

Case 15: Salary Comparisons Between Technology and Finance Sectors

To analyze the salary differences between the technology and finance sectors, a random sample comprising 40 employees is chosen, as illustrated in Table 5.5. Is there a significant disparity in the salaries of these two industries?

TABLE 5.5: Salary by Industry ([download data](#)).

Industry	Salary	Industry	Salary
Tech	105522	Finance	83877
Tech	196808	Finance	154135
Tech	127812	Finance	339442
Tech	151245	Finance	57313
Tech	131364	Finance	16052
Tech	130426	Finance	163410
Tech	264158	Finance	49931
Tech	119028	Finance	165694
Tech	284428	Finance	66215
Tech	61428	Finance	91758
Tech	178493	Finance	81148
Tech	141765	Finance	105841
Tech	148445	Finance	126888
Tech	161106	Finance	69263
Tech	103657	Finance	174170
Tech	112803	Finance	109604
Tech	80074	Finance	64334
Tech	77972	Finance	180623
Tech	155091	Finance	162016
Tech	166726	Finance	118643

Initial Questions

1. What are the research objectives?
2. What are the statistical questions?
3. What is the response variable, and what is the data type of the response variable?
4. What are the explanatory variables of interest?
5. Are there covariates?
6. What is the population of interest?
7. What is the subject, and what is the number of distinct subjects?
8. Are there subject-level data?
9. Are response variables dependent (repeated measures / clustered subjects)?
10. Are the subjects selected randomly?
11. Are the subjects randomly assigned to different groups?

Initial Thoughts