



Introduction

SC&H group is a nationally recognized management consulting, audit, and tax firm that serves a wide variety of clients with the mission to transform their businesses and help them outpace their competition. Throughout this analysis, a dataset pertaining to employee and client information from 2019 to 2021 was used. The goal of this analysis was to determine the clients with the highest profitability and employee utilization in order to make recommendations for future profit-driven strategies.

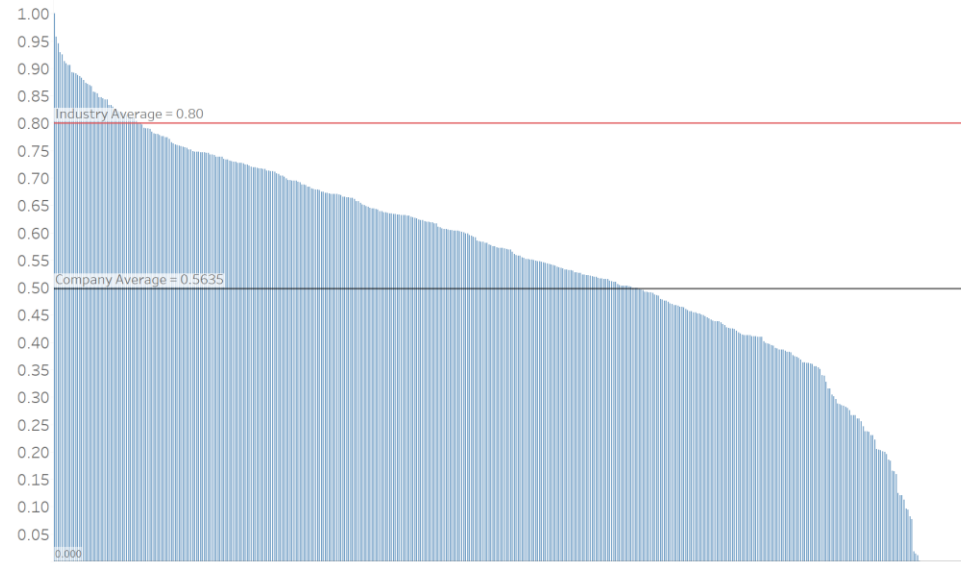
SC&H Group

TU Data Analytics Competition 2023
Nawal Ali & Lexi Cioffi

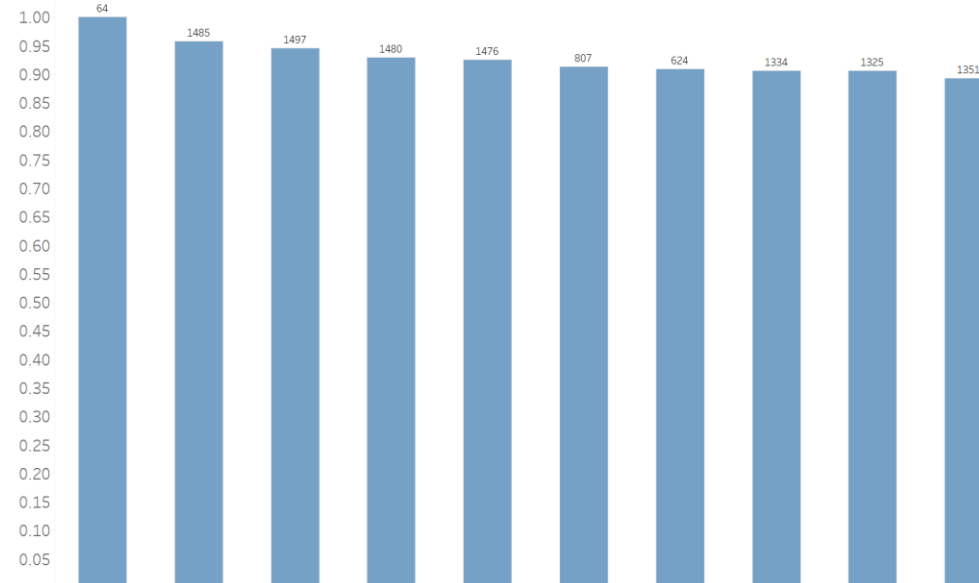
Employees with Highest Utilization

Looking at the employee utilization rate for each employee, 43 employees (8.48%) were above and 464 (91.52%) were below the industry average of 80%. The overall average for all employees was 56.35%.

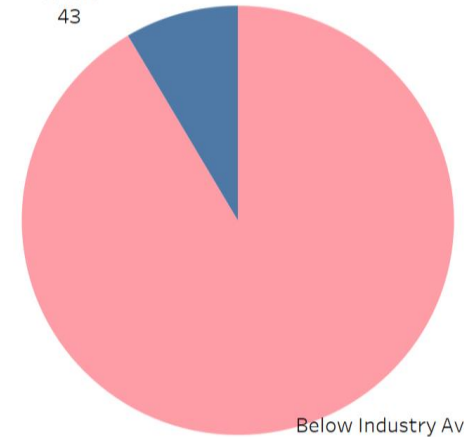
Employee Utilization Rate per Employee



Employee Utilization Rate per Employee (Top 10)



Above Industry Average
8.48%
43



Below Industry Average
91.52%
464

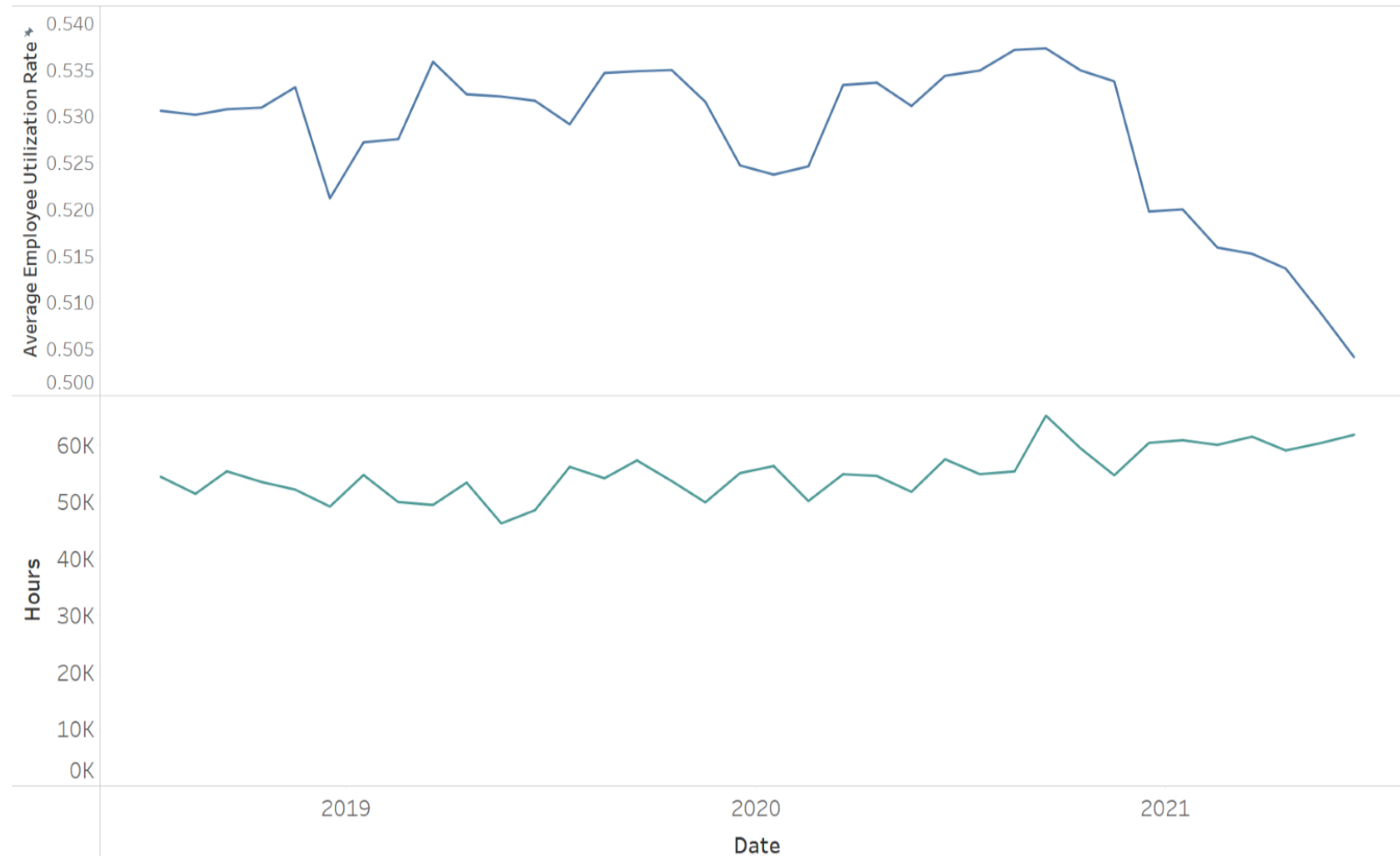
Employee Utilization Over Time

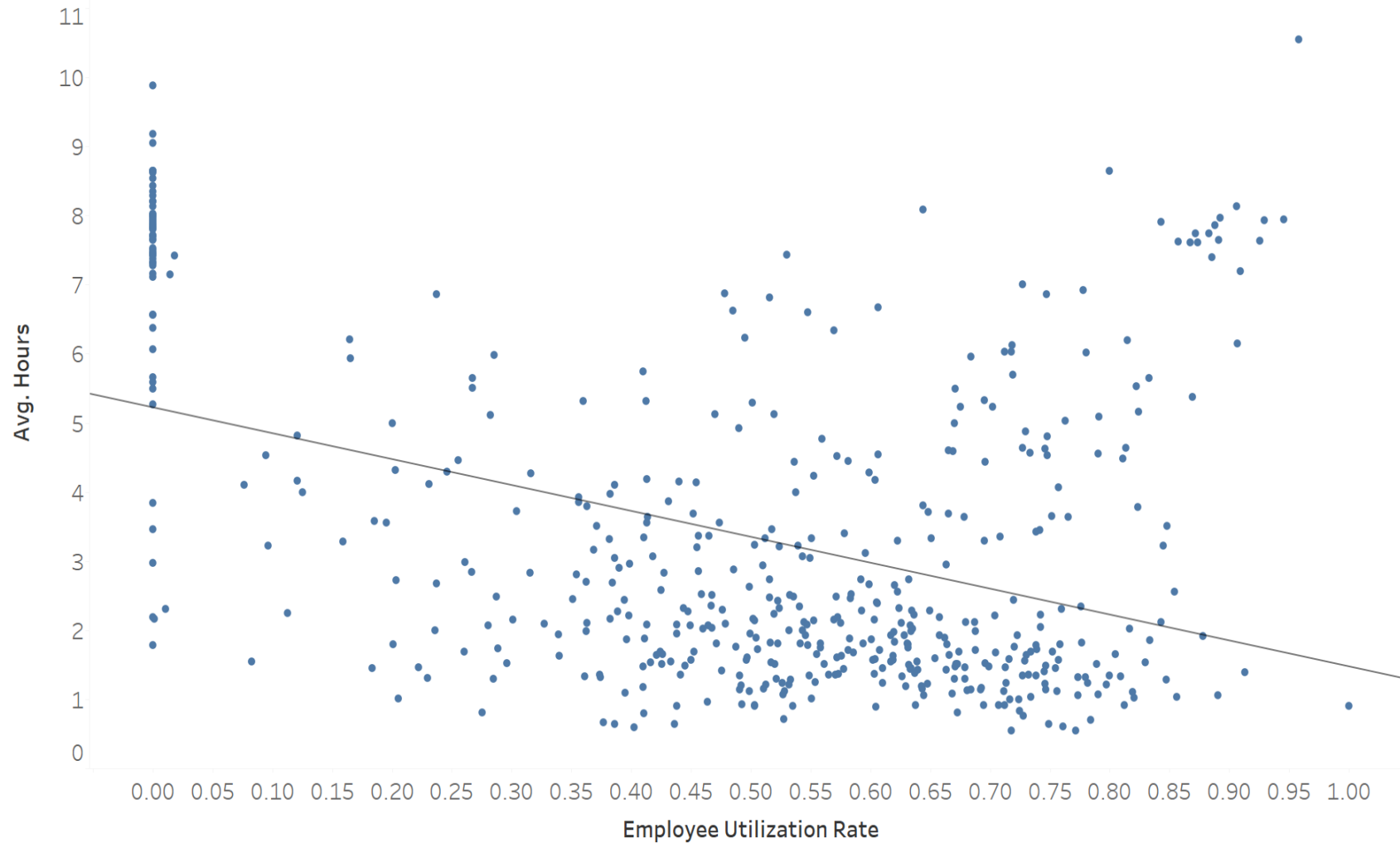


A time series analysis shows employee utilization has a dramatic and continuous decline in 2021.

On the other hand, the number of hours employees worked over the years, hours have been steadily increasing.

This implies that employees are working more hours, but a lower percentage are billable and profitable.





Possible Contributing Factors

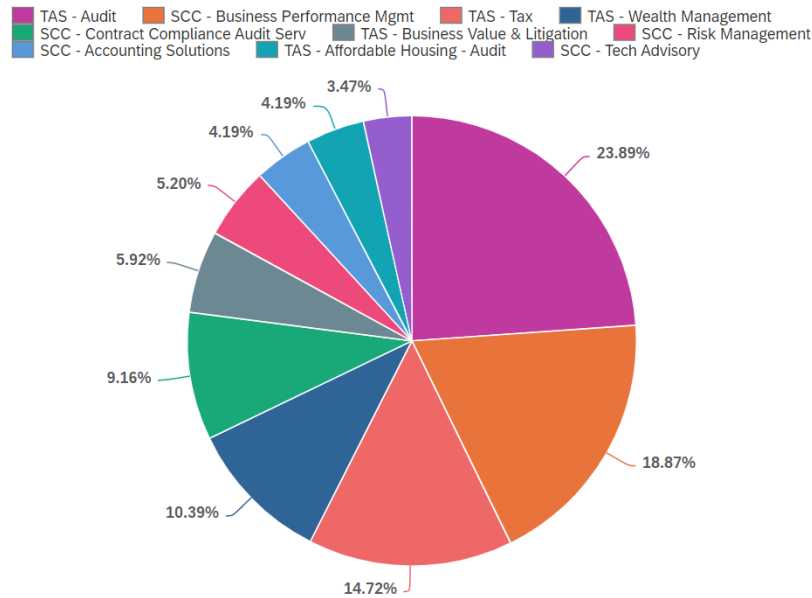
After conducting a correlational analysis between employee utilization rate and multiple factors, we found that the average worked by each employee was the most statistically significant, with a P-value < 0.0001 and a correlation coefficient of **0.2381**

This implies that as employees work longer hours, they tend to return a lower employee utilization rate.

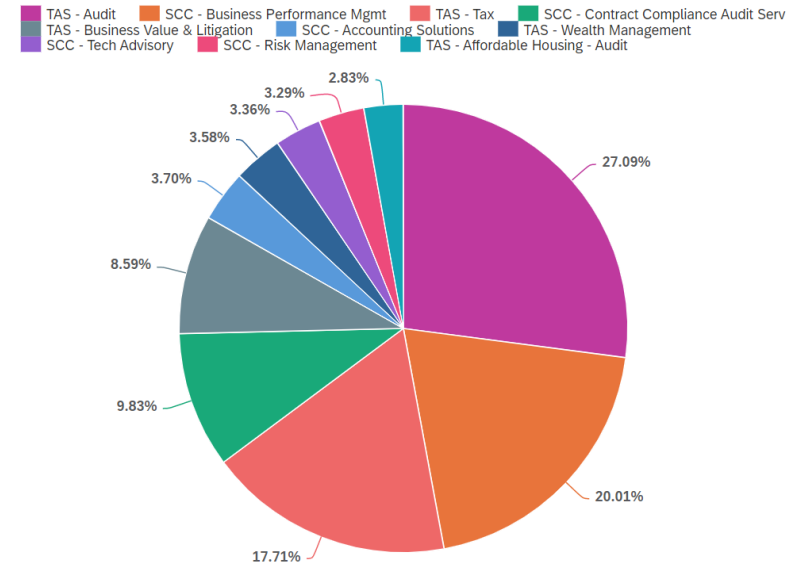
Department Comparison



By Hours



By Total Revenue

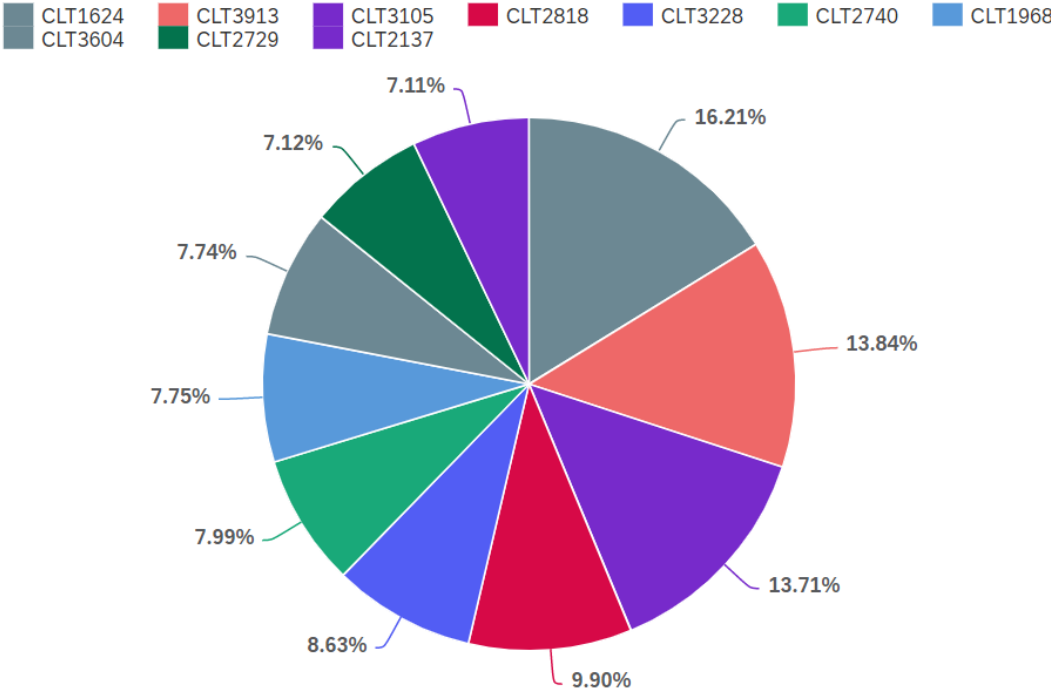


The total billable hours from 2019 to 2021 was 1,048,844.44, and the total revenue from 2019 to 2021 was \$312,232,898.90. The Auditing, Business Performance Management, and Tax departments account for 57.48% of billable hours and 64.81% of total revenue. Because of these statistics, it may be profitable to focus on those three departments and prioritize them over the seven other departments that SC&H Group oversees.

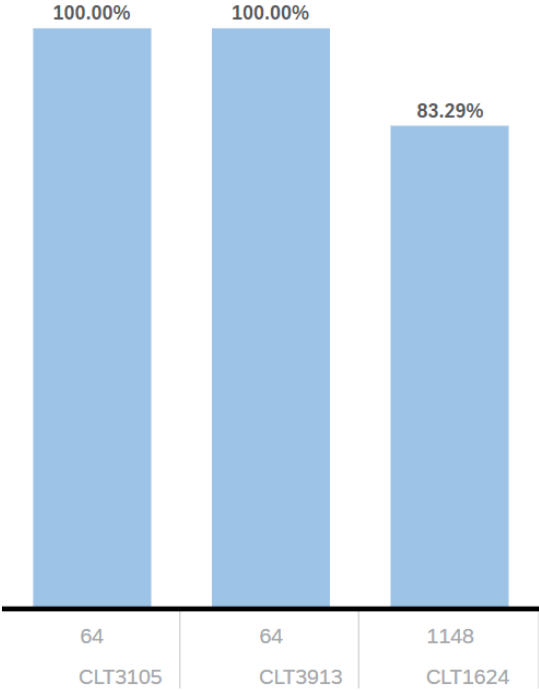
Client Analysis



By Total Revenue



By Employee



Three clients combine to account for 43.76% of SC&H's total revenue: CLT1624, CLT3913, and CLT3105.

CLT3105 and CLT3913 have a utilization rate of 100% with Employee 64, and CLT1624 has a utilization rate of 83.29% with Employee 1148. We recommend that employees work with the clients who utilize them the most.



Conclusion

Overall, the generated visualizations suggest the following strategies for SC&H Group to increase profitability and utilization: to decrease the average number of employee hours worked per week, to focus on the services that provide the most revenue, and to prioritize which clients and employees work best together based on revenue and utilization data.