Question:
What factors (pipeline size, average pipeline phase, number of patents) are most important in driving pharmaceutical company acquisitions?

Methods:
A simple analysis was performed in excel which looked at correlations between all of the variables and sales as well as correlations between individual variables. Correlations were calculated using the pearson correlation coefficient (PCC), and p-values were calculated from those correlations using the following formula:

TDIST(PCC*SQRT((N-2)/SQRT(1 – PCC))), N, 2)
Where N represents the number of points, and PCC represents the pearson correlation coefficient

The average pipeline phase was calculated by taking the phase of all current trials in the pipeline and averaging them.

Results:
Initial analysis revealed that both pipeline size and the number of patents where strongly correlated with (see figure 1), while the Average Trial phase had no associated with the sale size.
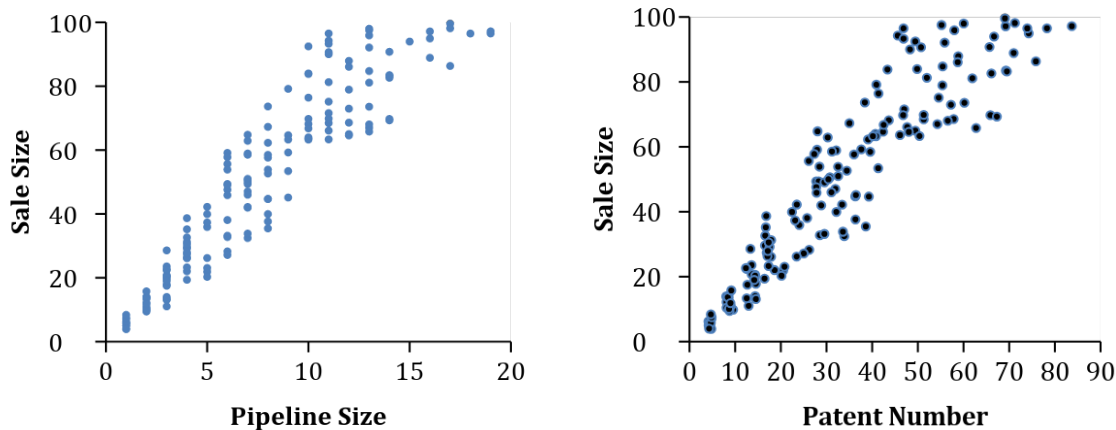

Figure 1: Correlations of the Pipeline Size (left in blue) and Patent Numbers (right in black) with the Sale Size.

The p-values (table 1) for these correlations also indicated that the correlation between Sale size and the Pipeline Size and Patent number were statistically significant ($p < 0.001$). Interestingly, the correlation between the Pipeline Size and Patent Number was also significant ($p < 0.001$) which suggests that these two variables are strongly associated with each other.

Table1: p-Values for Variable Correlations

	Sale Size	Pipeline Size	Average Trial Phase
Patent Number	3.23441E-50	2.64E-90	0.684642
Average Trial Phase	0.924390829	0.592951	
Pipeline Size	3.54745E-53		