

The background of the slide is a dense field of 3D-rendered numbers in various shades of blue and white. The numbers are of different sizes and are scattered across the entire frame, creating a sense of depth and data. Some numbers are in the foreground, appearing larger and more detailed, while others are in the background, appearing smaller and more faded. The overall effect is a vibrant, digital landscape of numbers.

Data Science Summit'21

Business Analysis Challenge

Team – Extra Miles

Team Members

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Problem Statement

With the current pandemic in place, a pharmaceutical company 'ChemX' is planning to roll out its own newly developed Covid-19 vaccine in the Indian market.

The company was established in 2020, currently holds 2% of the pharmaceutical market share in India and plans to use the current situation to expand its market share in the near future.

Q1)

- A. What will be the market Share of Chem-X and the top 10 companies in 2021?
- B. Also calculate the revenue generated by Chem-X in 2021 if the overall revenue generation for individual companies is increased by 5% of that in 2020.

Note: i. The top 10 companies will individually lose 2.2% of its revenue generated in 2020. The half (50%) of the lost revenue will go to 'Chem-X' and the rest to the **others**.

ii. The revenue generated by a company is proportional to its market share.

Q2) There was another competitor (Medical MoJo) which was established in 2010 and had the same profile and outlook as Chem-X.

How much revenue ChemX will be able to generate in 2031, considering ChemX grows at an average growth rate (*across 10 years*) as Medical MoJo.

Note:

1. The revenue for ChemX for 2021 to be leveraged from Question-1.1.
2. We expect a higher uptake (about 1.5) in the average growth from 2026, (**not for subsequent years**).
3. Another major competitor launch is planned for 2029 which leads to an expected slowdown in growth for ChemX and revenue is expected to become stagnant from 2028 onwards.

Data

Market Share of Pharma Industry

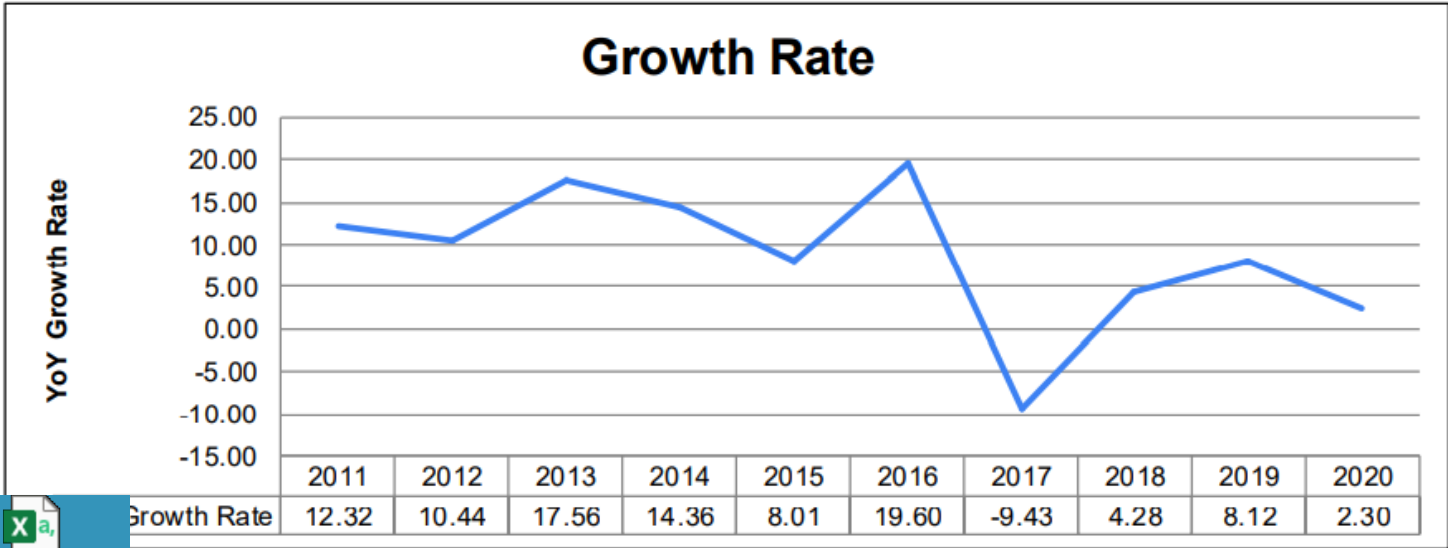
Pharma Companies	Market Share (In 2020) (In percentage)	Revenue Generated 2020 (Billion INR)
Sun Pharmaceutical Industries Limited	6.84	273.28
Dr. Reddy's Laboratories	5.5	219.74
Glenmark Pharma Limited	4.43	176.99
Cadila Healthcare Limited	4.88	194.97
Lupin Limited	6.1	243.71
ManKind Pharma Limited	3.93	157.02
Intas Pharmaceuticals Limited	4.67	186.58
Cipla Limited	5.95	237.72
Aurobindo Pharma Limited	6.45	257.7
ent Pharmaceuticals Limited	4.25	169.8
Others	45	1877.8
Chem-X	2	79.90

Click here for actual data csv →



Microsoft Excel
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Growth Trend of Medical Mojo



Click here for actual data csv →



Microsoft Excel
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E.g.17% growth in 2024 represents YoY change in revenue of the company

Solution

Created by: Team Extra Mile

Team Member

- Animesh Parikshya
- Dr. Anshika Sharma
- Tanisha Jain
- Arpit Dhawan

Task - Prediction of Market Share of ChemX Pharma in current Pandemic

Given Problem Statement - 1a)

- A. What will be the market Share of Chem-X and the top 10 companies in 2021?

Note:

- i. The top 10 companies will individually lose 2.2% of its revenue generated in 2020. The half (50%) of the lost revenue will go to 'Chem-X' and the rest to the others.
- ii. The revenue generated by a company is proportional to its market share.

Solution

1A) Solution: - Market Share of Chem-X and the top 10 companies in 2021

In [18]: `dat_MS_ChemX_andTop10`

Out[18]:

		PC	MS_New
0	Sun Pharmaceutical Industries Limited		6.558374
1	Dr. Reddy's Laboratories		5.273482
2	Glenmark Pharma Limited		4.247536
3	Cadila Healthcare Limited		4.679033
4	Lupin Limited		5.848732
5	Mankind Pharma Limited		3.768281
6	Intas Pharmaceuticals Limited		4.477684
7	Cipla Limited		5.704979
8	Aurobindo Pharma Limited		6.184474
9	Torrent Pharmaceuticals Limited		4.074985
11	Chem-x		2.532259

Solution

Given Problem Statement - 1b)

- B. Also calculate the revenue generated by Chem-X in 2021 if the overall revenue generation for individual companies is increased by 5% of that in 2020.

```
In [19]: overall_Rev_2020 = dat.Rev_2020.sum()  
overall_Rev_2020
```

```
Out[19]: 4075.2100000000005
```

```
In [20]: #Overall Revenue with 5% increase in 2021  
overall_Rev_2021 = overall_Rev_2020 + (0.05*overall_Rev_2020)  
overall_Rev_2021
```

```
Out[20]: 4278.9705
```

Chem-X revenue in 2021, assuming that the market share have not changed

```
In [21]: ChemX_rev_2021 = round((dat.iloc[11]['MS_2020']/100) *4278.9705,2)  
ChemX_rev_2021
```

```
Out[21]: 85.58
```

Chem-X revenue in 2021, assuming that the market share have changed as per question 1A above.

```
In [22]: ChemX_rev_2021 = round((dat_MS_ChemX_andTop10.iloc[10]['MS_New']/100) *4278.9705,2)  
ChemX_rev_2021
```

```
Out[22]: 108.35
```

Solution

Given Problem Statement - 1b)

- B. Also calculate the revenue generated by Chem-X in 2021 if the overall revenue generation for individual companies is increased by 5% of that in 2020.

```
In [19]: overall_Rev_2020 = dat.Rev_2020.sum()  
overall_Rev_2020
```

```
Out[19]: 4075.2100000000005
```

```
In [20]: #Overall Revenue with 5% increase in 2021  
overall_Rev_2021 = overall_Rev_2020 + (0.05*overall_Rev_2020)  
overall_Rev_2021
```

```
Out[20]: 4278.9705
```

Chem-X revenue in 2021, assuming that the market share have not changed

```
In [21]: ChemX_rev_2021 = round((dat.iloc[11]['MS_2020']/100) *4278.9705,2)  
ChemX_rev_2021
```

```
Out[21]: 85.58
```

7	2018	4.28	NaN	NaN
8	2019	8.12	NaN	NaN
9	2020	2.30	NaN	79.9
10	2021	29.16	NaN	103.195
11	2022	NaN	15.211689	118.893
12	2023	NaN	7.935374	128.327
13	2024	NaN	4.139590	133.64
14	2025	NaN	2.159470	136.525
15	2026	NaN	1.690000	138.833
16	2027	NaN	0.587661	139.649
17	2028	NaN	0.306561	140.077
18	2029	NaN	0.306561	140.506
19	2030	NaN	0.306561	140.937
20	2031	NaN	0.306561	141.369
21	2032	NaN	0.306561	141.802
22	2033	NaN	0.306561	142.237



Adobe Acrobat
Document

```
In [57]: Rev_2031_pred = round(df_Final.at[20,'Rev_pred'],2)  
print( 'The predicted Percentage of growth for the year of 2031 is INR ' + str(Rev_2031_pred) + ' Billion' )
```

```
The predicted Percentage of growth for the year of 2031 is INR 141.37 Billion
```

Full code in Jupyter notebook format→

DSS21_Business_case_Study_Team Extra Miles.ipynb

Full code in PDF format→

Thank You

