

## 1. RQ2

### 1.1 Hypotheses for RQ2

Hypotheses  $H_{er0}$  and  $H_{er1}$  corresponds two hypothesis that are related to hypothesis  $H_{e0}$  and  $H_{e1}$ . In each of these hypotheses,  $x$  corresponds each of the five context switches namely component, file, namespace, project, and state. The subscript 'zero' corresponds to the null hypothesis, whereas the subscript 'one' correspond to the alternative hypothesis.

- –  $H_{a0}$ : For context switch  $x$ , the difference between the mean amount of context switches made by programmers while being less productive and highly productive is less than or equal to zero.
- $H_{a1}$ : For context switch  $x$ , the difference between the mean amount of context switches made by programmers while being less productive and highly productive is greater than zero.
- –  $H_{b0}$ : For context switch  $x$ , the difference between the mean time interval of context switches made by programmers while being less productive and highly productive, is greater than or equal to zero.
- $H_{b1}$ : For context switch  $x$ , the difference between the mean time interval of context switches made by programmers while being less productive and highly productive, is less than zero.
- –  $H_{c0}$ : For context switch  $x$ , the difference between the mean amount of artifacts and states while remaining less and highly productive is less than or equal to zero.
- $H_{c1}$ : For context switch  $x$ , the difference between the mean amount of artifacts and states while remaining less and highly productive is greater than zero.
- –  $H_{d0}$ : For context switch  $x$ , the difference between the mean amount of context switches made by programmers while being highly productive and low productive is less than or equal to zero.
- $H_{d1}$ : For context switch  $x$ , the difference between the mean amount of context switches made by programmers while being highly productive and low productive is greater than zero.
- –  $H_{e0}$ : For context switch  $x$ , the difference between the mean time interval of context switches made by programmers while being highly productive and less productive, is greater than or equal to zero.
- $H_{e1}$ : For context switch  $x$ , the difference between the mean time interval of context switches made by programmers while being highly productive and less productive, is less than or equal to zero.
- –  $H_{f0}$ : For context switch  $x$ , the difference between the mean amount of artifacts and states while remaining highly and less productive is less than or equal to zero.
- $H_{f1}$ : For context switch  $x$ , the difference between the mean amount of artifacts and states while remaining highly and less productive is greater than zero.
- –  $H_{er0}$ : For context switch  $x$ , the difference between the mean time interval of context switches made by programmers while being highly productive and less productive, is less than or equal to zero.
- $H_{er1}$ : For context switch  $x$ , the difference between the mean time interval of context switches made by programmers while being highly productive and less productive, is greater than zero.