	ANOVA: SI	NGLE FACTOR		
SUMMARY				
Groups	Count	Sum	Average	Variance
Airline	4	279	69.75	2162.25
Automobile Manufacturing	4	334.0880979	83.52202448	2267.645266
Bookstore	4	185.7447118	46.43617796	1826.506036
Department Stores	4	392.919222	98.2298055	3119.176323
Electronics	4	162.5938209	40.64845522	1328.65773
Energy	4	278.6644144	69.66610359	2319.345347
Fashion	4	258.8164671	64.70411677	2338.227053
Film Production	4	222.5188261	55.62970653	982.3037297
Food Industry	4	327.6564102	81.91410256	2746.442305
Internet	4	88.39959179	22.09989795	183.0172142
Mobile Phones	4	317.5300548	79.3825137	2542.177248
Motorcycle	4	266.6026349	66.65065872	2745.401651
Movie Rental	4	81.36519752	20.34129938	159.705997
Party Supplies	4	177.9359472	44.48398679	700.9326303
PC	4	105.686562	26.4216405	199.5150886
Photography	4	345.9926247	86.49815617	2587.414421
Retail Stores	4	246.3058395	61.57645988	1828.372639
Smartwatches	4	37.27141266	9.317853166	27.9102859
Soft Drinks	4	417	104.25	4830.25
Technology	4	342	85.5	3249
Technology Solutions	4	336	84	3136
Telecommunications	4	322.7368835	80.68422086	2026.327863
Transportation	4	129.6878064	32.42195161	428.6634039

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	62703.93598	22	2850.178908	1.498885373	0.103869423	1.698495302
Within Groups	131205.7267	69	1901.532271			
Total	193909.6627	91				

⊘ Test Purpose:

To determine if **Dynamic Duration** (company survival time) differs **significantly** between industries.

Key Results from ANOVA Table:					
Metric	F-statistic	P-value	F critical (F crit)	Degrees o	f Freedom
Value	1.499	0.104	1.698	Between: 22	Within: 69

Interpretation:

The **p-value = 0.104** is **greater** than the typical significance level (α = 0.05).

The F-statistic = 1.499 is less than the critical F-value of 1.698.

Therefore, we fail to reject the null hypothesis.

What Is the Null Hypothesis in This Analysis?

In this report, the **null hypothesis** is the idea that:

"The average survival time of companies (Dynamic Duration) is the same across all industries."

This means we assume that industry type does not affect how long a company survives—unless the data shows strong enough evidence to prove otherwise.

We tested this using a method called ANOVA, and because the difference between industries wasn't statistically strong, we did not find enough evidence to reject the null hypothesis.

So, for now, we conclude that no industry stands out significantly in terms of company survival time, based on our sample.

Conclusion:

There is no statistically significant difference in the average Dynamic Duration of companies across different industries at the 95% confidence level.

While there are visible differences in average durations (e.g., Soft Drinks = 104.25 years vs. Smartwatches = 9.31 years), statistically these differences are not strong enough to conclude that industry type has a definite impact on survival duration based on your current sample.

Correlation/Regression

-0.981993359

✓ Interpretation:

A correlation of -0.9819 indicates a very strong negative linear relationship between the foundation year and dynamic duration. This suggests that as the foundation year of a company increases (meaning the company is older), the dynamic duration tends to decrease. The value of -0.9819, which is very close to -1, signifies that this inverse relationship is highly consistent.

Context: Essentially, older companies tend to have a shorter dynamic duration, meaning their ability to adapt or change dynamically diminishes over time. The negative correlation indicates that as the foundation year (age of the company) increases, the dynamic duration tends to decrease substantially.

Regression Analysis

-0.998934538

✓ Interpretation:

A regression coefficient of -0.9990 means that for each additional year of foundation (as a company gets older), the dynamic duration decreases by almost 1 unit. This strong negative slope implies a nearly one-to-one inverse relationship between the foundation year and dynamic duration. In simpler terms, for every extra year that a company exists, its dynamic duration decreases by almost exactly the same amount.

Context: If you're using this regression model to predict the dynamic duration based on the foundation year, it tells you that older companies tend to have a dramatic reduction in their ability to adapt or change over time. The close-to-1 ratio suggests that the decrease in dynamic duration is almost directly proportional to the increase in the company's age.

Conclusion:

Both the correlation and regression results suggest a very strong negative relationship between the foundation year and dynamic duration.

The correlation result indicates that older companies have significantly less dynamic duration, while the regression result provides a precise prediction: for every additional year of a company's foundation, its dynamic duration decreases nearly by the same amount.