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# ANALYSIS

## DATA ANALYST SALARY OVERVIEW

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# Study Case

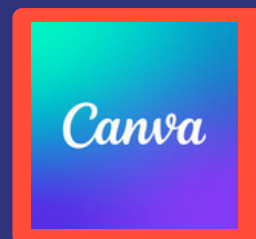
This Study Case analyzes the internal salary structure and career mapping for Data Analyst roles within the company. By processing raw employee data, it evaluates average compensation across different experience levels and employment types to ensure pay consistency. The study identifies the most competitive locations for entry-to-mid-level talent and highlights historical trends in salary growth, specifically focusing on the highest pay jumps during the transition from mid to senior levels.

## Tools



This Study Case uses MySQL to analyze Data Analyst salaries and career growth. It queries internal data to benchmark pay across experience levels and identifies peak salary increases during mid-to-senior transitions.

This Study Case utilizes Canva to visualize and report on Data Analyst salary trends. It transforms raw data into a visual report to highlight compensation benchmarks across experience levels and identify key salary growth during career transitions.





## DATASETS INFORMATION

### information about data

Column	Description
work_year	The year the salary was paid
work_status	1 for expatriate, 0 for non-expatriate
company_location	The primary country of the employers/offices/contracting branch during the work year (coded according to the ISO-3166 standards)
employee_residence	The employee's primary country of residence during the work year (coded according to the ISO-3166 standards)
experience_level	The experience level in the job during the year with the possible values: EN entry-level, MI Mid level, SE senior level, EX executive level/Director
employment_type	The type of employment for the role. PT Part time, FT Full time, CT Contract, FL Freelance
job_title	The role worked in during the year
salary	The total gross salary amount paid
salary_currency	The currency of the salary paid as an ISO 4217 currency code
salary_in_usd	The amount of salary that has been converted in usd
company_size	The average number of people that worked for the company during the year. S less than 50, M 50 to 250, L more than 250 employees
remote_ratio	The overall amount of work done remotely, possible values are as follows : 0 No remote work, 50 partially remote, 100 fully remote



```
select * from ds_salaries limit 10;
```

work_year	experience_level	employment_type	job_title	salary	salary_currency	salary_in_usd	employee_residence	remote_ratio	company_location	company_size
2020	MI	FT	Data Scientist	70000	EUR	79833	DE	0	DE	L
2020	SE	FT	Machine Learning Scientist	260000	USD	260000	JP	0	JP	S
2020	SE	FT	Big Data Engineer	85000	GBP	109024	GB	50	GB	M
2020	MI	FT	Product Data Analyst	20000	USD	20000	HN	0	HN	S
2020	SE	FT	Machine Learning Engineer	150000	USD	150000	US	50	US	L
2020	EN	FT	Data Analyst	72000	USD	72000	US	100	US	L
2020	SE	FT	Lead Data Scientist	190000	USD	190000	US	100	US	S
2020	MI	FT	Data Scientist	11000000	HUF	35735	HU	50	HU	L
2020	MI	FT	Business Data Analyst	135000	USD	135000	US	100	US	L
2020	SE	FT	Lead Data Engineer	125000	USD	125000	NZ	50	NZ	S

**Executed a LIMIT 10 query to preview and validate the dataset, ensuring data integrity and structure before proceeding with the analysis.**

```
select * from ds_salaries
where work_year is null
or experience_level is null
or employment_type is null
or job_title is null
or salary is null
or salary_currency is null
or salary_in_usd is null
or employee_residence is null
or remote_ratio is null
or company_location is null
or company_size is null;
```

work_year	experience_level	employment_type	job_title	salary	salary_currency	salary_in_usd	employee_residence	remote_ratio	company_location	company_size
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**Checked for missing data across all columns using the IS NULL operator. The empty result set confirms that the dataset is complete with no NULL values, ensuring data reliability for further analysis**

```
select
    distinct(job_title)
from
    ds_salaries
where
    job_title like '%data analyst%'
order by job title;
```

job_title	job_title
BI Data Analyst	Lead Data Analyst
Business Data Analyst	Marketing Data Analyst
Data Analyst	Principal Data Analyst
Finance Data Analyst	Product Data Analyst
Financial Data Analyst	

**identified and categorized various Data Analyst roles using the DISTINCT and LIKE operators**

## Average Salary in Data Analyst

```
select
    avg(salary_in_usd) as avg_data_analyst
from
    ds_salaries
where job_title like '%data analyst%';
```

	avg_data_analyst
	93200.3782

The average salary for Data Analyst positions is \$93,200.38 USD.

## Average Salary in Data Analyst based on Experience Level

```
select
    experience_level, avg(salary_in_usd) as avg_data_analyst
from
    ds_salaries
where job_title like '%data analyst%'
group by experience_level
order by avg_data_analyst desc;
```

experience_level	avg_data_analyst
EX	130000.0000
SE	112661.5862
MI	77940.7561
EN	57111.8824

The highest average salary is earned by Executive (EX) professionals, with an average of \$130,000 USD

## Average Salary in Data Analyst based on Experience and Employment Type

```
select
    experience_level, employment_type, avg(salary_in_usd) as avg_data_analyst
from
    ds_salaries
where job_title like '%data analyst%'
group by
    experience_level, employment_type
order by avg_data_analyst desc;
```

	experience_level	employment_type	avg_data_analyst
▶	EX	FT	130000.0000
	SE	FT	112661.5862
	EN	CT	100000.0000
	MI	FT	77940.7561
	EN	FT	57369.8667
	EN	PT	10354.0000

The highest average salary is earned by Full-Time Executive , with an average of \$130,000 USD

## Average Salary Middle and Entry Data Analyst based on Company Locations

```
select
  company_location,
  avg(salary_in_usd) as avg_salary
from
  ds_salaries
where
  job_title like '%data analyst%'
  and employment_type = 'FT'
  and experience_level in ('MI', 'EN')
group by
  company_location
having
  avg_salary >= 20000
order by avg_salary DESC;
```

	company_location	avg_salary
▶	US	101397.2069
	CA	70818.6667
	LU	59102.0000
	FR	52930.5000
	GB	50875.6000
	ES	38470.0000
	GR	32313.3333
	HN	20000.0000

The highest average salary is from United States (US) , with an average of \$101,397 USD

## Growth Gap Analysis

```
with data_1 as (
  select work_year, avg(salary_in_usd) as salary_Experience
  from ds_salaries
  where
    employment_type = 'FT'
    and experience_level = 'EX'
    and job_title like '%data analyst%'
  group by work_year
),
```

```
data_2 as (
  select work_year, avg(salary_in_usd) as salary_Mid
  from ds_salaries
  where
    employment_type = 'FT'
    and experience_level = 'MI'
    and job_title like '%data analyst%'
  group by work_year
)
```

```
select
  data_1.work_year,
  data_1.salary_Experience,
  data_2.salary_Mid,
  data_1.salary_Experience - data_2.salary_Mid differences
from data_1
left outer join data_2 on data_1.work_year = data_2.work_year


order by differences DESC;
```

work_year	salary_Executive	salary_Mid	differences
2022	120000.0000	68970.5909	51029.4091
2021	150000.0000	108398.8182	41601.1818

The Highest salary gap between Mid-level and Executive Data Analysts occurred in 2022, with a difference of \$51,029.41 USD. The highest salary is in 2022 with difference \$51.029

# Final Takeaways

After validating the dataset and ensuring there were no missing values, the analysis shows that the average salary for Data Analyst roles is \$93,200.38 USD. The data clearly indicates that seniority plays a major role in pay, with Executive-level (EX) positions earning the highest average at \$130,000 USD. Interestingly, 2022 saw the most significant jump in pay for those moving from Mid-level to Executive roles, with a record salary increase of \$51,029.41 USD, showing a much stronger growth trend compared to the previous year.



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