

Information Technology A

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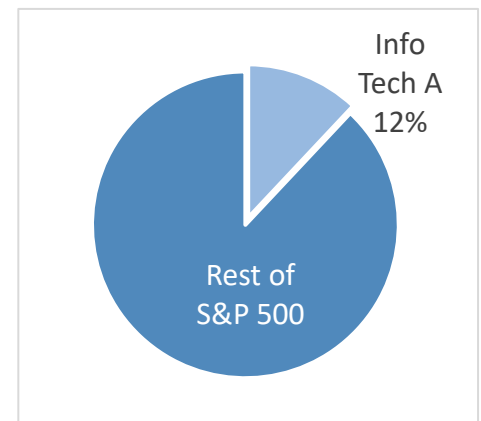
Sector Overview:

Information Technology A sector is comprised of two subsectors, Software and IT Services. Software is comprised of the cloud and all types of software that electronics run off of. IT Services is the application of those software products in the business and personal world. While the fourth quarter of 2018 was rough for the overall market, it was even worse for the Information Technology sector; in fact, the tech heavy Nasdaq composite fell into a bear market and just recently rose out of it. The fears that pushed IT down (slowing growth around the world and especially in China along with the Trump administration's trade talks) are still somewhat of an issue but are looking better. The trade talks seem to be nearing an agreement, the feared global slowdown doesn't show to be having as big of an effect as investors initially thought it might, and the IT sector led the market rebound through January and much of February.

As shown in the pie chart to the right, Information Technology A makes up 12% of the S&P500 with Microsoft topping the list in 2018 with the highest market weight of all S&P 500 stocks. Followed up by Apple at #2 and Facebook and Alphabet coming in at #5 and #8 respectively. Combined they make up roughly 16% of the whole Information Technology sector. Together these companies are not only top competitors within Info Tech A sector, but also among all sectors. This just proves how influential and crucial technology, software, and IT services are to the public.

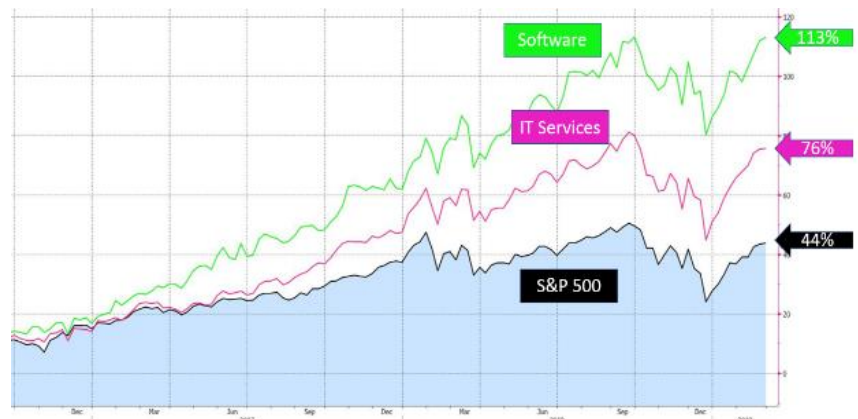
Top Companies

	Market Cap
Microsoft	\$851.39B
Apple Inc.	\$815.60B
Alphabet Inc.	\$774.28B
Facebook Inc.	\$462.03B



Financial Position:

IT Services and Software have consistently outpaced the overall market for the past ten years with Software emerging on top over the last few. As shown in the graph to the right, in the last three years, software (green line) and IT services (pink line) grew a cumulative 113% and 76% respectively, while the S&P 500 is up about 44% over the same time frame.



Only about half of this sector's revenue comes from the U.S. Of the international revenue, 10 to 15% comes from China. This is why the trade talks have had such an effect on this sector. With the talks coming to an end and fears subsiding, we see a large growth potential.

Until a few years ago, gross margins and EBITDA margins had been decreasing, but now have been edging upward. Growing revenues along with more efficiency bode well for this sector.

Key Drivers:

- **R&D-** Because this is a very fast-paced and quickly changing industry, spending on R&D is one of the main things that drives the sector forward. Companies with higher spending and more efficiency in this

area are able to become and remain frontrunners, pushing revenues higher and improving market penetration. Although not the main purpose for R&D spending (and a tad immoral), companies with less spending on R&D are able to effectively piggyback off of those who do by using original ideas to create something similar but different. In this sense, any spending on R&D benefits the whole sector.

- **AI and Cloud-** Artificial Intelligence and cloud services have become increasingly popular and will continue to grow in the sector. Essentially AI is software loaded with many integrated systems that are replacing human minds by making informed decisions. This will help users of AI to become more efficient in time and cost management. Cloud computing also allows for increased efficiency by replacing the need for hard drive space. These two are important to be noted together because they work in tandem. In order to have a good AI system, the cloud is necessary to allow the AI software to pull all available information.
- **Hardware Sales-** Every new piece of hardware released means an updated software system, and every updated software systems requires IT services to integrate it. Every new phone, gaming console, in-home tech, and latest gadget will drive the growth of the Info Tech A sector higher and higher. Although it is not the sector involving the actual product, it is what makes that product work. An iPhone without any software is a fancy paper weight. A new computer network at your office is an even bigger paper weight without software and IT services integration. The public's desire to have the latest and greatest hardware is resulting in a promising benefit for Info Tech A.

Current Companies Recommendations

Activision Blizzard	Hold	Although they saw a sharp decline in stock price in the latter half of 2018, as did the rest of the S&P 500, they have slowly started to rebound and we expect this to continue. We suspect that the sharp decline was an overreaction.
Adobe	Hold	As one of the top players in its sector, Adobe has continued to show strong growth and invests heavily in R&D.
Sales Force	Hold	With plans to work at developing AI in its business, we believe Sales Force has a high upward potential. Their spending on R&D has increased as a percentage of Revenue over the past ten years from 9% to 14%.
Take Two	Hold	The stock took a dive in December and is just starting to improve again, little by little. There was an upward revision to EPS guidance in August, so we don't want to sell before we see the actual results in March because we think they could be favorable, giving markets a positive surprise.
Amdocs	Sell	On January 23 rd Amdocs was hit with allegations of manipulating top and bottom-line growth. We're not confident we can trust their financial statements, and even if we could, revenue growth has been lackluster, and they're spending on R&D is low.

Economic Indicators

We believe that the Info Tech A sector will remain strong within the economy. The S&P 500 saw a drastic downturn in the market, .1% away from a bear market. However, we have seen stocks start to rebound positively. Going forward, we see companies having more demand for software and IT services due to the need to cut costs and increase margins and eliminate uncertainty within the workforce with artificial intelligence. With strong R&D figures coming from the top companies, it is showing that they are still investing in themselves to stay competitive. Because of this and opportunities in AI and cloud computing that could radically change the industry along with everyday life, we expect to see the Info Tech A sector continue to lead the S&P 500 to strong growth.