

CISCO Junior Analysts: Joel Yang & Allison Spegal Senior Analyst: Ben Zielinski

Introduction

Cisco Systems, Inc. (CSCO) is the worldwide leader in networking for the Internet since 1984. Cisco specializes in the design, manufacturing, and sale of Internet Protocol based networking products and services related to the communications and information technology industry. Cisco operates globally in countries such as the United States, Asia, Europe and Africa. Furthermore, Cisco's products and technologies include the following product lines: Infrastructure Platforms, Applications, Security, and Other Products. Cisco is currently standing at 80% of the overall Wireline Equipment market and at 22% of the General Communications Equipment market with Cisco being the leading revenue generating company within this industry domestically. These two sectors weigh the most in relation to Cisco's revenue. Cisco was founded in 1984 by two computer scientists and now Cisco has over 35,000 employees in more than 115 countries.

Financial Analysis			
Price(\$)	45.44	Beta	1.17
Price Target(\$)	56.57	WACC (%)	7.1
52 Week H-L (\$)	33.67 - 49.47	Gross Margin	63%
Market Cap (mil)	208,960	Revenue (mil)	49330
Shares Outstanding(mil)	4,570	Inventory Turnover	10.54
EV/EBITDA	11.68	ROA	0.09%
Dividend (\$)	1.24	ROE	0.20%
Yield	2.91%	ROIC	0.14%

Recommendation

We recommend a buy of Cisco systems based on the following criteria:

- Dedication to acquire and expand in the industry
- Shift to new products (Catalyst 9000)
- Restructuring plan and vision of management
- Overall competitive positioning and control over the U.S market

Our investment thesis will further explain our buy recommendation and dive into metrics that will drive the stock price in the future.

Investment Thesis

Acquisitions: This year, Cisco acquired three key companies which include; Accompany, July Systems, and Duo Security in order to adapt to the rising demand in Artificial Intelligence, Cloud Computing, and Internet of Things. Accompany is a private company that provides an AI-driven relationship intelligence platform. Cisco has developed its own algorithms for identifying faces and sounds. Background noises such as keyboard tapping, loud chewing and dogs barking can then be automatically eliminated during the artificial intelligence conference. This is important for Cisco, as they will be impacted heavily, considering that by 2021, 80% of world's internet

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traffic will be through video, compared to 67% in 2016. In addition, Duo is a cloud-based middleware platform for location services. Currently, the location services market is rapidly growing as enterprises are realizing the benefits of indoor location services. Duo Security, which is also a cloud computing company, provides unified access security and multi-factor authentication to customers. This acquisition will allow Cisco to add a layer of security and enable customers to easily and securely connect users to any application on any network device. We see these acquisitions positively impacting the stock price as Artificial Intelligence and cloud-based software become more prevalent.

Product Development: Recent development of “Catalyst 9000”, a family of switches, which are built for security, Internet of Things, mobility, and multi-cloud is considered to be a key growth factor in the infrastructure platform segment of Cisco. These products come as part of a subscription package and the company has been successful moving its customers over to this new model. The numbers of customers has increased from 5,800 to roughly 9,650 since the end of the third quarter last year. This new model is programmable and optimized for mobility. It also has built in features that allow IoT devices to consistently be powered on and secure for the rest of the network. Moreover, being cloud ready allows this switch to simplify, secure, and transform the network to include a cloud or hybrid cloud environment. Furthermore, the long running ASR 9000 routers platform upgraded to the IOS XR operating system. These upgrades are intended to help carriers adopt 5G mobile communication technology as the market for outside data connectivity develops. The number of 5G connections is expected to exceed 25 million by 2021, which is impressive growth when compared to the expected growth of 2.3 million for 2020.

Business Model Changes: Cisco’s business model is shifting from a focus on hardware to a focus on software. With a lag in demand from telecom carriers and enterprise customers, the business of switches and routers was struggling. Chuck Robbins became CEO in July of 2015 and took the trend of customers wanting easily accessible software to his advantage. The new subscription-based software model allows customers to determine when they need the software and for how long. It became a necessity for customers and allows Cisco to expand its customer outreach. Cisco has also expanded to offer more services including conferencing, collaborating, and security and plans to launch subscription-based models across new product lines. This has led to a sharp increase in recurring revenue based on subscription software. All of these shifts in the business model demonstrate how Cisco is looking forward into the future and integrating the Internet of Things in their offering, further driving growth.

Competitive Positioning: Cisco is positioned well in the market, controlling over 80% of the wireline industry while also expanding growth in the software applications segments. Cisco is dominating all competition in this space domestically and is looking to expand further internationally. We see this being positive for the company in the future as they continue to expand their product lines while also having a large amount of liquidity to fund these expansions.

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Risks

Although Cisco is a stable company that dominates in the network market, there is a risk of fluctuation in demand for product and services in part due to changes in the global economic environment. It is good in a way to be a globalized company but that means that there are more factors to consider such as administrative procedures, foreign currency exchange rates, and economic differences between countries.

Cisco's current management has a long history within the company. With the average tenure of management being 13 years and some having over 20 years. Several of these people have filled various roles in the company over time. While this can be positive for a company, there are risks involved with changing and aging of management. Eventually these managers will need replacements due to retirement and with the average age of management being 52 years old, Cisco will need to look to employees within the company to take over these roles. When a company looks to continue doing well, the management team must look towards the future of the company and how a loss of current management would be played in the success of the business.

In the information technology sector, 5G will be a key driver for future growth. However, there is a risk that the demand for 5G technology will not increase until 5G capable devices are implemented into the public market. This delay in demand could negatively impact companies that are currently investing heavily into the Research and Development for 5G software.

Management

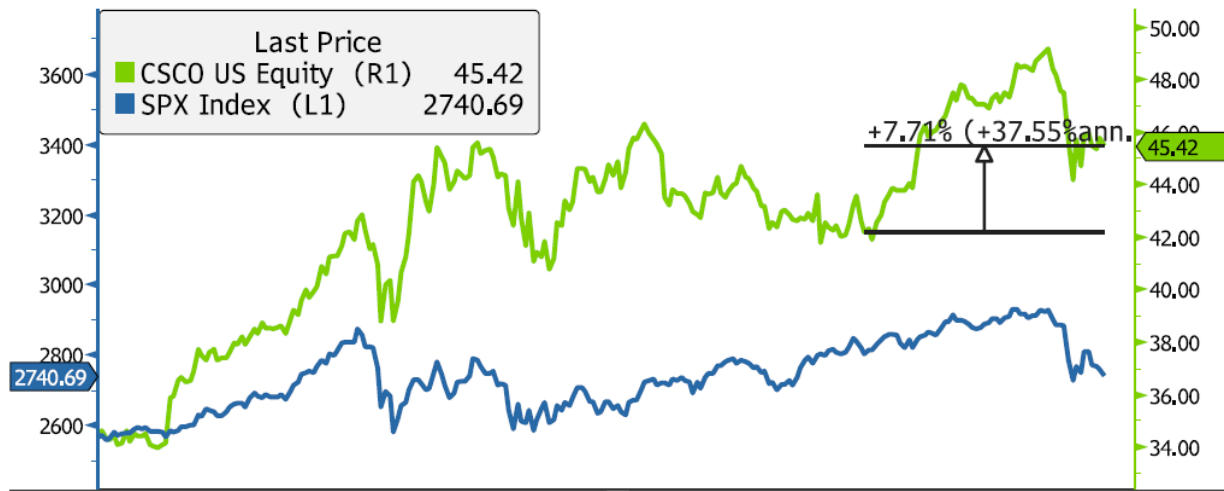
Cisco's management team consists of 41 members including 13 women and 28 men. Most of the management team has a long history within the company representing an average tenure of 13.52 years. Chuck Robbins, is in his twenty first year with Cisco and was named CEO in July 2015 and elected as Chairman of the Board in December 2017. When Cisco completed its acquisition of Accompany for \$270 million in cash in May of this year, they introduced the Founder and CEO of Accompany to their management team as the Senior VP in charge of Cisco's Collaboration Technology Group. All of Cisco's management is held to high standards that include transparency and honesty to not only others within the business but also the customers of the business. Cisco's vision is "To deliver highly secure, software-defined, automated and intelligent platforms for our customers."

Valuation

When performing our valuation of Cisco Systems, we chose to use both an intrinsic and relative approach. In our intrinsic model, we used a five-year discounted cash flow model with a WACC of 7.10% and arrived at a target price of \$62. We used an EV/EBITDA multiples model in our relative valuation and after analyzing the multiples of our peer group, arrived at a target price of \$53. We chose this multiple over the P/E multiple due to the fact that the P/E of Cisco has been inflated since seeing financial irregularity due to tax implications in 2018. We weighted these models 60%-40% with the larger weight being applied to the relative multiple due to irregular

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cash flows in 2018 from the large tax implications. We arrived at a target price of \$56.57
representing a 24% upside from its current price.

Stock Charts of Past Year Performance



Peer Analysis

Peer Analysis: Fiscal Quarter						
Name	Ticker	Market Cap (Billions)	Sales (Millions)	EBITDA	Dividend Yield	EV/EBITDA
Cisco	CSCO	\$208.96	\$12,844.00	\$3,874.00	2.91%	11.68
Arista Networks	ANET	\$16.639	\$519.80	\$170.60	-	28.8
F5 Networks	FFIV	\$10.201	\$542.20	\$166.00	-	14.36
HP Enterprise Co.	HPE	\$22.693	\$7,735.00	\$1,283.00	2.12%	6.32
VMware	VMW	\$58.13	\$2,174.00	\$661.0	-	20.08
Juniper Networks	JNPR	\$9.858	\$1,179.80	\$213.3	2.51%	11.13
Peer Average		\$23.504	\$2,430.16	\$579.76	0.926%	16.138

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Ownership of Shares

Ownership	
Investment Advisor	83.96%
Banks	5.76%
Pension Funds	3.24%
Other (Government, Insurance Company, etc)	7.04%

Top 5 Shareholders		
Holder	% OS	Shares
The Vanguard Group, Inc.	7.81%	356,814,665
BlackRock Fund Advisors	7.35%	336,075,120
State Street Corp	4.13%	188,735,794
Bank of New York Mellon Corp	2.57%	117,704,620
Bank of America Corp	2.09%	95,765,442