Mike Gorlon 7/17/2016

SumZero Research Report

Overview of Recent Price Activity:

Zendesk IPO'd in 2014 at a price of $9 per share. Following the IPO the stock went to around $27 a share at the end of 2014 and at the end of 2015. It then fell back to around $16 a share during February of 2016. Since February 2016 the stock has risen back up to $28.78 share which is a new all-high despite never earning a profit.

Source: Morningstar

After running a stock screen with two parameters - price to sales greater than 8 and net profit margin less than 2% - there were a decent amount of these cloud computing and application software companies that appear to be pretty overvalued despite rarely earning a profit. When the market started to decline in December 2015 due to many factors such as a decline in oil prices, concern over China's economy, and the first Fed rate hike in years, these cloud computing companies saw their stock prices decline until February 2016. Now the market has recovered all of its losses and it appears that the cloud computing and application software industry appears to be the favorite once again for speculators.

After reviewing some of these companies that appeared on my screen I believe Zendesk offers the most compelling opportunity for short sellers.

Why there is an opportunity for a short position:

Zendesk highlights large revenue growth over the last couple of years, but it hasn't translated into profits at all. Their loss over the last three years has increased despite increasing revenue from $72 million to $209 million. They lost more money over the last three years because of bloated compensation (salaried and share based compensation). Also competition over the next couple of years only looks to be getting more intense with Salesforce's Desk.com and Freshdesk. Despite increased competition and a loss that is getting larger as Zendesk expands its business, the company is trading at excessive valuations. The price to sales ratio is 11 and Zendesk may try to justify this because of their revenue growth of 76% from 2013 to 2014 and their revenue growth of 64% from 2014 to 2015, but it doesn't mean anything if the company can't earn a profit for its shareholders.

Business background and model:

Zendesk was founded in 2007 and is currently headquartered in San Francisco, California. It is in the technology sector and application software industry and targets small and mid-sized businesses. Zendesk is a cloud based computing company that sells a customer service platform in order to help their clients manage their customer relationships. When a customer buys a product from a company and is having an issue with it, they may go to the company's website that they brought the product from and go to their help center. Zendesk provides the software that runs these help centers. The help center allows customers to write the issue(s) they are having with the product on a ticket which they send to an agent who can help the customer solve their problem. Zendesk aims to make communication between the customer and the company selling the product easier by allowing the customer to use multiple communication functions like email, chat, voice, and social media all on the same interface. They are also involved in providing companies with data about their customer service since October 2015 when they purchased We Are Cloud.

Overvaluation:

TTM Price to Sales: 11 ($2.6B/235M)

TTM Price to Book: 9 ($2.6B/290M)

TTM Price to Earnings: -28 ($2.6B/-92M)

TTM Price to Free Cash Flow: -200 ($2.6B/-13M)

The numbers above show how overvalued Zendesk really is. It trades at a price to sales ratio of 11 which is very high. The price to book ratio is also high and Zendesk has never had a year or even a quarter of positive earnings.

	Year Ended December 31,		
	2015	2014	2013
		(In thousands)	
Revenue	$ 208,768	$ 127,049	$ 72,045
Cost of revenue (1)	67,184	46,047	24,531
Gross profit	141,584	81,002	47,514
Operating expenses (1):			
Research and development	62,615	36,403	15,288
Sales and marketing	114,052	77,875	37,622
General and administrative	47,902	32,869	16,437
Total operating expenses	224,569	147,147	69,347
Operating loss	(82,985)	(66,145)	(21,833)
Other expense, net	(729)	(1,533)	(517)
Loss before provision for (benefit from) income taxes	(83,714)	(67,678)	(22,350)
Provision for (benefit from) income taxes	338	(263)	221
Net loss	$ (84,052)	$ (67,415)	$ (22,571)

Source: Zendesk 10K

Analysis of Income Statement:

Technology is a very competitive environment which needs lots of R&D to stay competitive. R&D has outpaced revenue growth over the last three years. It increased 138% from 2013 to 2014 and 72% from 2014 to 2015 while revenue increased 76% from 2013 to 2014 and 64% from 2014 to 2015.

	2015	2014	2013	2014 to 2015 % Change	2013 to 2014 % Change
(In thousands, except percentages)					
Revenue	$208,768.00	$127,049.00	$72,045.00	64%	76%
Cost of Revenue	$67,184.00	$46,047.00	$24,531.00	46%	88%
Research & Development	$62,615.00	$36,403.00	$15,288.00	72%	138%
Sales and Marketing	$114,052.00	$77,875.00	$37,622.00	46%	107%
General and Administrative	$47,902.00	$32,869.00	$16,437.00	46%	100%
Operating Loss	($82,985.00)	($66,145.00)	($21,833.00)		

Source: Zendesk 10K

Total operating expenses have been higher than revenue for every quarter going back to the 1st quarter of 2014. This is despite Zendesk increasing their revenue from $25 million to $68 million and constantly mentioning their high growth rates in revenue. It won't do a business much good if the operating expenses continue to outpace revenue over time.

Fiscal year ends in December USD in Million except per share data	2013-12	2014-03	2014-06	2014-09	2014-12	2015-03	2015-06	2015-09	2015-12	2016-03	TTM
Revenue	23	25	30	34	39	42	48	56	63	68	235
Cost of revenue	8	9	12	12	14	14	16	17	20	22	74
Gross profit	15	16	18	22	25	28	32	39	43	47	161
▼ Operating expenses											
Research and developme...	5	5	10	10	11	13	14	16	19	22	71
Sales, General and adm...	16	21	29	30	31	34	39	41	48	52	180
Total operating expens...	**21**	**26**	**39**	**40**	**42**	**47**	**53**	**57**	**67**	**74**	**251**
Operating income	(6)	(10)	(21)	(18)	(17)	(19)	(21)	(19)	(24)	(27)	(91)
Other income (expense)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)	(0)	(1)
Income before taxes	(6)	(10)	(22)	(18)	(17)	(19)	(21)	(19)	(25)	(27)	(91)
Provision for income t...	0	0	(0)	(0)	0	0	0	0	(0)	0	1
Net income from contin...	(6)	(10)	(22)	(18)	(17)	(19)	(21)	(19)	(24)	(27)	(92)
Net income	(6)	(10)	(22)	(18)	(17)	(19)	(21)	(19)	(24)	(27)	(92)

Source: Morningstar

Sales and marketing costs are defined in Zendesk's 10K as salaries, commissions, share-based compensation, and benefits for employees involved in selling and marketing. This number is the highest expense on the income statement and makes up 52%, 61%, and 55% of revenue in 2013, 2014, and 2015. As stated on page 49 of Zendesk's 2015 10K, the primary driver of sales and marketing expenses going from $77M in 2014 to $114M in 2015, a 46% increase, was due to the increase in employee compensation related costs of $27M that results from an increase in more workers.

There have been a lot of option exercises and sales over the last two months showing that officers and senior level managers understand the high valuation that the market is giving the company and they want to cash in while the stock price is inflated (3)(4). Adrian McDermott, the Senior Vice President of Product Development, just recently sold 3,475 shares at $29.36 a share for a total value of $102,000 on July 13th and he also sold 68,470 shares at a price of $29.31 for $2,006,609 on July 12th of this year. In addition to these sales, he has also exercised about 136,940 shares related to stock options. There was $15 million in executive compensation in 2015 which gets expensed on the income statement as a sales and marketing cost. With the large sales and option exercises in 2016, I expect another large number for sales and marketing expense to contribute to another net loss for this year and management has acknowledged this. In their shareholder letter following the Q1 2016 earnings call, management wrote,

"For the full year of 2016, we expect revenue to be in the range of $300.0 to $305.0 million. We expect our non-GAAP operating loss for the full year of 2016 to range between $27.0 to $28.0 million, and we expect our GAAP operating loss to range between $111.0 and $112.0 million. ***Our GAAP operating loss for the full year of 2016 is estimated to include share-based compensation and related expenses of approximately $80.3 million****, and amortization of purchased intangibles of approximately $3.7 million." (5)*

(3) https://investor.zendesk.com/ir-home/sec-filings/default.aspx

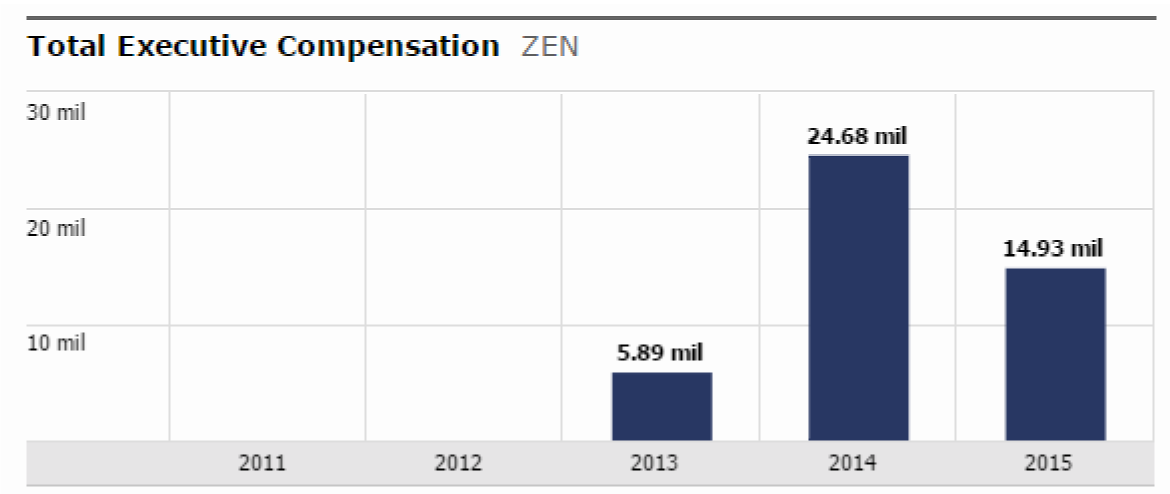
(4) http://www.openinsider.com/search?q=zen

(5) https://s2.q4cdn.com/278771905/files/doc_financials/Q1-2016-Shareholder-Letter.pdf

Key Executives

Name	Title	Pay	Exercised	Age
Mr. Mikkel Asger Svane	Founder, Chairman and Chief Exec. Officer	378.85k	N/A	45
Mr. John M. Geschke Esq.	Sr. VP of Admin., Gen. Counsel and Sec.	308.17k	3.69M	45
Mr. Adrian McDermott	Sr. VP of Product Devel.	361.15k	7.81M	47
Ms. Amanda Kleha	Sr. VP of Velocity Bus.es	262.24k	2.27M	39
Mr. Alexander Aghassipour	Founder and Chief Product Officer	N/A	N/A	48

Source: Yahoo Finance



Source: Morningstar

Competition:

I researched alternatives on the internet for Zendesk and found the link below (1) that shows some alternatives. The most notable are Freshdesk and Salesforce but there are also other less known customer management apps that have gotten pretty decent ratings and are free. After logging into my Google play store and researching some of these apps here are some of the ratings for alternatives:

Zendesk: 4.1 out of 5 stars with 4,441 ratings

Freshdesk: 4.3 out of 5 stars with 821 ratings

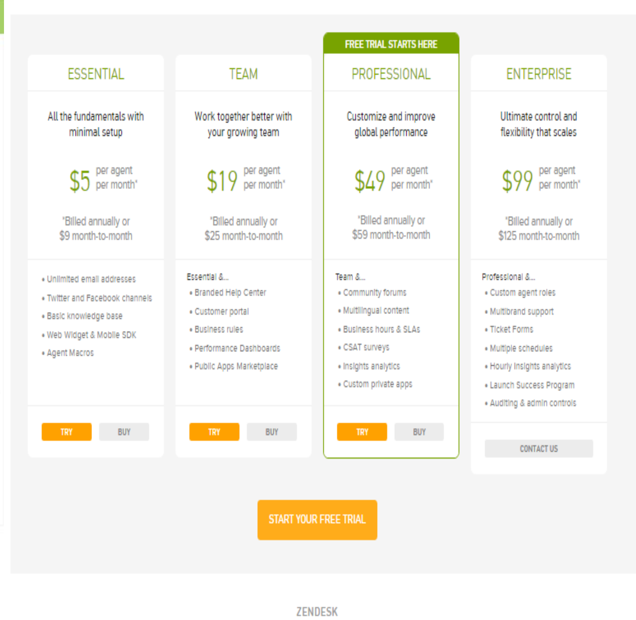
Desk.com (Salesforce): 3.6 out of 5 stars with 123 ratings

Zoho Support: 4 out of 5 stars with 123 ratings

ServiceDesk Plus – IT Helpdesk: 3.7 out of 5 stars with 325 ratings

(1) **https://www.getapp.com/customer-service-support-software/a/zendesk/alternatives/**

Zendesk's most notable competitor is Freshdesk who Zendesk's CEO, Mikkel Svane, called "a freaking rip off"(2). Freshdesk has advertised their lower pricing option and has directly and publically went after Zendesk's market share. They created the website www.ripoffornot.org to mimic Mikkel Svane's comments, to highlight some users who have favored Freshdesk over Zendesk, and to compare Freshdesk's better features/pricing ratio as well. This shows the vulnerability Zendesk's market share is to other competitors and the difficulty that it will take for Zendesk to truly develop a competitive advantage such as high switching costs. The conclusion that I got from comparing pricing options was that Freshdesk was cheaper than Zendesk.



Source: Freshdesk.com

Source: Zendesk.com

(2) https://freshdesk.com/compare-helpdesks/zendesk-vs-freshdesk

Relative Valuation:

	Price per Share	Net Income	P/S	P/E	P/B
Zendesk	28.78	-92	10.8	N/A	9.1
Salesforce	81.4	-12	7.7	N/A	9.9
Industry Average (Software – Application)	N/A	221	4.9	69.5	5.5

Compared against the industry average and Salesforce, Zendesk has the largest loss and the highest valuation. I will assume that the market eventually realizes that Zendesk doesn't deserve as much of a premium as it has been given and the P/S ratio drops toward the industry average. If the P/S ratio drops to Salesforce's ratio then the value per share for Zendesk would be $19.72 or a 45% decline from the current price at the close of the market on 7/15/16 of $28.78. If the price to sales ratio drops toward the industry average of 4.9 then the value per share is $12.55 or about a 55% decline.

Zendesk's TTM Sales (millions)	P/S	Value (Millions)	Shares outstanding (Millions)	Value Per Share
235	7.7 (Salesforce)	$1,809.50	91.74	$19.72
235	4.9 (Industry)	$1,151.50	91.74	$12.55
235	**6 (My assumption)**	**$1,410.00**	**91.74**	**$15.37**

Valuation Model:

What is it worth?

Analysts are estimating a loss of 31 cents a share for 2016 and a loss of 17 cents a share for 2017. This makes it difficult to derive a value for the company because the company isn't predicted to generate any profits for the next two years and as revenue increases, their net loss is getting bigger.

Annual Earnings Estimates ZEN

	12/2016		12/2017	
	USD	Growth %	USD	Growth %
High	-0.31	-68.7	-0.17	-45.2
Low	-0.32	-67.7	-0.20	-37.5
Mean	-0.31	-68.7	-0.18	-41.9
Median	-0.31	-68.7	-0.17	-45.2
30 Days Ago	-0.32	-67.7	-0.18	-43.7
60 Days Ago	-0.32	-67.7	-0.20	-37.5
90 Days Ago	—	—	—	—
Number of Estimates		2		2

Data as of 07/15/2016

What growth rate does the company need to justify its current stock price?

I am going to make assumptions as to what cash flows, growth rates, and multiples are being priced into the current market cap of $2.6 billion. I attached an excel spreadsheet that allows readers to play around with numbers even further if they would like. For the first two years, 2016 and 2017, I used the analysts' estimates of earnings per share which translate into a net loss of $28.44M (91.74 shares * $0.31) for 2016 and a loss of $15.60M (91.74 shares * $0.17) for 2017. I then assumed the company breaks even in 2018 and will earn $77 million in 2019 and $88 million in 2020.

Zendesk's CEO, Mikkel Svane, has a goal to achieve a billion dollars in revenue by 2020. I think he is too focused on increasing revenue and is willing to overspend a lot to bring in new customers. This is really hurting the bottom line. I will assume in my projections that he is a little short of his goal and realizes revenue of $913M in 2021. From 2013 to 2015, revenue declined by about 10% a year so I assumed this consistent decline in revenue all the way to 2021 to arrive at revenue of $913 million.

With a 10% profit margin, a pretty generous profit margin in my opinion, the company would earn $91 million in 2021. The multiple that this company needs to equal the current market cap of $2.6B would be a P/E ratio of 27.5. The assumptions are very optimistic especially since I didn't use a discount rate which would have lowered the future cash flows.

In summary, here are the assumptions that are going into Zendesk's current market cap:

2021 Revenue: $913M
Revenue Growth: 64% from 2014 to 2015 and declining at a steady 10% rate all the way to 2021 (Example: 2015 to 2016 growth is 54% and 2016 to 2017 is 44%)
Net income: Break even in 2018 and 10% of revenue in 2019, 2020, and 2021
Multiple for Terminal Value: 27.5

	2012	2013	2014	2015	2016 (Est.)	2017 (Est.)	2018 (Est.)	2019 (Est.)	2020 (Est.)	2021 (Terminal Value)
Revenue	38.00	72.00	127.00	209.00	321.86	463.48	621.06	770.12	877.93	913.05
Net Income	(24.00)	(21.00)	(66.00)	(83.00)	(28.44)	(15.60)	0	77.01	87.79	91.30

Total Earnings	120.76
Net Income (2021 TV)	91.30
Multiple	27.5
Terminal Value in 2020	2,510.89
Total Value	2,631.65
Shares Outstanding	91.74
Value per share	28.69

After doing numerous valuation scenarios to try and determine what growth rates, multiple, and cash flows are being priced into the current share price, I've concluded that Ben Graham's saying, "You don't need to know a man's weight to know that he's fat" applies here very well. In this case, "You don't need to know the exact growth rate, multiple, and future cash flows to determine that this company is overvalued."

What is my price target?

I am going to use the same valuation model that I used above to try and determine what assumptions the current market cap is pricing in. I used the same growth rate for revenue, the same 10% profit margin, but used a P/E multiple of 30 and I discounted the earnings at 15% to account for the risks in what I believe to be a business with an uncertain business model. A lot of this information is arbitrary.

2021 Revenue: $913M
Revenue Growth: 64% from 2014 to 2015 and declining at a steady 10% rate all the way to 2021
(Example: 2015 to 2016 growth is 54% and 2016 to 2017 is 44%)
Net income: Break even in 2018 and 10% of revenue in 2019, 2020, and 2021
Multiple for Terminal Value: 30
Discount Rate: 15%

Price Target: $15.40

Catalysts:

<u>High insider sales</u> – Stock based compensation gets expensed as a sales and marketing expense and puts pressure on GAAP net income. The inflated stock price over the last couple of months has allowed insiders to cash in on options and stock which will continue to drag down net income for 2016.

Market realizes the Overvaluation – A price to sales ratio of 11 is very high, especially for a company that has never had a quarter with a profit.

Competition – Freshdesk is going after Zendesk's market position and Salesforce has a competing product as well. Zendesk's lack of earnings and return on capital or equity demonstrate that there is no moat or competitive advantage worth paying a high premium for.

Macro-conditions – Speculating on new technology companies isn't new and has been in favor at one time or another. Zendesk along with a lot of other cloud computing companies have seen their valuations stretched after becoming the new fad on Wall Street. Predicting when exactly these fads will come to an end is difficult, but they have always ended. If the economy starts to cool down and any of the following factors such as increased interest rates or slower productivity growth occur in the near future, then sellers will rotate out of the speculative growth stocks like Zendesk.

Risks:

Takeover – Another company acquiring Zendisk is a risk to be aware of since the cost of borrowing is so low. Predicting an acquisition is difficult to do and I don't see why a company would want to acquire Zendesk who has been losing a large amount of money lately, but it doesn't mean that I will rule this risk out. After all, who predicted Microsoft would acquire LinkedIn?

Earnings surprise – Expectations are low since analysts are expecting another loss for 2016 and 2017. If the company surprises the Street then there is a likelihood that Zendesk will trade higher. The short ratio is 7.83% which isn't too high but the combination of an increase in the short ratio and an earnings surprise can result in a short squeeze.

Conclusion:

Using a relative valuation model based on price to sales and a discounted net income model I believe that Zendesk should be priced at $15.40 at best. Competition, insider sales, negative earnings, speculators realizing the irrational exuberance in Zendesk's sector will create headwinds for the company in the next year or two. Zendesk hasn't had a profitable quarter yet and admits in conference calls and their shareholder letter that they don't predict the company will earn a profit this year. Analysts aren't predicting a profitable year for 2016 or 2017 yet the company trades at a multiple of 11 times sales. Speculators will soon realize the overvaluation in my opinion and the company will trend back down to where it traded in February 2016 when speculators were reminded that risks do exist in markets.