/2018	Marketo, Inc.	Adobe Systems Incorporated (nka:Adobe Inc.)	Application Software	\$4,750.00
7/1/2019	Epsilon Data Management, LLC	Publicis Groupe Holdings B.V.; MMS USA Investments,	Advertising	\$4,400.00
10/9/2018	Atos Syntel	Atos SE	Data Processing and	\$3,541.56
4/17/2019	Ellie Mae, Inc.	Thoma Bravo, LLC; Thoma Bravo Fund XIII LP	Application Software	\$3,380.72
10/1/2018	Charles River Systems, Inc.	State Street Bank and Trust Company (Boston, MA)	Application Software	\$2,600.00
10/5/2018	Convergys Corporation	Concentrix Corporation	Data Processing and	\$2,544.74
10/1/2018	Duo Security, Inc.	Cisco Systems, Inc.	Systems Software	\$2,350.00
1/3/2019	Hortonworks, Inc.	Cloudera, Inc.	Application Software	\$2,005.42
1/10/2019	Apptio, Inc.	Vista Equity Partners LLC	Application Software	\$1,867.17
2/1/2019	SendGrid, Inc.	Twilio Inc.	Application Software	\$1,833.57
2/15/2019	MINDBODY, Inc.	Vista Equity Partners LLC; Vista Equity Partners Fund VI,	Application Software	\$1,829.33
1/10/2019	Imperva, Inc.	Thoma Bravo, LLC	Systems Software	\$1,814.70
6/30/2019	Software Portfolio of International Business Machines	HCL Technologies Limited	Application Software	\$1,775.00
8/22/2019	iPipeline	Roper Technologies, Inc.	Application Software	\$1,625.00
10/4/2018	TravelClick, Inc.	Amadeus Americas, Inc.	Application Software	\$1,520.00
2/21/2019	Cylance Inc.	BlackBerry Limited	Systems Software	\$1,500.00
11/16/2018	IntraLinks Holdings, Inc.	SS&C Technologies Holdings, Inc.	Application Software	\$1,500.00
10/1/2018	Eze Software Group LLC	SS&C Technologies Holdings, Inc.	Application Software	\$1,450.00
7/30/2019	MG LLC	Willis Towers Watson Public Limited Company	Advertising	\$1,334.50
12/31/2018	Data Center Colocation Operations and Assets of AT&T	Brookfield Infrastructure Partners L.P.	Data Processing and	\$1,100.00
5/30/2019	Prometheus Group Enterprises, LLC	Genstar Capital, LLC	Application Software	\$1,000.00
12/31/2018	Veracode, Inc.	Thoma Bravo, LLC	Application Software	\$950.00
12/19/2018	PlanGrid, Inc.	Autodesk, Inc.	Application Software	\$875.00
9/16/2019	Axioma, Inc.	Deutsche Börse AG	Application Software	\$850.00
5/9/2019	SpeedPay, Inc.	ACI Worldwide, Inc.	Data Processing and	\$750.00
10/1/2018	Mendix Inc.	Siemens Aktiengesellschaft	Application Software	\$700.12
10/31/2018	ATM and Debit Servicing business of Elan Financial	Fiserv, Inc.	Data Processing and	\$660.00
7/11/2019	Hawk Parent Holdings, LLC	Thunder Bridge Acquisition, Ltd. (nka:M & A Ventures,	Data Processing and	\$642.63
3/26/2019	Webroot Inc.	Carbonite, Inc.	Systems Software	\$618.50
9/25/2019	Kony, Inc.	Temenos AG	Systems Software	\$580.00
3/13/2019	YOU Technology, LLC	Inmar, Inc.	Application Software	\$565.00
12/11/2018	Heptio Inc.	VMware, Inc.	Application Software	\$550.00
10/5/2018	InfoArmor, Inc.	The Allstate Corporation	Systems Software	\$525.00
9/6/2019	Vertice Technologies, LLC	Vista Equity Partners LLC	Application Software	\$500.00
10/4/2018	CloudHealth Technologies, Inc.	VMware, Inc.	Application Software	\$500.00
5/1/2019	PIEtech, Inc.	Envestnet, Inc.	Application Software	\$480.97
2/6/2019	Rogue Wave Software, Inc.	Perforce Software, Inc.	Systems Software	\$473.00
3/28/2019	Demisto, Inc.	Palo Alto Networks, Inc.	Systems Software	\$464.54
7/9/2019	Trans-Fast Remittance LLC	Mastercard Incorporated	Data Processing and	\$450.00
7/1/2019	Amber Road, Inc.	E2open, LLC	Application Software	\$424.00
12/21/2018	GTCR/FMG Blocker Corp/NCP Fairway, Inc.	Lamar Media Corp.	Advertising	\$418.50
7/9/2019	Twistlock Inc.	Palo Alto Networks, Inc.	Systems Software	\$410.00
2/1/2019	Nuance Document Imaging, Inc.	Kofax, Inc.	Application Software	\$400.00
12/17/2018	Liaison Technologies, Inc.	Open Text Corporation	Application Software	\$368.24
6/12/2019	Simplifile, LC	Intercontinental Exchange, Inc.	Data Processing and	\$335.00
4/30/2019	Samanage Ltd.	SolarWinds Corporation	Application Software	\$329.00
4/17/2019	Xevo Inc.	Lear Corporation	Application Software	\$320.00
1/24/2019	Noventis Inc.	WEX Inc.	Data Processing and	\$310.00
2/13/2019	IDology, Inc.	GB Group plc	Systems Software	\$302.13
4/2/2019	Figure Eight Inc.	Appen Limited	Application Software	\$300.00
10/25/2018	Relayr, Inc.	HSB Group, Inc.	Application Software	\$297.91

Source: Capital IQ

## S&P Capital IQ - Sector Last 3 Month Equity Performance As of September 30, 2019

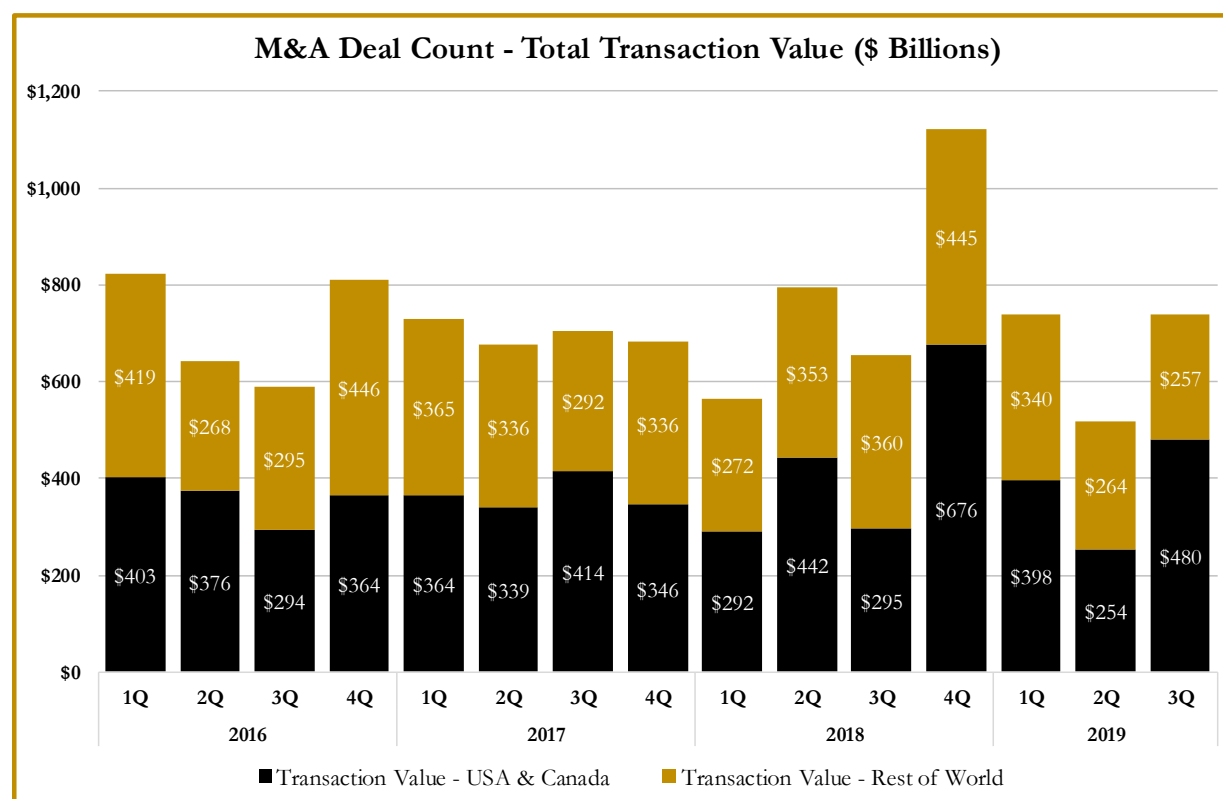
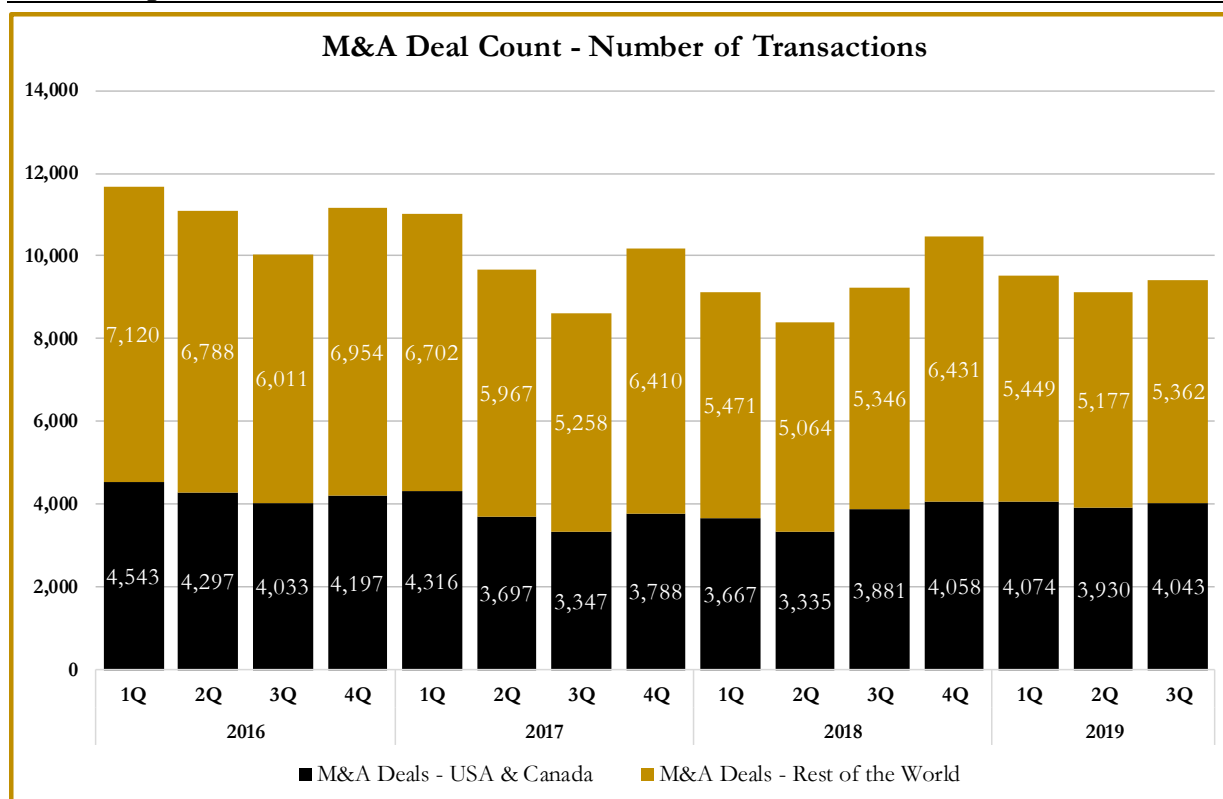


Note: The indices are derived from the equity performance of the S&P Capital IQ Sectors. Source: Capital IQ

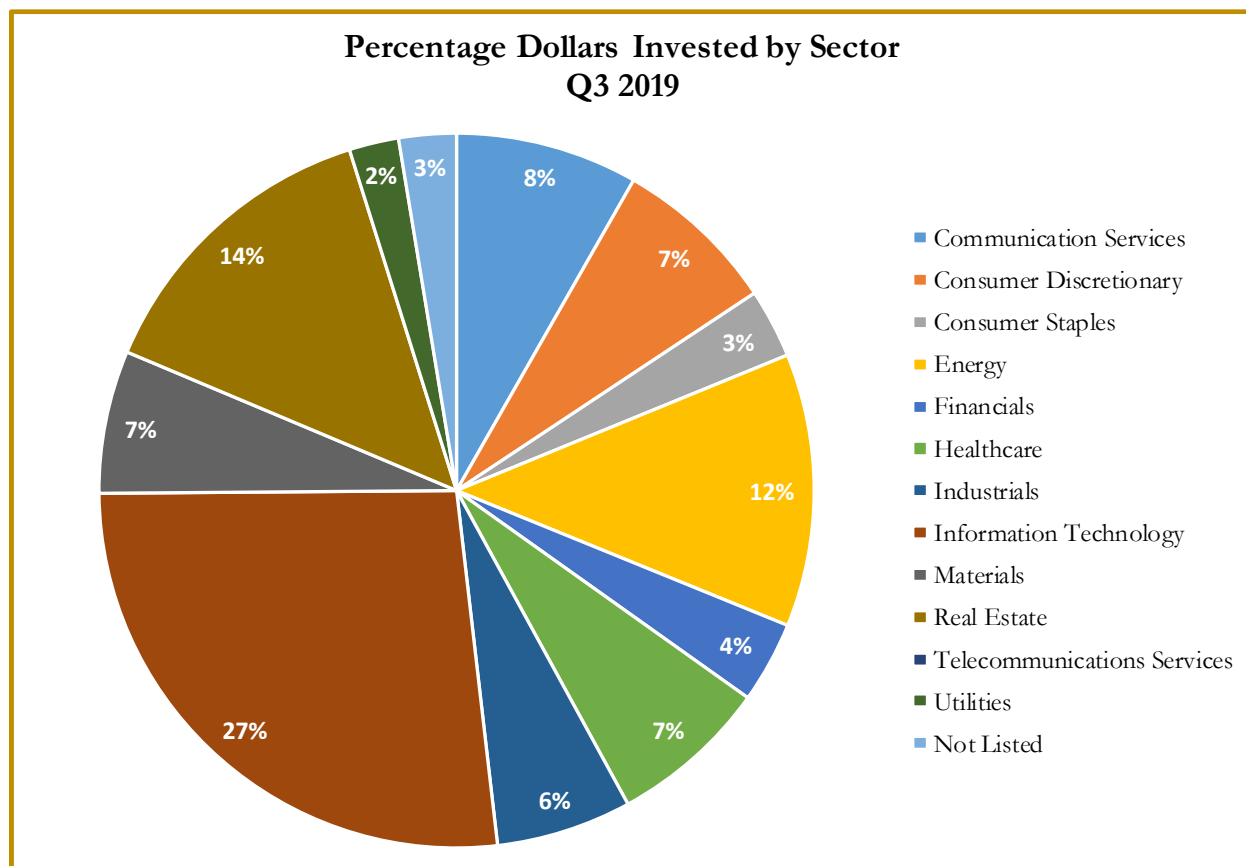


## M&A Deal Flow Statistics by S&P Capital IQ Sector

### As of September 30, 2019



## M&A Deal Flow Statistics by S&P Capital IQ Sector As of September 30, 2019





## About Houlihan Capital

Houlihan Capital is a leading, solutions-driven valuation, financial advisory and boutique investment banking firm. We pride ourselves on being thought leaders in an ever-changing landscape.

Houlihan Capital is SOC-compliant, a FINRA and SIPC member and committed to the highest levels of professional ethics and standards.

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We provide an array of services that include enterprise valuations, portfolio valuation, valuation of carried interest, transaction opinions, tax and financial reporting compliance, purchase price allocations, and a wide variety of consulting services through our Financial Advisory Group.

### Investment Banking

Through our Investment Banking Group, we offer sell side/buy side advisory and capital raises. Through our Special Situations desk, we provide services that fit outside the archetypal verticals, including liquidity solutions, transactional advisory, and secondary market advisory and trading.

### Litigation Support

Our team provides support for a wide variety of situations including commercial and shareholder disputes, derivatives and structured finance litigation, and fraudulent conveyance.

**For additional information about our  
Industry expertise and services, visit:**

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