Assignment-5

1. For releases R2 and R4, the project manager increased the number of reviewers from 4 to 5 for every review task. Do you think that had a positive, negative, or no impact on the overall defect removal effectiveness process? Explain your answer in detail (present data to support your answer).

- For Releases R2 and R4, the project manager has increased the number of reviewers from 4 to 5 for every review task. I got the DRE score of 98.214286 for R2 and 98.625798 for R4. Adding additional reviewer will definitely help in detecting and removing the errors. The workload for R2 is 25KLOC and R4 is 15KLOC. Positive impact is seen here as R4 as the amount of time is same for lesser workload compared to R2.

```
Overall_DRE_R2 = (1 - (matrix_of_defects_origination_detection_phases_R2["Detected"][7] / matrix_of_defects_originat
Overall_DRE_R2
```

```
Detected    98.214286
dtype: float64
```

```
Overall_DRE_R4 = (1 - (matrix_of_defects_origination_detection_phases_R4["Detected"][7] / matrix_of_defects_originat
Overall_DRE_R4
```

```
Detected    98.625793
dtype: float64
```

2. For releases R3 and R5, the project manager increased the duration of every development task by 10%, in essence, giving the developer of every artifact more time to create the artifact. Do you think that had a positive, negative, or no impact on the overall defect removal effectiveness process? Explain your answer in detail (present data to support your answer).

- For Release R3 and R5, when project manager increased the duration of every development task by 10%, it gives the developer additional working time to complete the given task. The DRE value for R3 is 95.916594 and R5 is 99.222601. This shows the greater effectiveness for Release R5. Hence, positive impact is seen on the overall defect removal effectiveness process.

```
Overall_DRE_R3 = (1 - (matrix_of_defects_origination_detection_phases_R3["Detected"][7] / matrix_of_defects_originat
Overall_DRE_R3
```

```
Detected    95.916594
dtype: float64
```

```
Overall_DRE_R5 = (1 - (matrix_of_defects_origination_detection_phases_R5["Detected"][7] / matrix_of_defects_originat
Overall_DRE_R5
```

```
Detected    99.222601
dtype: float64
```

3. **Which approach worked better for the project manager to improve the quality of the product and defect removal effectiveness: adding more reviewers to the review tasks in releases R2 and R4 or extending the duration of the artifact development in releases R3 and R5? Explain your answer in detail (present data to support your answer).**

- In this case, the addition of one more reviewer is a better approach for the project manager to improve the quality of the product and the defect removal effectiveness. Adding extra reviewer will help in detecting the errors quickly and the average DRE score for that is 98.420042. Whereas, increasing the duration of every task by 10% has an average DRE of 97.5695975.