

## ▼ Supply-Demand Correlations Analysis

This analysis is highly dependent on the data quality as these factors might or might not show correlation with the problem due to bad data quality.

### ▼ Meeting Rooms Analysis (Parkville Campus)

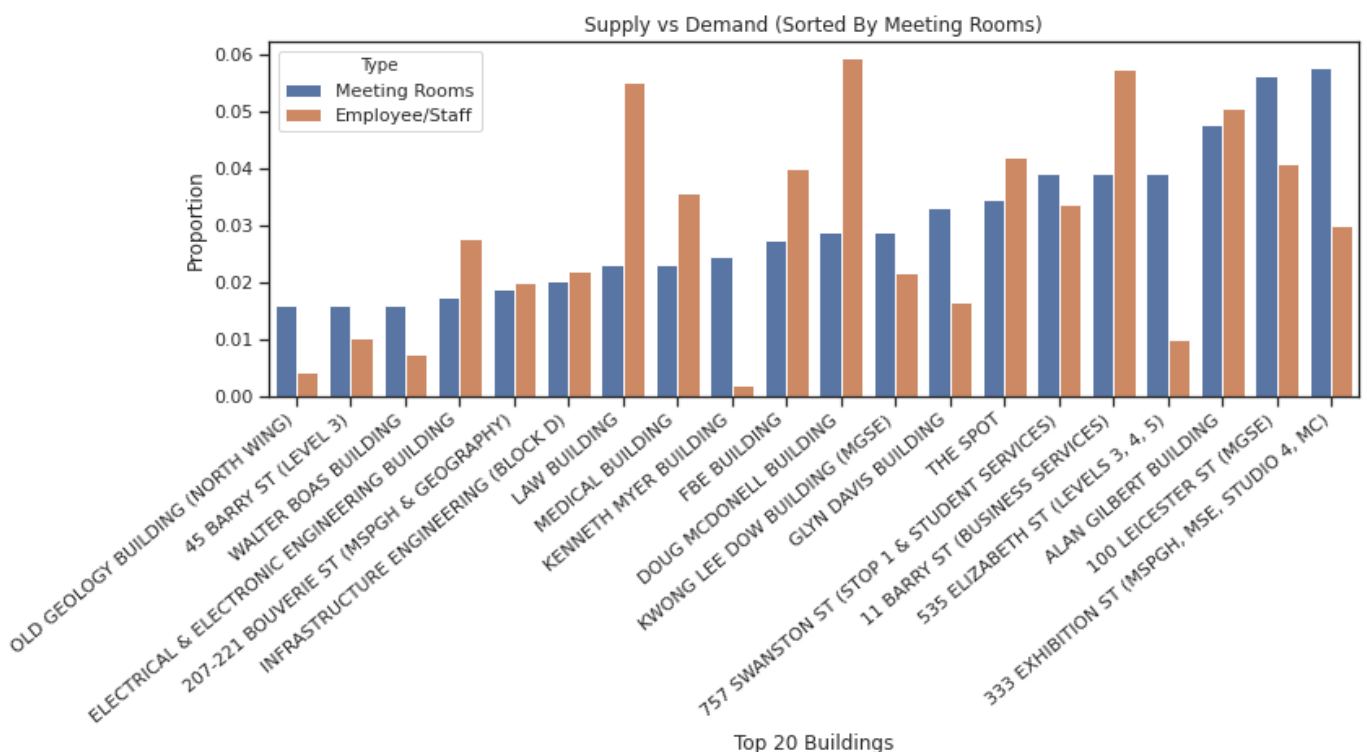
- **Supply:** There are 692 meeting rooms with room type 601 and 629 in parkville campus.
- **Demand:** There are 6505 employee/staff location data.

#### ▼ 1. What if staff want to book a meeting room in the **same building**?

- Below chart shows a supply demand interpretation in terms of proportion of meeting rooms (supply) and employee/staff (demand) that can book these rooms.

How it can be interpreted?

- According to the chart, 333 Exhibition St building has the highest number of meeting rooms (around 6% of overall meeting rooms) but only 3% of the overall employee/staff sits in the building.

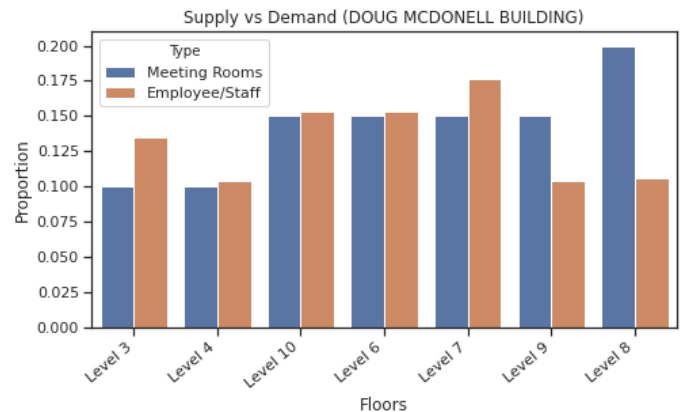
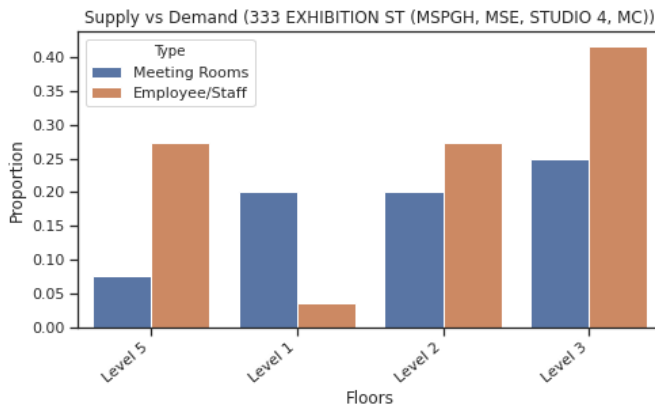


#### ▼ 2. What if staff wants to book a meeting room at the **same floor**?

- Below chart shows a supply demand interpretation in terms of proportion of meeting rooms (supply) and employee/staff (demand) that can book these rooms with respect to different floors of some buildings.

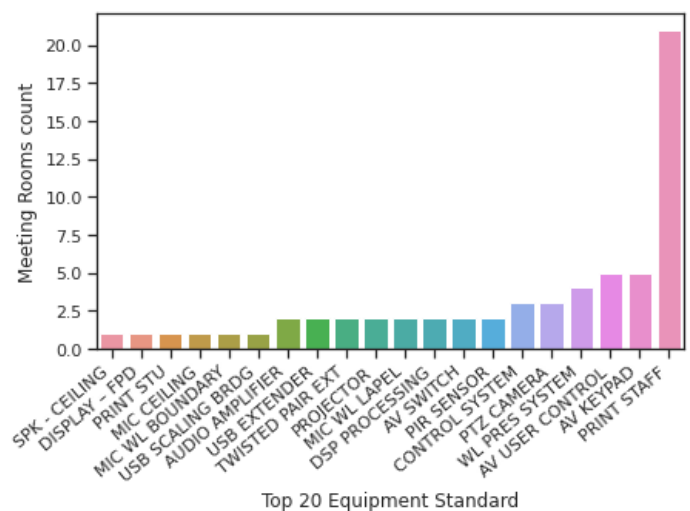
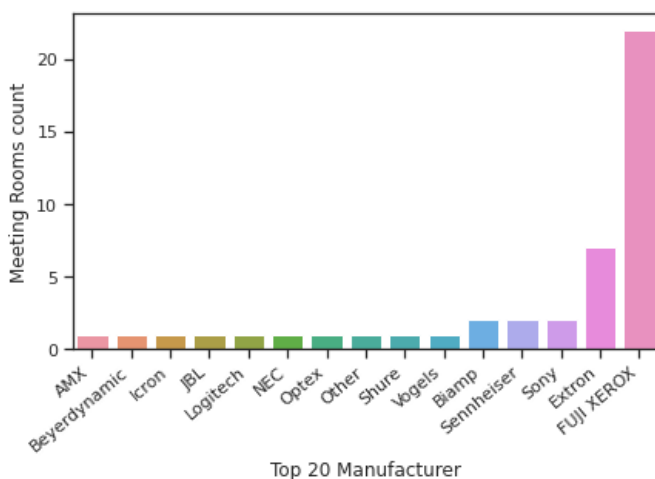
How it can be interpreted?

- In 333 Exhibition St, we can see that around 30% of the staff sits on Level 5 but only 7% of meeting rooms are available on that floor.
- In Doug McDonnell Building, we can see that around 20% of the meeting rooms are available on level 8 but only 10% of the staff sits on that level.



### ▼ 3. What if staff wants to book a meeting room with **equipments**?

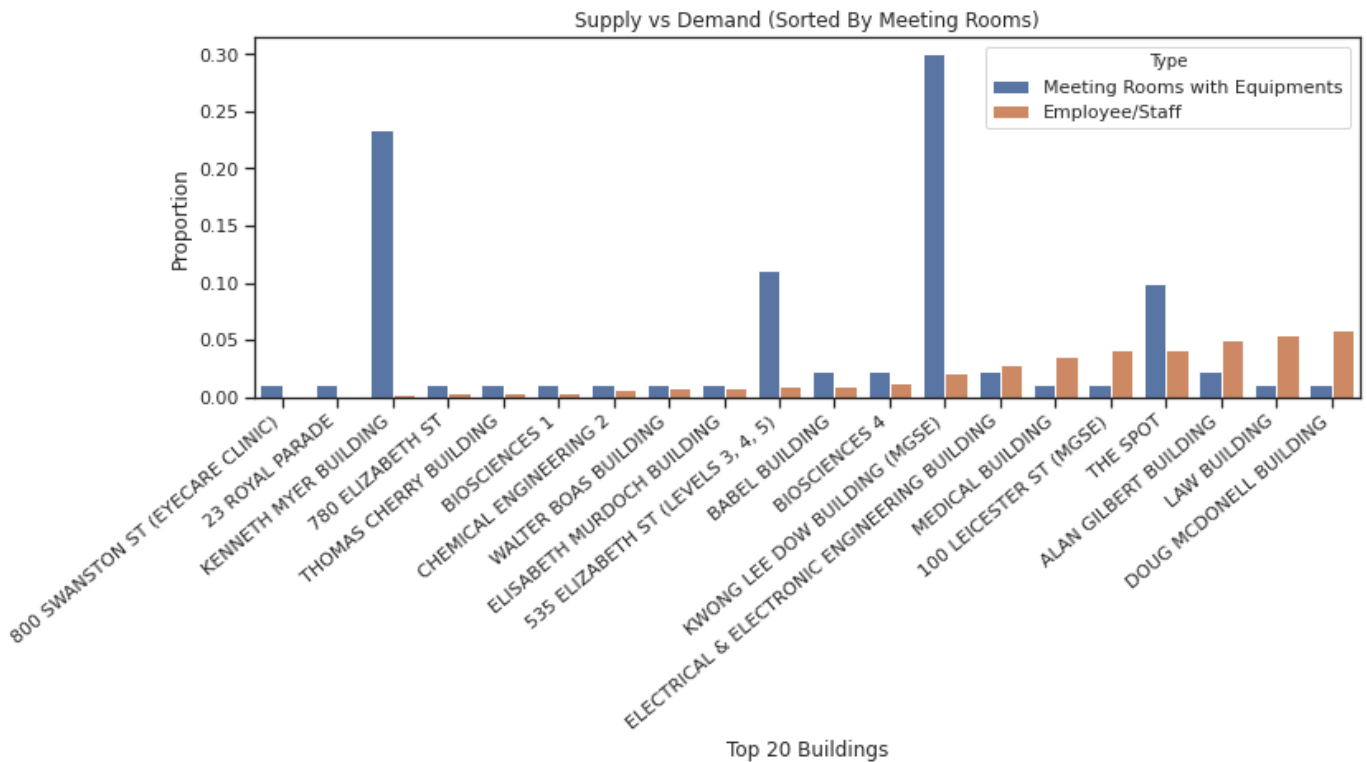
- Out of 692 meeting rooms, we only have data of 90 meeting rooms with equipments. Below chart shows how manufacturer and equipment standard are distributed across these 90 meeting rooms.



- Below chart shows a supply demand interpretation in terms of proportion of meeting rooms with equipments as supply and employee/staff that can book these rooms as demand with respect to different buildings.

How it can be interpreted?

- We can clearly see that around 30% of meeting rooms with equipments are available in Kwong Lee Dow Building but around 2% of employees sits in that building.
- Similar trend can be seen for Kenneth myer building.

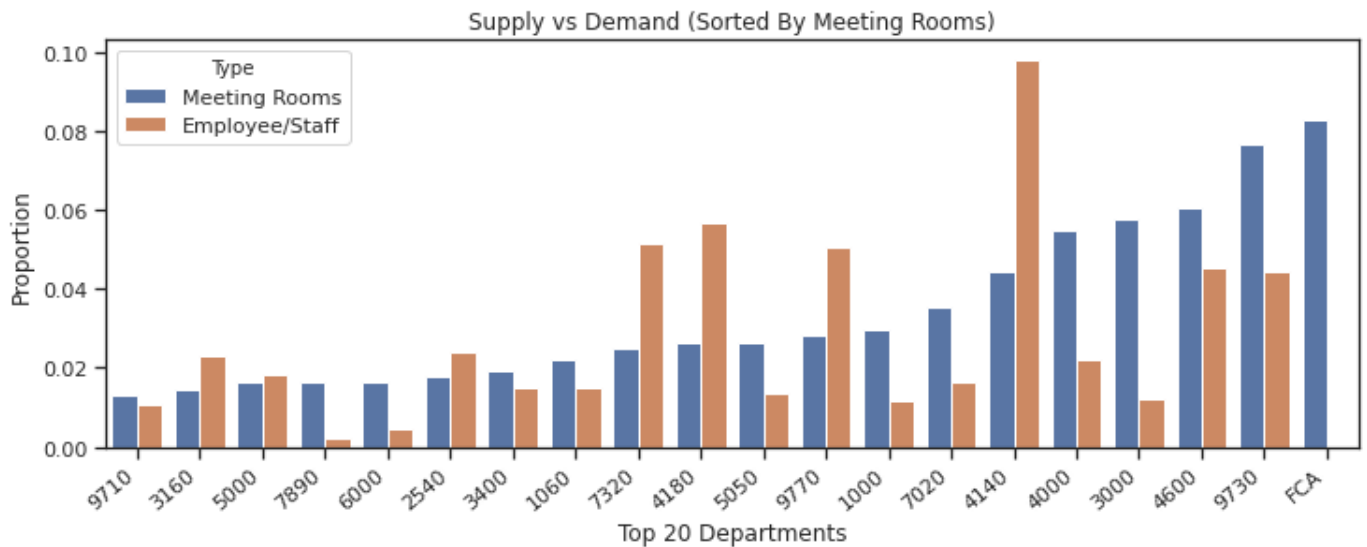


#### ▼ 4. What if staff wants to book a meeting room in the **same department**?

- Below chart shows a supply demand interpretation in terms of proportion of meeting rooms as supply and employee/staff that can book these rooms as demand with respect to different departments.

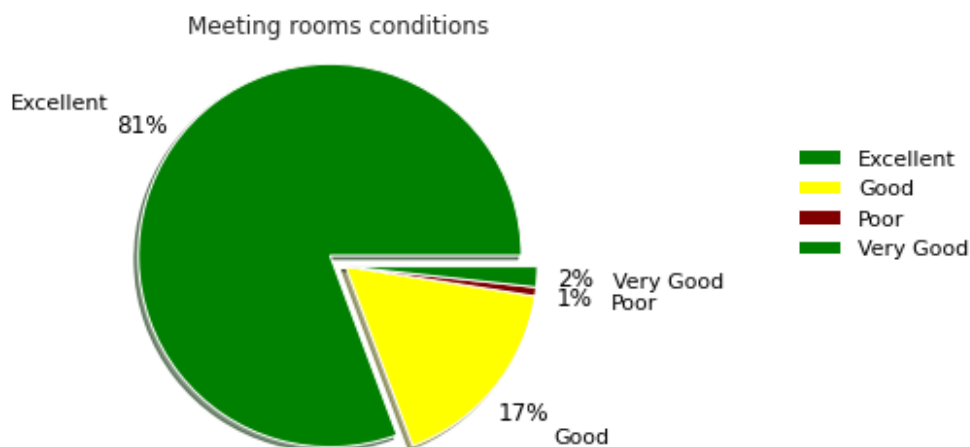
How it can be interpreted?

- We can see that 8% of the meeting rooms allotted to FCA department but hardly any employee/staff sits in rooms allotted to FCA department.
- Similarly, we can see that 10% of employee/staff sits in the rooms allotted to 4140 department but there are only 4% meeting rooms allotted to that department.



▼ 5. What if staff wants to book a meeting room with 'Good or Excellent' **Room Condition?**

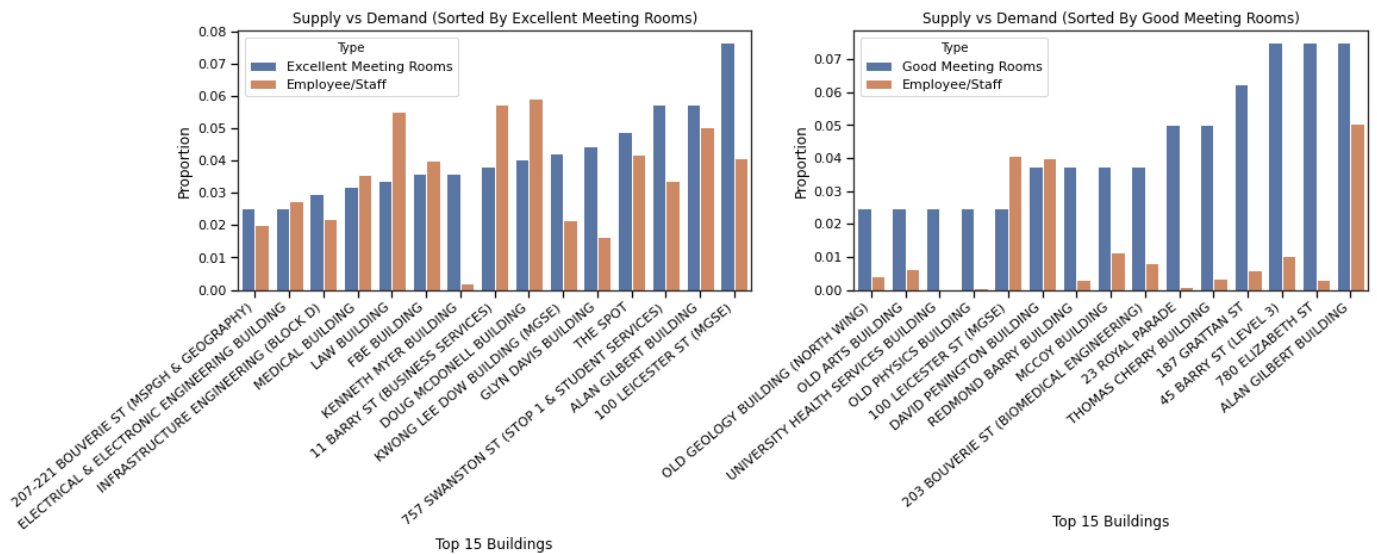
- Below chart shows the distribution of meeting rooms conditions



- Below chart shows a supply demand interpretation in terms of proportion of `Excellent` and `Good` meeting rooms as supply and employee/staff that can book these rooms as demand with respect to different buildings.

How it can be interpreted?

- Around 8% of excellent meeting rooms are in MGSE building but only 4% of the employee/staff sits in that building.
- Similar, around 7% of good meeting rooms are available in 780 Elizabeth St but hardly any employee sits in that building.

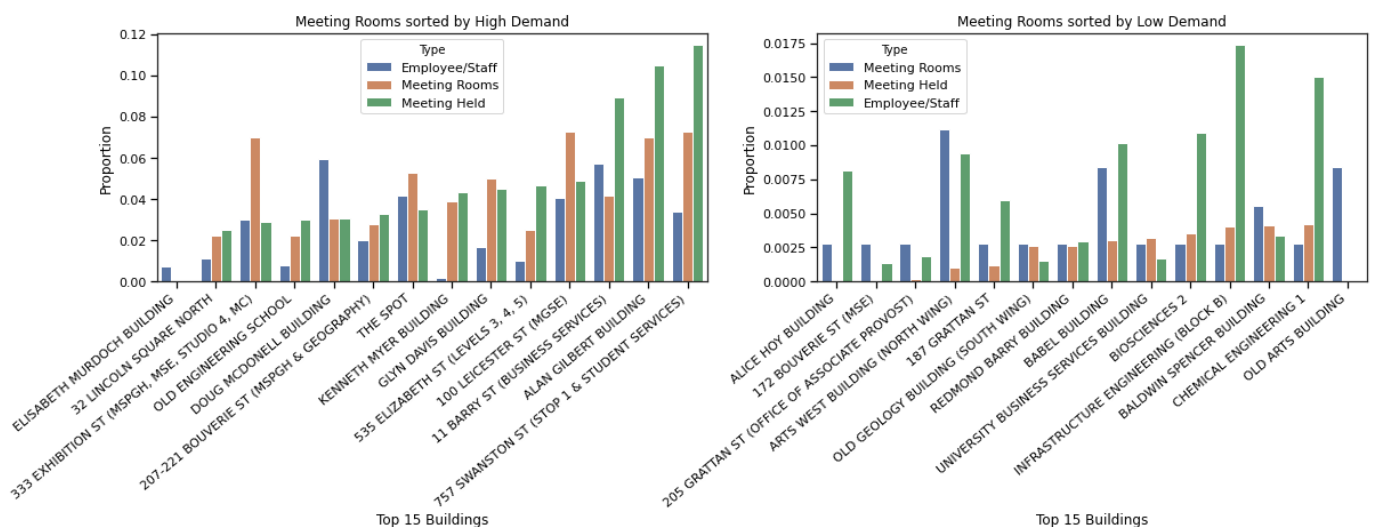


## ▼ 6. What if staff wants to book a meeting room which is **easily available**?

- We are able to get data of meeting rooms usage for 373 meeting rooms out of 692 meeting rooms
- Below chart shows a supply demand interpretation in terms of proportion of meeting rooms as supply, employee/staff that can book these rooms as demand and meeting held as the usage with respect to different buildings.

How it can interpreted?

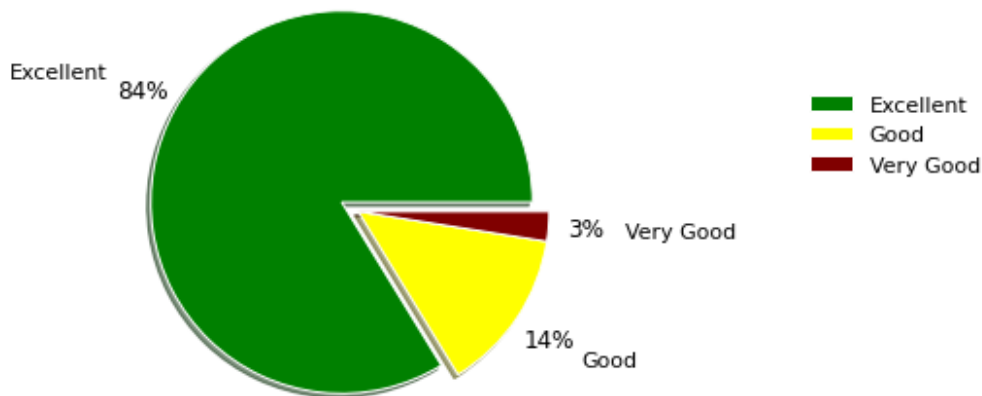
- Meeting rooms in Stop 1 has the highest meeting room usage proportion of around 12% where only 8% of the employee/staff sits in that building and there are only 3% of meeting rooms available to book. So clearly, it will be very hard to book a meeting room in Stop 1 due to extremely high demand.
- Similarly, there are buildings with low demand of meeting rooms but the proportion of meeting rooms available is also very less.



**Is Meeting room demand correlated with room condition?**

- Below chart shows the distribution of meeting room conditions from the usage data

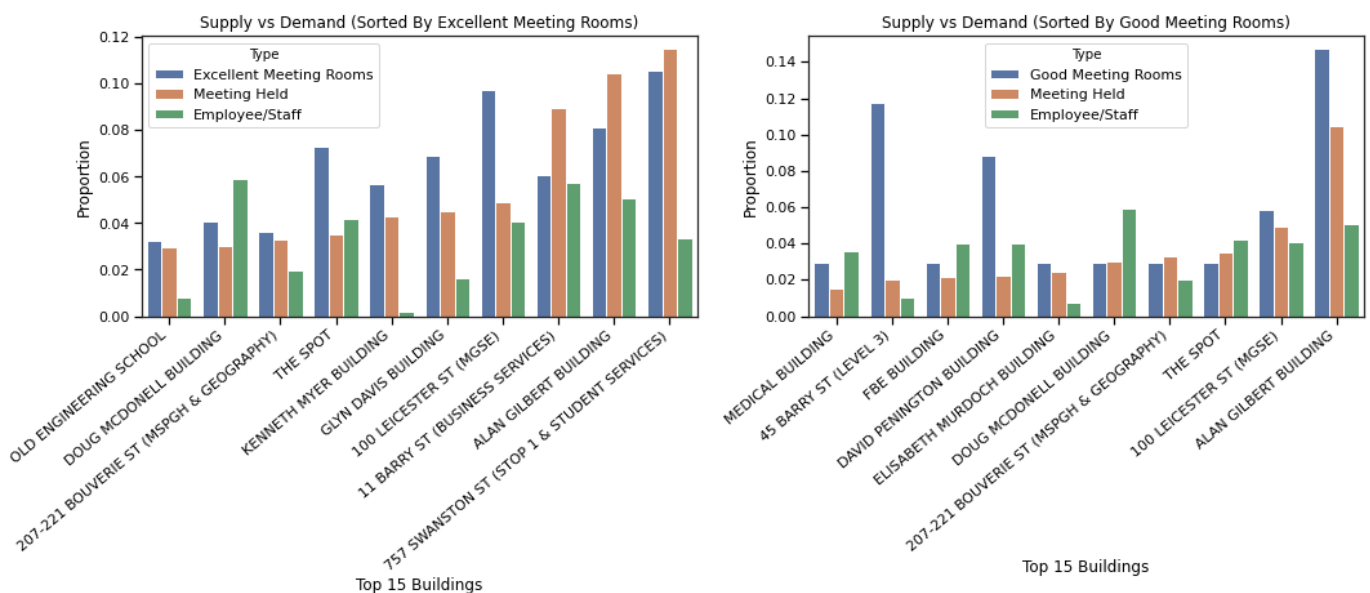
Meeting rooms condition with respect to usage data



- Below chart shows a supply demand interpretation in terms of proportion of `Excellent` and `Good` meeting rooms as supply, employee/staff that can book these rooms as demand and meeting held as the usage with respect to different buildings.

How it can be interpreted?

- Most of the excellent meeting rooms are in Stop 1 building due to which there might be very high demand of booking in this building.
- Similarly, around 12% of the good meeting rooms are available in the 45 barry st but there is hardly any demand there. This might add more evidence towards the preference of booking an excellent meeting room.



## ▼ Student Toilet Facilities Analysis (Parkville Campus)

- Supply:**
  - There are 1217 toilet facilities available in Parkville Campus.

- In terms of capacity, there are 218 toilet rooms provided with 0 capacity. We can skip such toilet facilities and assume them to be non-working.
- Then, these 1217 toilet facilities can accommodate 2278 students as per the data.

- **Demand:**

- There are 113342 classes held throughout the year in parkville campus.
- Possible students that can attend these classes is extremely huge as per the data: 5759367, where there is average of 25150 students attending classes at a particular day throughout the campus.

**NOTE:** We will use the proportion of toilet capacity as the supply in our below analysis. So, if a building has 4% toilet capacity then it means that it can accommodate 4% of the 2278 students in the provided toilet facilities. Using this, we can compare toilet facilities with possible students that can attend classes in that building.

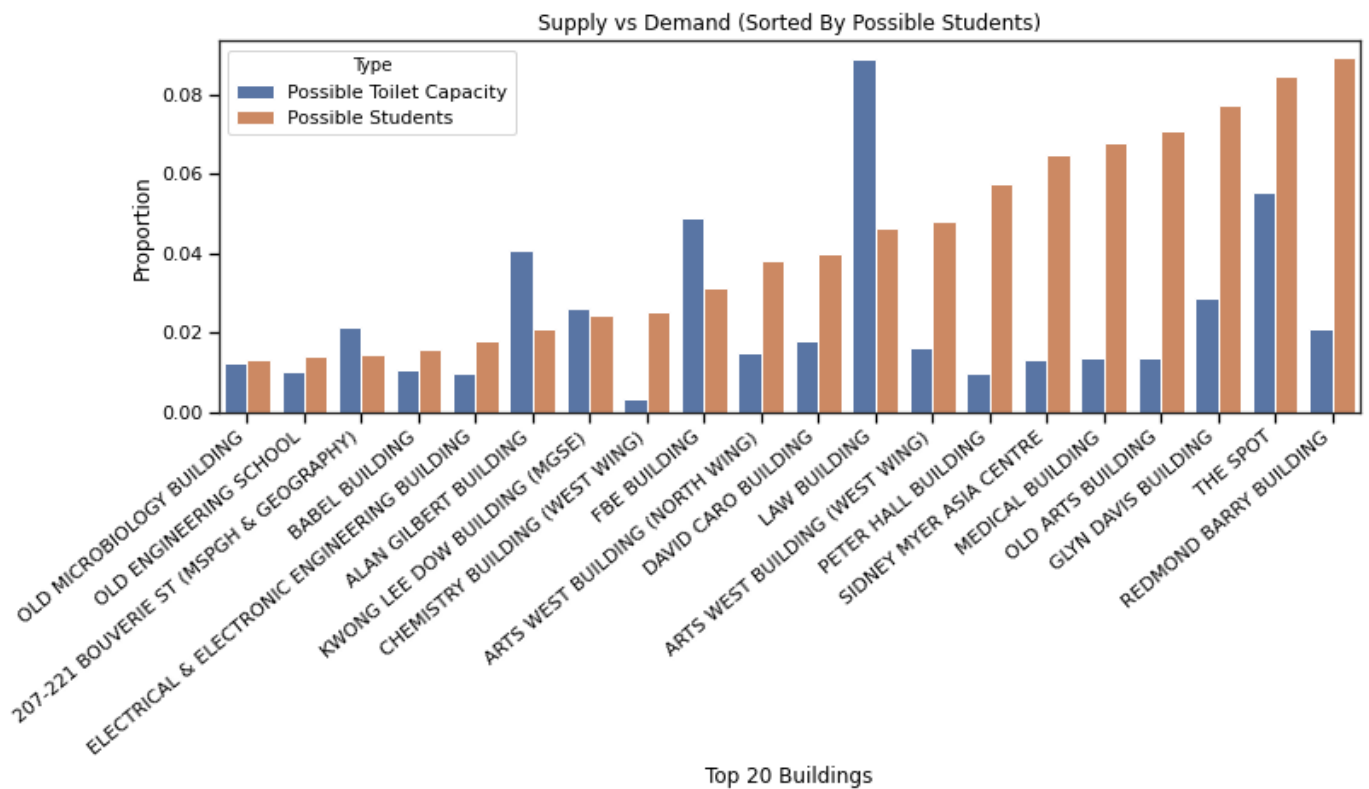
▼ 1. What if student wants to access a toilet facility in the **same building**?

- Below chart shows a supply demand interpretation in terms of proportion of possible toilet capacity as supply and possible students that can attend classes in these buildings throughout the year as demand.

How it can be interpreted?

- We can see that around 8% of the total possible students attend classes in redmond barry building throughout the year. But, there is hardly 2% of toilet capacity in this building which means it can only accommodate 2% of 2278 possible students.
- Similarly, we can see that around 20% of toilet capacity is available in the Law building but there are just 3-4% of total possible students that attend classes in this building.

**NOTE:** These charts are subject to the quality of Room Capacity column provided in the space data as it is currently being used to provide accommodation value for the toilet facility.

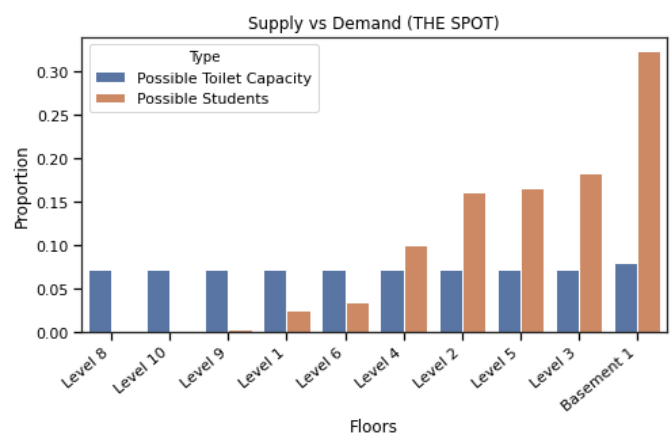
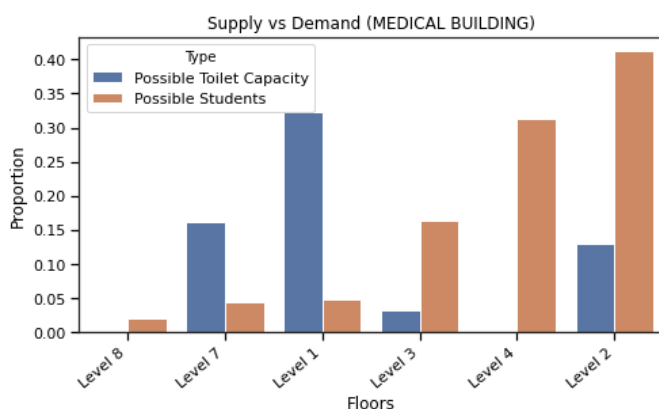


## ▼ 2. What if student wants to access a toilet facility on the **same floor**?

- Below chart shows a supply demand interpretation in terms of proportion of possible toilet capacity as supply and possible students that can attend classes in these buildings throughout the year as demand in terms of distribution across floors.

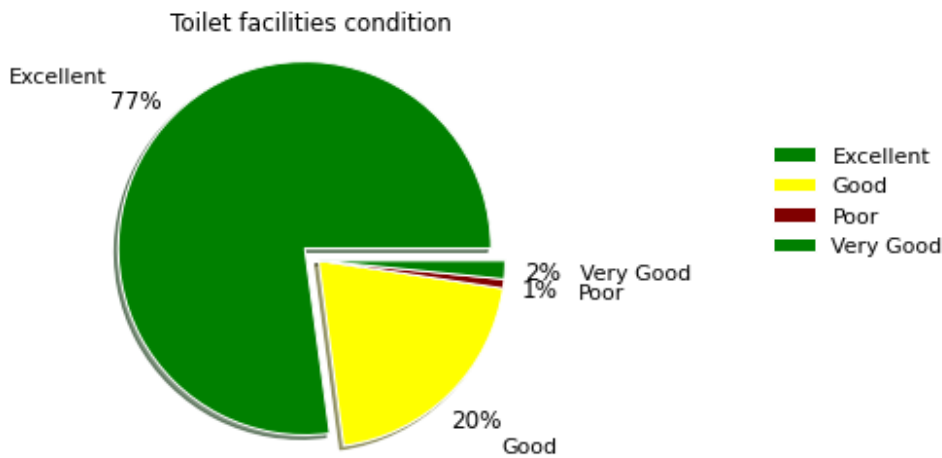
How it can be interpreted?

- We can see that 30% of the possible toilet capacity is available at Level 1 in Medical building but around 5% of the students attend classes on this floor of the building.
- Similarly, we can see that around 30% of the students attend classes in the basement 1 of the spot building. But, there is around 7% toilet capacity available at this level.



## ▼ 3. Accessibility of toilets with respect to their **condition**?

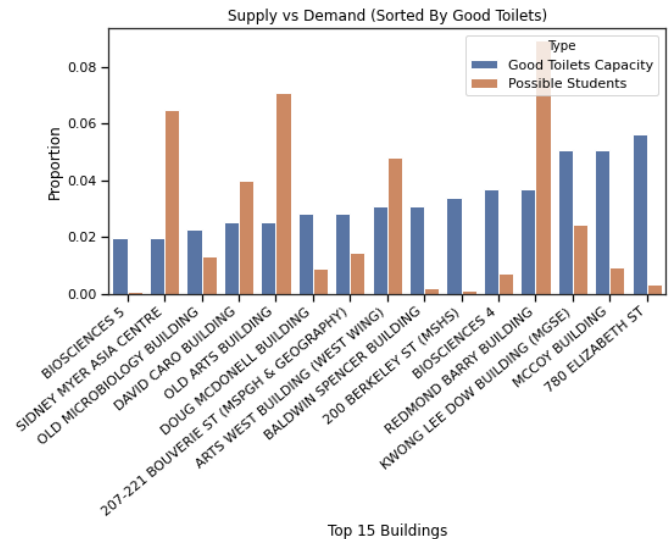
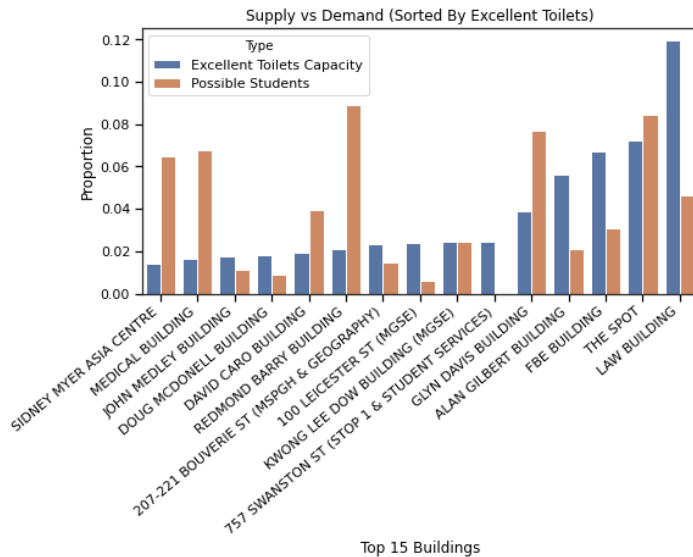




- Below chart shows a supply demand interpretation in terms of proportion of possible excellent and good toilets capacity as supply and possible students that can attend classes in these buildings throughout the year as demand.

How it can be interpreted?

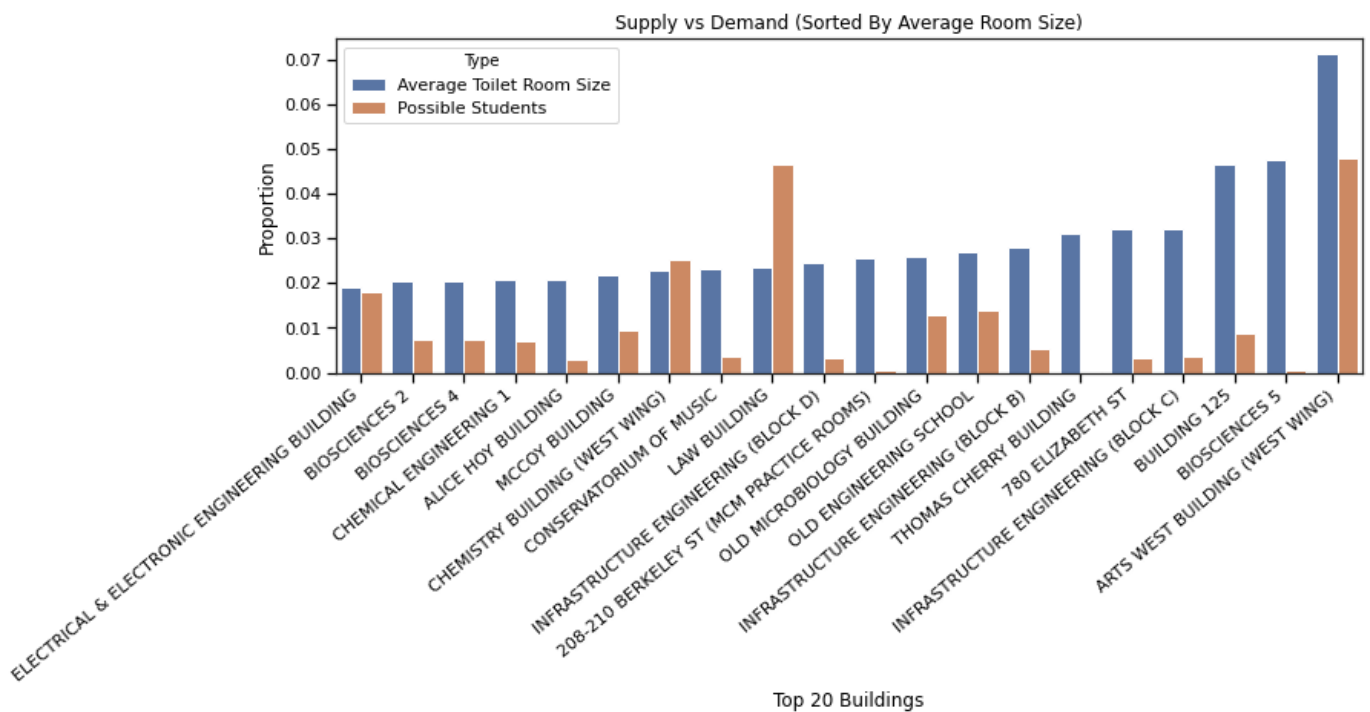
- We can see that highest proportion of excellent toilets with high capacity is available in the law building whereas there is just 4% of the possible students that attend classes in this building.
- Similarly, we can interpret it for good toilets.



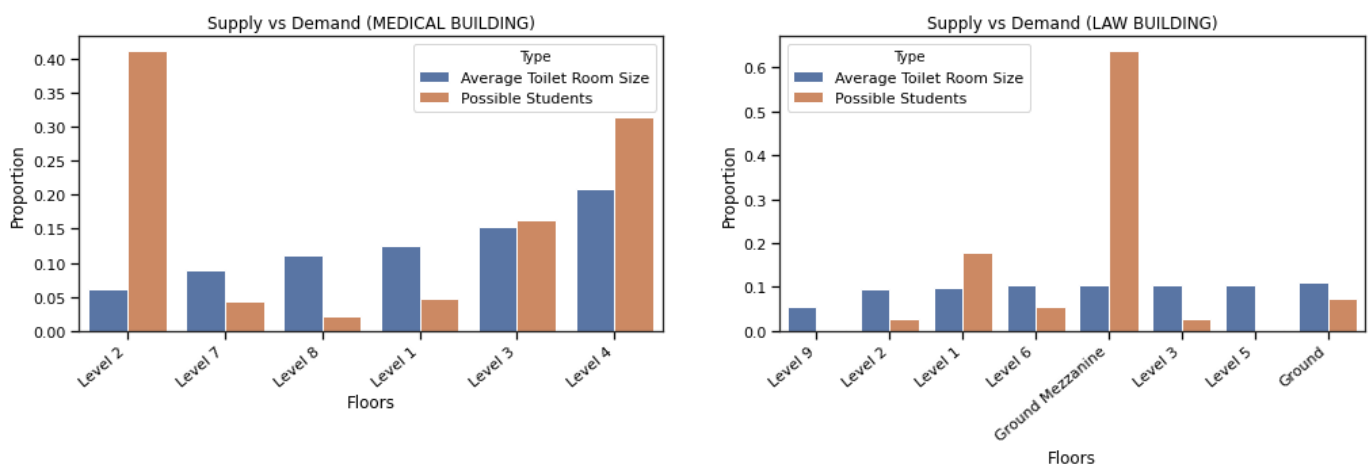
#### ▼ 4. Accessibility of toilets with respect to their **room size**?

- Below chart shows a supply demand interpretation in terms of proportion of average toilet room size as supply and possible students that can attend classes in these buildings throughout the year as demand.

This chart can be interpreted similar to previous charts.



- Below chart shows a supply demand interpretation in terms of proportion of average toilet room size as supply and possible students that can attend classes in these buildings throughout the year as demand with respect to different floors.



## ▼ 5. Supply of toilet facilities with respect to **class duration**?

- Below chart shows a supply demand interpretation in terms of proportion of possible toilet capacity as supply and average class duration in these buildings throughout the year as demand.
- Classes of long duration are generally being held at old physics building so there is a high chance that students might want to use toilet facilities. But, there is just 1% of toilet capacity available in this building which shows a possible sign of optimization in terms of supply and demand.

