

Product Announcements and Stock Prices



Final Project Report

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Motivation

- Interest in business and finance.
- Research the effect product announcements have on stock price.
- Hope to better understand why a stock has a certain price at a given time.
- Well-known events made us interested in how product announcements and customer expectations impact a stock's price.

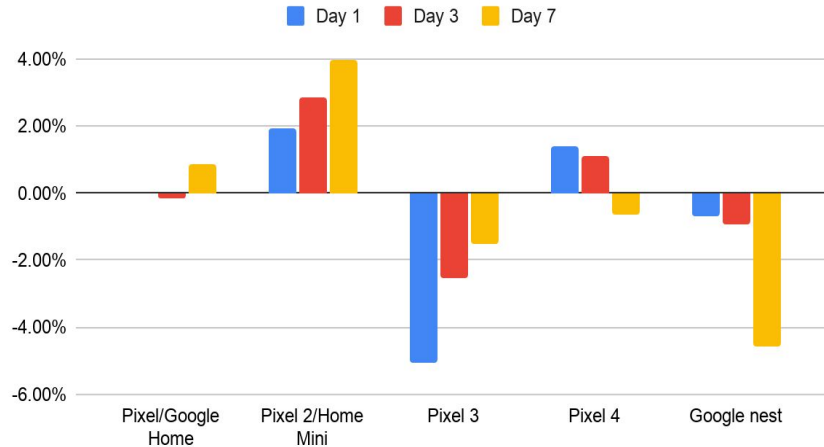


Methodology

- Split work into three parts
- Each group member chose a tech company to research
- Individually collected and processed data
- Percentage change values were calculated using the announcement day and one, three, or seven day close prices
- Clustered column charts were created to compare Google, Microsoft, and Apple stock prices

Results and Analysis

Google % Change in Stock Price 1, 3 , & 7 Days After Announcement



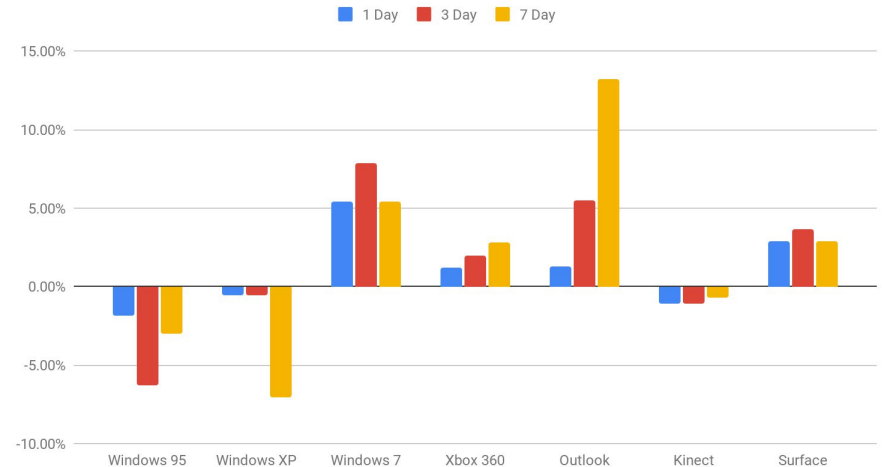
- Hard to recognize a pattern or trend
- Two product announcement on some days
- Some of the products have an increasing trend even if it is negative
- Data still not concrete enough to assume that the stock price went up because of the products' announcement

Results and Analysis continued...

- Little correlation across products
- Large Jump in Outlook and Windows XP 7-day
- Other products saw price rebound to announcement day price

	1 Day	3 Day	7 Day
Windows 95	-1.83%	-6.32%	-3.00%
Windows XP	-0.58%	-0.55%	-7.03%
Windows 7	5.38%	7.86%	5.38%
Xbox 360	1.20%	1.96%	2.80%
Outlook	1.30%	5.49%	13.21%
Kinect	-1.07%	-1.07%	-0.74%
Surface	2.88%	3.65%	2.88%

1 Day, 3 Day and 7 day Price Changes of MSFT Product Announcements

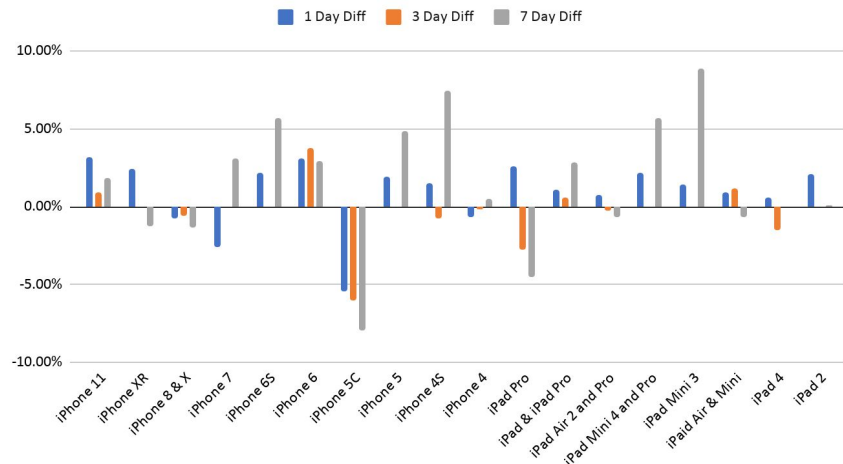


Data:

https://docs.google.com/spreadsheets/d/1eAZzwHKDpt8k9QXXStrsZoaZls8sbi7_WUMzKukl0mA/edit?usp=sharing

Results and Analysis Continued...

Apple Stock Price Percentage Changes 1, 3, & 7 Days After Announcement



- Significant variance
- Largest price change typically on 1 or 7 days after announcement
- 7 day interval has largest increases
- Displays the unpredictability of the stock market



Conclusion

- Product announcements often lead to increase in stock price
- Too much variance to guarantee a correlation between product announcements and stock price
- Variance could be caused by external factors (events unrelated to product announcements).
- Consumer product learn-time could impact variance



Issues

- Missing data points
- Reactive nature of stock market



Future Work

- Studies that help isolate the events impacting a stock's price would allow us to ensure the correlation that we do see is actually caused by the product announcement.
- Study that keeps track of major negative positive events in a company's existence would be useful in granting context to our data.
- Study that defines how consumers learn about new products being announced would be useful to grant context to selected timeframe.`



Sources

- <https://infonewt.com/apple-release-patterns>
- <https://www.kaggle.com/tarunpaparaju/apple-aapl-historical-stock-data>
- <https://finance.yahoo.com/>