



Concordia University

SOEN 6411

SOFTWARE MEASUREMENT

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Question 1.) Does fixing a bug introduce more bugs or reduces it? This question will answer the stability of the system.

Outcome measure: After a change (fixing a bug) there should not be any triggering effect on any part of the code which may introduce more defects.

Direct measures:

1. Consistently the same file is being modified as part of different issues. Which can be derived by analyzing the review logs.
2. Historical records of bugs on a module level.

Confounds:

1. The file houses one of the core/important functionality.
2. The file contains complex code that causes more frequent changes.

Hypothesis: Changing a file frequently increase the number of bugs and make the system unstable.

Question 2.) Are number of defects and their resolution affecting quality and customer satisfaction?

Outcome measure: As a project manager of Chromium, it is important for us to understand whether providing faster resolution of defects/minimum defect age will improve quality and customer satisfaction.

Direct measures: Number of defects in the System.

Confounds:

1. Time to resolve defects: This is directly proportional to the waiting time for the customers to get the resolution. Long waiting time causes dissatisfaction to the customers.
2. Priority of the defect (Critical, Major, Minor): Since all defects are not equally important, this determines whether solving it will be beneficial to the customer or not.

Hypothesis: We suspect that an increase in number of defects/defect age will deteriorate quality and customer satisfaction. We will test the hypothesis that decreasing the number of defects/defect age* will increase quality and improve customer satisfaction.

*defect age: Difference between the time when the defect is reported and the time when its resolution is provided.



Question 3.) Does code review take more time than expected causing delay in future milestones?

Outcome measure: The time spent on code reviews for each bug.

Direct measures:

1. The time difference between the review time and total bug fix time.

Confounds:

1. Reviewer is not assigned.
2. Previously raised issues are blocking the code review process.

Hypothesis:

Delay in code review hinders the future milestones/releases.