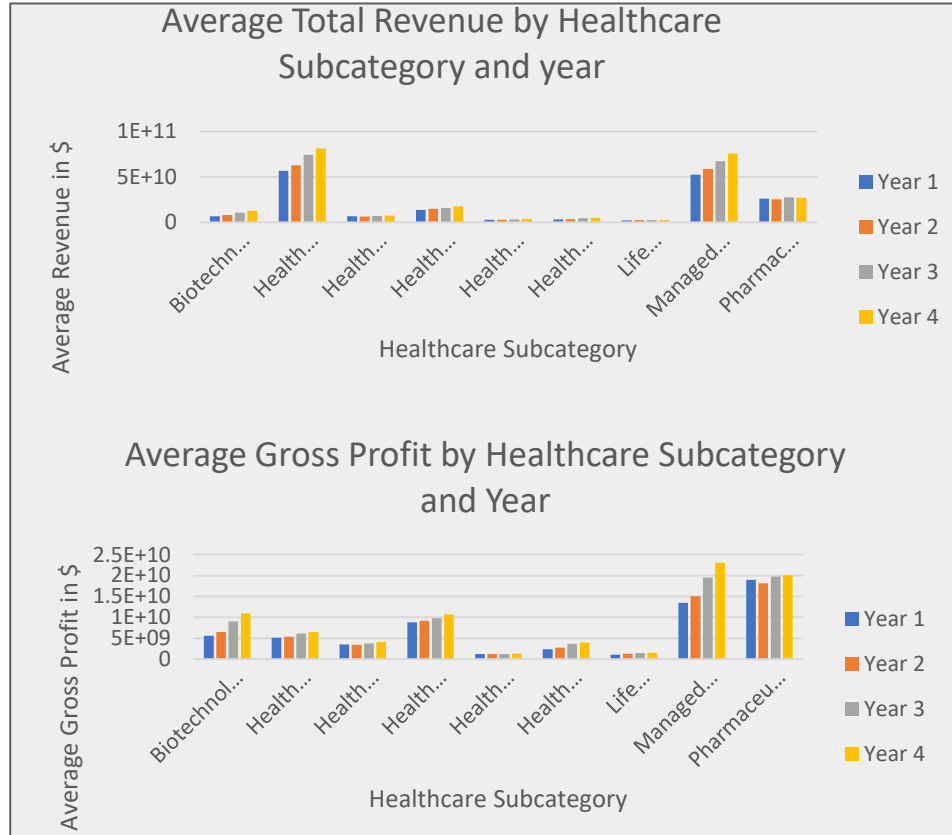
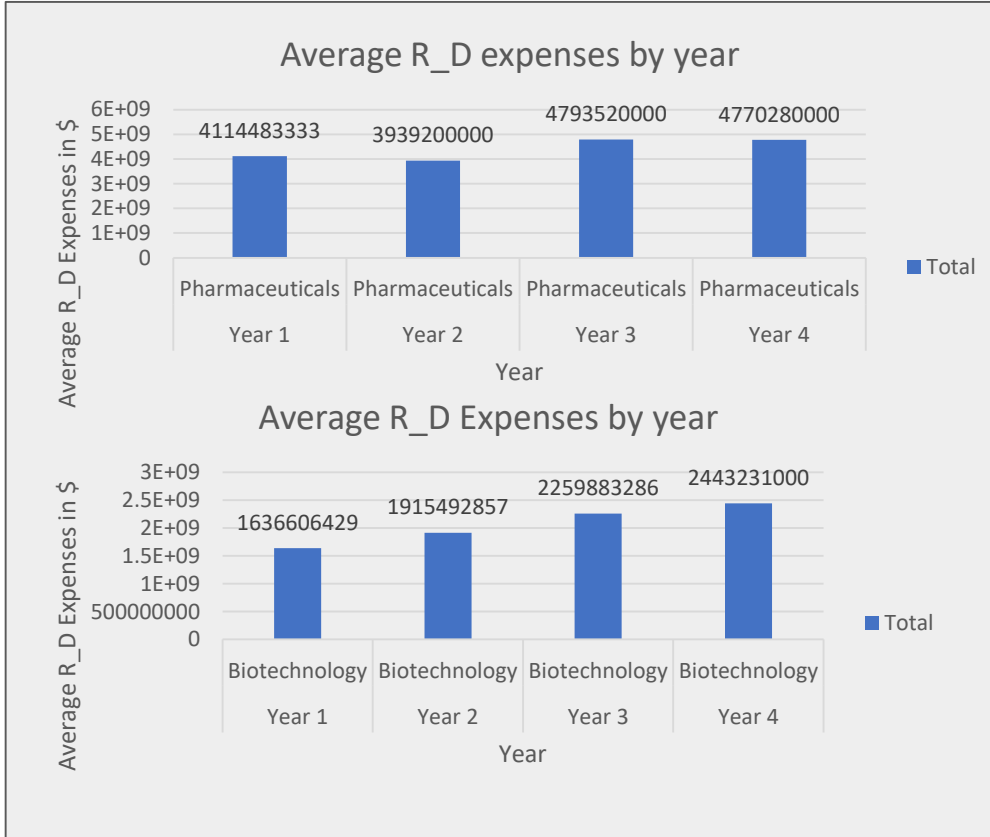


Comparing average total revenue and average gross profit of healthcare subcategory by year.



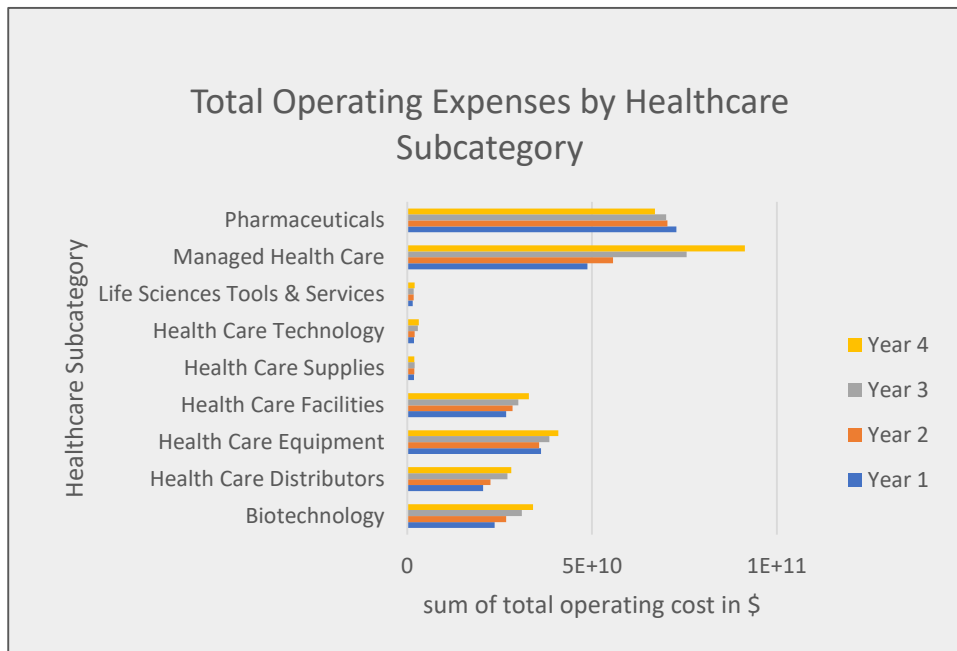
- Used Healthcare_Pivot excel sheet to create visualization.
- The graph shows that Healthcare distributors have the highest average revenue in every year compared to other subcategories.
- Average gross profit chart indicates that Managed care has the highest gross profit in year 4 compared to other subcategories.
- Comparing average revenue and gross profit indicates that healthcare distributors have more cost of revenue than managed care.

Comparing Research and Development expenses between pharmaceutical and biotechnology company



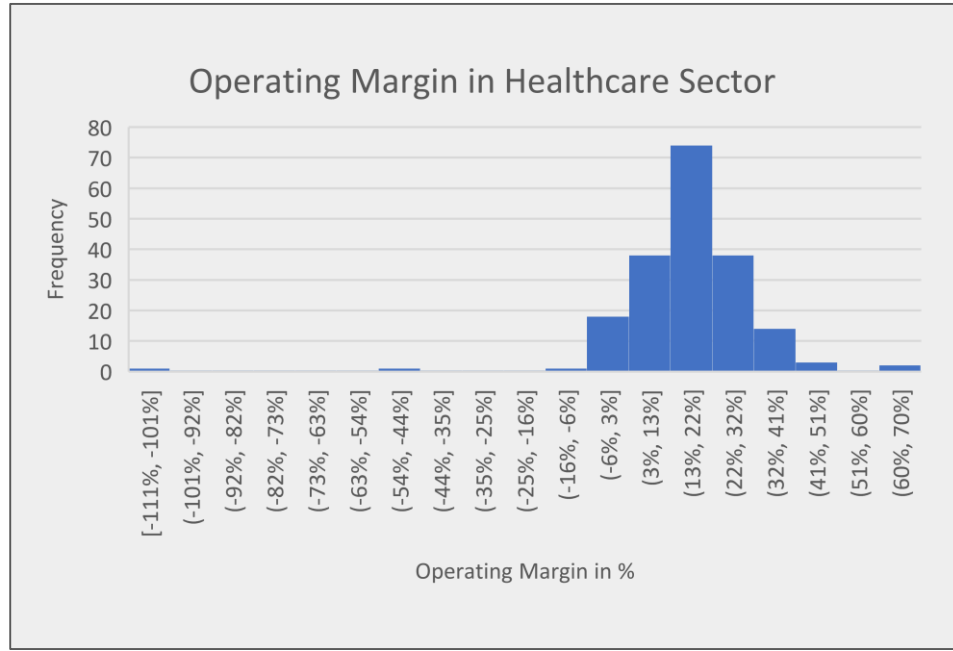
- Used pharmaceutical_pivot and biotechnology_pivot excel sheets for this visualization.
- Mean of R&D expenses for biotechnology is \$2.06 billion and median is \$1.93 billion. As mean is greater than median, it is a right-skewed or positively skewed. For pharmaceutical mean is \$4.37 billion and median is \$4.77 billion. Hence it is left-skewed or negatively skewed.
- In general, R&D expenses are more for pharmaceutical company compared to biotechnology.

Total operating cost by healthcare subcategory



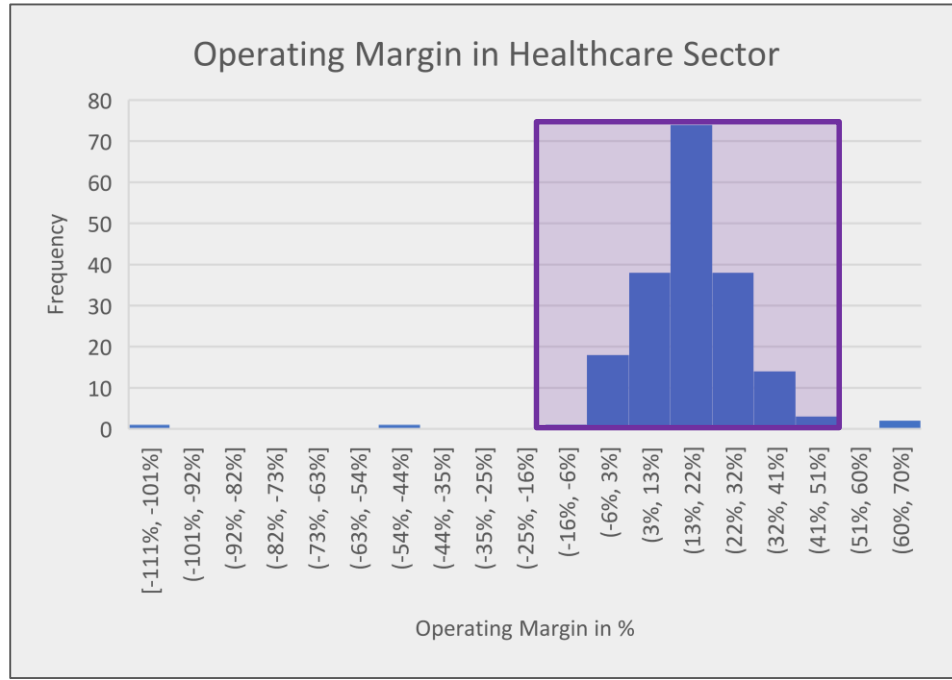
- Used healthcare_pivot sheet to create this visualization.
- The chart shows that total operating expenses for pharmaceutical company is more compared to other categories.
- However, for year 3 and year 4, managed health care has more total operating expenses.

Operating margin (%) in healthcare sector



- Used Healthcare_Financial_metrics sheet to create this visualization.
- The chart shows operating margin(%) distribution in healthcare sector, and it varied from 68% to -111%. This makes wider range (179%) of data and more spread out from mean (17%). VRTX is a biotechnology company, underperformed for year 2,3 and 4. This resulted in left skewed graph with mean:17% less than median:18%.
- There are companies which performed exceptionally well, and most of them are biotechnology companies.

Operating margin (%) in healthcare sector without outliers



- Used Healthcare_Financial_metrics sheet to create this visualization.
- If we ignore underperforming and overperforming companies with respect to operating margin, then rest of the companies fall under normal distribution.
- Statistics of selected data: Mean: 18%, Median: 18%, StDev: 10%, Min:0%, Max:46%
- 68% of companies operating margin fall between 8% and 28%.