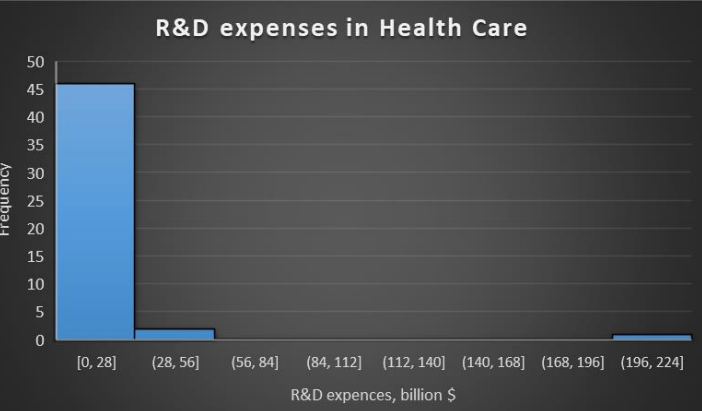
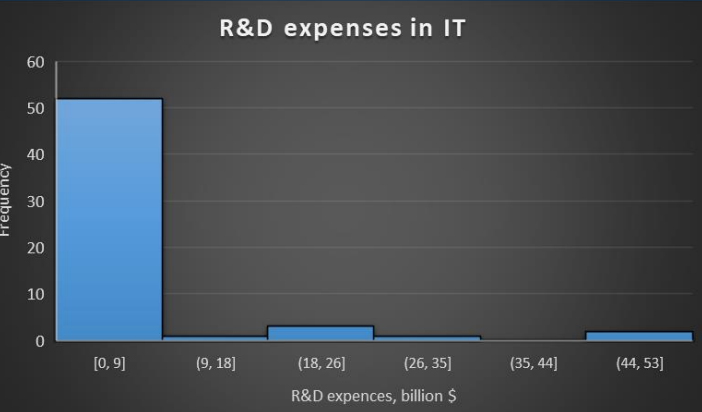


Project: Analyze NYSE Data

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Does the healthcare sector have the same R&D expenditure levels as the IT sector? *(based on data from Year 1 to Year 4)*



The distributions of R&D expenses both for the Health Care and the IT sectors are positively skewed, i.e. the means are higher than the medians.

The average R&D cost of the IT sector (\$5.5 billion) is higher than that of the Health Care sector (\$4.3 billion), i.e. on average IT companies spend more on the R&D.

The median for IT (\$2.4 billion) is double the median for Health Care (\$1.2 billion). This means that more than 50% of IT companies spend twice more (more than \$2.4 billion) on R&D than Health Care companies do.

The standard deviation of R&D costs for companies categorized under the IT industry (\$9.8 billion) was higher than the standard deviation of R&D for all healthcare industries (\$7.3 billion). i.e., There's a higher variability of R&D costs in the IT sector compared to Healthcare sector.

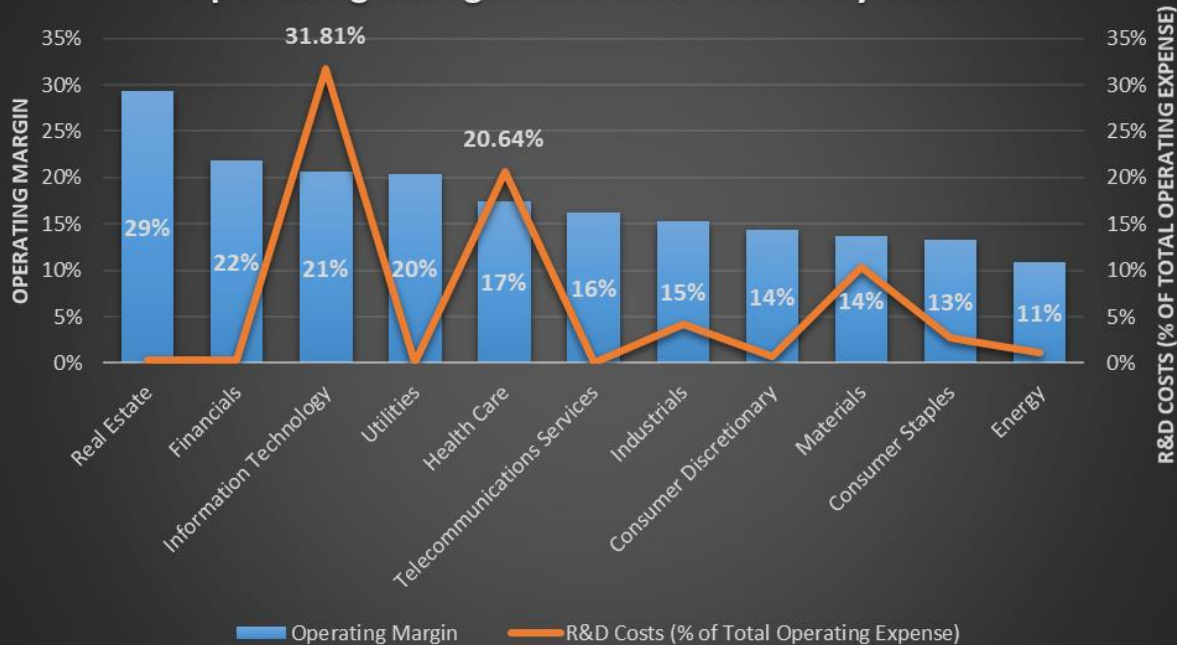
The range for the IT sector at \$47 Billion is higher than the range of R&D costs for the Healthcare sector at \$30 Billion. It looks like companies in the IT sector have more significant variability in the R&D costs because their range is more spread out.

IT	Year 1	Year 2	Year 3	Year 4	Total
Mean	\$1,255,537,153	\$1,368,316,051	\$1,573,855,051	\$1,559,210,018	\$5,509,129,441
Median	\$590,000,000	\$584,000,000	\$637,459,000	\$653,816,000	\$2,405,000,000
Standard Deviation	\$2,205,410,038	\$2,409,291,613	\$2,626,085,268	\$2,823,615,050	\$9,835,713,923
Range	\$10,611,000,000	\$11,537,000,000	\$12,128,000,000	\$12,740,000,000	\$47,016,000,000
Health Care	Year 1	Year 2	Year 3	Year 4	Total
Mean	\$995,858,500	\$1,007,093,854	\$1,150,881,000	\$1,245,655,676	\$4,252,560,417
Median	\$284,021,500	\$312,500,000	\$302,850,000	\$337,950,000	\$1,201,700,000
Standard Deviation	\$1,846,032,873	\$1,758,392,475	\$1,804,392,649	\$1,920,811,139	\$7,370,478,656
Range	\$8,168,000,000	\$7,503,000,000	\$7,180,000,000	\$6,704,000,000	\$30,243,000,000

Which sectors are the most profitable?

In which sectors is R&D spending higher?

Operating Margin and R&D costs by sector



On average, the highest Operating Margin is in the Real Estate sector (29%), and the lowest - is in the Energy sector (11%).

Health Care and IT sectors stand out in terms of spending on R&D.

R&D spending in the IT sector accounts for about 32% percent of the industry's related Total Operating Expenses.

In the Health Care sector, this figure is about 21%.

R&D Spending And Profitability: What's The Link?

Relationship between R&D and Operating Margin



Some companies don't spend on R&D (points on the vertical axis).

In general, a positive correlation can be observed between R&D costs and profitability.

Thus - companies that invest in research and development tend to generate higher profits than those that don't.

The strength of the correlation is not strong and varies by sector.

This may be due to the fact that there is a time lag from research to the final product and it differs across sectors.