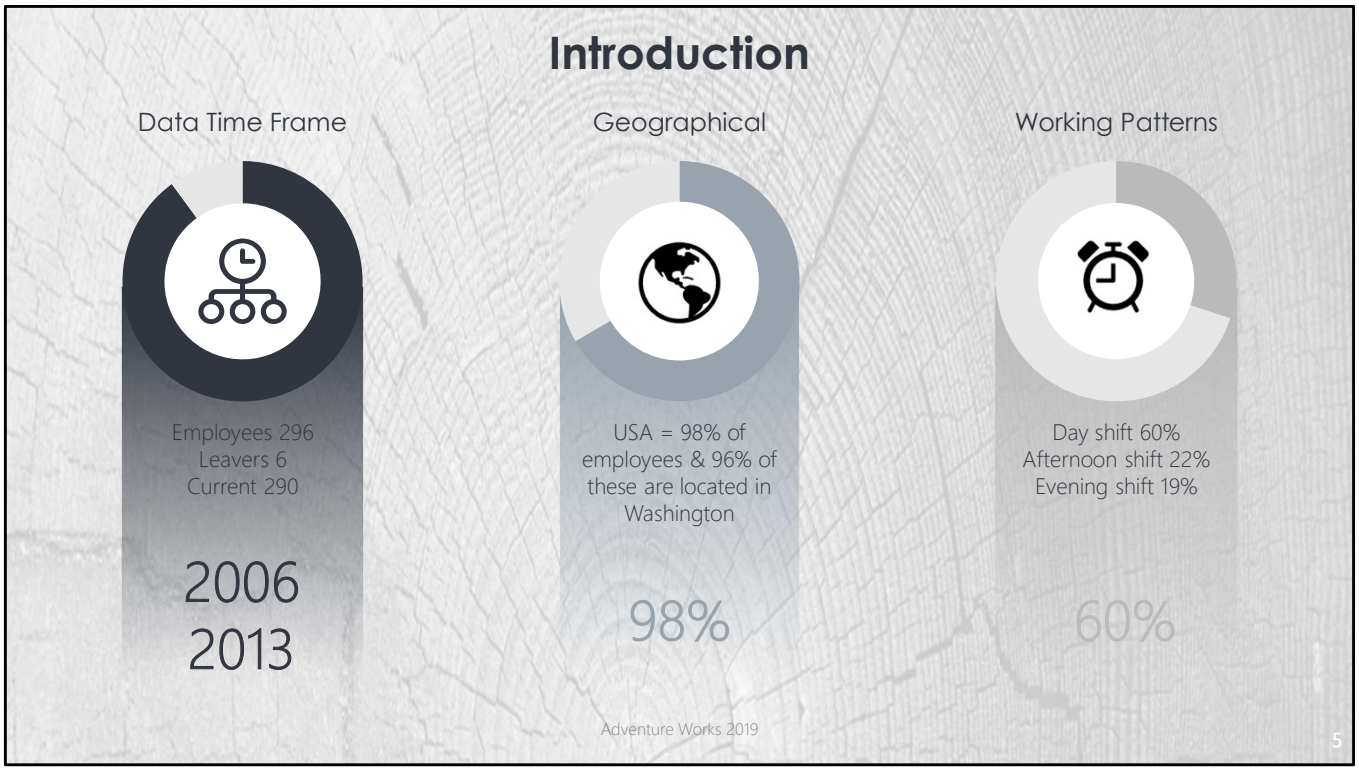
This presentation forms part of a comprehensive analysis demonstrating the process of data cleansing, grouping, and transformation using SQL. Additionally, it showcases how Python was employed to structure, analyse, and summarize key findings, ensuring meaningful insights derived from the dataset.

(please note that the text in bold are my speaker notes & additional info)

Q. What is the relationship between sick leave and Job Title?

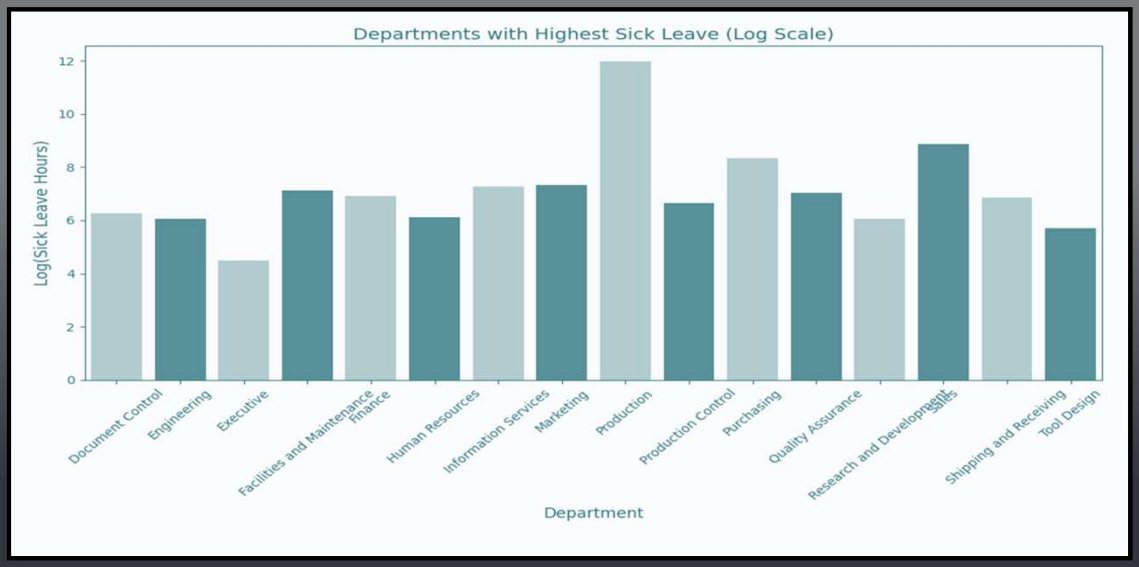
a) Company Outline
b) Sick Leave By Departments
c) Sick Leave By Gender
d) Sick Leave By Working Patterns
e) Sick Leave By Location
f) Sick Leave By Scrappage
g) Conclusion
h) Recommendations

The next couple of minutes we will review the following relationship between sick leave and job title



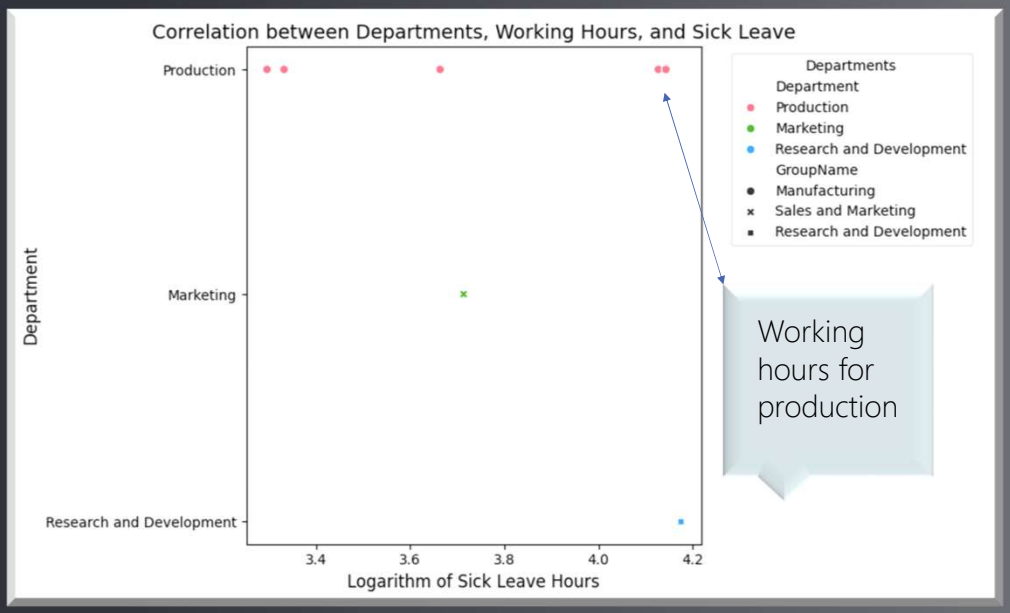
The data covers a time frame from 2006 & 2013 therefore the issues is not resolving overtime.
Any solution will mainly affect staff based in Washington that work during the day
It is assumed that properties of "Available sick leave" is based on historical data for the dept and continuing trends.

(b) Sick Leave By Department



- **This chart compares departments to sick leave**
- **Production has the highest sick leave hours.**

(b) Sick Leave By Department



The image is a bar chart titled "Sick Leave by Working Hours" **and shows the correlation between departments, working hours, and sick leave hours.**

Here's a summary:

•Departments: The x-axis lists various departments, including Production, Marketing, Human Resources, Manufacturing, Sales and Marketing, and Research and Development.

•Logarithm of Sick Leave Hours: The y-axis represents the logarithm of sick leave hours.

Key Observations:

•Production: This department shows the highest sick leave hours.

•Marketing and Human Resources: These departments also have significant sick leave hours, though less than Production.

•Manufacturing, Sales and Marketing, and Research and Development: These departments have lower sick leave hours compared to the others.

(c) Sick Leave By Gender

Key Insights:

Gender Differences:

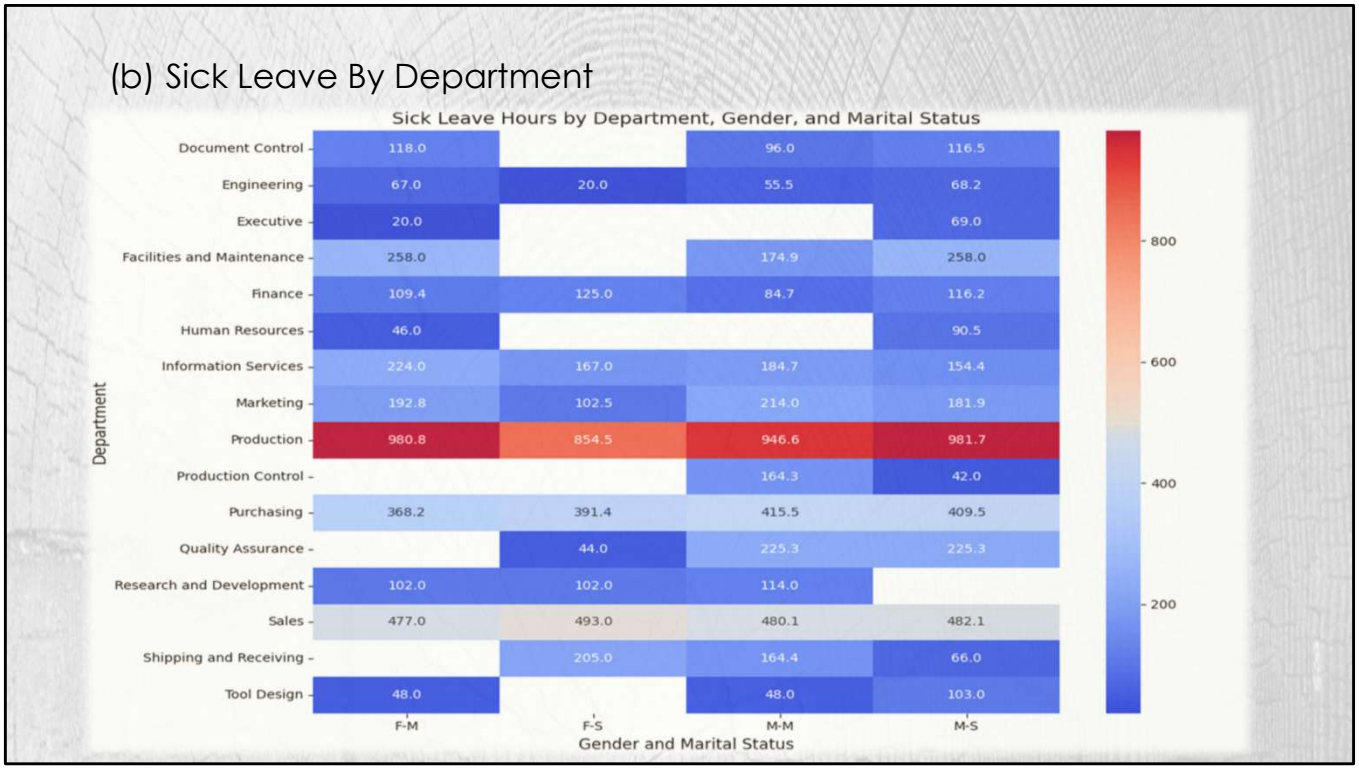
On average it appears

Among **married individuals**, females take about **225 hours**, while males take closer to **230 hours**.

Among **single individuals**, females take around **250 hours**, whereas males take approximately **225 hours**

Company wide changes should target both sexes as the bracket in differences is a marginal diff of 20 hours

(b) Sick Leave By Department



We can further break this down in a heat map:

Looking at departments, gender and marital status.

key insights are:

- **Production department shows the highest sick leave**
- **With single males being the main contributor**
- **Followed by married females**

(c) Sick Leave By Gender

Sick Leave Hours	Married		Married Total	Single		Single Total	Grand Total
Organisation Level	Female	Male		Female	Male		
CEO					69	69	69
1	20		20	72	117	189	209
2	258	381	639	199	386	585	1,224
3	366	1,085	1,451	506	1,131	1,637	3,088
4	**1,520**	**2,796**	**4,316**	**903**	**3,330**	**4,233**	**8,549**
Total	**2,164**	**4,262**	**6,426**	**1,680**	**5,033**	**6,713**	**13,139**

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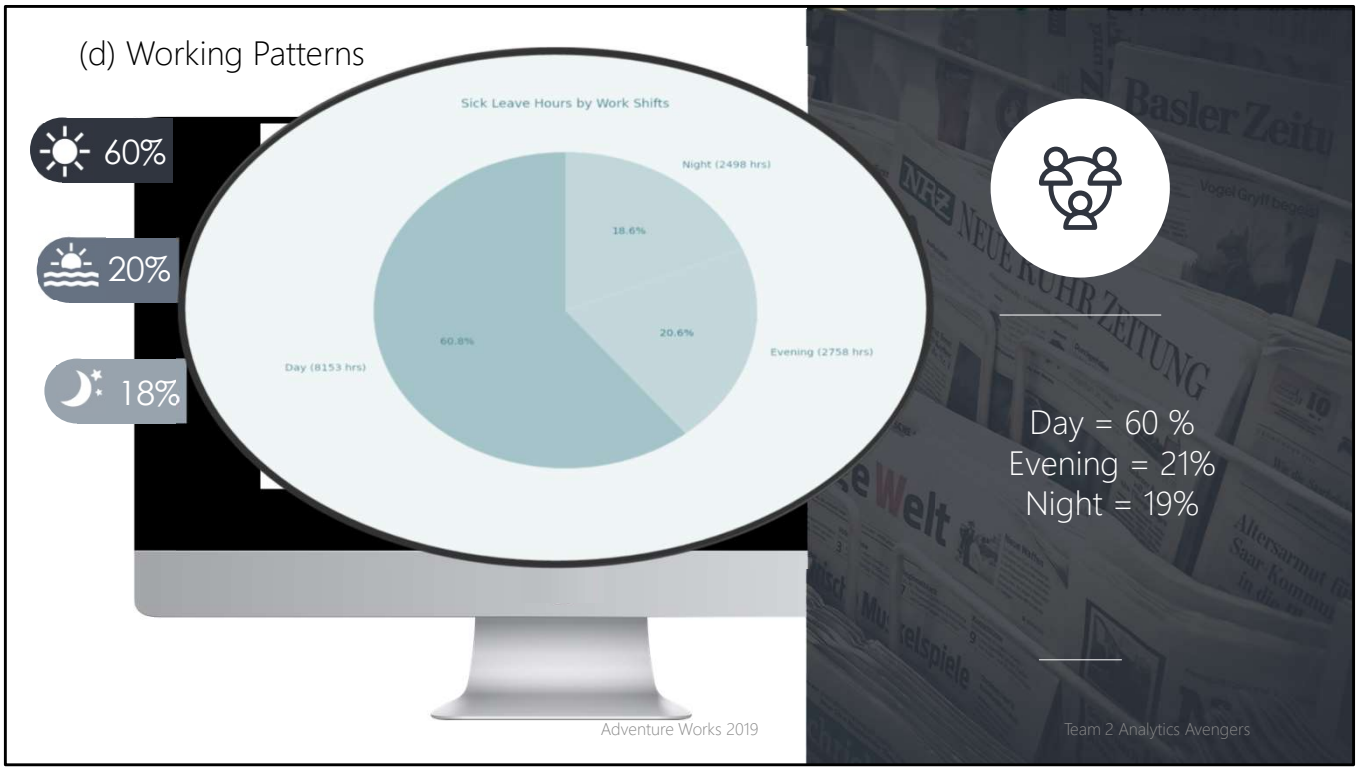
As a company, When looking organisation level.

Married employees contribute more to sick leave

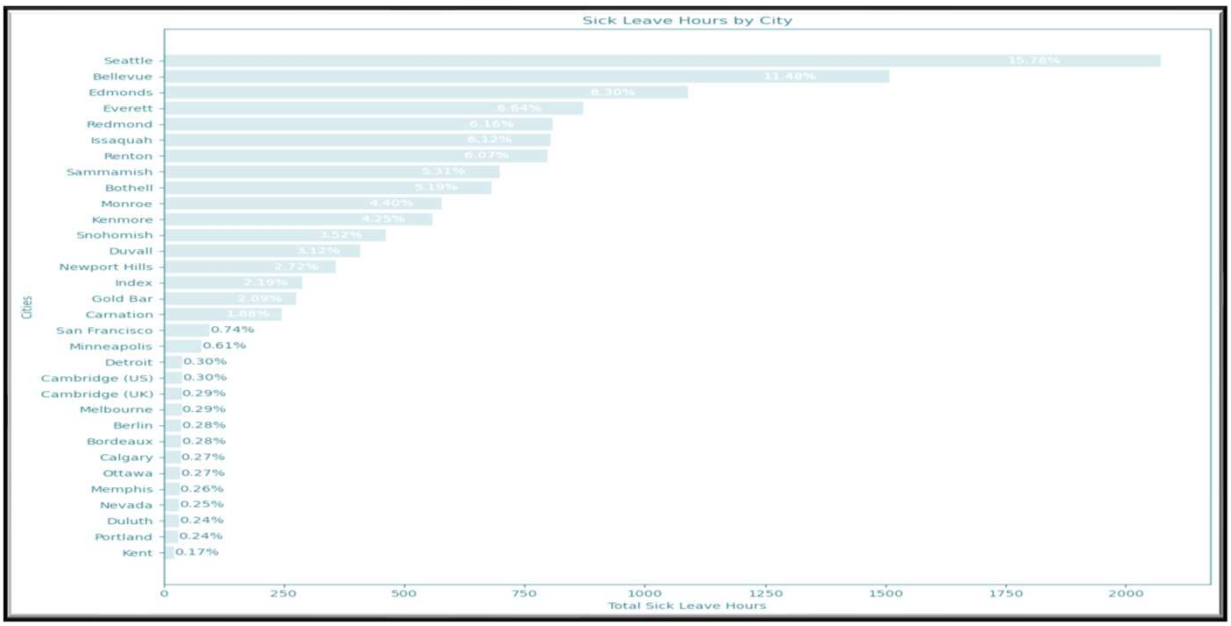
With males being the main focus - at lower level- of the organisation



This pie graph shows the relationship between working patterns and sick leave

Showing Day shift contribute 60% of sick leave

(e) Sick Leave By Location



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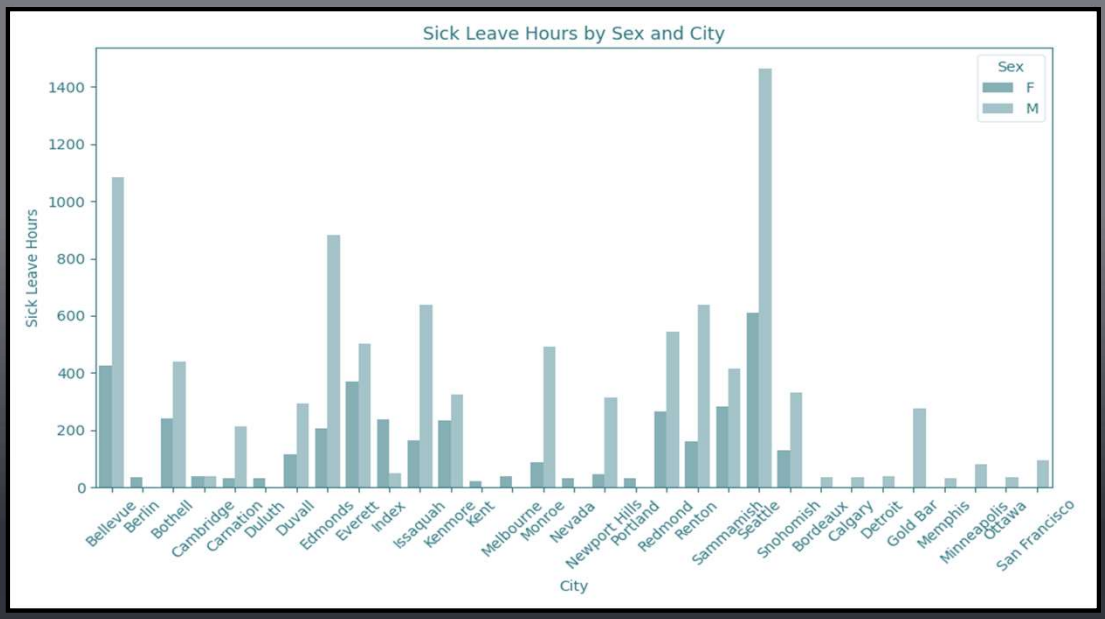
Next, looking at location by sick leave we can see the top 3 contribute 36% of sick leave tackling issues here would have at these sites would have a significant impact

1.Seattle: Highest sick leave hours at 16%

2.Edmonds: Second highest at12%

3.Bellevue: Third highest at 8%

(e) Sick Leave By Location



Next, is sick leave by location

top 3 contribute 36% of sick leave

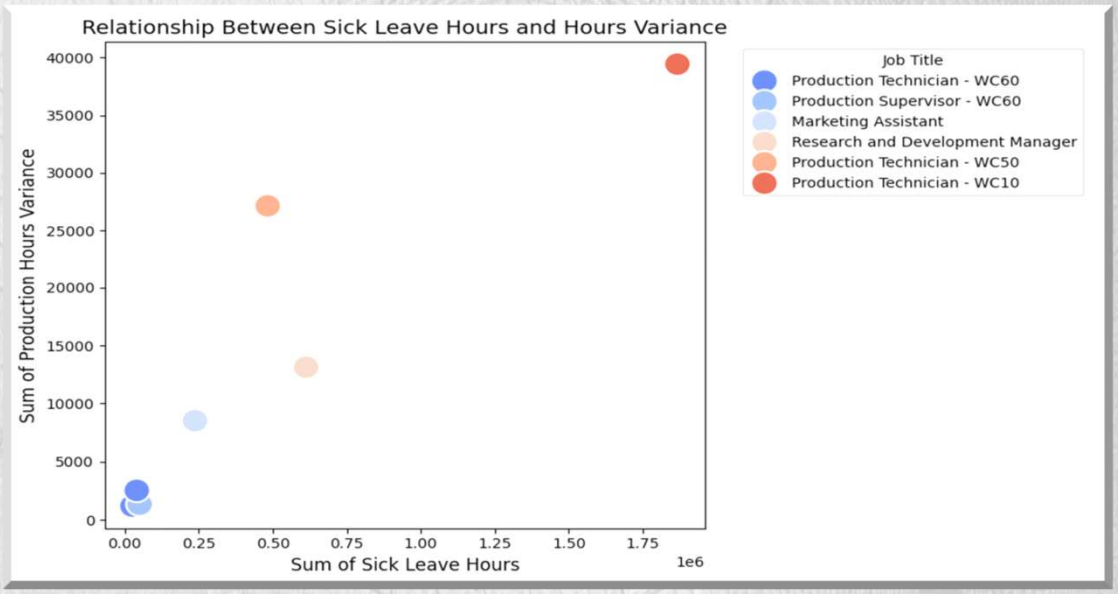
tackling issues at these site would have a significant impact

1.Seattle: at 16%

2.Edmonds: at12%

3.Bellevue: at 8%

(f) Sick Leave By Scrappage



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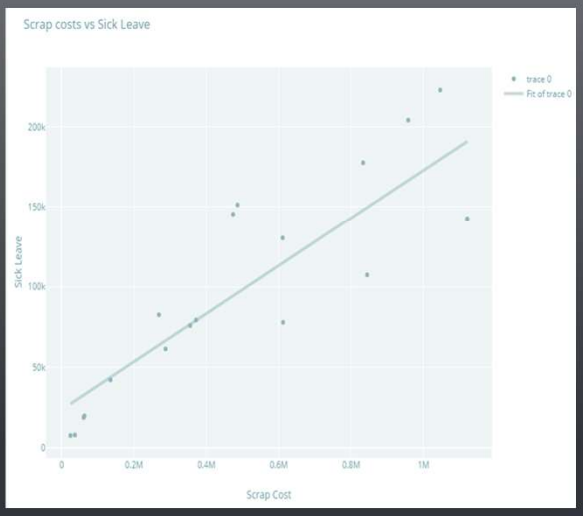
Data here shows the correlation between schedule and actual production variance times

The data shows that sick leave increases when staff are pushed to finish ahead of scheduled start times.

When staff work within schedule time frames the sick leave hours drop rapidly.

Further investigation is required around staff shortages, product demand and management style

(f) Sick Leave By Scrappage



Adventure Works 2019 Team 2 Analytics Avengers

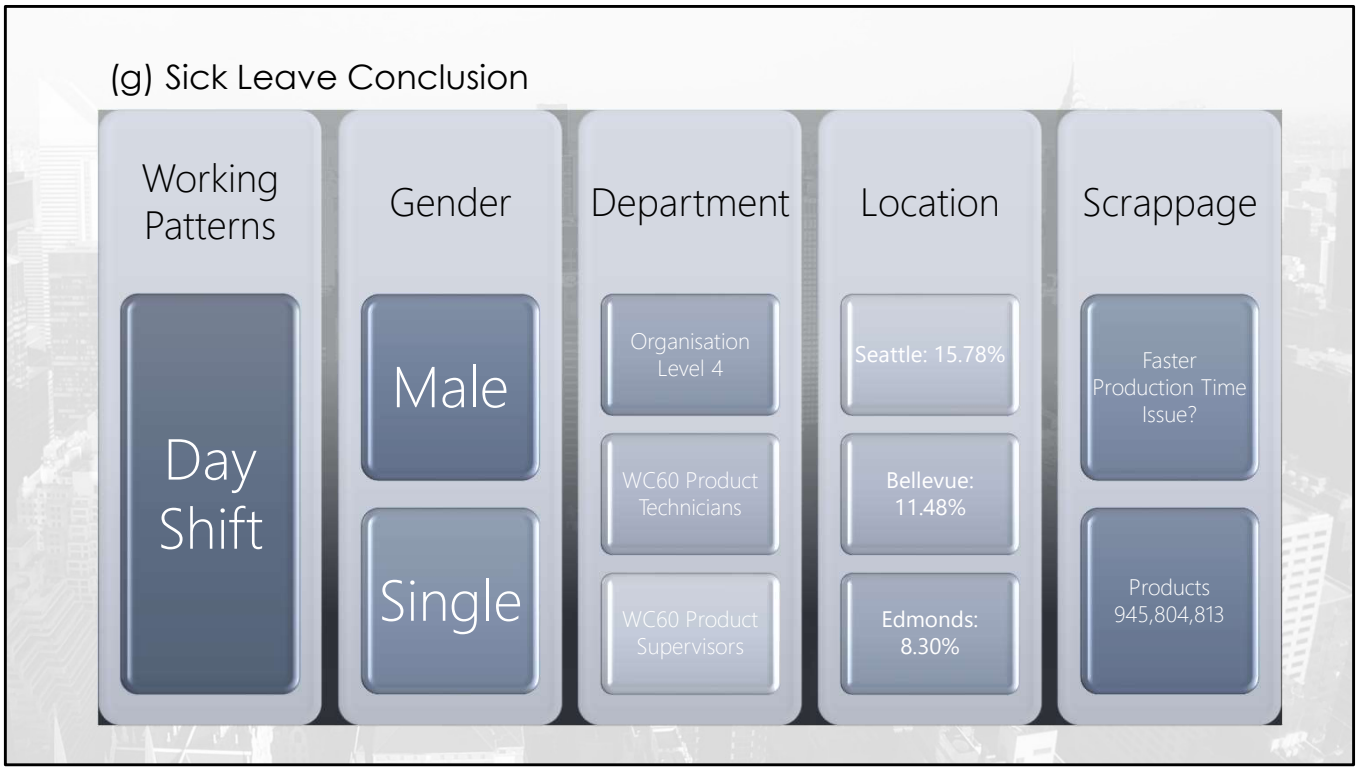
Here we look to see what could be causing the issue in manufacturing

This chart shows the 86% correlation between scrap level and sick leave

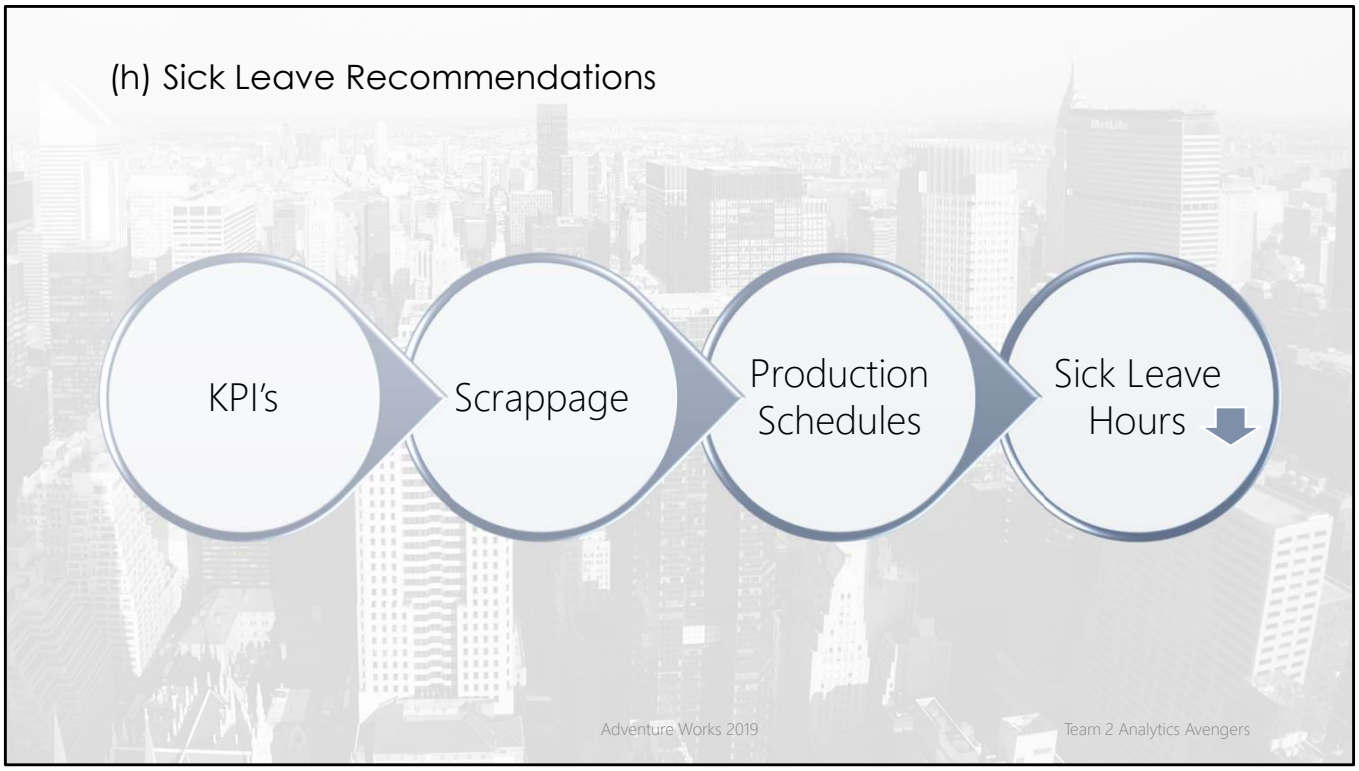
Product 813 closely aligns with high scrap levels

This might hint work force issues

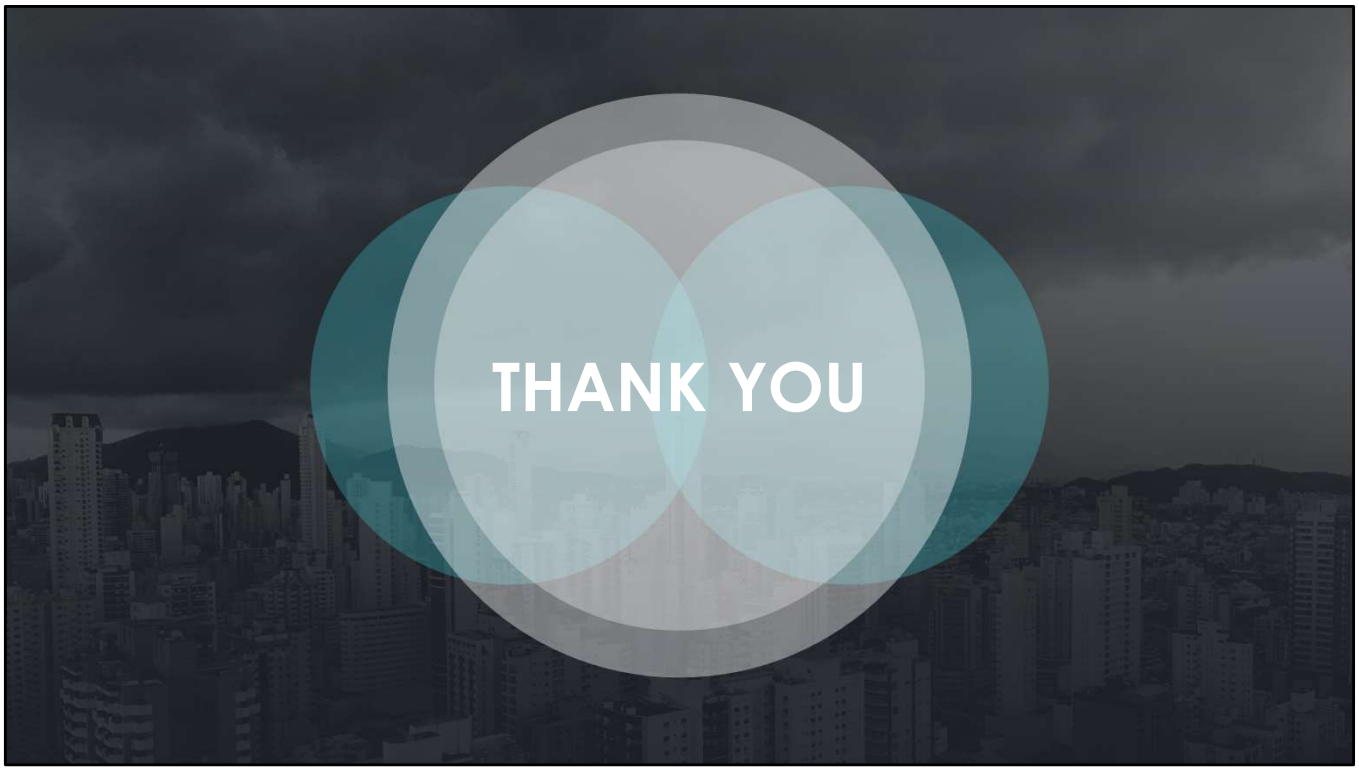
High Scrap costs could signify production issues which might place strain on workers, leading to more sick leave.



To recap areas of interest for HR to investigate
Are:
Manufacturing at Seattle, Bellevue and Edmonds
On production lines of 945,804,813



Setting KPIs
In scrappage and production schedules should impact sick leave hours.
Issues can be addressed with wellness programs, workload management, and flexible work hours, to improve employee well-being and productivity.
Let's take a proactive steps to create a healthier and more efficient workplace.
I will now hand you over to ..


THANK YOU