

What is the Executive of Corporate America?

Who is the executive of corporate America?



- Does anyone know who this person is?
- What is his job?
- What company does he work for?
- Other basic info about this person?
 - Age? Sex? Pay? Industry? Company size

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- Do company executives matters?
 - They influent the company culture and direction
 - Numerous studies already published on the importance on executive diversity
 - The relationship between executive salary and company performance is also a heated discussion
 - Objective
 - Explore the basic profile of the executives in selected public companies
 - Who are they? (Sex, Age, CEO or non-CEO)
 - What are their salaries?
 - What type of companies? (industry? SP500 companies?)
 - Is there any relationship between executive profile and company performance
 - Scope
 - All public companies (with market capital exceeding 10M) and are listed in NYSE and NASDAQ with published executives profiles
 - 3,613 companies, 17,807 executives
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- Hope to answer
 - Are they more male or female executives?
 - Which industries has more female executives?
 - How old are the executives? (male vs female, CEO vs non-CEO, any interesting outliers)
 - Do male executives have higher salaries than their female counterparts
 - Which industries pay more? Does the size of the company affect executive pay?
 - Is there any correlation between age and pay
- In this presentation, it will cover
 - Web Scraping
 - Data cleaning
 - Profiles charts

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Web Scrapping

The screenshot shows the Yahoo Finance page for Apple (AAPL). The URL in the browser is `https://finance.yahoo.com/quote/AAPL:profile?p=AAPL`. The page displays the current stock price as 148.73, down 0.77 (-0.52%) from the previous close. The after-hours price is 148.80, down 0.62 (-0.42%). The 'Profile' tab is selected in the navigation menu. Below the navigation, the 'Key Executives' section is visible, listing Mr. Timothy D. Cook as CEO & Director, Mr. Luca Maestri as Sr. VP & CFO, Mr. D. Bruce Sewell J.D. as Sr. VP, Gen. Counsel & Sec., and Mr. Eduardo H. Cue as Sr. VP of Internet Software & Services. The first row of the executives table is highlighted with a purple border.

Name	Title	Pay	Exercised	Age
Mr. Timothy D. Cook	CEO & Director	8.75M	N/A	56
Mr. Luca Maestri	Sr. VP & CFO	2.8M	N/A	53
Mr. D. Bruce Sewell J.D.	Sr. VP, Gen. Counsel & Sec.	2.81M	N/A	59
Mr. Eduardo H. Cue	Sr. VP of Internet Software & Services	2.81M	N/A	53

Scope

- Web Site Chosen: finance.yahoo.com
- Company (Ticker) Scrapped: 6,364 Tickers
- Tab per company: 2 tabs per company (statistics and profile)
- Field per tab: About 4 ~ 9 items were scraped

Challenges

- Fields have the same tag names (data came out in a list of string)
- Fields required some process
- Data contained several missing values

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Data Cleaning (Sex)

- Sex is not readily available but can be derived from salutation
- If the name string started with “Mr”, I assigned Sex=“M” and name started with “Ms”

Key Executives

Name	Title
Mr. Mark Zuckerberg	Founder, Chairman and Chief Exec. Officer
Mr. David M. Wehner	Chief Financial Officer
Ms. Sheryl K. Sandberg	Chief Operating Officer and Director

- Occasional the name string does not start with characters “Mr” or “Ms”

Key Executives

Name	Title
Dr. Eric E. Schmidt Ph.D.	Exec. Chairman
Dr. Lawrence Edward Page	Co-Founder, Chief Exec. Officer and Director

- Approx. 6% of the executives have salutation as “Dr”!
- Unfortunately, for the purpose of analysis, I just throw them away. But this cohort does have quite an distinct profile!

Mr	14703
Ms	1833
Dr	1025
Pr	15
Ma	13

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Data Cleaning (Salary)

- Salaries are in string can it can end with a letter M

Key Executives

Name	Title	Pay
Mr. James Dimon	Chairman, CEO & Pres	6.71M
Ms. Marianne Lake	Chief Financial Officer and Exec. VP	5.5M

- However, salary does not include bonus and other type of compensation

Key Executives

Name	Title	Pay
Mr. Jeffrey P. Bezos	Founder, Chairman, Chief Exec. Officer and Pres	N/A
Mr. Brian T. Olsavsky	Chief Financial Officer and Sr. VP	N/A
Mr. Diego Piacentini	Sr. VP of International Consumer Bus.(leave of absence)	N/A
Mr. Jeffrey M. Blackburn	Sr. VP of Bus. Devel.	174.68k
Mr. Jeffrey A. Wilke	Chief Exec. Officer of Worldwide Consumer	N/A

Some company just so cheap that they don't bother paying for their executives?

- Unfortunately, about 25% of salaries are missing. The results can be biased.

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Web Scraping

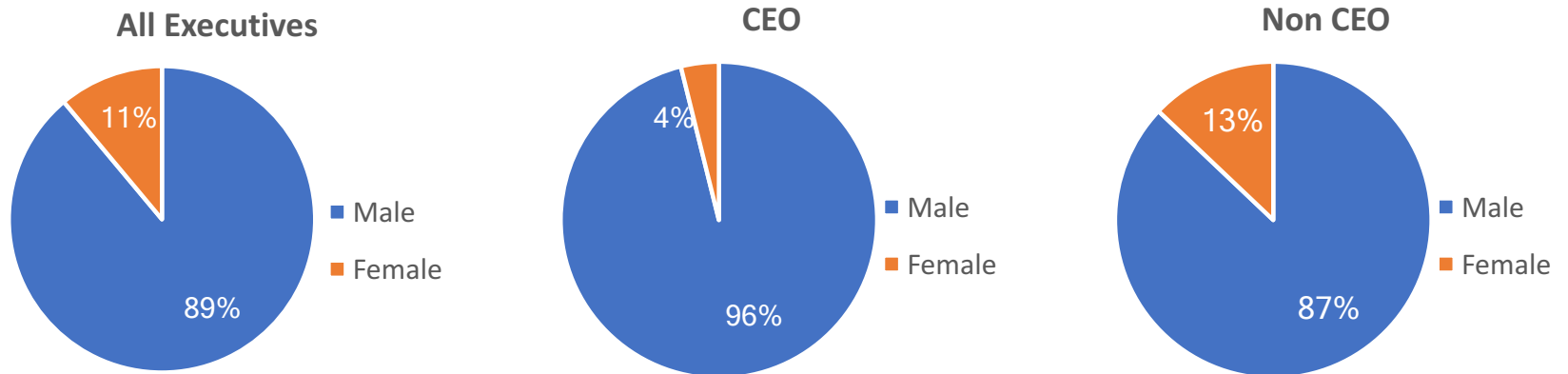
Data Cleaning

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Profile - Sex

- Q: Are they more male or female executives?



- A: 88% of executives are male! 96% of CEO are male!

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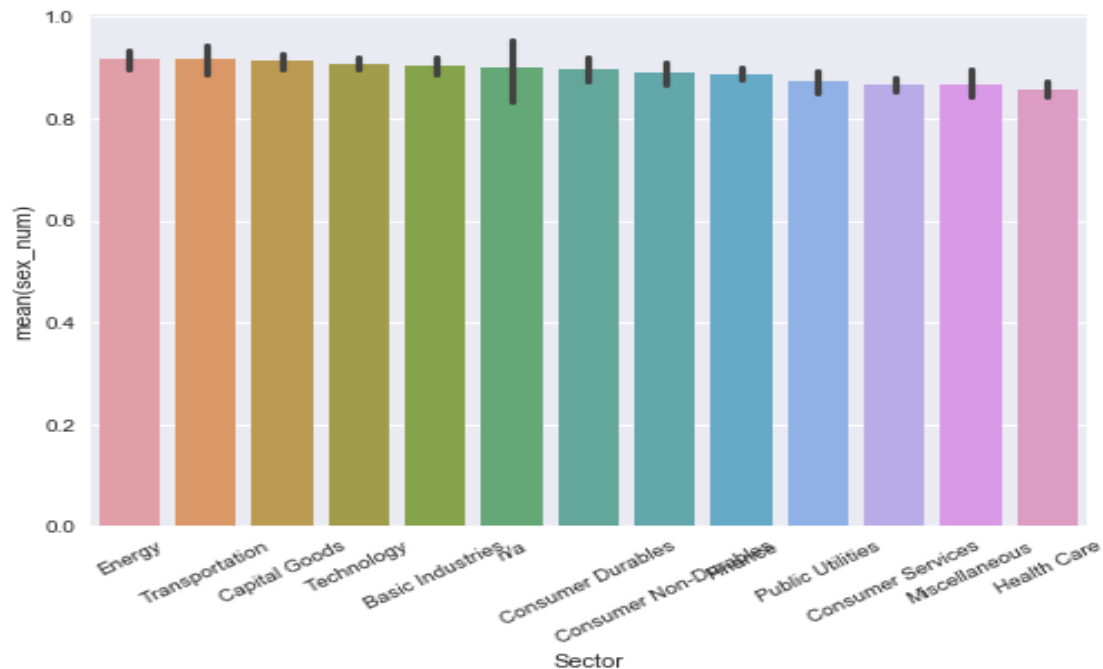
Data Cleaning

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Profile - Sex

- Q: Which industries has more male executives?



- A: Health Care has the least male executives ratio (86%) and Energy has the least of female executives ratio (92%)

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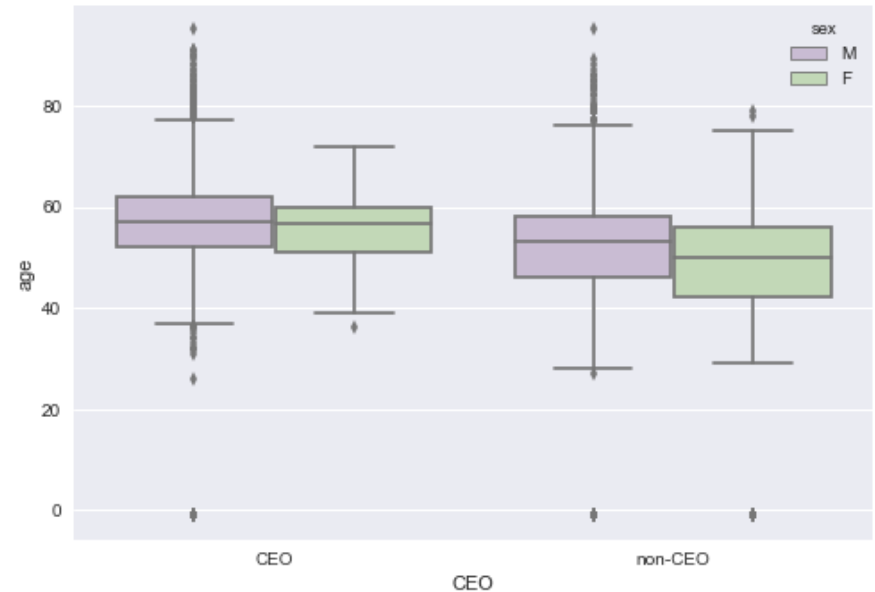
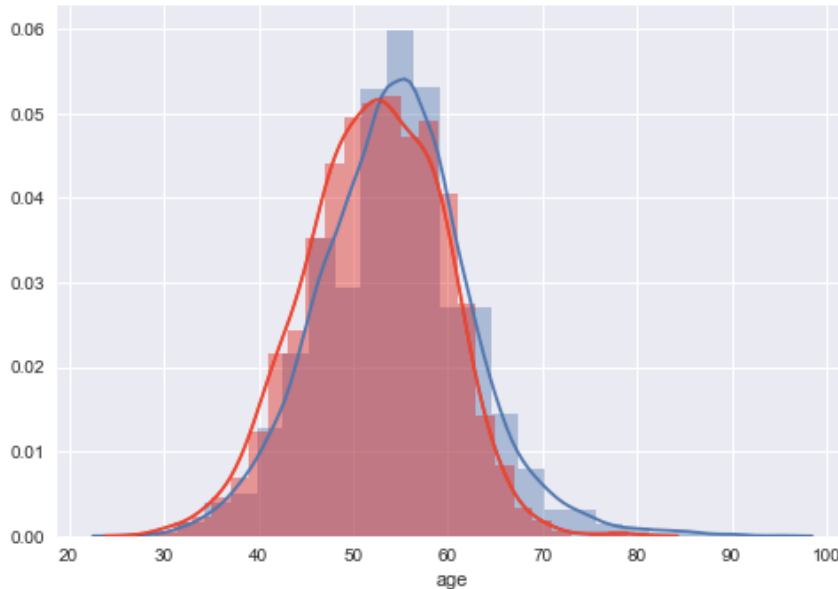
Data Cleaning

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Profile - Age

- Q: How old are the executives? (male vs female, CEO vs non-CEO, any interesting outliers)



- A: Average age of female executives are younger than that of male executives
- A: CEOs are older than non-CEOs

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Profile - Age

- Q: How old is the youngest CEO?

age	name	ticker	MarketCap_num	CEO	Sector	pay	SP500
26	Mr. Evan Spiegel	SNAP	1.651000e+10	CEO	Technology	2.4M	NaN
27	Mr. Brett Taft	UMH	5.555100e+08	non-CEO	Consumer Services	197.53k	NaN
28	Mr. Robert Murphy	SNAP	1.651000e+10	non-CEO	Technology	259.42k	NaN
29	Mr. Athanasios Feidakis	GLBS	2.901000e+07	non-CEO	Transportation	-1	NaN
29	Ms. Nell Beattie	VBIV	1.902800e+08	non-CEO	Health Care	-1	NaN

- Q: How old is the oldest CEO?

age	name	ticker	MarketCap_num	CEO	Sector	pay	SP500
91	Mr. Charles F. Dolan	AMCX	4.460000e+09	CEO	Consumer Services	2M	NaN
91	Mr. Arthur S. Wolcott	SENEA	2.860300e+08	CEO	Consumer Non-Durables	638.72k	NaN
91	Mr. Arthur S. Wolcott	SENEB	3.042400e+08	CEO	Consumer Non-Durables	638.72k	NaN
95	Mr. George Joseph	MCY	3.060000e+09	CEO	Finance	1.11M	NaN
95	Mr. Henry W. Bloch	HRB	6.300000e+09	non-CEO	Consumer Services	-1	1.0

- A: the youngest CEO is 26 years old and the oldest CEO is 95 years old

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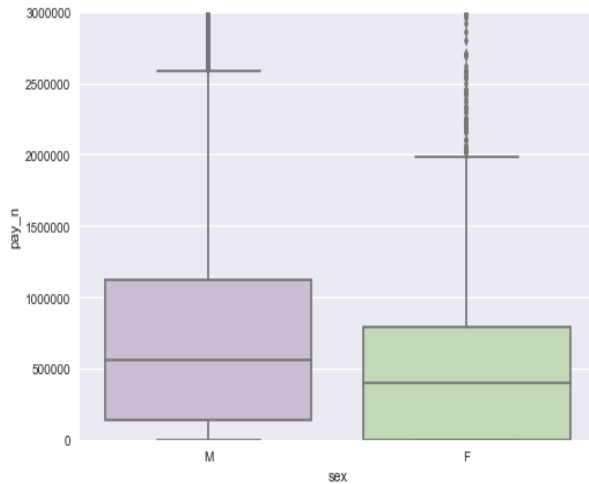
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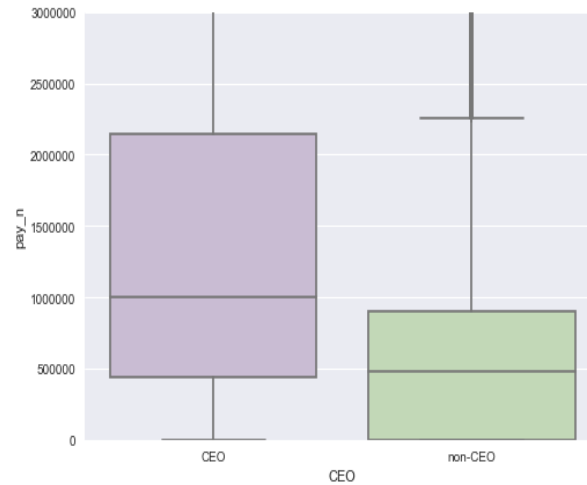
Conclusion

Profile - Salary

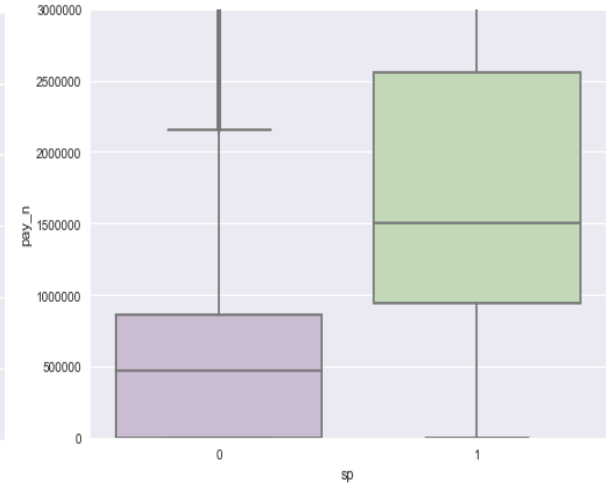
- Q: Salary between Sex, CEO/non-CEO, SP500 company/non-SP500 Company



- Males get higher median pay
M: \$563,510
F: \$401,460



- CEO get higher median pay
CEO: \$ 1,000,000
NON-CEO: \$478,840



- SP500 companies get higher pay
SP500: \$1,500,000
nonSP500: \$468,980

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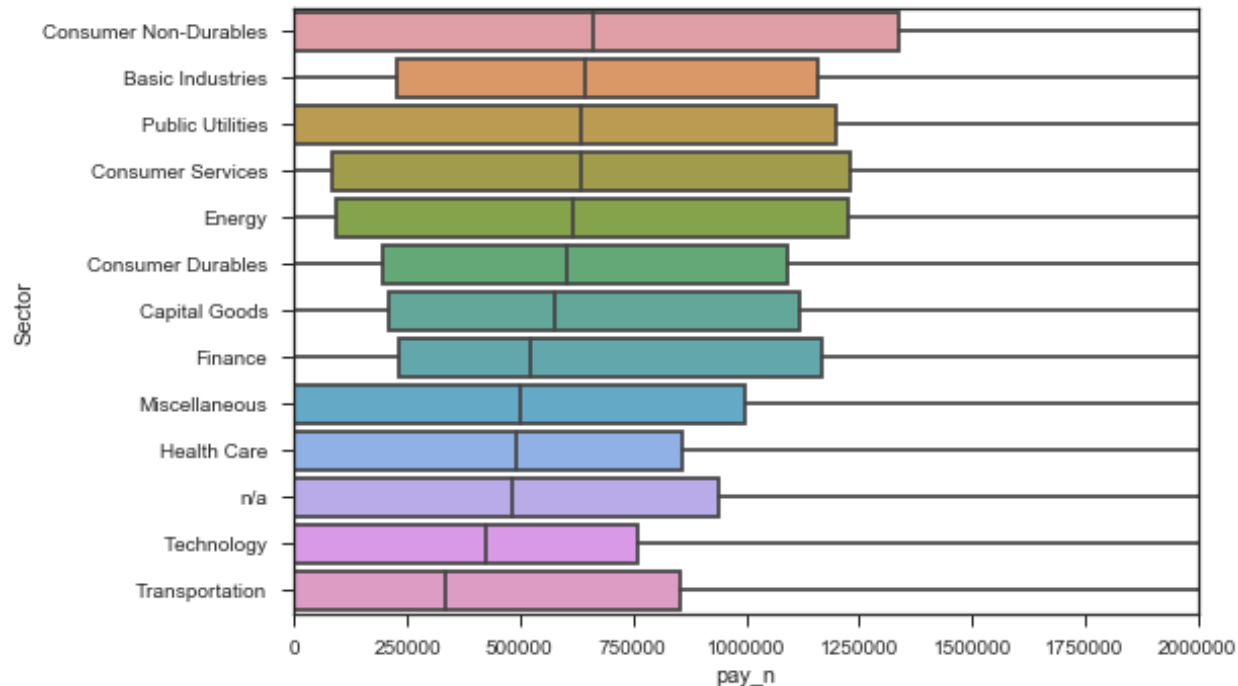
Data Cleaning

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Profile - Salary

- Q: Which industries pay more? Does the size of the company affect executive pay?



- A: Consumer Non-Durables executives received the highest salary

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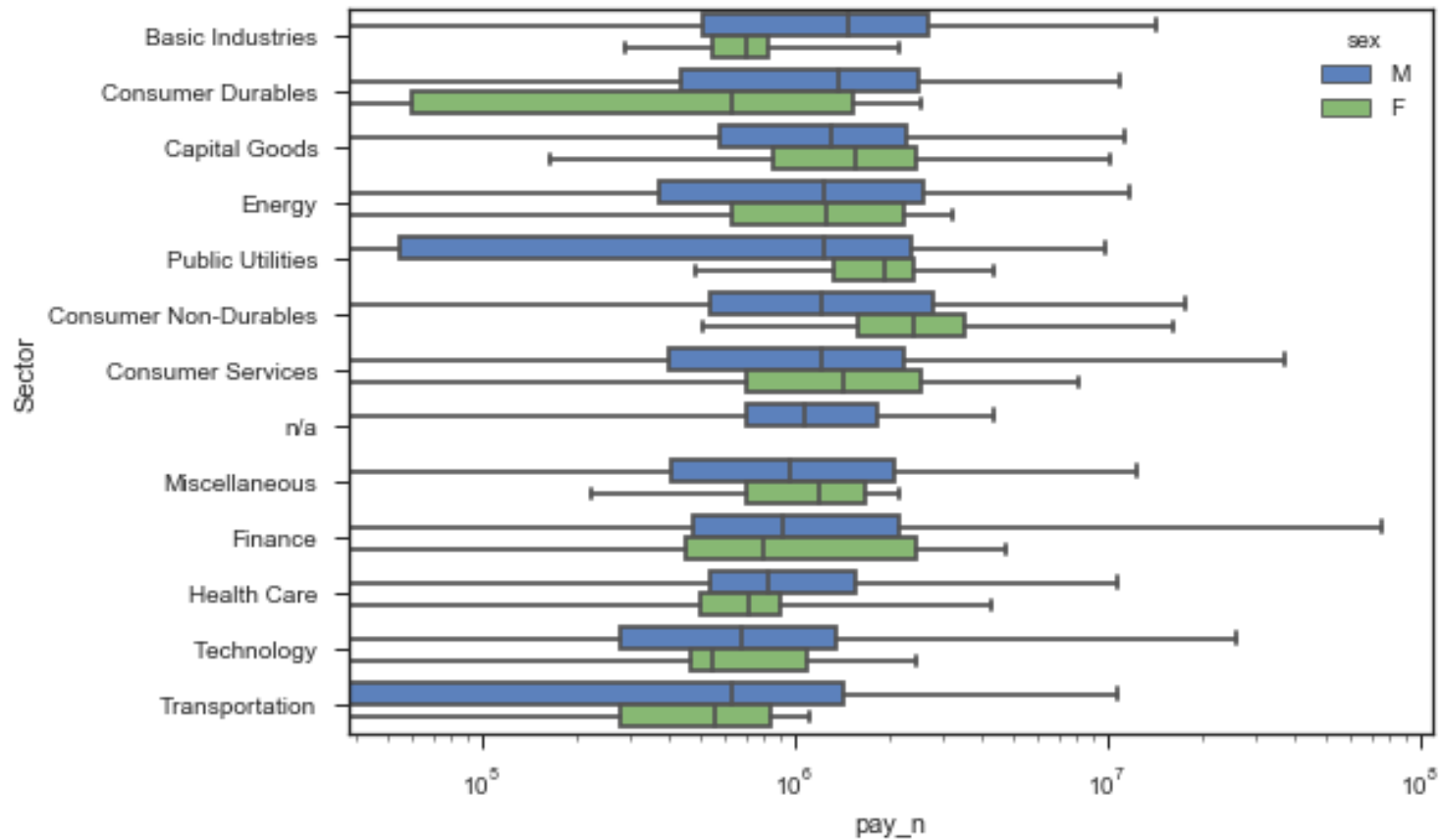
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Profile - Salary



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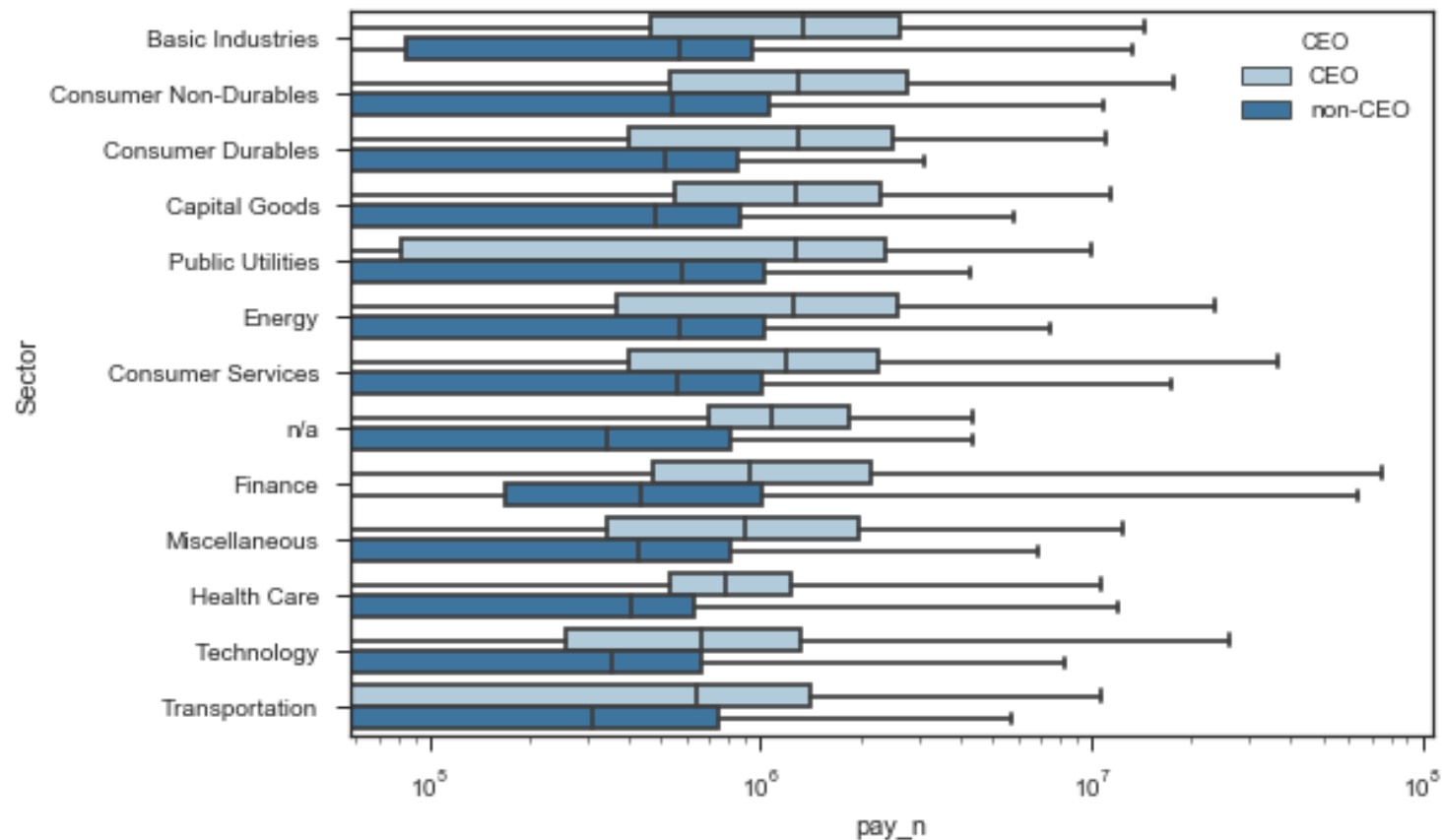
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Profile - Salary



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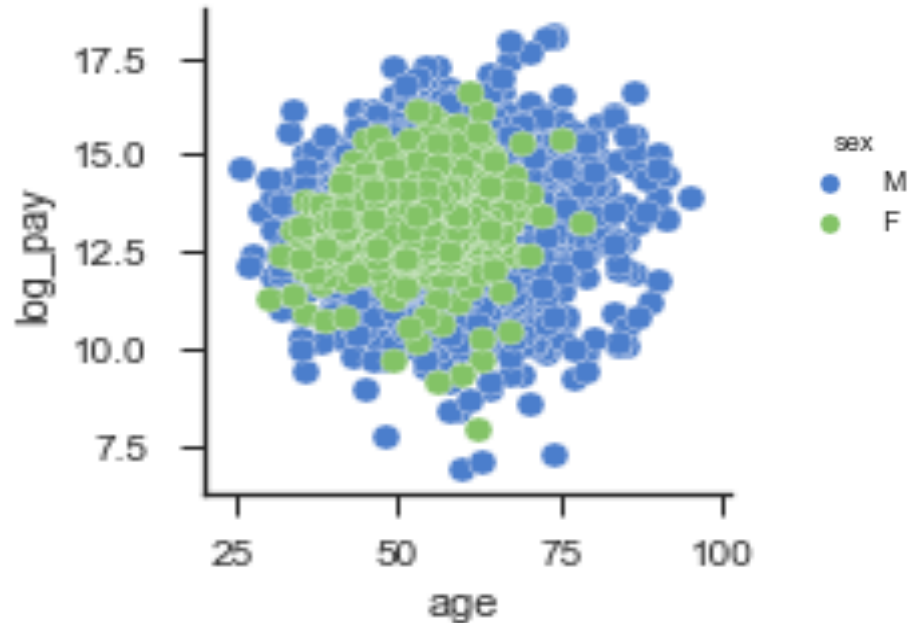
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Profile - Salary

- Q: Is there any correlation between age and pay ?



- A: there is no obvious relationship between age and pay

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- How I feel about this project
 - Web scraping can be tricky
 - Data joining, cleaning and imputation is the most time consuming part
 - Some results are quite surprising
- Here is the quick profile of the executives
 - Mostly male (a whopping 89%!) and it is seen in almost all industries
 - Median age of CEO is 54 years old, youngest is 26 years old and oldest is 95 years old
 - On average, female executives are younger than that of males; CEO are older than non-CEO
 - Pay is very skewed (left skewed with big tail in high pay). Median pay of executives is half a milion
 - There is no obvious pattern between age and pay
- What's next
 - To investigate the financial performance with executive profile

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