

October, 31, 2017

IRBT

Timothy Cousin

Sector: Consumer Discretionary

Industry: Household Durables

Current Price: \$67.19

Target Price: \$74.32

iRobot founded in 1990, with a dream of trying to make robots a reality. iRobot has solid over 20 million robots worldwide. iRobot makes their revenue by manufacturing robots that vacuum and clean the floor. The company not only makes vacuums, but also they have made products that NASA has explored. The company developed products that helped clean up 9/11, as well as the Gulf of Mexico oil spill.

BUY

Current Price: \$67.19
 Target Price: \$74.32
 Market Cap: 1.85B
 Return On Capital: 20.7%
 ROE: 14.3%
 52 week range: \$48.46 to \$109.78
 Earnings Per Share: 1.81
 Volume : 1,055,150



Thesis: iRobot is a company that has had the ability to find numerous way to create revenue for themselves. They have had the ability to increase revenue due to the innovation of their products. iRobot is known for their vacuums, but have been able to beat their competitors, coming out with new products that respond well in the market. iRobot is necessary to buy due to their ability to be more innovative than their competitors are.

Catalysts:

- Short Term (within the year): People are always going to want to keep up to date with the newest and latest technology.
- Mid Term (1-2 years): iRobot has had the ability to come out with new products, and updates that have been able to do well.
- Long Term (3+): iRobot acquired Evolution Robotics and Robopolis, which gives them a great opportunity to expand.

Earnings Performance:

iRobot has been able to perform well over the past couple of years dating back to 2014.

Starting from 2014 iRobot has been able to increase their revenue base on every quarter. This can attribute to the ability to be able to come out with top of the line products that people respond well in the market. The product that iRobot came out with in 2014 was the Scooba 450, that was a machine that cleaned peoples floor. This new piece of equipment responded extremely well to the market based on the revenue.

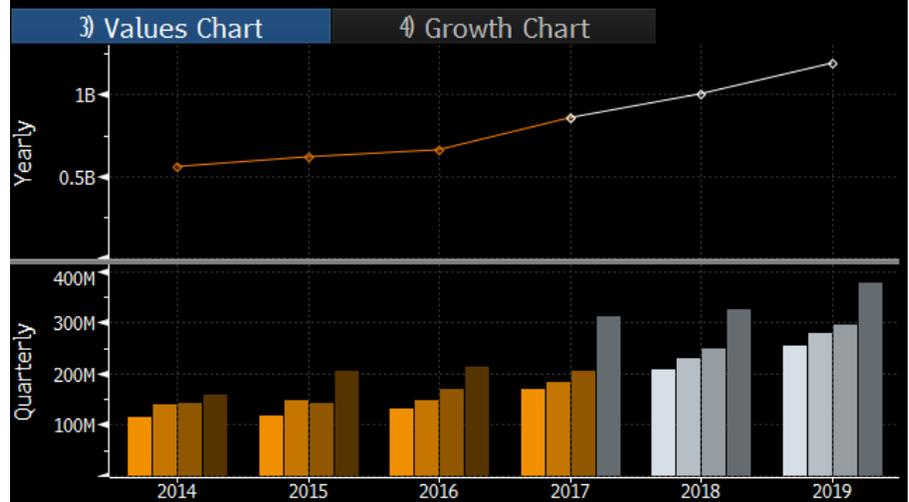
Moving forward iRobot has a positive outlook that their revenue will be able to increase as well. According to Bloomberg, by the

first quarter at the end of March the total revenues will have increase by 29% compared to the last year.

iRobot has had the ability to be able to increase their revenue stream by having the ability to keep improving existing products, innovating on old ones, and always staying ahead of their competitors.

	2014	2015	2016	2017	2018	2019
Q1 Mar	114.20M	117.96M	130.80M	168.47M	209.20M	256.00M
Q2 Jun	139.80M	148.79M	148.70M	183.15M	230.00M	279.00M
Q3 Sep	143.50M	143.61M	168.61M	205.40M	248.60M	295.00M
Q4 Dec	159.34M	206.42M	212.49M	313.57M	325.00M	378.00M
Year	556.85M	616.78M	660.60M	862.00M	1.01B	1.19B
Cal Yr	556.85M	616.78M	660.60M	862.00M	1.01B	1.19B

(Fiscal Period: Reported, Estimated)



Industrial Overview:

The robotics industry has seen an unbelievable growth beginning from 2013. During the year 2013, the global industrial robotics market is 25.68 billion. The market has been increasing ever since, due to the amount of demand for industrial robotics.

New generation robots have had the ability to show human attributes such as flexibility, intelligence, memory, recognition of objects, and the ability to learn. The ability to make robots seem human-like has had a positive perception on the market.

The industry seems to be growing in the sense; they are developing robots that are integrated touch and vision. Robotics will have a positive impact on the market because it has the opportunity to speed up work and efficiency when it comes to delivery systems.

Not only has the robotics market been performing well since 2013, it has created a ton of job opportunities as well. The industrial robots have created in the sense of, designing, marketing, installing, selling, and maintaining robots. Robots have been successful in the sense of not only how they have responded in the market, but creating jobs for the everyday person.



Product Development:

iRobot is different from their competitors in the type of products they develop. Many people can correlate them as a company that just makes vacuums and floor cleaners but that is not how the company originally started out. Their first product they developed helped NASA in space exploration. The product they developed called Genghis, a robot that helped NASA take pictures to have a better idea of understanding of space.

iRobot has had the ability to make revenue off the product Roomba. The Roomba is an example of how the company has taken a product, and making it stretch away from its competitors. The Roomba started out as a basic vacuum that was sensitive in the sense of trying to clean up a mess. iRobot took it to the next level in making a product that the user has the ability to map out a specific path, have advanced cleaning performance, and the ability to clean on thick carpets.

iRobot has made a large amount of their revenue off the Roomba, but it does not stop there. The company has gone far enough to make products that help clean up after 9/11, the oil spill on the Gulf of Mexico, and



they even had the ability to sell more than ten million robots worldwide. iRobot is such a successful company because they are always coming up with new products, which are convenient for the user.

Growth Strategy:

iRobot has done well over the past couple of years in trying to produce positive revenue streams. With that being said, they are a company that is looking to try to expand. iRobot has had the ability to generate new revenue from themselves in the sense of trying to create new products. The newest product they decided to come out with is the Roomba 700 series, which they companies expect the market to return positively to that. Another project that iRobot believes will do well in the market is the Ava 500 Video Collaboration robot.

A major part that iRobot has had the ability to continue to had positive outlooks with their revenue stream, can be correlated to the amount of money they are pouring into research and development. In 2014, iRobot has poured 69.4 million dollars into research and development, which is up from 2010 (24.8 million).

iRobot has found different ways of trying to increase their revenue streams. In 2013, the company started selling remote presence telemedicine robots to InTouch health, in order to get a resale in the market. In 2016, iRobot sold their defense security robots to Arlington Capital Partners. The company will use the money they made selling that part of their company to continue to improve their care robots.



iRobot as a company has performed well in the United States over the past couple of years. They believe that they have the resources to try to expand internationally and especially in Japan. Recently in 2017, iRobot opened up four more stores in Japan. This is has to do with a larger part of their prediction of strong growth in 2018. iRobot believes there is a market in China for Robots that will drive the price of the stock up.

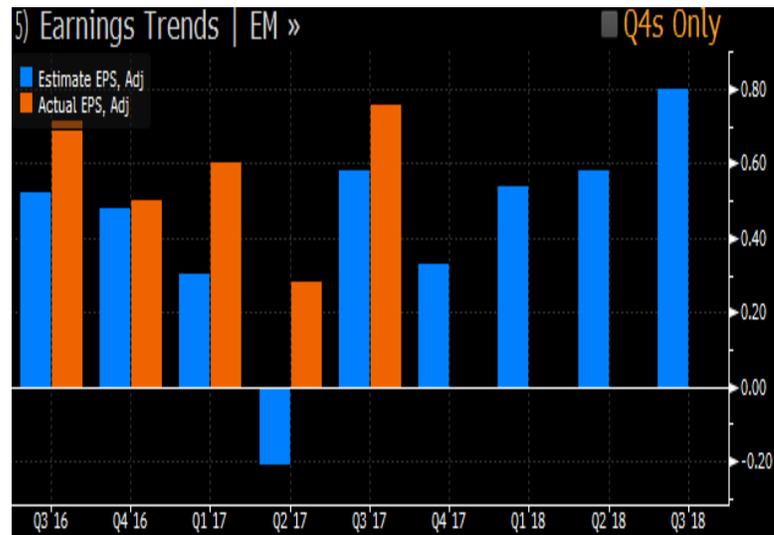
Strong Third Quarter:

iRobot had a strong third quarter, continuing to illustrate how strong of a company they are. Revenue had the opportunity to grow over 22%. The United States continued to have strong demand, and even had great momentum outperforming competitors in Europe.

The third quarter was so strong that there is a positive outlook for the rest of the year. The company even stated that they are going to increase their growth expectation in the United States, and Europe, the Middle East and Africa. iRobot believes they will be able to increase their revenue from 40% to 45% before they end the fourth quarter in those perspective regions.

The reason for such a strong third quarter has to do with the fact of such strong demand from U.S. retailer. iRobot is extremely happy with how well the vacuums did in the third quarter because the household market is only around 10%. Not only has Roomba been the driving force of their revenue for the third quarter, but the Braava jet has brought in revenue growth of 20 to 25% as well.

According to the chart, iRobot has been able to beat all of their revenues when it comes to the end of the quarter. Toward the end of quarter 3 in 2016, iRobot beat the estimates due to the fact of having the ability to generate revenue from not only the Roomba, but other cleaning devices as well. From then on, iRobot has been able to beat every one of their estimates.



Merges and Acquisitions:

iRobot has had the opportunity to expand in many of ways. They are a company that has made increasing streams of revenue, and made a couple of keep acquisitions recently. In October of 2012, iRobot had the opportunity to acquire Evolution Robotics. iRobot had the ability to acquire them for 74 million dollars. This action benefits iRobot in the sense that Evolutionary Robotics specializes in making computation controllers, which is found in Roombas. This will lower the costs of iRobot when they have to produce more Roombas, since there has been an increase in demand. This is also crucial in the sense it allows the iRobot to go onto carpets and hardwood floors.

Another acquisition that closed was iRobot acquired



Robopolis. This is important for iRobot in the sense that Robopolis is a major disturber in Europe. This acquisition will help the company to continue to capitalize on gaining momentum in trying to expand globally. They were able to acquire the company for 141 million dollars in cash. This is crucial for the company in the sense that iRobot will be able to get distribution of robotic products for a much cheaper price. iRobot believes this is a great win for them in the sense of having the ability to expand globally, and implement their strategies form the United States abroad.

Comparable:

iRobot has had the ability to do well against their competitors in the sense of not having any long-term debt. This is crucial in the sense this gives the company the opportunity to expand.

iRobot has had the ability to do well in their main competitor Teco when it comes to return on equity. Teco is looking at a return of equity of 7.70%, while iRobot is looking at 11.07%. This is important in the sense that this illustrates that iRobot has had the ability to earn a profit versus, one of their main competitors.

Name	ROE:Y	ROIC:Y	CF0:Y	LT Brrwng:Y	ROA:Y
Median	11.42%	9.29%	96.98M	1.38M	6.17%
100) IROBOT CORP	11.07%	10.41%	116.42M	0.00	8.67%
101) GUANGDONG TONZE ELE...	3.95%	3.70%	9.38M	0.00	3.70%
102) TECO ELECTRIC & MACH...	7.70%	5.34%	150.53M	383.68M	4.23%
103) CENTRAL GARDEN & PE...	12.09%	9.99%	151.43M	394.81M	5.46%
104) FUJITSU GENERAL LTD	17.52%	25.23%	247.90M	2.77M	8.31%
105) FISKARS OYJ ABP	5.76%	5.56%	107.25M	192.38M	3.86%
106) JOYOUNG CO LTD -A	19.50%	15.18%	158.59M	0.00	11.41%

Another area iRobot has been able to do well has to do with return on investment capital. iRobot is looking at a return of 10.41% while Teco is looking at a return on capital of 5.34%. This plays in favor of iRobot in the sense they are seeing more of a return the companies invests in. iRobot is in a good position, when it comes to the company's competitors.

Profitability:

iRobot has been able to perform well since 2013. They have been on the upside in the sense they have had the ability to increase their revenue each year starting from 487.4 million dollars. In 2017, in the last quarter iRobot had the ability to reach 769.5 million dollars. This can attest for the company having the ability to come out with new products that have responded positively in the market.

Revenue, Adj	487.4	556.8	616.8	660.6	769.5
Growth %, YoY	11.7	14.2	10.8	7.1	17.6
Gross Profit, Adj	221.2	258.1	288.9	319.3	386.3
Margin %	45.4	46.3	46.8	48.3	50.2
EBITDA, Adj	51.5	67.4	76.1	75.3	88.8
Margin %	10.6	12.1	12.3	11.4	11.5
Net Income, Adj	32.0	38.6	44.4	44.6	61.1
Margin %	6.6	6.9	7.2	6.8	7.9

iRobot has had the ability to do well in the sense producing more revenue each year, but their expected growth increased as well. From 2013 to 2014, the company had the ability to grow from 11.7% to 14.2%. The biggest jump that the company took came in from 2016 to 2017. The company had the ability to grow from 7.1% to 17%. This growth happened because of iRobot launching Roomba 690 and 890. iRobot also acquired Sales on Demand, which was the launch for four new offices in Japan. iRobot has had the ability to seen growth in most of the categories dating back to 2013.

iRobot has also been able to see a profitability when it comes to Robots that people use in their home.

In Millions of USD except Per Share	FY 2013		FY 2014		FY 2015	
12 Months Ending	12/28/2013		12/27/2014		01/02/2016	
Revenue	487.4	100.0%	556.8	100.0%	616.8	100.0%
Home Robots	427.9	89.5%	507.4	91.8%	559.6	91.1%
Government & Industrial	50.0	10.5%	45.5	8.2%	55.0	8.9%
Other	9.5		3.9		2.2	

The revenue that is generated since 2013 has increased just based on home robots alone. The amount of revenue started from 4847.4 million dollars, but climbed all the way to 616.8 million dollars in 2015. The amount of demand continued to go up for Roombas at the home. Government has not been a reliable source in the sense in 2013 they accounted for 10.5% of the revenue, and in 2015 only 8.9%. iRobot has had success in selling the Roomba as a home product.

Conclusion:

iRobot is a stock that would be an excellent buy for our portfolio. Over the past couple of years, iRobot has been able to produce increasing revenue streams. Not only has iRobot been able to do well domestically, but also they have had the opportunity to test the waters internationally. iRobot having the ability to acquire Robopolis and Evolution Robotics illustrates the potential growth of this company.

iRobot is a company that has been able to increase their revenue each year, and have a strong growth strategy in place in order to increase revenues even more. They have had the ability to make two acquisitions, and pay it off in cash, while still having no debt to pay.

Due to the fact that iRobot has strong revenue streams, the ability to outperform their competitors, innovate new products, and expand globally makes this company a must buy.

iRobot Corporation (IRBT)

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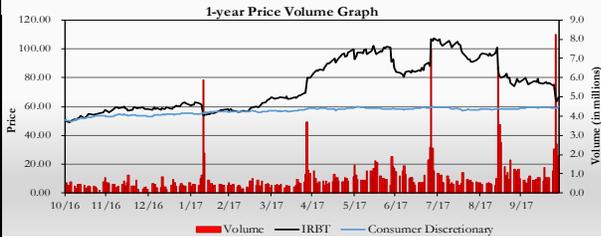
NEUTRAL

Analysis by Timothy Cousin
10/31/2017

Current Price: **\$67.19**
Dividend Yield: **0.7%**

Intrinsic Value: **\$65.96**
Target Price: **\$74.32**

Target 1 year Return: 11.31%
Probability of Price Increase: 91.5%



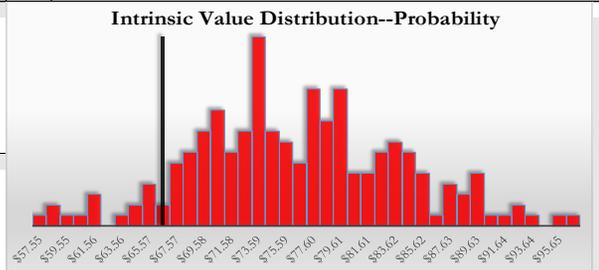
Description: iRobot Corporation designs, builds, and sells robots for the consumer market worldwide.

General Information:
Sector: Consumer Discretionary
Industry: Household Durables
Last Guidance: November 3, 2015
Next earnings date: February 7, 2018
Estimated Country Risk Premium: 4.48%
Effective Tax rate: 20%
Effective Operating Tax rate: 20%

Market Data	
Market Capitalization	\$1,859.30
Daily volume (mil)	1.42
Shares outstanding (mil)	27.67
Diluted shares outstanding (mil)	28.51
% shares held by institutions	116%
% shares held by investments Managers	77%
% shares held by hedge funds	5%
% shares held by insiders	2.65%
Short interest	21.01%
Days to cover short interest	5.31
52 week high	\$109.78
52-week low	\$48.46
Volatility	37.24%

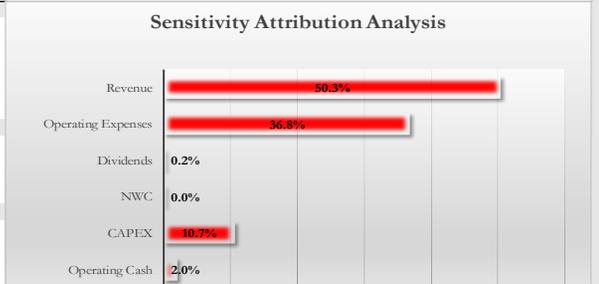
Quarter ending	Revenue	EBITDA
10/1/2016	6.92%	22.59%
12/31/2016	3.81%	-14.98%
4/1/2017	8.01%	47.25%
7/1/2017	4.06%	69.07%
9/30/2017	0.19%	-0.63%
Mean	4.60%	24.66%
Standard error	1.4%	15.3%

Management	Position	Total compensations growth	Total return to shareholders
Angle, Colin	Co-Founder, Chairman & CEO	16.23% per annum over 5y	2.38% per annum over 5y
Dean, Alison	Executive VP, CFO, Treasurer	19.54% per annum over 2y	-0.01% per annum over 2y
Cerda, Christian	Chief Operating Officer	137.32% per annum over 1y	1.69% per annum over 1y
Weinstein, Glen	Executive VP, Chief Legal Of	8.72% per annum over 3y	23.95% per annum over 3y
Campanello, Russell	Executive Vice President of	-11.19% per annum over 5y	2.38% per annum over 5y
Caffrey, Elise	Senior Vice President of Inv	N/M	N/M



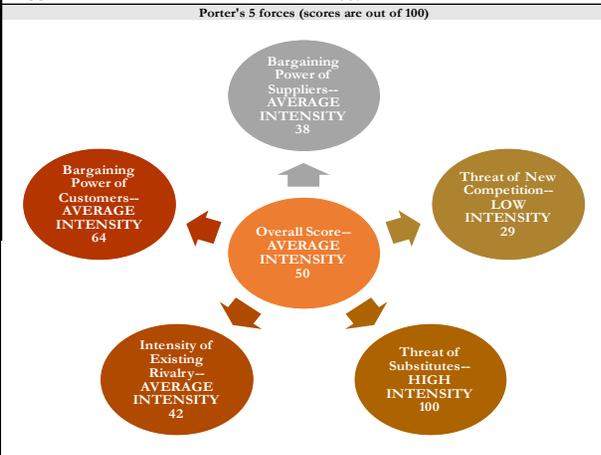
Profitability	IRBT (LTM)	IRBT (5 years historical average)	Peers' Median (LTM)
Return on Capital (GAAP)	20.7%	19.03%	5.32%
Operating Margin	11%	8.25%	6.87%
Revenue/Capital (GAAP)	1.97	2.31	0.77
ROE (GAAP)	14.3%	10.8%	2.7%
Net margin	11.2%	8.6%	5.4%
Revenue/Book Value (GAAP)	1.27	1.27	0.49

Invested Funds	IRBT (LTM)	IRBT (5 years historical average)	Peers' Median (LTM)
Cash/Capital	38.4%	40.6%	38.0%
NWC/Capital	12.6%	4.3%	16.5%
Operating Assets/Capital	43.5%	48.2%	45.5%
Goodwill/Capital	5.5%	7.0%	0.0%



Capital Structure	IRBT (LTM)	IRBT (5 years historical average)	Peers' Median (LTM)
Total Debt/Market Capitalization	0.03	0.04	0.03
Cost of Existing Debt	3.9%	3.9%	4.9%
CGFS Rating (F-score, Z-score, and default Probability)	BBB	A	CCC
WACC	8.3%	6.6%	6.6%

Period	Revenue Growth Forecast	Valuation	Revenue to Capital Forecast
Base Year	18%	13.6%	1.19
9/30/2018	19%	15.2%	1.27
9/30/2019	15%	14.3%	1.15
9/30/2020	18%	14.5%	1.11
9/30/2021	16%	14.7%	1.07
9/30/2022	3%	14.5%	0.92
9/30/2023	3%	13.9%	0.82
9/30/2024	3%	13.7%	0.75
9/30/2025	3%	13.9%	0.70
9/30/2026	3%	14.1%	0.65
9/30/2027	2%	14.2%	0.61
Continuing Period	2%	14.4%	0.58



Period	Return on Capital Forecast	WACC Forecast	Price per share Forecast
Base Year	16.1%	8.3%	\$66.35
9/30/2018	19.3%	8.5%	\$74.24
9/30/2019	16.4%	8.4%	\$81.91
9/30/2020	16.1%	8.6%	\$90.02
9/30/2021	15.6%	8.9%	\$98.77
9/30/2022	13.3%	9.1%	\$107.43
9/30/2023	11.4%	9.4%	\$115.82
9/30/2024	10.3%	9.6%	\$124.11
9/30/2025	9.7%	9.9%	\$132.60
9/30/2026	9.2%	10.3%	\$141.34
9/30/2027	8.7%	10.8%	\$150.38
Continuing Period	8.3%	11.1%	