

# Presentation to Management

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DSE5002

R Final Project

# Executive Summary – Key Assumptions and Recommendations

## Basic Recommendations / Assumptions

- Given management's desire to hire an impactful individual who will grow the time, we recommend hiring someone with senior-level or executive-level experience
- Based on our research, we feel management will need to decide whether to prioritize:
  - **Data engineering** – the underlying architecture of our data
    - Set up and maintain the systems that acquire, cleanse, normalize and store the data in forms that can be used to perform analytics and machine learning
    - Strong on data fundamentals, weaker on analytics
  - **Data science** – Insights developed using our data (strong on analytics, weaker on data architecture)
    - Find meaning in the data that the engineers manage through advanced analytics and Artificial Intelligence
  - **Both** – More senior leader experienced building out and overseeing both functions
- We recommend deferring hiring anyone with Artificial Intelligence / Machine Learning capabilities until we first put our data processes in place

## Salary Expectations

- Salaries across the spectrum of skillsets are materially higher in the US than offshore
- However, offshore salaries have risen dramatically over the last few years whereas salaries in the US are stagnant to dropping as demand shifts overseas
- Salaries for data engineers, and individuals who can build out both engineering and analytics, are materially higher than salaries for data scientists
- Paying offshore salaries to employees in their native currency can reap significant cost benefits

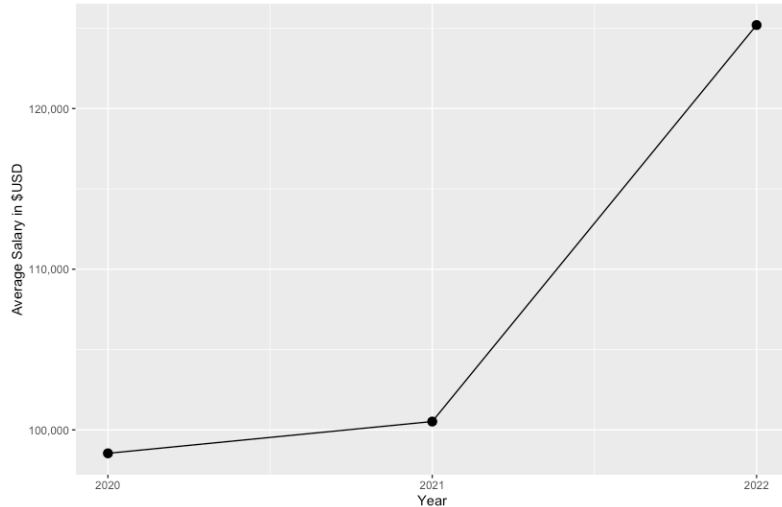
## Salary Recommendations – By Specialization, Seniority and Location

Specialization	Seniority	Salary (US-Based)	Salary (Offshore)
Data Scientist	Senior	135,000	100,000
	Executive	145,000	115,000
Engineering	Senior	162,500	115,000
	Executive	215,000	125,000
Head of Data	Senior	200,000	185,000
	Executive	225,000	200,000

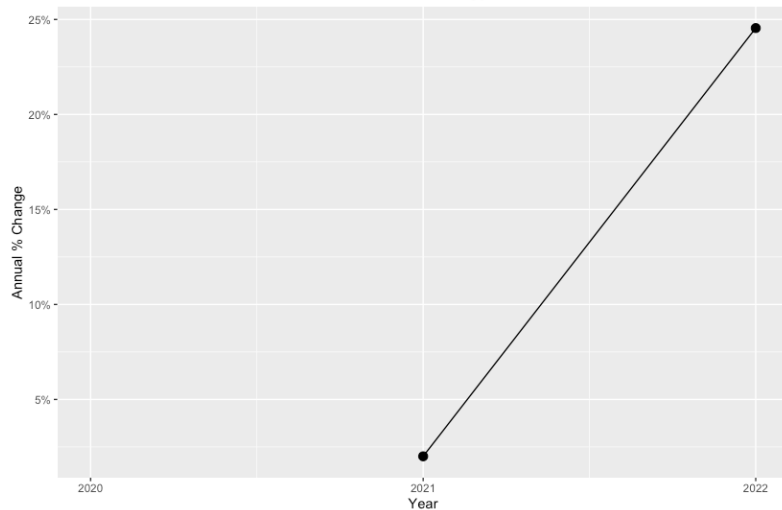
- As mentioned previously, management will need to determine which areas are most important for the first hire, how senior an individual to hire, and whether to hire domestically or offshore
- These salary recommendations are roughly based on average salary data for the respective categories for the last 2 years, adjusted to reflect growth trends domestically and offshore
- Supporting data can be found in the appendices following this summary

## Appendix 1: Overall Growth in Salaries for Data Scientists

Average Salaries for Data Professionals - All Types/Countries



Annual Growth in Salaries for Data Professionals - All Types/Countries



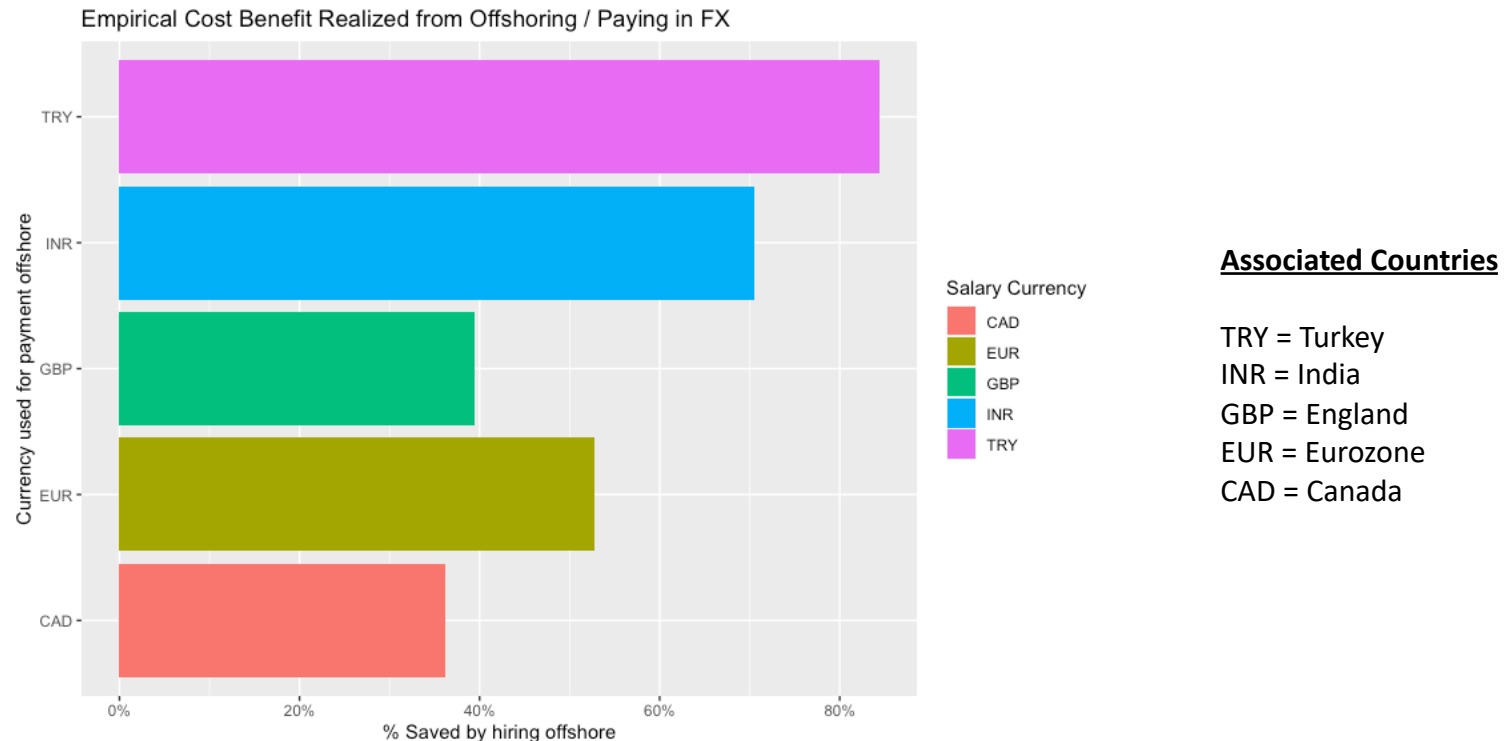
- After modest growth in 2021, average salaries for data scientists (across all roles / regions) grew significantly in 2022:
  - USD\$ average salary rose from ~\$100k to \$125
  - This represented approximately 25% per growth
- However, was this growth **even** across all roles / regions?

## Appendix 2: Current and Historical Salaries by specialization, seniority and region



- Growth in salaries occurred almost entirely offshore, whereas salaries appear to declined in the US, though some missing data makes this less than robust
- However, substantive data for 2022 is available on which to form expectations for salary requirements going forward, adjusted for overall trends

## Appendix 3: Benefit of paying offshore employees in foreign currency



- If we compare salaries, paid for comparable job titles, seniority and time periods in the US vs. offshore, paid in FX and converted to USD, we find very significant benefits from offshoring and paying native currency.
- This assumes foreign exchange rates stay stable though, or there is a mechanism by which we can hedge the FX risk of paying offshore employees in other than USD

## Appendix 4: Raw data summation used to make salary recommendations

Year	Specialty	Domicile	Avg Salary	Seniority
2021	Engineering	US-Based	600,000	Executive Level / Director
2021	Engineering	Offshore	92,398	Senior Level / Expert
2021	Engineering	US-Based	174,364	Senior Level / Expert
2021	Head of Data	Offshore	148,108	Executive Level / Director
2021	Head of Data	US-Based	242,500	Executive Level / Director
2021	Head of Data	Offshore	121,293	Senior Level / Expert
2021	Head of Data	US-Based	227,500	Senior Level / Expert
2021	Science	Offshore	109,871	Executive Level / Director
2021	Science	Offshore	70,951	Senior Level / Expert
2021	Science	US-Based	161,154	Senior Level / Expert
2022	Engineering	Offshore	118,187	Executive Level / Director
2022	Engineering	US-Based	215,333	Executive Level / Director
2022	Engineering	Offshore	97,413	Senior Level / Expert
2022	Engineering	US-Based	150,505	Senior Level / Expert
2022	Head of Data	Offshore	196,979	Executive Level / Director
2022	Head of Data	US-Based	195,938	Executive Level / Director
2022	Head of Data	Offshore	181,337	Senior Level / Expert
2022	Science	US-Based	120,000	Executive Level / Director
2022	Science	Offshore	99,815	Senior Level / Expert

- This summary table shows average salary paid in 2021 for full-time senior and executive level data scientists and engineers, excluding Artificial Intelligence / Machine Learning specialists
- It is segregated by region, and was used as the objective basis for the salary recommendations provided in the executive summary