

Ticker: TIVO
Name: TiVo Corp
Industry: Software

Current Price: \$11.22
Shares Outstanding: 123,900,000
Market Cap: \$1,390,158,000

Prepared By MyMoneyTrainer On: 2/22/19

Write Up

I purchased this stock back in December 2017 @ \$15.45. These are my thoughts after reviewing this when I completed my initial purchase in 2017:

PRO #1 - Acquisition of TIVO (by ROVI...then keeping the TIVO name) was in late 2016—valued TIVO at \$1.1b. They expect \$100m in synergies from merger (65% of which in initial 12 months). \$800m in revenue and expects it to be \$1b in next three years.

PRO #2 - New CEO just bought \$1m in stock at \$17.60. He was also awarded 1.2m shares (vesting over next 3 years). New CEO's stock grants are tied to stock price performance. Must reach \$28.

PRO #3 - 9 of 10 top pay tv providers use their software. In a patent lawsuit with Comcast (the 10th) and winning (based on initial rulings). 25mm US Households. Moving into Latin America. International will be strong. Viewer analytics and advertising model. Morningstar calls them a narrow moat company.

PRO #4 - They are a patent patrol company with 6,000 patents.

CON #1 - Shares rallied this morning because of rumors of a takeover from a private equity firm. Rumor is \$20 per share. I'd rather this not happen so I could just own it. If it does happen that is a 30% premium over now. They'd be stupid to take the deal (no one at TIVO has reviewed said deals or commented on them publicly).

CON #2 - Has 53% debt to equity ratio (which is not rock bottom but not terrible and with the valuation acceptable).

So, the morning after I completed my initial analysis and I decided to buy this stock rumors of a sale started cropping up. No comment from the company. Later they started saying the stock's value was not being recognized and they were undergoing a "strategic alternative review". The new CEO came in and quit fairly quickly. I'm not sure what that is all about but I doubt it is good. I guess he figured out pretty quick he was not going to get to his \$28 price target for his stock grants anytime soon under any exit scenario. The current interim CEO (and I believe former CEO) has committed to stay in the role until the strategic alternative review is completed. I don't believe they are even looking for a replacement until they decide what their options are.

I'm completing this analysis a few days ahead of the 4th quarter 2018 results. The company has been in a "strategic alternative" review for the better part of a year. No one seems to be terribly interested in the company "due to unique nature of the business". They are not providing business outlook estimates based on this so the shareholders who they are working to maximize value for are flying blind. They said during the 3rd quarter results that they expected to have this process wrapped up for the Q4 results. So, if they are true to their word, we should know in a few days what they expect to do with that. Based on my review I would be perfectly fine with someone coming in and buying this company and taking it off my hands. There are a few reasons.

As soon as I read PRO #4 I should have immediately left the building. If we are relying on lawyers as a strategy to run the business we are not in a good business. Ha. I get the concept of fighting to keep your intellectual property rights from being violated or outright stolen but lawyers cost a lot of money and fighting legal battles with the likes of Comcast I'm sure is not inexpensive (nor fun).

The other reason is the company's ROIC and ROE...oh my! Get me outta here! These boys haven't turned but one positive ROE in the past decade and their return on invested capital is zilch! They are not generally profitable on an EPS basis (although that is supposed to improve...but no guidance so who knows) their shares outstanding and debt level is a constant roller coaster which is very hard to figure out what they are doing there. The only thing that is a major positive for me are the large gross margins (although they are falling fairly rapidly) and the very decent free cash flow (in spite of no regular earnings). So, this company is not a fire sale emergency for me but it is not a company I would put money in to today. All this was dug up in my enhanced analysis that I do now (this spreadsheet). The 65% certainty I'm calc'ing on this is not a business that I'd invest in going forward and one I wouldn't even hold long term. That said I'm going to wait and see what happens on this week's earnings call. Perhaps they wrap things up as planned and some private equity buyer comes in and takes this company off the market. If that doesn't happen, I'd expect the price to get whacked and if it does happen I'm not expecting a huge premium over the current price. I really only need to get back to \$15ish to break even and if I can break even on this stock, I'd call it a successful year. If none of that happens, I'll likely just hold onto this until I can replace it with something else (it is my smallest position at this point anyway). So not an emergency but I'd like to move along from this company. Bye Felicia!

I'm sharing my analysis here. If you have thoughts on it I'd love to hear them hit me up on Twitter @mymoneytrainer

Certainty Rating

Test #0 - SUPER QUICK VALUATION	76%			
Estimated 'Intrinsic Value' Between:	Between \$9.01 (80% of current price) and \$15.28 (136% of current price)			
Expected Return:	9.8%			
Test #1 - SCREEN SELECTION	63%			
Valuation Score	18.25	73%	Quality Score	15.00 52%
Test #2 - INDUSTRY METRICS COMPARE	77%			
Average:	77%			
Test #3 - PRICE HISTORY COMPARE	75%			
Price/Earnings:	0%	Price/Sales:	100%	Price/Free CF: 100% Price/Book: 100%
Test #4 - VALUATION SCENARIOS	60%			
Best Case - Expected Return:	9.8%	Last 10 Year Average - Expected Return:	0.0%	
Stress Test - Expected Return:	7.3%	Combined - Expected Return:	8.0%	
Test #5 - FINANCIALS REVIEW	43%			
Sales Growth:	80%	Gross Profit:	70%	Debt To Equity: 25%
Earnings Growth:	0%	Operating Margin:	0%	Dividend Sustainability: 0%
Sales Per Share Growth:	80%	Cap Ex:	100%	
Earnings Per Share Growth:	0%	Free Cash Flow:	75%	
Test #6 - BUYING / OWNERSHIP	50%			
Shares Outstanding / Buyback Program:	0%	Insider Ownership / Activity:	100%	
Test #7 - GOOD BUSINESS CHECK	32%			
Return "Moat" Assessment:	14%	Leverage Assessment:	25%	
Business "Moat" Assessment:	39%	Compounding Assessment:	0%	
Competition "Moat" Assessment:	100%	Management Assessment:	17%	
Test #8 - MY GUT	100%			
Other's Analysis: 100%	PROS: 100%	Management Assessment:	17%	
	CONS: 100%	Moat / Competition Assessment:	100%	
Test #9 - TECHNICALS / TIMING	75%			
Point & Figure:	100%	50/200 Day:	50%	MACD: 75%
		RSI:	100%	Money Flow: 50%
Certainty Grand Total:	65%			

Test #0 - SUPER QUICK VALUATION - Expected Case - Based On 1) NPV Earnings, 2) 5 Year DCF Free Cash Flow, 3) 10 Year NPV Cash Flow.

Tells Us Quickly If It Makes Sense To Even Dive Deeper (No Sense In Investing Unless Margin Of Safety Exists And Likelihood Of Decent Returns Is High).
 Multiples Of RFRR Are Good (Meaning This Model Kicks Out Higher Certainty Ratings For Higher Multiples).

Net Present Value Calculator (AKA Ben Graham Formula) (Run Assuming Zero Growth)

20-year AAA Corporate Bond Rate	4.0%	https://fred.stlouisfed.org/series/AAA	Last Updated:	1/3/19
EPS	\$1.06			
Constant PE (0% perpetual growth)	8.5			
Company's Perpetual Growth Rate	0.0%			
Minimum Risk Free Rate of Return	2.4%	https://fred.stlouisfed.org/series/TB3MS	Last Updated:	1/3/19
Graham's Intrinsic Value (Original Formula)	\$9.01			
% of Current Price	80%	DON'T BUY - Current Price is Above IV		
Graham's Intrinsic Value (Revised Formula)	\$15.28			
% of Current Price	136%	BUY - Current Price Is Below IV		

5 Year Discounted Free Cash Flow (Owners Earnings) Calculator (AKA NPV) (Run Assuming Zero Growth)

Perpetual Growth Rate **0.0%** Explanation: Run at zero perpetual growth to be super conservative.

		Discount Rate/WACC	PV of CFs	+ Terminal Value	= PV	
Last 3 Year Average:	\$1.04	8.8%	\$4.08	\$11.85	\$11.22	0.0%
Last 10 Year Average:	\$1.49	12.4%	\$5.31	\$12.00	\$11.26	-0.4%
		10.6%				

Year	FCFPS
2008	\$0.68
2009	\$1.37
2010	\$2.73
2011	\$1.85
2012	\$1.63
2013	\$1.79
2014	\$1.78
2015	\$1.41
2016	\$1.17
2017	\$0.65
2018	\$1.31

TTM FCF: **\$162,000,000**

Explanation: **NA**

10 Year NPV of Future Cashflows (Run Assuming Updated EPS (using most likely future annual estimate) & DPS and Zero Growth)

Return On Shareholder's Equity	-24.1%	
Retained To Equity	-7.7%	32%
Dividends Percent	-16.4%	

Current and Projected Shareholder Equity and Projected Earnings

	Equity Base	EquityPS	Earnings	EarningsPS	Dividends	DivsPS	Added To Base	RetainedPS
2018	-\$545,160,000	-\$4.40	\$131,334,000	\$1.06	\$89,208,000	\$0.72	\$42,126,000	\$0.34
2019	-\$503,034,000	-\$4.06	\$131,334,000	\$1.06	\$89,208,000	\$0.72	\$42,126,000	\$0.34
2020	-\$460,908,000	-\$3.72	\$131,334,000	\$1.06	\$89,208,000	\$0.72	\$42,126,000	\$0.34
2021	-\$418,782,000	-\$3.38	\$131,334,000	\$1.06	\$89,208,000	\$0.72	\$42,126,000	\$0.34
2022	-\$376,656,000	-\$3.04	\$131,334,000	\$1.06	\$89,208,000	\$0.72	\$42,126,000	\$0.34
2023	-\$334,530,000	-\$2.70	\$131,334,000	\$1.06	\$89,208,000	\$0.72	\$42,126,000	\$0.34
2024	-\$292,404,000	-\$2.36	\$131,334,000	\$1.06	\$89,208,000	\$0.72	\$42,126,000	\$0.34
2025	-\$250,278,000	-\$2.02	\$131,334,000	\$1.06	\$89,208,000	\$0.72	\$42,126,000	\$0.34
2026	-\$208,152,000	-\$1.68	\$131,334,000	\$1.06	\$89,208,000	\$0.72	\$42,126,000	\$0.34
2027	-\$166,026,000	-\$1.34	\$131,334,000	\$1.06	\$89,208,000	\$0.72	\$42,126,000	\$0.34
2028	-\$123,900,000	-\$1.00	\$131,334,000	\$1.06	\$89,208,000	\$0.72	\$42,126,000	\$0.34

NPV of future cashflows	EPS Estimates	Avg	Low	High
\$105.06	1% In Money			
\$52.16	2% In Money			
\$34.59	3% In Money			
\$25.84	4% In Money			
\$20.61	5% In Money			
\$17.14	6% In Money			
\$14.67	7% In Money			
\$12.83	8% In Money			
\$11.40	9% In Money			
\$10.26	10% Too Expensive			
\$9.33	11% Too Expensive			
\$8.56	12% Too Expensive			
\$7.91	13% Too Expensive			
\$7.35	14% Too Expensive			
\$6.87	15% Too Expensive			
\$6.45	16% Too Expensive			
\$6.07	17% Too Expensive			
\$5.74	18% Too Expensive			
\$5.45	19% Too Expensive			
\$5.18	20% Too Expensive			
\$4.94	21% Too Expensive			
\$4.72	22% Too Expensive			
\$4.52	23% Too Expensive			
\$4.34	24% Too Expensive			
\$4.17	25% Too Expensive			

	Avg	Low	High
Consensus 19 (#2)	\$1.08	\$1.06	\$1.10
Consensus 20 (#2)	\$1.27	\$1.17	\$1.37
Average	\$1.18	\$1.12	\$1.24

Explanation: I used \$1.68 estimate in my original analysis.

There are only two analyst following this company. I'm using the lowest of the forward estimates which are showing a gain...but TTM is still running at a loss. Hmm?!?!?

Expected Return - 5 Year DCF	10.6%
Expected Return - 10 NPV Cash Flows	9%
Expected Return Average	9.8%

Certainty Rating	
80%	Graham's Intrinsic Value (Original Formula)
136%	Graham's Intrinsic Value (Revised Formula)
60%	5 Year Discounted Free Cash Flow
45%	10 Year NPV of Future Cashflows
60%	Average
76%	Total

Hurdle Returns (vs. Risk Free)		
2.4%	0x	0%
4.7%	1x	15%
7.1%	2x	30%
9.5%	3x	45%
11.9%	4x	60%
14.2%	5x	75%
16.6%	6x	90%
19.0%	7x	105%
21.3%	8x	120%

Explanation: NA

Test #1 - SCREEN SELECTION - Expect Investment To Score Highly On Both Valuation AND Quality Criteria.

Tells Us Quickly If It Makes Sense To Even Dive Deeper (No Sense In Investing Unless Margin Of Safety Exists And Likelihood Of Decent Returns Is High).

Valuation Scoring (Max Possible Score 25.25)

		4.00	Base (+5) – PE (FYF) vs. Market PE
		5.00	Base (+5) – PE (FYF) vs. Industry
18.25	Total Valuation Score	5.00	Base (+5) – PE (FYF) vs. Static Hurdle (Case Shiller Mean)
72%	Percent of Max Possible Score	0.00	Extra Credit (+1) – PE (TTM) vs. Market PE
74%	Percent of Current Universe	0.00	Extra Credit (+1) – PE (MRFY) vs. Market PE
73%	Combined	1.00	Extra Credit (+1) – Sales (TTM) vs. Industry
		1.00	Extra Credit (+1) – CF (MRFY) vs. Industry
		1.00	Extra Credit (+1) – CF (MRFY) vs. Market
		1.00	Extra Credit (+1) – BV (MRQ) vs. Industry
		0.00	Extra Credit (+2) – PEG (TTM) vs. Market
		0.00	Extra Credit (+.25) – Analyst – Schwab
		0.00	Extra Credit (+.25) – Analyst – Morningstar
		0.00	Extra Credit (+.25) – Analyst – Credit Suisse
		0.00	Extra Credit (+.25) – Analyst – Ned Davis
		0.00	Extra Credit (+.25) – Analyst – S&P Cap IQ Earnings and Div Rank
		0.00	Extra Credit (+.25) – Analyst – S&P CFRA
		0.00	Extra Credit (+.25) – Analyst – Argus
		0.00	Extra Credit (+.25) – Analyst – Market Edge
		0.25	Extra Credit (+.25) – Analyst – Reuters

Certainty Rating	
Valuation:	73%
Quality:	52%
Combined:	63%

Quality Scoring (Max Possible Score 26.50)

		1.00	Base (+1) – Positive PE (FYF)
		1.00	Base (+1) – Positive Net Profit Margin
15.00	Total Quality Score	1.00	Base (+1) – Positive Price To Cash Flow
57%	Percent of Max Possible Score	1.00	Base (+1) – Positive Cash Flow Per Share
48%	Percent of Current Universe	1.00	Base (+1) – Positive ROE
52%	Combined	1.00	Base (+1) – Positive ROI
		1.50	Base (+1) – Quick Ratio Greater Than Static Hurdle
		1.50	Base (+1) – Quick Ratio Higher Than Industry
		1.50	Base (+1) – Current Ratio Greater Than Static Hurdle
		1.50	Base (+1) – Current Ratio Higher Than Industry
		0.00	Base (+5) – Debt To Equity Lower Than Static Hurdle
		0.00	Base (+5) – Debt To Equity Lower Than Industry
		1.50	Base (+1) – Net Profit Margin Higher Than Industry
		0.00	Base (+1) – Industry ROE vs. Market ROE
		0.00	Base (+1) – ROE vs. Industry
		0.00	Base (+1) – Industry ROI vs. Market ROI
		1.00	Base (+1) – ROI vs. Industry
		0.00	Base (+1) – Market Cap
		0.50	Extra Credit (+.25%) – Morningstar Moat
		0.00	Extra Credit (+.25%) – Morningstar Stewardship

Explanation: Valuation score is low because it is underfollowed with only two analysts covering.

Quality is low due to debt level.

Test #2 - INDUSTRY METRICS COMPARE - Is it a good deal compared to other companies in the industry?

Compare a variety of financial valuation metrics of the company against the other companies in its industry to ensure a margin of safety.

Industry: Software

Number of Companies In Industry: 79

	Industry	Stock		
Average Price/Earnings (FYF):	50.0	8.7	Better	100%
Average Price/Earnings (TTM):	58.5	32.9	Better	100%
Average Price/Earnings (MRFY):	61.5	28.0	Better	100%
Average Price/Book (MRQ):	9.0	0.7	Better	100%
Average Price/Sales (TTM):	6.9	1.6	Better	100%
Average Price/Cash Flow (MRFY):	45.3	5.1	Better	100%
Average PEG (TTM):	3.8	NA		
Average Debt To Equity (MRQ):	52.0%	55.0%	Same	50%
Average Net Profit Margin (MRFY):	2.9%	4.9%	Better	100%
Average Return On Equity (TTM):	3.0%	1.9%	Worse	0%
Average Return On Assets (MRFY):	1.1%	1.1%	Same	50%
Average Quick Ratio (MRQ):	1.9	3.5	Better	100%
Average Current Ratio (MRQ):	2.2	3.6	Better	100%
Average Cash Flow Per Share (TTM):	\$1.85	\$1.78	Worse	0%

Average (Certainty Rating): 77%

Explanation: NA

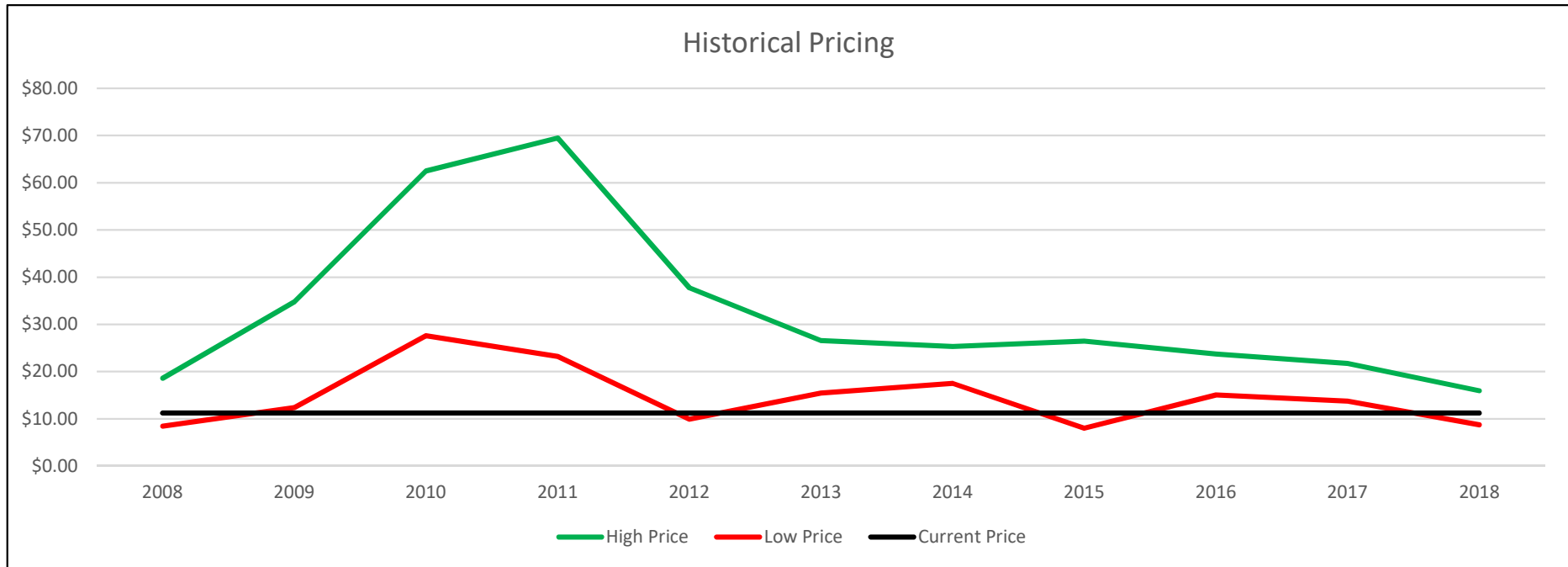
Test #3 - PRICE HISTORY COMPARE - Is it a good deal based on its own history? "Price is what you pay, value is what you get!"

Compare a variety of financial valuation metrics of the company against the historical prices of the company to ensure a margin of safety.

Historical Pricing				
Year	High Price	Low Price	Volume	Shares Out
2008	\$18.62	\$8.46	1,211,326	85,000,000
2009	\$34.77	\$12.39	1,356,216	101,000,000
2010	\$62.50	\$27.60	1,285,554	109,000,000
2011	\$69.50	\$23.20	1,799,372	113,000,000
2012	\$37.75	\$9.91	1,400,215	105,000,000
2013	\$26.55	\$15.43	966,190	99,000,000
2014	\$25.34	\$17.52	745,483	92,000,000
2015	\$26.44	\$8.01	1,748,422	84,000,000
2016	\$23.70	\$15.06	1,139,811	94,000,000
2017	\$21.75	\$13.75	774,522	120,000,000
2018	\$15.95	\$8.73	1,056,702	122,000,000

Max Price Movements		
	Drawdown	Gain
1%	55%	120%
1%	64%	181%
1%	56%	126%
2%	67%	200%
1%	74%	281%
1%	42%	72%
1%	31%	45%
2%	70%	230%
1%	36%	57%
1%	37%	58%
1%	45%	83%

Average:	\$32.99	\$14.55	56%	127%
Max:	\$69.50	\$27.60	60%	152%
Min:	\$15.95	\$8.01	50%	99%
AT High vs. AT Low:	\$69.50	\$8.01	88%	768%



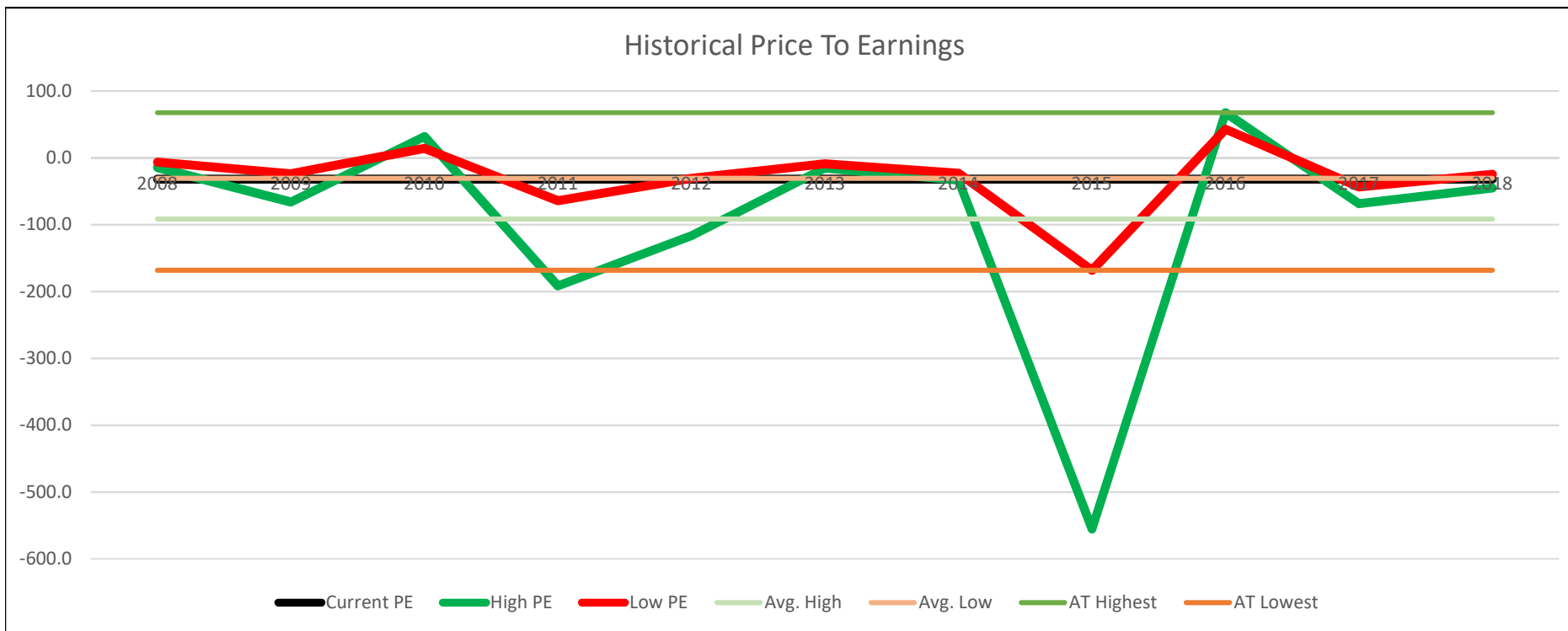
Explanation: [NA](#)

Price To Earnings Over Time

Price to Earnings Over Time				
Year	EPS	Earnings	High PE	Low PE
2008	-\$1.28	-\$109,000,000	-14.5	-6.6
2009	-\$0.52	-\$53,000,000	-66.3	-23.6
2010	\$1.95	\$213,000,000	32.0	14.1
2011	-\$0.36	-\$41,000,000	-191.5	-63.9
2012	-\$0.32	-\$34,000,000	-116.6	-30.6
2013	-\$1.74	-\$172,000,000	-15.3	-8.9
2014	-\$0.76	-\$70,000,000	-33.3	-23.0
2015	-\$0.05	-\$4,000,000	-555.2	-168.2
2016	\$0.35	\$33,000,000	67.5	42.9
2017	-\$0.32	-\$38,000,000	-68.7	-43.4
2018	-\$0.35	-\$43,000,000	-45.3	-24.8

Average:	-\$0.31	-\$28,909,091	-91.6	-30.5
Max:	\$1.95	\$213,000,000	67.5	42.9
Min:	-\$1.74	-\$172,000,000	-555.2	-168.2

Certainty Rating	0%
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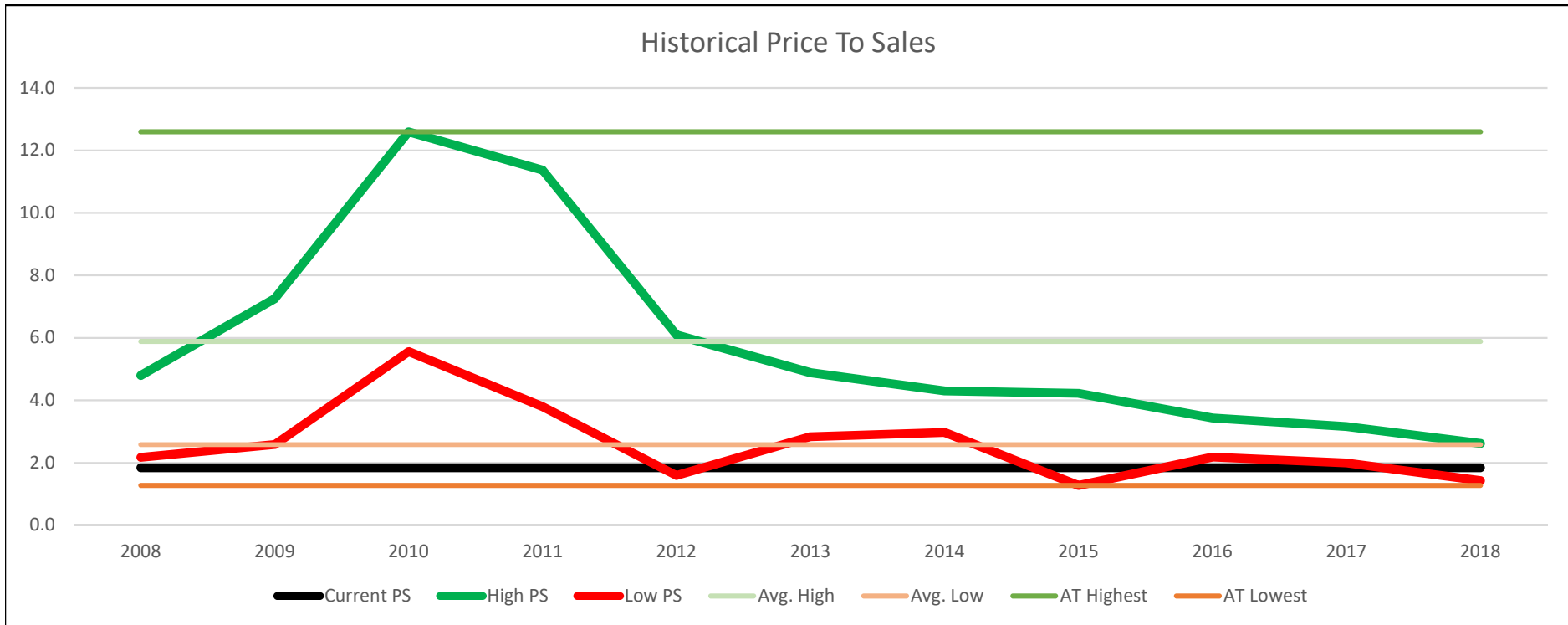
Explanation: I'm not sure why I even bought this business...they have had more years with losses than years with profits.

Price To Sales Over Time

Price to Sales Over Time				
Year	SPS	Sales	High PS	Low PS
2008	\$3.88	\$330,000,000	4.8	2.2
2009	\$4.79	\$484,000,000	7.3	2.6
2010	\$4.96	\$541,000,000	12.6	5.6
2011	\$6.12	\$691,000,000	11.4	3.8
2012	\$6.20	\$651,000,000	6.1	1.6
2013	\$5.43	\$538,000,000	4.9	2.8
2014	\$5.89	\$542,000,000	4.3	3.0
2015	\$6.26	\$526,000,000	4.2	1.3
2016	\$6.90	\$649,000,000	3.4	2.2
2017	\$6.88	\$826,000,000	3.2	2.0
2018	\$6.08	\$742,000,000	2.6	1.4

Average:	\$5.76	\$592,727,273	5.9	2.6
Max:	\$6.90	\$826,000,000	12.6	5.6
Min:	\$3.88	\$330,000,000	2.6	1.3

Certainty Rating	100%
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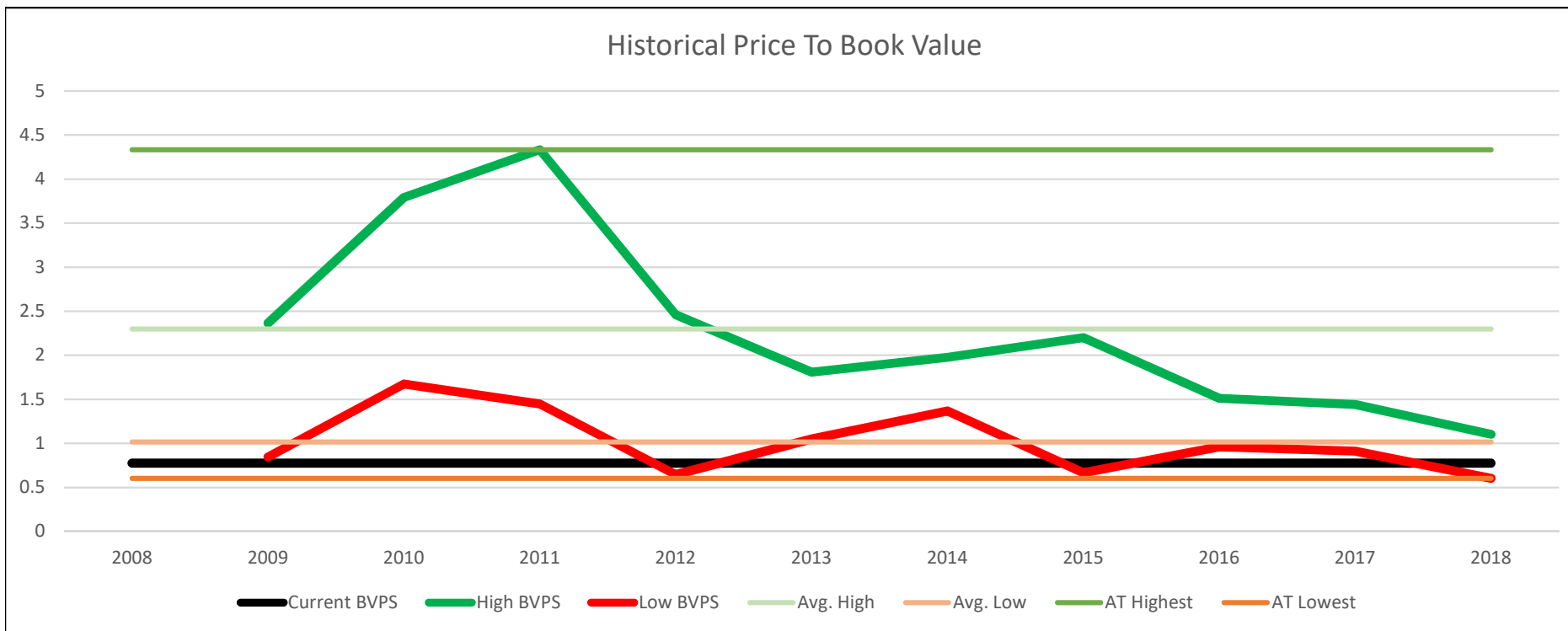
Explanation: At 1.8x sales this is trading well below the average low of 2.6x and very near the all time low of 1.3x.

Price To Book Over Time

Price to Book Over Time				
Year	BVPS	Book Value	High BVPS	Low BVPS
2008				
2009	\$14.69	\$1,483,690,000	2.4	0.8
2010	\$16.48	\$1,796,320,000	3.8	1.7
2011	\$16.04	\$1,812,520,000	4.3	1.4
2012	\$15.35	\$1,611,750,000	2.5	0.6
2013	\$14.69	\$1,454,310,000	1.8	1.1
2014	\$12.81	\$1,178,520,000	2.0	1.4
2015	\$12.02	\$1,009,680,000	2.2	0.7
2016	\$15.67	\$1,472,980,000	1.5	1.0
2017	\$15.10	\$1,812,000,000	1.4	0.9
2018	\$14.46	\$1,764,120,000	1.1	0.6

Average:	\$14.73	\$1,539,589,000	2.3	1.0
Max:	\$16.48	\$1,812,520,000	4.3	1.7
Min:	\$12.02	\$1,009,680,000	1.1	0.6

Certainty Rating	100%
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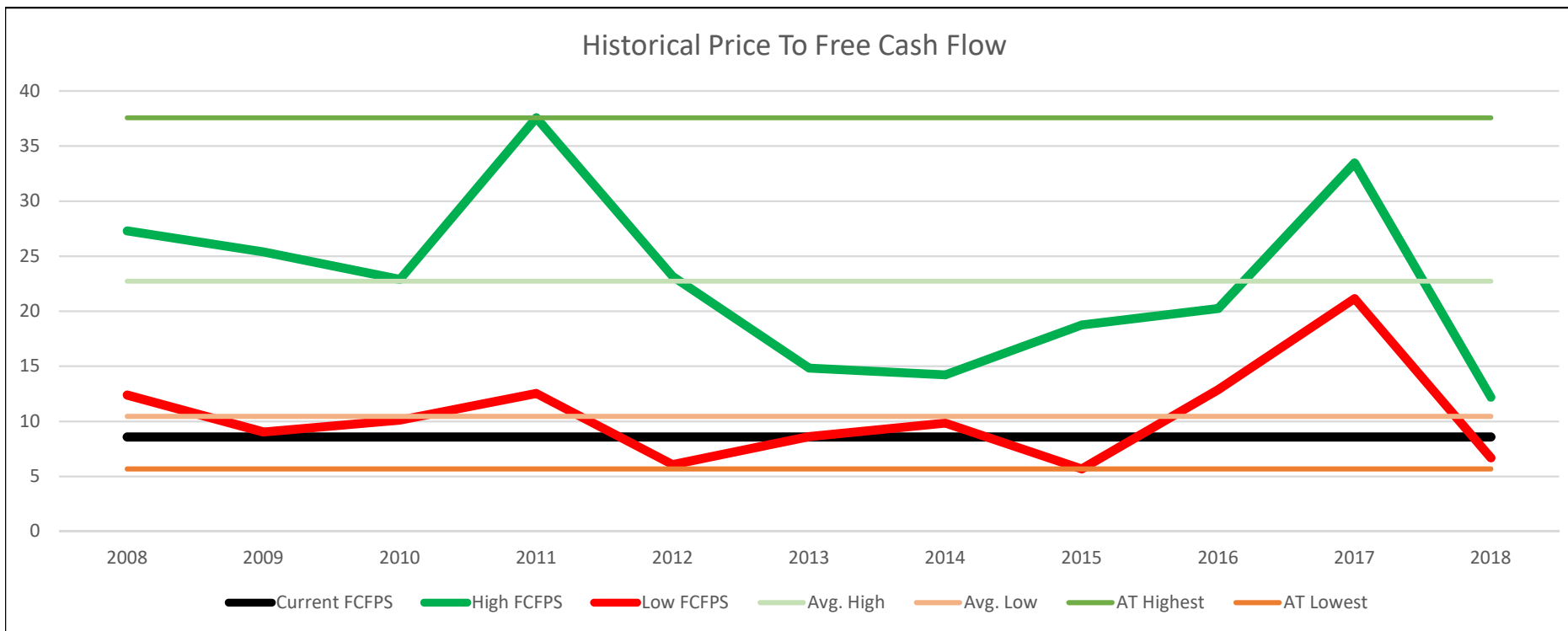
Explanation: At .8x it is trading below the average low of 1x and near the all time low of .6x.

Price To Free Cash Flow Over Time

Price to Free Cash Flow Over Time				
Year	FCFPS	Free Cash Flow	High FCFPS	Low FCFPS
2008	\$0.68	\$58,000,000	27.3	12.4
2009	\$1.37	\$138,370,000	25.4	9.0
2010	\$2.73	\$297,570,000	22.9	10.1
2011	\$1.85	\$209,050,000	37.6	12.5
2012	\$1.63	\$171,150,000	23.2	6.1
2013	\$1.79	\$177,210,000	14.8	8.6
2014	\$1.78	\$163,760,000	14.2	9.8
2015	\$1.41	\$118,440,000	18.8	5.7
2016	\$1.17	\$109,980,000	20.3	12.9
2017	\$0.65	\$78,000,000	33.5	21.2
2018	\$1.31	\$159,515,738	12.2	6.7

Average:	\$1.49	\$152,822,340	22.7	10.5
Max:	\$2.73	\$297,570,000	37.6	21.2
Min:	\$0.65	\$58,000,000	12.2	5.7

Certainty Rating	100%
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Explanation: At 8.5x it is trading below the average low of 10.5x. The all time low is 5.7x so cheap on a cash flow perspective. Weird that their earnings are non-existent but they are producing cash flow.

Test #4 - VALUATION SCENARIOS - 1) Best Case, 2) Stress Test (50% Reduction In Expected) 3) Last 10 Year Earnings Average.

Since Valuation Models Can Be Made To Spit Out Any Result Anyone Wants We Make Sure To Run Several Conservative Scenarios. Multiples Of RFRR Are Good.

Best Case (with expected growth)

Net Present Value Calculator (AKA Ben Graham Formula) (Run Assuming Zero Growth)

20-year AAA Corporate Bond Rate	4.0%	https://fred.stlouisfed.org/series/AAA	Last Updated:	1/3/19
EPS	\$1.08			
Constant PE (0% perpetual growth)	8.5			
Company's Perpetual Growth Rate	0.0%			
Minimum Risk Free Rate of Return	2.4%	https://fred.stlouisfed.org/series/TB3MS	Last Updated:	1/3/19
Graham's Intrinsic Value (Original Formula)	\$9.18			
% of Current Price	82%	DON'T BUY - Current Price is Above IV		
Graham's Intrinsic Value (Revised Formula)	\$15.57			
% of Current Price	139%	BUY - Current Price Is Below IV		

5 Year Discounted Free Cash Flow (Owners Earnings) Calculator (AKA NPV) (Run Assuming Expected Growth)

Perpetual Growth Rate	0.0%	Explanation:	NA
	Discount Rate/WACC	PV of CFs	+ Terminal Value = PV
Morningstar Current	\$1.04	8.8%	\$4.08 \$11.85 \$11.22 0.0%
Brokerage CF (TTM)	\$1.49	12.4%	\$5.31 \$12.00 \$11.26 -0.4%
		10.6%	

Explanation: NA

10 Year NPV of Future Cashflows (Run Assuming Updated EPS (using best case future annual estimate) & DPS and Expected Growth)

Return On Shareholder's Equity	-24.5%	
Retained To Equity	-8.2%	33%
Dividends Percent	-16.4%	

Current and Projected Shareholder Equity and Projected Earnings

	Equity Base	EquityPS	Earnings	EarningsPS	Dividends	DivsPS	Added To Base	RetainedPS
2018	-\$545,160,000	-\$4.40	\$133,812,000	\$1.08	\$89,208,000	\$0.72	\$44,604,000	\$0.36
2019	-\$500,556,000	-\$4.04	\$133,812,000	\$1.08	\$89,208,000	\$0.72	\$44,604,000	\$0.36
2020	-\$455,952,000	-\$3.68	\$133,812,000	\$1.08	\$89,208,000	\$0.72	\$44,604,000	\$0.36
2021	-\$411,348,000	-\$3.32	\$133,812,000	\$1.08	\$89,208,000	\$0.72	\$44,604,000	\$0.36
2022	-\$366,744,000	-\$2.96	\$133,812,000	\$1.08	\$89,208,000	\$0.72	\$44,604,000	\$0.36
2023	-\$322,140,000	-\$2.60	\$133,812,000	\$1.08	\$89,208,000	\$0.72	\$44,604,000	\$0.36
2024	-\$277,536,000	-\$2.24	\$133,812,000	\$1.08	\$89,208,000	\$0.72	\$44,604,000	\$0.36
2025	-\$232,932,000	-\$1.88	\$133,812,000	\$1.08	\$89,208,000	\$0.72	\$44,604,000	\$0.36

2026	-\$188,328,000	-\$1.52	\$133,812,000	\$1.08	\$89,208,000	\$0.72	\$44,604,000	\$0.36
2027	-\$143,724,000	-\$1.16	\$133,812,000	\$1.08	\$89,208,000	\$0.72	\$44,604,000	\$0.36
2028	-\$99,120,000	-\$0.80	\$133,812,000	\$1.08	\$89,208,000	\$0.72	\$44,604,000	\$0.36

NPV of future cashflows	\$107.04	1% In Money
	\$53.15	2% In Money
	\$35.24	3% In Money
	\$26.33	4% In Money
	\$21.00	5% In Money
	\$17.46	6% In Money
	\$14.95	7% In Money
	\$13.07	8% In Money
	\$11.62	9% In Money
	\$10.46	10% Too Expensive
	\$9.51	11% Too Expensive
	\$8.72	12% Too Expensive
	\$8.06	13% Too Expensive
	\$7.49	14% Too Expensive
	\$7.00	15% Too Expensive
	\$6.57	16% Too Expensive
	\$6.19	17% Too Expensive
	\$5.85	18% Too Expensive
	\$5.55	19% Too Expensive
	\$5.28	20% Too Expensive
	\$5.03	21% Too Expensive
	\$4.81	22% Too Expensive
	\$4.61	23% Too Expensive
	\$4.42	24% Too Expensive
	\$4.25	25% Too Expensive

Explanation: The low estimate used in the base case is very near the average used in this case. 2020 looks a bit better but I don't want to be too rosey in my forecasting...they lose money a lot...so prove it...in order for me to use a higher estimate.

Expected Return - 5 Year DCF	10.6%
Expected Return - 10 NPV Cash Flows	9%
Expected Return Average	9.8%

Hurdle Returns (vs. Risk Free)		
2.4%	0x	0%
4.7%	1x	15%
7.1%	2x	30%
9.5%	3x	45%
11.9%	4x	60%
14.2%	5x	75%
16.6%	6x	90%
19.0%	7x	105%
21.3%	8x	120%

Certainty Rating	
82%	Graham's Intrinsic Value (Original Formula)
139%	Graham's Intrinsic Value (Revised Formula)
60%	5 Year Discounted Free Cash Flow
45%	10 Year NPV of Future Cashflows
60%	Average
77%	Total

Explanation: NA

Stress Test (50% Reduction In Expected) (with zero growth)

Net Present Value Calculator (AKA Ben Graham Formula) (Run Assuming Zero Growth)

20-year AAA Corporate Bond Rate	4.0%	https://fred.stlouisfed.org/series/AAA	Last Updated:	1/3/19
EPS	\$0.53			
Constant PE (0% perpetual growth)	8.5			
Company's Perpetual Growth Rate	0.0%			
Minimum Risk Free Rate of Return	2.4%	https://fred.stlouisfed.org/series/TB3MS	Last Updated:	1/3/19
Graham's Intrinsic Value (Original Formula)	\$4.51			
% of Current Price	40%	DON'T BUY - Current Price is Above IV		
Graham's Intrinsic Value (Revised Formula)	\$7.64			
% of Current Price	68%	DON'T BUY - Current Price is Above IV		

5 Year Discounted Free Cash Flow (Owners Earnings) Calculator (AKA NPV) (Run Assuming Zero Growth)

Perpetual Growth Rate	0.0%	Explanation:	Run at zero perpetual growth to be super conservative.			
		Discount Rate/WACC	PV of CFs	+ Terminal Value	= PV	
Morningstar Current	\$1.04	8.8%	\$4.08	\$11.85	\$11.22	0.0%
Brokerage CF (TTM)	\$1.49	12.4%	\$5.31	\$12.00	\$11.26	-0.4%
		10.6%				

Explanation: NA

10 Year NPV of Future Cashflows (Run Assuming Updated EPS (using 1/2 best case future annual estimate) & DPS and Zero Growth)

Return On Shareholder's Equity	-12.0%	
Retained To Equity	4.3%	-36%
Dividends Percent	-16.4%	

Current and Projected Shareholder Equity and Projected Earnings

	Equity Base	EquityPS	Earnings	EarningsPS	Dividends	DivsPS	Added To Base	RetainedPS
2018	-\$545,160,000	-\$4.40	\$65,667,000	\$0.53	\$89,208,000	\$0.72	-\$23,541,000	-\$0.19
2019	-\$568,701,000	-\$4.59	\$65,667,000	\$0.53	\$89,208,000	\$0.72	-\$23,541,000	-\$0.19
2020	-\$592,242,000	-\$4.78	\$65,667,000	\$0.53	\$89,208,000	\$0.72	-\$23,541,000	-\$0.19
2021	-\$615,783,000	-\$4.97	\$65,667,000	\$0.53	\$89,208,000	\$0.72	-\$23,541,000	-\$0.19
2022	-\$639,324,000	-\$5.16	\$65,667,000	\$0.53	\$89,208,000	\$0.72	-\$23,541,000	-\$0.19
2023	-\$662,865,000	-\$5.35	\$65,667,000	\$0.53	\$89,208,000	\$0.72	-\$23,541,000	-\$0.19
2024	-\$686,406,000	-\$5.54	\$65,667,000	\$0.53	\$89,208,000	\$0.72	-\$23,541,000	-\$0.19
2025	-\$709,947,000	-\$5.73	\$65,667,000	\$0.53	\$89,208,000	\$0.72	-\$23,541,000	-\$0.19
2026	-\$733,488,000	-\$5.92	\$65,667,000	\$0.53	\$89,208,000	\$0.72	-\$23,541,000	-\$0.19
2027	-\$757,029,000	-\$6.11	\$65,667,000	\$0.53	\$89,208,000	\$0.72	-\$23,541,000	-\$0.19
2028	-\$780,570,000	-\$6.30	\$65,667,000	\$0.53	\$89,208,000	\$0.72	-\$23,541,000	-\$0.19

NPV of future cashflows	\$52.53	1% In Money
	\$26.08	2% In Money
	\$17.29	3% In Money
	\$12.92	4% In Money
	\$10.30	5% Too Expensive
	\$8.57	6% Too Expensive
	\$7.34	7% Too Expensive
	\$6.41	8% Too Expensive
	\$5.70	9% Too Expensive
	\$5.13	10% Too Expensive
	\$4.67	11% Too Expensive
	\$4.28	12% Too Expensive
	\$3.95	13% Too Expensive
	\$3.68	14% Too Expensive
	\$3.43	15% Too Expensive
	\$3.22	16% Too Expensive
	\$3.04	17% Too Expensive
	\$2.87	18% Too Expensive
	\$2.72	19% Too Expensive
	\$2.59	20% Too Expensive
	\$2.47	21% Too Expensive
	\$2.36	22% Too Expensive
	\$2.26	23% Too Expensive
	\$2.17	24% Too Expensive
	\$2.08	25% Too Expensive

Explanation: [NA](#)

Expected Return - 5 Year DCF	10.6%
Expected Return - 10 NPV Cash Flows	4%
Expected Return Average	7.3%

Hurdle Returns (vs. Risk Free)		
2.4%	0x	0%
4.7%	1x	15%
7.1%	2x	30%
9.5%	3x	45%
11.9%	4x	60%
14.2%	5x	75%
16.6%	6x	90%
19.0%	7x	105%
21.3%	8x	120%

Certainty Rating	
40%	Graham's Intrinsic Value (Original Formula)
68%	Graham's Intrinsic Value (Revised Formula)
60%	5 Year Discounted Free Cash Flow
15%	10 Year NPV of Future Cashflows
45%	Average
46%	Total

Explanation: [NA](#)

Last 10 Year Earnings Average (with zero growth)

20-year AAA Corporate Bond Rate	4.0%	https://fred.stlouisfed.org/series/AAA	Last Updated:	1/3/19
EPS	-\$0.31			
Constant PE (0% perpetual growth)	8.5			
Company's Perpetual Growth Rate	0.0%			
Minimum Risk Free Rate of Return	2.4%	https://fred.stlouisfed.org/series/TB3MS	Last Updated:	1/3/19
Graham's Intrinsic Value (Original Formula)	-\$2.63			
% of Current Price	-23%	DON'T BUY - Current Price is Above IV		
Graham's Intrinsic Value (Revised Formula)	-\$4.46			
% of Current Price	-40%	DON'T BUY - Current Price is Above IV		

5 Year Discounted Free Cash Flow (Owners Earnings) Calculator (AKA NPV) (Run Assuming Zero Growth)

Perpetual Growth Rate	0.0%	Explanation:	Run at zero perpetual growth to be super conservative.			
		Discount Rate/WACC	PV of CFs	+ Terminal Value	= PV	
Morningstar Current	\$1.04	8.8%	\$4.08	\$11.85	\$11.22	0.0%
Brokerage CF (TTM)	\$1.49	12.4%	\$5.31	\$12.00	\$11.26	-0.4%
		10.6%				

Explanation: NA

10 Year NPV of Future Cashflows (Run Assuming Updated EPS (using 1/2 best case future annual estimate) & DPS and Zero Growth)

Return On Shareholder's Equity	7.0%	
Retained To Equity	23.4%	333%
Dividends Percent	-16.4%	

Current and Projected Shareholder Equity and Projected Earnings

	Equity Base	EquityPS	Earnings	EarningsPS	Dividends	DivsPS	Added To Base	RetainedPS
2018	-\$545,160,000	-\$4.40	-\$38,336,266	-\$0.31	\$89,208,000	\$0.72	-\$127,544,266	-\$1.03
2019	-\$672,704,266	-\$5.43	-\$38,336,266	-\$0.31	\$89,208,000	\$0.72	-\$127,544,266	-\$1.03
2020	-\$800,248,532	-\$6.46	-\$38,336,266	-\$0.31	\$89,208,000	\$0.72	-\$127,544,266	-\$1.03
2021	-\$927,792,797	-\$7.49	-\$38,336,266	-\$0.31	\$89,208,000	\$0.72	-\$127,544,266	-\$1.03
2022	-\$1,055,337,063	-\$8.52	-\$38,336,266	-\$0.31	\$89,208,000	\$0.72	-\$127,544,266	-\$1.03
2023	-\$1,182,881,329	-\$9.55	-\$38,336,266	-\$0.31	\$89,208,000	\$0.72	-\$127,544,266	-\$1.03
2024	-\$1,310,425,595	-\$10.58	-\$38,336,266	-\$0.31	\$89,208,000	\$0.72	-\$127,544,266	-\$1.03
2025	-\$1,437,969,860	-\$11.61	-\$38,336,266	-\$0.31	\$89,208,000	\$0.72	-\$127,544,266	-\$1.03
2026	-\$1,565,514,126	-\$12.64	-\$38,336,266	-\$0.31	\$89,208,000	\$0.72	-\$127,544,266	-\$1.03
2027	-\$1,693,058,392	-\$13.66	-\$38,336,266	-\$0.31	\$89,208,000	\$0.72	-\$127,544,266	-\$1.03
2028	-\$1,820,602,658	-\$14.69	-\$38,336,266	-\$0.31	\$89,208,000	\$0.72	-\$127,544,266	-\$1.03

NPV of future cashflows **(\$30.67)**

1% Too Expensive

Last 10 Years Earnings

(\$15.23)	2% Too Expensive
(\$10.10)	3% Too Expensive
(\$7.54)	4% Too Expensive
(\$6.02)	5% Too Expensive
(\$5.00)	6% Too Expensive
(\$4.28)	7% Too Expensive
(\$3.74)	8% Too Expensive
(\$3.33)	9% Too Expensive
(\$3.00)	10% Too Expensive
(\$2.72)	11% Too Expensive
(\$2.50)	12% Too Expensive
(\$2.31)	13% Too Expensive
(\$2.15)	14% Too Expensive
(\$2.00)	15% Too Expensive
(\$1.88)	16% Too Expensive
(\$1.77)	17% Too Expensive
(\$1.68)	18% Too Expensive
(\$1.59)	19% Too Expensive
(\$1.51)	20% Too Expensive
(\$1.44)	21% Too Expensive
(\$1.38)	22% Too Expensive
(\$1.32)	23% Too Expensive
(\$1.27)	24% Too Expensive
(\$1.22)	25% Too Expensive

Year	EPS	Earnings	Shares Out
2008	-\$1.28	-\$109,000,000	85,000,000
2009	-\$0.52	-\$53,000,000	101,000,000
2010	\$1.95	\$213,000,000	109,000,000
2011	-\$0.36	-\$41,000,000	113,000,000
2012	-\$0.32	-\$34,000,000	105,000,000
2013	-\$1.74	-\$172,000,000	99,000,000
2014	-\$0.76	-\$70,000,000	92,000,000
2015	-\$0.05	-\$4,000,000	84,000,000
2016	\$0.35	\$33,000,000	94,000,000
2017	-\$0.32	-\$38,000,000	120,000,000
2018	-\$0.35	-\$43,000,000	122,000,000
Average EPS	-\$0.31		

Explanation: Over the past 10 years the average EPS has been $-\$.31$...so that is bad! Cancelling this one out due to this.

Expected Return - 5 Year DCF	10.6%
Expected Return - 10 NPV Cash Flows	-11%
Expected Return Average	0.0%

Certainty Rating	
-23%	Graham's Intrinsic Value (Original Formula)
-40%	Graham's Intrinsic Value (Revised Formula)
60%	5 Year Discounted Free Cash Flow
0%	10 Year NPV of Future Cashflows
0%	Average
-1%	Total

Hurdle Returns (vs. Risk Free)		
2.4%	0x	0%
4.7%	1x	15%
7.1%	2x	30%
9.5%	3x	45%
11.9%	4x	60%
14.2%	5x	75%
16.6%	6x	90%
19.0%	7x	105%
21.3%	8x	120%

Explanation: NA

Valuation Scenarios Summary

Test #1 - Expected Case (with zero growth)

55% Weighting

Expected Return - 5 Year DCF	10.6%
Expected Return - 10 NPV Cash Flows	9.0%
Expected Return Total	9.8%
Certainty Rating	76%

Test #2 - Best Case (with expected growth)

15% Weighting

Expected Return - 5 Year DCF	10.6%
Expected Return - 10 NPV Cash Flows	9.0%
Expected Return Total	9.8%
Certainty Rating	77%

Test #2 - Stress Test (50% Reduction In Expected Case)

15% Weighting

Expected Return - 5 Year DCF	10.6%
Expected Return - 10 NPV Cash Flows	4.0%
Expected Return Total	7.3%
Certainty Rating	46%

Test #2 - Last 10 Year Earnings Average (with zero growth)

15% Weighting

Expected Return - 5 Year DCF	10.6%
Expected Return - 10 NPV Cash Flows	-10.6%
Expected Return Total	0.0%
Certainty Rating	-1%

Consolidation Of All Scenarios (Weighted)

Expected Return - 5 Year DCF	10.6%
Expected Return - 10 NPV Cash Flows	5.3%
Expected Return Total	8.0%
Certainty Rating	60%

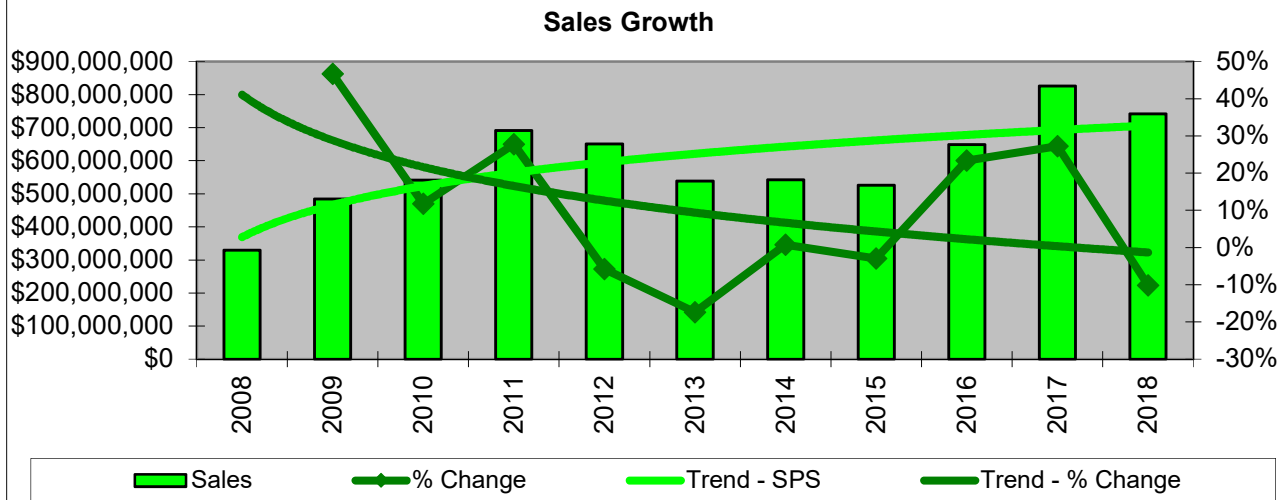
Test #5 - FINANCIALS REVIEW - Review Of 10 Year Financial Trends For Key Metrics

Tells Us The Business Has Pricing Power, History Of Success, Growth, Rate Of Growth, And Our Initial Rate Of Return.

Growing Sales & Growing Earnings - Earnings and Sales are 1) Consistent, 2) Strong, and 3) Growing At A Steady Rate.

Year	Sales	
2008	\$330,000,000	
2009	\$484,000,000	47%
2010	\$541,000,000	12%
2011	\$691,000,000	28%
2012	\$651,000,000	-6%
2013	\$538,000,000	-17%
2014	\$542,000,000	1%
2015	\$526,000,000	-3%
2016	\$649,000,000	23%
2017	\$826,000,000	27%
2018	\$742,000,000	-10%

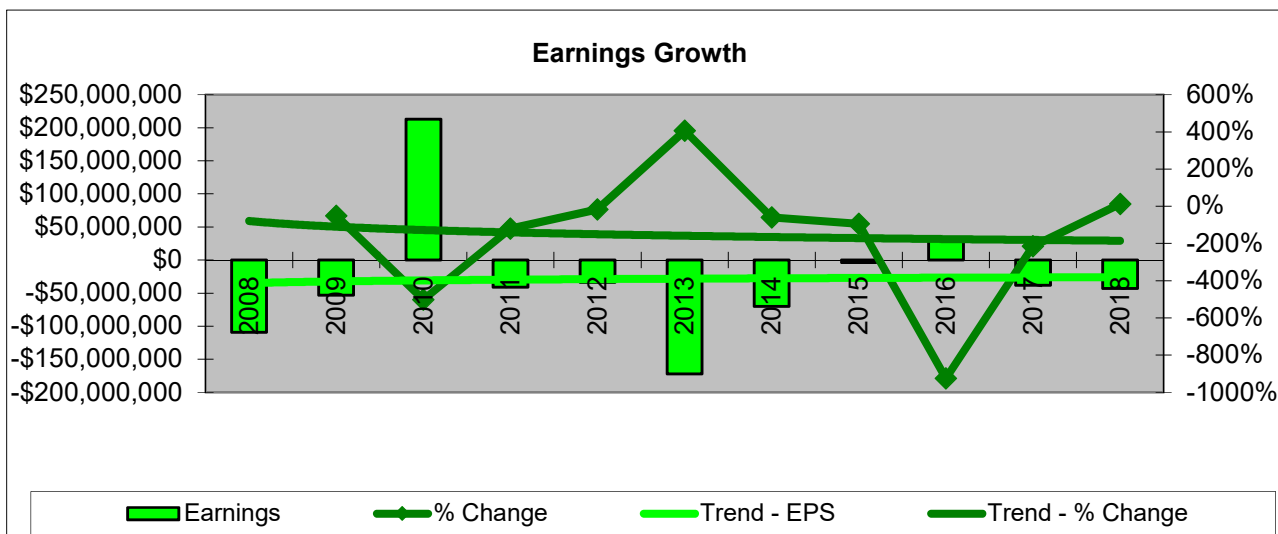
Certainty Rating: **80%**



Explanation: Sales have been trending up over time but are down in the most recent year.

Year	Earnings	
2008	-\$109,000,000	
2009	-\$53,000,000	-51%
2010	\$213,000,000	-502%
2011	-\$41,000,000	-119%
2012	-\$34,000,000	-17%
2013	-\$172,000,000	406%
2014	-\$70,000,000	-59%
2015	-\$4,000,000	-94%
2016	\$33,000,000	-925%
2017	-\$38,000,000	-215%
2018	-\$43,000,000	13%

Certainty Rating: **0%**

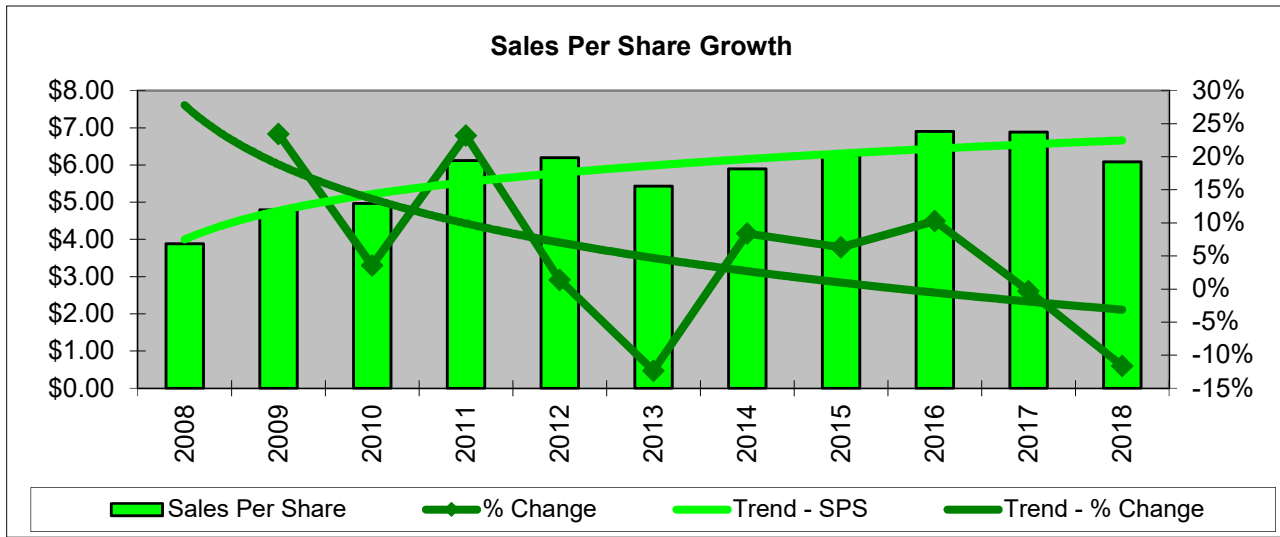


Explanation: What an abysmal situation!

SPS & EPS - Earnings are 1) Consistent, 2) Strong, and 3) Growing At A Steady Rate. Ideally Closely Matching Growing Sales.

Year	Sales Per Share	
2008	\$3.88	
2009	\$4.79	23%
2010	\$4.96	4%
2011	\$6.12	23%
2012	\$6.20	1%
2013	\$5.43	-12%
2014	\$5.89	8%
2015	\$6.26	6%
2016	\$6.90	10%
2017	\$6.88	0%
2018	\$6.08	-12%

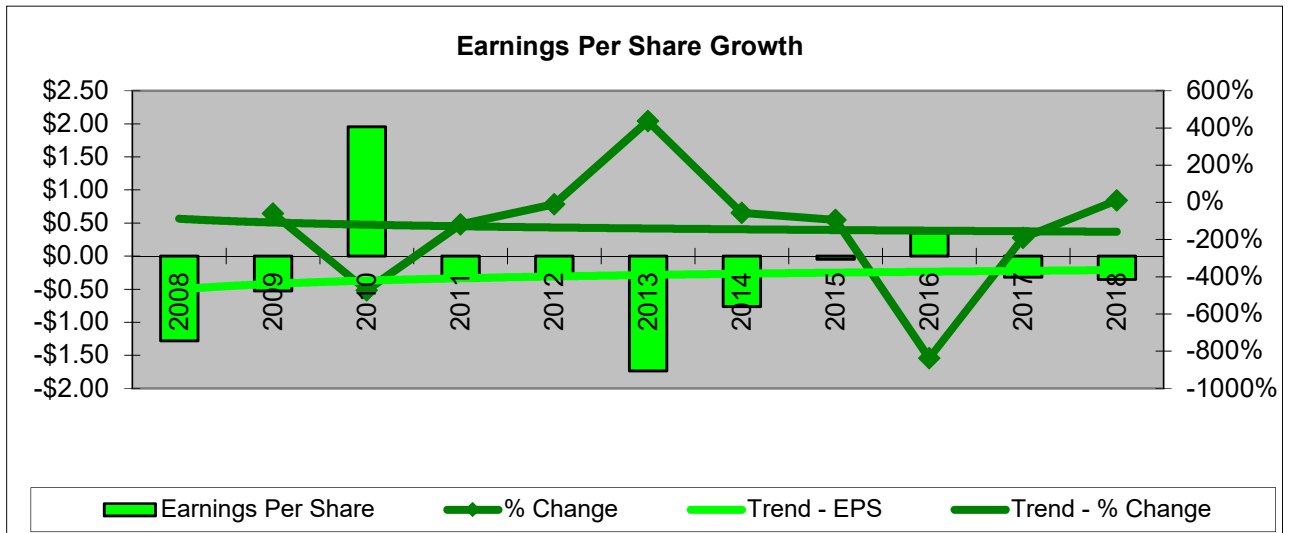
Certainty Rating: **80%**



Explanation: Ditto above...even as share count has expanded with the merger.

Year	Earnings Per Share	
2008	-\$1.28	
2009	-\$0.52	-59%
2010	\$1.95	-472%
2011	-\$0.36	-119%
2012	-\$0.32	-11%
2013	-\$1.74	437%
2014	-\$0.76	-56%
2015	-\$0.05	-94%
2016	\$0.35	-837%
2017	-\$0.32	-190%
2018	-\$0.35	11%

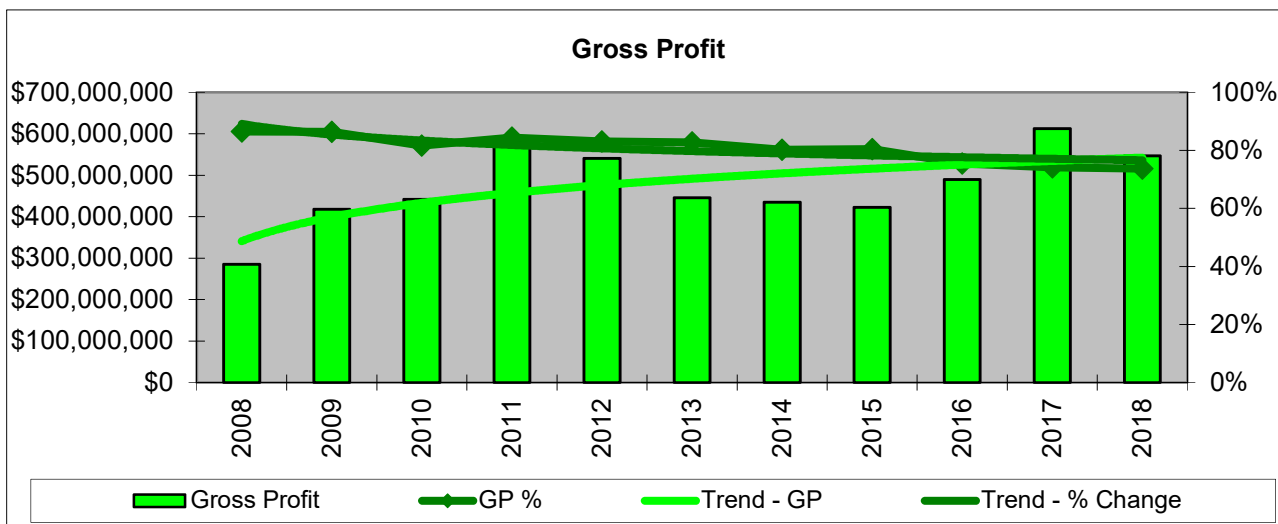
Certainty Rating: **0%**



Explanation: Ditto above.

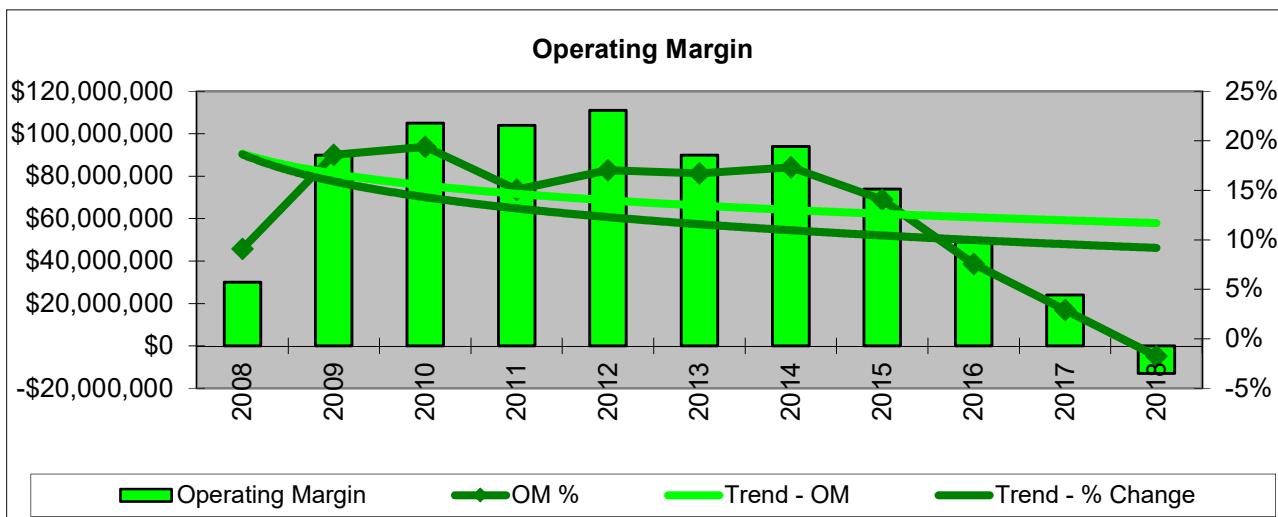
Margins - Are 1) Consistent, 2) Strong, and 3) Growing At A Steady Rate.

Year	Gross Profit	
2008	\$285,450,000	87%
2009	\$418,176,000	86%
2010	\$441,997,000	82%
2011	\$583,204,000	84%
2012	\$540,981,000	83%
2013	\$445,464,000	83%
2014	\$434,684,000	80%
2015	\$422,904,000	80%
2016	\$489,995,000	76%
2017	\$612,066,000	74%
2018	\$546,854,000	74%
Average:		81%
High:		87%
Low:		74%
Certainty Rating:		70%



Explanation: Lowest margins in past 10 years this year on a percentage basis...that said when you are running 75% margins life ain't hard. You can make lots of really, really bad mistakes and not go out of businesses.

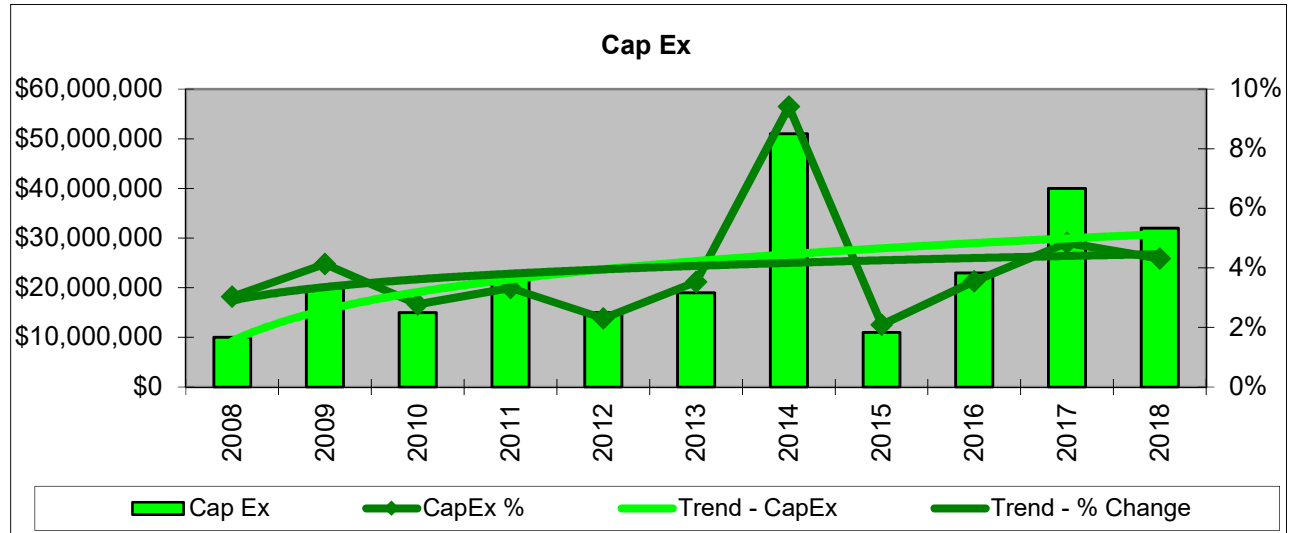
Year	Operating Margin	
2008	\$30,000,000	9%
2009	\$90,000,000	19%
2010	\$105,000,000	19%
2011	\$104,000,000	15%
2012	\$111,000,000	17%
2013	\$90,000,000	17%
2014	\$94,000,000	17%
2015	\$74,000,000	14%
2016	\$49,000,000	8%
2017	\$24,000,000	3%
2018	-\$13,000,000	-2%
Average:		12%
High:		19%
Low:		-2%
Certainty Rating:		0%



Explanation: Negative operating margin and has been falling like a rock over past few years.

Cap Ex - Is Consistent.

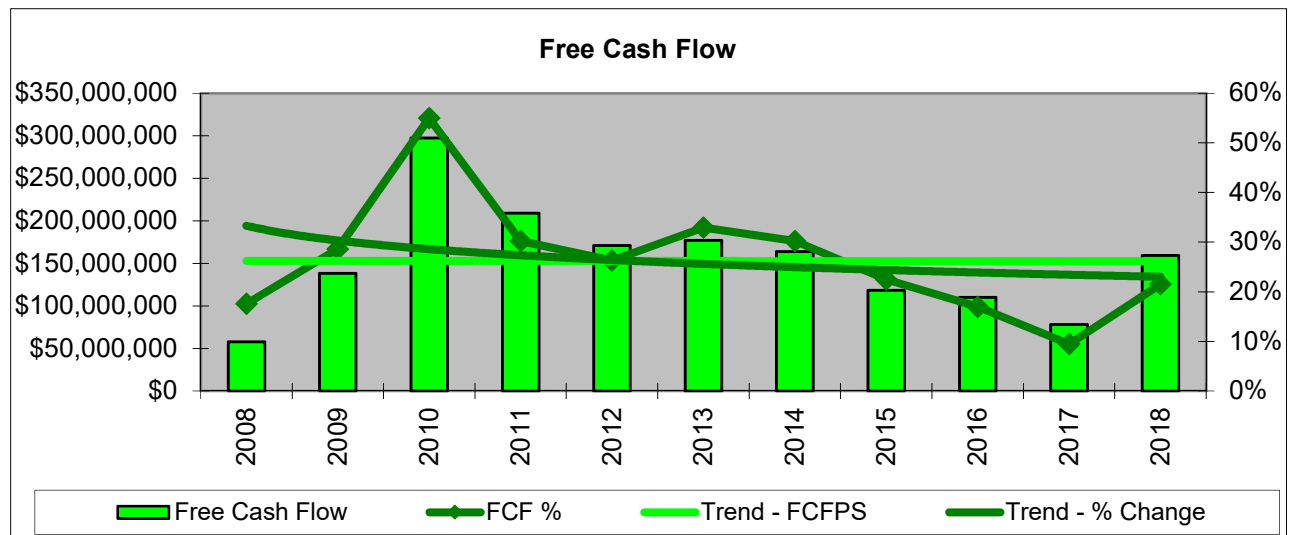
Year	Cap Ex	
2008	\$10,000,000	3%
2009	\$20,000,000	4%
2010	\$15,000,000	3%
2011	\$23,000,000	3%
2012	\$15,000,000	2%
2013	\$19,000,000	4%
2014	\$51,000,000	9%
2015	\$11,000,000	2%
2016	\$23,000,000	4%
2017	\$40,000,000	5%
2018	\$32,000,000	4%
Average:		4%
High:		9%
Low:		2%
Certainty Rating:		100%



Explanation: Software generally doesn't eat up a ton of cap ex (at least in relation to sales...not capital intensive). Currently running about average.

Free Cash Flow - Is 1) Consistent, 2) Strong, and 3) Growing At A Steady Rate.

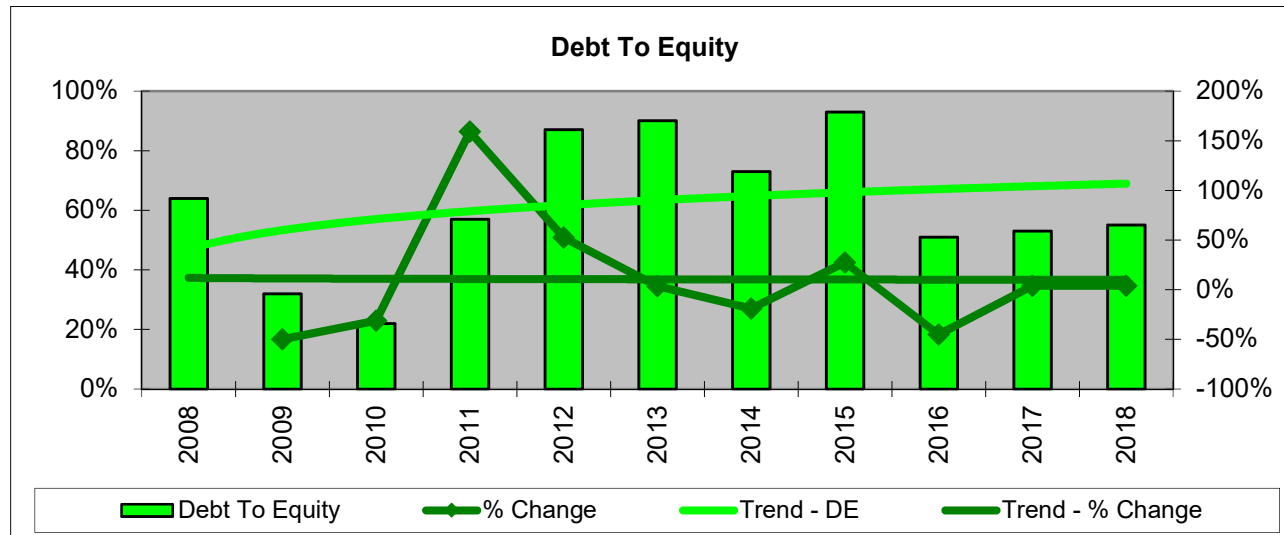
Year	Free Cash Flow	
2008	\$58,000,000	18%
2009	\$138,370,000	29%
2010	\$297,570,000	55%
2011	\$209,050,000	30%
2012	\$171,150,000	26%
2013	\$177,210,000	33%
2014	\$163,760,000	30%
2015	\$118,440,000	23%
2016	\$109,980,000	17%
2017	\$78,000,000	9%
2018	\$159,515,738	21%
Average:		26%
High:		55%
Low:		9%
Certainty Rating:		75%



Explanation: Free cash flow was low / falling over recent years but have jumped back up recently (should be from synergies from merger). Almost back to the average levels. So the company is cash flowing but not earning (this might be a good thing).

Debt To Equity - Is 1) Consistent, and 2) Low (and/or Lowering Quickly).

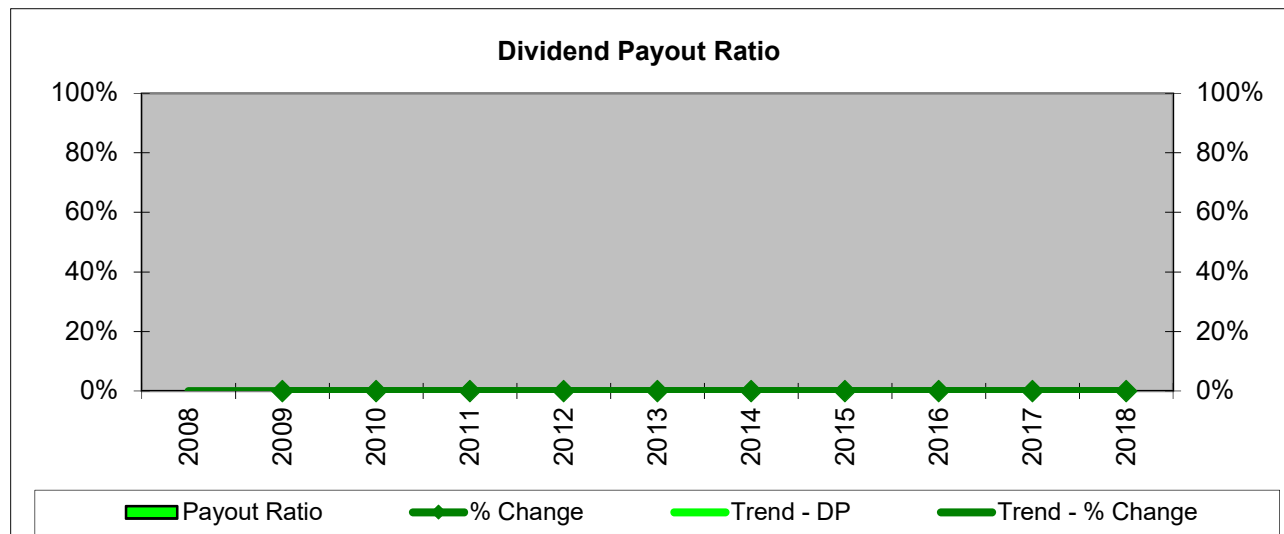
Year	Debt To Equity	
2008	64%	
2009	32%	-50%
2010	22%	-31%
2011	57%	159%
2012	87%	53%
2013	90%	3%
2014	73%	-19%
2015	93%	27%
2016	51%	-45%
2017	53%	4%
2018	55%	4%
Average:	62%	
High:	93%	
Low:	22%	
Certainty Rating:		25%



Explanation: Debt is above 50% and not really dropping. It has been fairly consistent recently but still this is not ideal and higher than typical companies I want to invest in.

Dividend Sustainability

Year	Payout Ratio	
2008	0%	
2009	0%	#DIV/0!
2010	0%	#DIV/0!
2011	0%	#DIV/0!
2012	0%	#DIV/0!
2013	0%	#DIV/0!
2014	0%	#DIV/0!
2015	0%	#DIV/0!
2016	0%	#DIV/0!
2017	0%	#DIV/0!
2018	0%	#DIV/0!
Average:	0%	
High:	0%	
Low:	0%	
Certainty Rating:		0%



Explanation: They just started a dividend. They are losing money on an EPS basis so the payout ratio is

Test #6 - BUYING / OWNERSHIP

Tells Us Whether The People Closest To The Business Are 1) Buying (And At Attractive Valuations) and/or 2) Owners.

Shares Outstanding / Buyback Program

Shares Outstanding	
Peak Past 10 Years	122,000,000
Current Outstanding	123,900,000
Shares Added/Subtracted	1,900,000
% Added/Subtracted	2%

Current Buyback Program	
Years	0
Value	\$0
Potential Shares At Current Price	0
Potential Shares Repurchased	0%

Certainty Rating: 0%

Year	Shares Out
2008	85,000,000
2009	101,000,000
2010	109,000,000
2011	113,000,000
2012	105,000,000
2013	99,000,000
2014	92,000,000
2015	84,000,000
2016	94,000,000
2017	120,000,000
2018	122,000,000

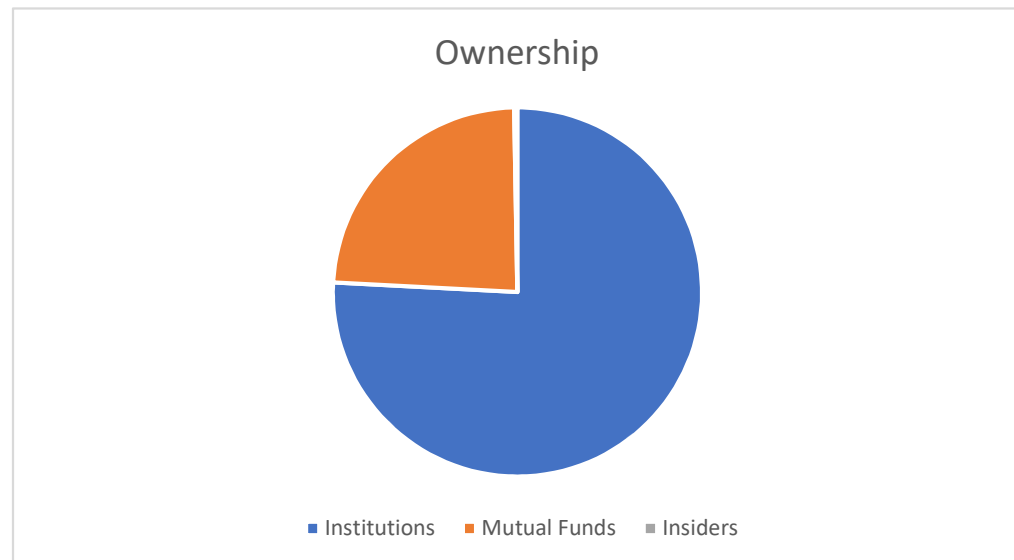
Explanation: Shares outstanding are kinda all over the place. The large uptick recently is probably related to the merger. Otherwise not sure why it is moving up and down so much. Software company's generally use stock as compensation. I doubt that is the cause of it all but probably related somewhat. Regardless, too hard to figure out / know what is going on.

Insider Ownership / Activity

Ownership (In Millions)		
Institutions	2,119,870,000	76%
Mutual Funds	668,190,000	24%
Insiders	7,760,000	0%
Total	2,795,820,000	

Insider Buying / Selling	
6 Month Buying	Yes
6 Month Selling	Yes

Certainty Rating: 100%



Explanation: The ex CEO who worked there for a hot minute bought some shares...then bolted!

Test #7 - GOOD BUSINESS CHECK - Do important metrics indicating a 'good business' show that it is indeed a 'good business'?

Tells Us The Business Has A Good Financial Model And Whether Management Understands How To Operate It Effectively Compared To The Industry and Market.

Return "Moat" Assessment - Not A "Low Return" Business. Charlie Munger says that eventually over time returns will match ROIC.

Return on Invested Capital	
Year	
2008	-5.3%
2009	-0.4%
2010	11.2%
2011	-0.3%
2012	0.1%
2013	-4.3%
2014	-1.4%
2015	1.1%
2016	2.4%
2017	-0.2%
2018	-0.2%

Company (10 Year Average)	0.2%
Company (10 Year High)	11.2%
Company (10 Year Low)	-5.3%
Company (Current Year/TTM)	-0.2%
Industry (Current Year)	16.5%
Overall Market Without Financials (Current Year)	14.1%

Explanation: Uh oh! Why did I buy this?!?!

- No Is the ROIC equal to or higher than the overall market?
- No Is the ROIC equal to or higher than the industry?
- No Has the ROIC always been positive?
- No Is the ROIC steady (not really far from average, or high/low)?

Return on Equity	
Year	
2008	-10.6%
2009	-3.5%
2010	13.0%
2011	-2.4%
2012	-2.1%
2013	-11.9%
2014	-5.8%
2015	-0.4%
2016	2.2%
2017	-2.0%
2018	-2.4%

Company (10 Year Average)	-2.3%
Company (10 Year High)	13.0%
Company (10 Year Low)	-11.9%
Company (Current Year/TTM)	-2.4%
Industry (Current Year)	3.0%
Overall Market Without Financials (Current Year)	12.5%

Explanation: Oh lawd!!!! Uh oh! Make it stop! Why?!?! Why did I buy this????

- No Is the ROE equal to or higher than the overall market?
- No Is the ROE equal to or higher than the industry?
- No Has the ROE always been positive?
- No Is the ROE steady (not really far from average, or high/low)?

Return on Assets	
Year	
2008	-6.1%
2009	-2.2%
2010	9.2%
2011	-1.5%
2012	-1.1%
2013	-5.7%
2014	-2.7%
2015	-0.2%
2016	1.2%
2017	-1.2%
2018	-1.4%

Company (10 Year Average)	-1.1%
Company (10 Year High)	9.2%
Company (10 Year Low)	-6.1%
Company (Current Year/TTM)	-1.4%

Industry (Current Year) 1.1%

Overall Market Without Financials (Current Year) 4.4%

Explanation: Tivo...destroyer of assets!

- No Is the ROA equal to or higher than the overall market?
- No Is the ROA equal to or higher than the industry?
- No Has the ROA always been positive?
- No Is the ROA steady (not really far from average, or high/low)?

Asset Turnover	
Year	
2008	0.18
2009	0.20
2010	0.23
2011	0.26
2012	0.21
2013	0.18
2014	0.21
2015	0.23
2016	0.24
2017	0.25
2018	0.24

Company (10 Year Average)	0.22
Company (10 Year High)	0.26
Company (10 Year Low)	0.18
Company (Current Year/TTM)	0.24

Explanation: NA

- Yes Is the Asset Turnover consistent over time?
- Yes Is the Asset Turnover improving (trending higher)?

Certainty Rating:	14%
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Explanation: NA

Business "Moat" Assessment - Not A "Mediocre" Business

Net Margin %	
Year	
2008	-33.0%
2009	-10.9%
2010	39.3%
2011	-6.0%
2012	-5.3%
2013	-32.0%
2014	-12.9%
2015	-0.8%
2016	5.0%
2017	-4.6%
2018	-5.8%

Company (10 Year Average)	-6.1%
Company (10 Year High)	39.3%
Company (10 Year Low)	-33.0%
Company (Current Year/TTM)	-5.8%
Industry (Current Year)	2.9%
Overall Market Without Financials (Current Year)	9.5%

Explanation: **Let the bleeding stop! Please! Make it stop!**

- No Is the Net Margin % equal to or higher than the overall market?
- No Is the Net Margin % equal to or higher than the industry?
- No Has the Net Margin % always been positive?
- No Is the Net Margin % steady (not really far from average, or high/low)?

Gross Margin %	
Year	
2008	86.5%
2009	86.4%
2010	81.7%
2011	84.4%
2012	83.1%
2013	82.8%
2014	80.2%
2015	80.4%
2016	75.5%
2017	74.1%
2018	73.7%

Company (10 Year Average)	80.8%
Company (10 Year High)	86.5%
Company (10 Year Low)	73.7%
Company (Current Year/TTM)	73.7%

Explanation: **Gross margins are the only shining light for this business but they are at all time lows and dropping quickly.**

- Yes Has the Gross Margin % always been positive?
- No Is the Gross Margin % generally improving?
- Yes Is the Gross Margin % steady (not really far from average, or high/low)?

Operating Margin %	
Year	
2008	9.1%
2009	18.6%
2010	19.4%
2011	15.1%
2012	17.1%
2013	16.7%
2014	17.3%
2015	14.1%
2016	7.6%
2017	2.9%
2018	-1.8%

Company (10 Year Average)	12.4%
Company (10 Year High)	19.4%
Company (10 Year Low)	-1.8%
Company (Current Year/TTM)	-1.8%

Industry (Current Year) **21.9%**

Overall Market Without Financials (Current Year) **11.3%**

Explanation: **NA**

- No Is the Operating Margin % equal to or higher than the overall market?
- No Is the Operating Margin % equal to or higher than the industry?
- No Has the Operating Margin % always been positive?
- No Is the Operating Margin % generally improving?
- No Is the Operating Margin % steady (not really far from average, or high/low)?

Yes Is The Business Unique? Or Does It Have Something That Makes It Unique?

Yes Price Is Not The Single Most Important Motivating Factor In Purchase Of Product.

Don't Know Prices Can Be Adjusted For Inflation?

Yes Is Revenue "Safe" (Long-Term Contracts, Long-Term Retention, Don't Have To Resell Everything Every Time)?

Yes Does The Company Have Strong/Recognized Brands?

Yes Is There An Attachment To The Companies Brand(s)? Is There An Identifiable Consumer Monopoly?

Certainty Rating: 39%

Explanation: **They have patents and a sticky near monopoly type product...but can't seemingly make it work.**

Competition "Moat" Assessment - Not A "Commodity-Type" Business

Yes Is Business Competition Free? There Is Not A Company That Directly Competes With This One.

Yes Is Business Competition Free? There Is Not A Presence Of Multiple Producers In Industry?

Yes Is Business Competition Free? There Is Not Substantial Excess Production Capacity In Industry?

Yes It Would Be Hard To Start A Company To Compete With This Business. There Are Large Barriers To Entry To This Business.

Yes It Would Be Hard To Make A Dent In Business Without The Most Money and Best Management Talent.

Certainty Rating: 100%

Explanation: **Definitely not a commodity type business but is it a business that is working...financially?**

Leverage Assessment - Is The Business Conservatively Financed (Providing Additional Margin Of Safety...Oh And Saving Money)?

Financial Leverage (Asset To Equity Ratio)	
Year	
2008	1.76
2009	1.42
2010	1.41
2011	1.74
2012	2.08
2013	2.07
2014	2.21
2015	2.13
2016	1.74
2017	1.71
2018	1.70

Company (10 Year Average)	1.82
Company (10 Year High)	2.21
Company (10 Year Low)	1.41
Company (Current Year/TTM)	1.70

Explanation: NA

- No Is the Financial Leverage consistent over time?
- Yes Is the Financial Leverage improving (ie lowering)?

Debt To Equity	
Year	
2008	64%
2009	32%
2010	22%
2011	57%
2012	87%
2013	90%
2014	73%
2015	93%
2016	51%
2017	53%
2018	55%

Shares	Company (10 Year Average)	61.5%
	Company (10 Year High)	93.0%
	Company (10 Year Low)	22.0%
	Company (Current Year/TTM)	55.0%
85,000,000		
101,000,000		
109,000,000		
113,000,000	Industry (Current Year)	52.0%
105,000,000		
99,000,000	Overall Market Without Financials (Current Year)	119.0%
92,000,000		
84,000,000		
94,000,000		
120,000,000		
122,000,000		

Explanation: NA

- No Is The Debt To Equity Low Versus Static Measure (Less Than 50%)?
- Yes Is The Debt To Equity Low Versus Market (Less Than Market)?
- No Is The Debt To Equity Low Versus Industry (Less Than Industry)?
- No Has The Debt To Equity Lowered Over Time?
- No The Company Is Not Adding Debt In Order To Increase ROE.
- No The Company Is Not Adding Debt In Order To Do Share Buybacks.

Certainty Rating:	25%
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Explanation: Debt is all over the place and so are outstanding shares...way to hard to figure out what they are doing.

Compounding Assessment - Is The Company A (Or Going To Continue To Be A) Compounder?

- No Does The Company Retain Its Earnings (Ideally No Payouts Unless There Is No Additional Expansion Opportunity)?
- No Is The Company Able To Spend Little On Maintaining Current Operations (Is CapEx Rebuilding Or Expansion)?
- No Is Company Reinvesting Earnings In New Businesses, Expansion Of Existing Businesses (That Will Increase Value)?
- No Is Company Reinvesting Earnings In Share Repurchases (That Will Increase Value)?

Certainty Rating: 0%

Explanation: Not able to be profitable, or able to compound anything...except losses.

Management Assessment - Does The Company's Management Add Value To The Business?

- No Management Has Candor And Can Admit Mistakes
- No Management Has Been In Place For Some Time
- No Management Does What It Says It Will Do
- Yes Management Knows The Business (Rarely Surprised)
- No Management Is Allocating Capital (Reinvested Earnings) Into Businesses, Expansion That Will Increase Value.
- No Profitability Is Not Almost Entirely Dependent Upon Management's Abilities To Efficiently Utilize Tangible Assets (Idiot Run Test).

Certainty Rating: 17%

Explanation: New CEO came in and quickly left. They've been exploring a sale...haven't done it. I don't think anyone wants this thing...including me.

GOOD BUSINESS CHECK

Return "Moat" Assessment:	14%
Business "Moat" Assessment:	39%
Competition "Moat" Assessment:	100%
Leverage Assessment:	25%
Compounding Assessment:	0%
Management Assessment:	17%
	32%

Explanation: NA

Test #8 - MY GUT

Trust My Gut...It Is Large And In Charge (Unfortunately)!

Other's Analysis - Company

	Annual Report
	Latest 10K
	Latest 10Q (+)

Other's Analysis - Outsiders

	Available Analyst Reports
	Morningstar Reports
	Internet Searches, News, Articles

Certainty Rating: 100%

Explanation: NA

PROS[See above.](#)

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Certainty Rating: 100%

Explanation: NA

CONS[See above,](#)

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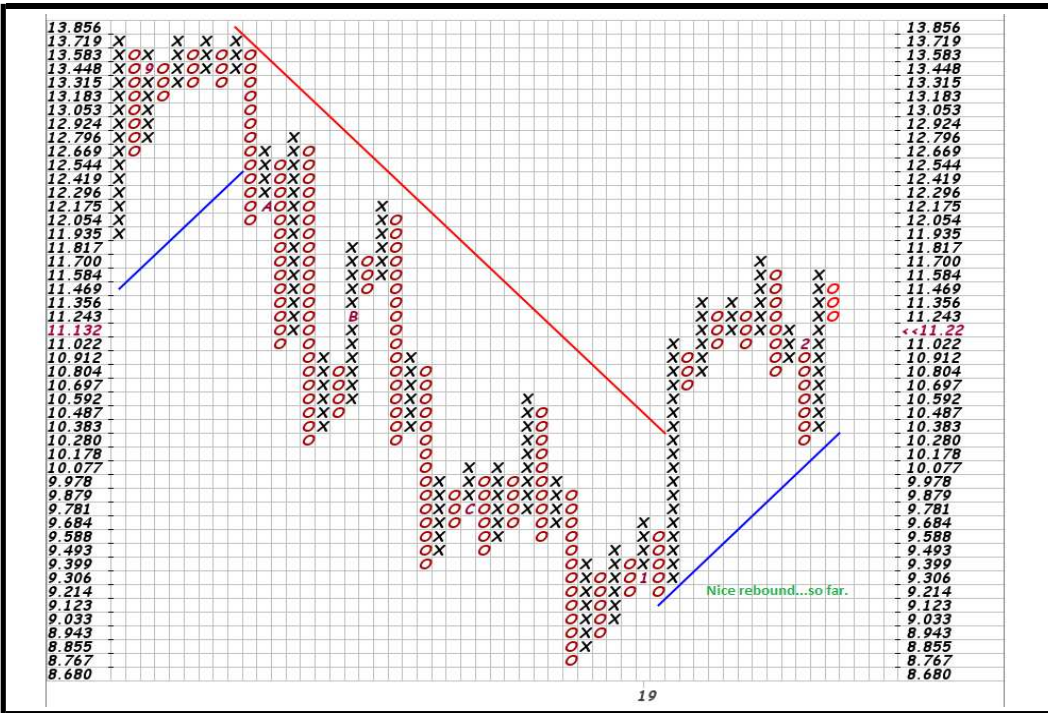
Certainty Rating: 100%

Explanation: NA

Test #9 - TECHNICALS / TIMING

Do Weekly Technicals Point Towards An Attractive Entry Point (Either Oversold / Turning / Trending)

Point And Figure



Certainty Rating: **100%**

Explanation: The stock moved down fairly sharply at the end of last year. It has recovered well since then and has bounced off the \$9ish level (where it just bounced from in late December) 4 times since 2008.

It was recently pretty oversold in the \$11ish territory around mid year last year so I believe the pricing right here is about where it should sit for a while (barring news up or down).

Weekly Candlestick



50/200 Day Trend Line (Crossing?)

Certainty Rating: **50%**

Explanation: Downtrend and widening.

RSI (Cheap, Falling Knife?)

Certainty Rating: **100%**

Explanation: Lots of bad news and bad price action.

MACD (Crossing?)

Certainty Rating: **75%**

Explanation: Turned in December.

Money Flow (Oversold?)

Certainty Rating: **50%**

Explanation: No trend