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| ADV EXP 3 | |

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| AIM | To apply Data Visualization by PowerBI on HealthCare Dataset |
| Dataset Particulars | <p>Name: HealthCare Management Dataset</p> <p>Link: https://www.kaggle.com/datasets/healthcare568/healthcare-management</p> <p>Dataset Features :</p> <ol style="list-style-type: none"> 1) It contains 19 Features as follows which gives in depth idea about the shopping habits of the Indian Market. <ol style="list-style-type: none"> a) Staff_Id: Unique identifier for the staff member. b) Bed_ID: Unique identifier for the bed assigned to a patient. c) Dpt_ID: Unique identifier for the department. d) ID: Likely a unique identifier for the patient or an entry in this dataset. e) Name: The name of the patient. f) Gender: The gender of the patient. g) City: The city where the patient resides. h) State: The state where the patient resides. i) Age: The age of the patient. j) Patient type: Category or type of the patient (e.g., inpatient, outpatient). k) Status: Current status of the patient (e.g., discharged, admitted). l) treatemencost: Cost associated with the treatment. m) Bed: Information about the bed, possibly its type or category. n) LOS: Length of Stay of the patient in the hospital. o) ER_Time: Time spent in the Emergency Room. p) Date: Likely the date of admission, discharge, or a significant event. q) Feedback: Feedback provided by the patient or associated with their care. r) Rating: A rating, possibly from the feedback or patient satisfaction. s) Age Bucket: Categorical age range (e.g., 0-18, 19-35, etc.). |

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| | 2) The shape of the dataset is : [2501 * 19] |
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Data Visualisations

Dashboard

Hospital Management Dashboard

2506

Total Patient

1679

Admitted

86

Total Dead

1751

Occupied Bed

161.41

Avg Treatment Cost

0.404M

Total Revenue

Department_Name

All

Total Patient by Gender

| Gender | Count | Percentage |
|--------|-------|------------|
| F | 1228 | 48.92% |
| M | 1280 | 51.08% |

Average LOS by Age Group

| Age Group | Average LOS |
|-----------|-------------|
| 60+Y | 2.00 |
| Below 5Y | 1.84 |
| 6-20Y | 1.77 |
| 41-60Y | 1.64 |
| 21-40Y | 1.48 |

Total Revenue by Department_Name

| Department_Name | Total Revenue |
|-----------------|---------------|
| OPD Outpatient | 128K |
| Physical Meds | 79K |
| Surgery | 67K |
| OT | 38K |
| Dermatology | 32K |
| Ophthalmology | 18K |
| Cardiology | 13K |
| Gynaecology | 13K |
| Neurology | 12K |
| oncology | 9K |

In Patient by Department Name and Status

| Department Name | Death | Discharge | ICU | Normal | Readmit |
|-----------------|-------|-----------|-----|--------|---------|
| Physical | 100 | 400 | 100 | 100 | 100 |
| Surgery | 50 | 450 | 100 | 100 | 100 |
| OT | 50 | 400 | 100 | 100 | 100 |
| Dermato | 0 | 400 | 100 | 100 | 100 |
| Othoped | 0 | 400 | 100 | 100 | 100 |
| Neurology | 0 | 400 | 100 | 100 | 100 |

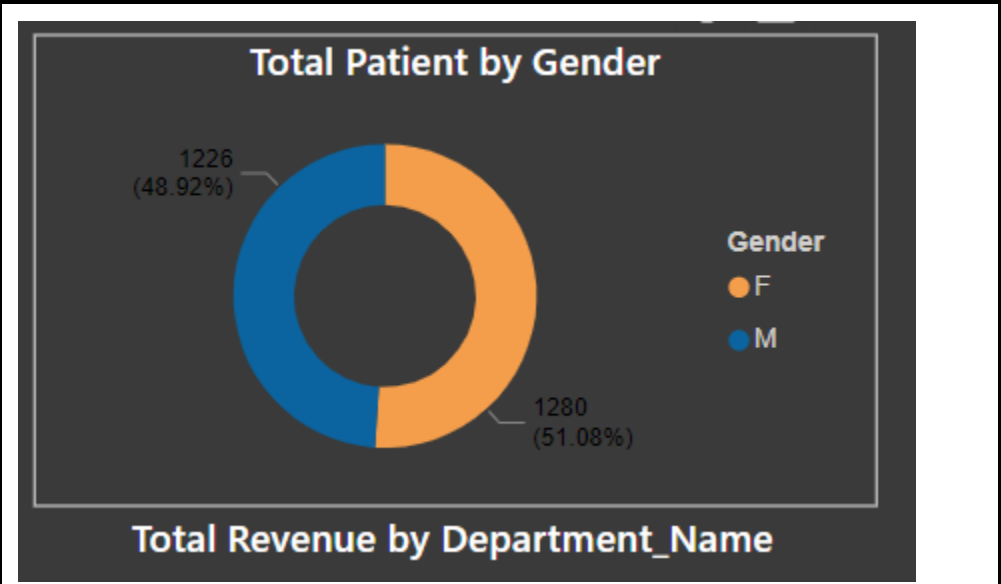
Rating by Age Group

| Age Group | Rating |
|-----------|--------|
| 6-20Y | 4.9 |
| Below 5Y | 4.7 |
| 21-40Y | 4.6 |
| 41-60Y | 4.5 |
| 60+Y | 3.9 |

Patient breakdown by LOS

| LOS | Patient Count |
|--------|---------------|
| 1-2D | 1483 |
| 3-6D | 196 |
| 7-10D | 46 |
| 11-13D | 12 |
| 31+D | 8 |
| 15-31D | 6 |

Analysis



- 1) Pie Chart
 - a) The revenue is earned more from females patients
 - b) The largest of this share of females comes from OPD [from diagnosis , minor procedures etc]
 - c) Even the department wise data shows , most were admitted in Physical admission and rehab dept.
 - d) The max days of stays for women comes out to be 1-2 days and is highest in the age group of 21-40 yrs.

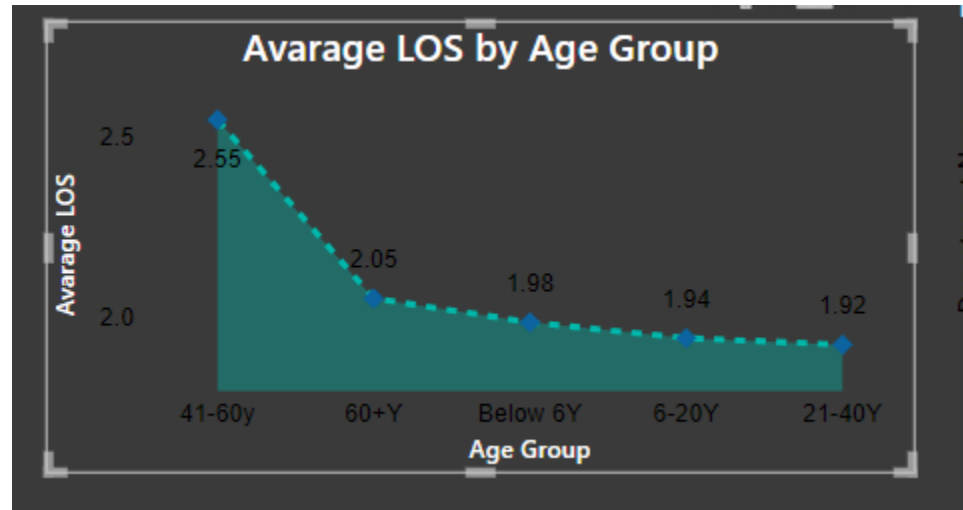
- e) This data suggest that the revenue earned from minor injuries gains more revenue to hospital vs Long stay days.
- f) This is in turn true as well because , hospital have minimum expenditure in OPD vs other surgical departments .

2) Area Chart

a) Heres a Dept wise view of Avg LOS

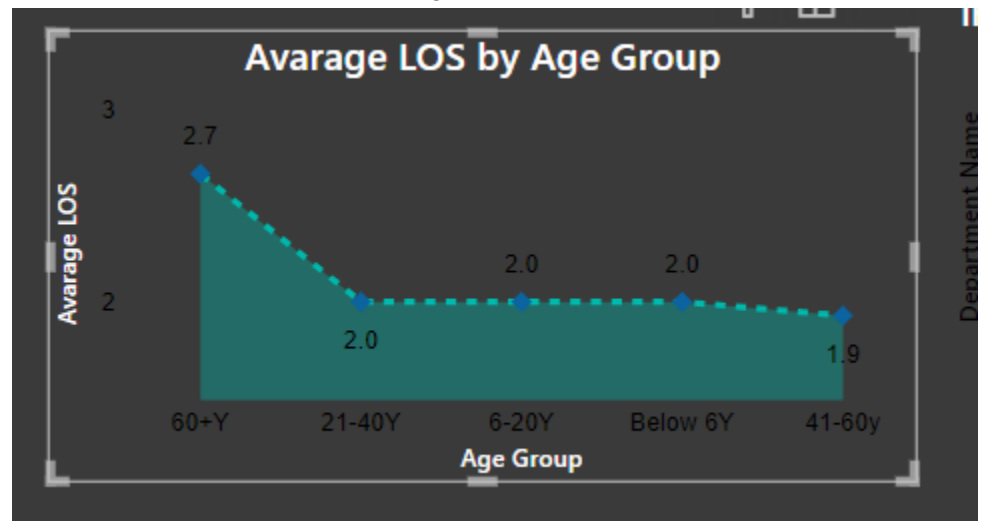
i) Physical Medication n Rehab

- (1) As seen , the increase in LOS as we go towards senior citizen



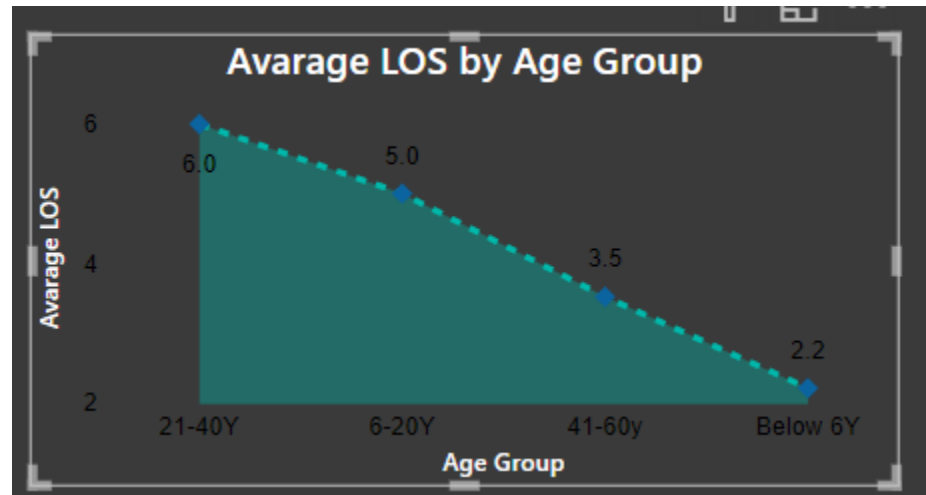
ii) Cardiology

- (1) The LOS for cardiology department increasas from adulthood to senior citizen , suggesting longer durations



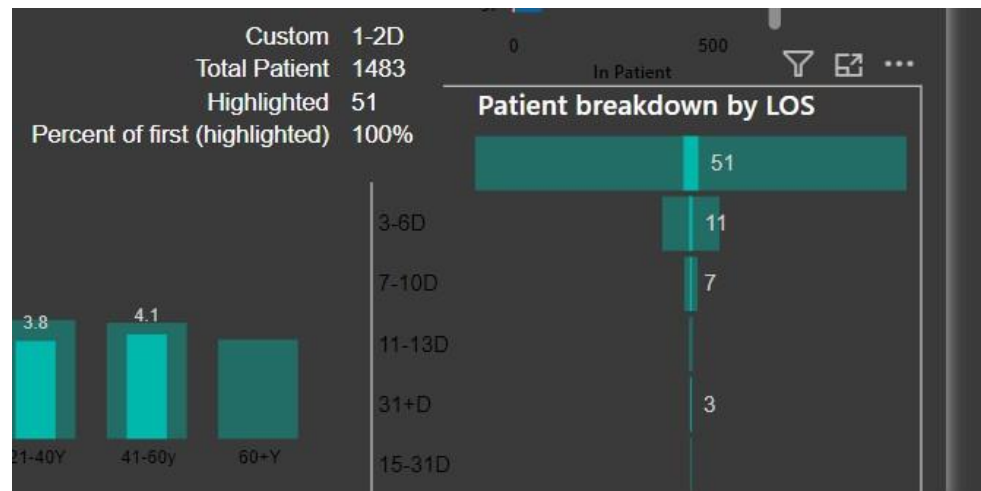
iii) Gynaceology

(1) LOS increase post adulthood



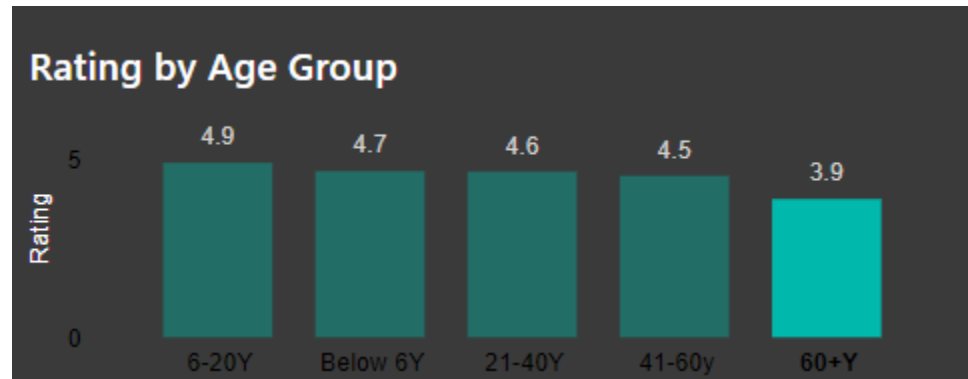
Hence Age group increases , the LOS increase in various department

3) Funnel Chart



- 1) Even for the department which has lowest patient [at the time the dataset was made] which is neurology , maximum patients are seen in LOS of 1-2 Days
- 2) This suggests , that to gain more revenue and better ratings the hospital should increase the facilities and quality of it provides for 1-2 Days stay

4) Bar Graph



- 1) The data suggest the lowest ratings is given by the Age group of 60yrs plus
- 2) Upon further analysis , it is come to notice that the senior citizen were admitted most to OT department and the highest LOS is 1-2 days.
- 3) Hence the hospital should have better facilities in OT department along with better facilities for shorter treatments [1-2 days LOS]

Conclusion

By performing this experiment I learnt to select the apt Data visualization for ther data and create an interactive dashboard. I also got a chance to explore Power BI themes .