* performed univariate binary logistic regression (UBLR) of metrics versus faults (Section 4.3.1) to determine which variables (OO class metrics) were statistically significant quality indicators.
* Next, we performed a collinearity analysis (Section 4.3.2) to determine which variables to include in the multivariate binary logistic regression (MBLR) models.
* Finally, we developed the models (Section 4.3.2).
* if the class had one or more faults, we classified it as fault-prone (fault-prone = 1); otherwise, it was classified as fault-free (fault-prone = 0).
* developed MBLR models with Rhino version *n* data
* validated them with Rhino version *n + 1* data,
* To control for size, we examined model performance separately using all classes, small classes (simple WMC≤10), and large classes (simple WMC>10).

**Hypothesis 1**

OO metrics can identify fault-prone classes in traditional and highly iterative or agile developed OO software during its initial delivery (initial quality).

**Hypothesis 2**

OO metrics can identify fault-prone classes in multiple, sequential releases of OO software systems developed using highly iterative or agile software development processes.

 We used the Spearman Rank correlation in our analysis due to the nonparametric nature of the OO class metrics in this study.

Our correlation study results indicate CK-WMC correlates more strongly with *CK-RFC*, *CK-CBO*, and *CK-LCOM* than in previous studies. In our study, DIT had minor to moderate correlation with *CK-RFC*, *CK-CBO*, or *CK-LCOM*, whereas some previous studies showed a small degree of correlation. Rhino's *CK-RFC* metric correlated more strongly with *CK-CBO* and *CK-LCOM* than occurred in previous studies. The primary differences between this study and previous studies were *CK-NOC* in this study had either no correlation or minor correlation with *CK-CBO* (previous studies showed no correlation) and *CK-CBO* had a moderate to large correlation with *CK-LCOM* (previous studies showed a small or no correlation).

https://ieeexplore.ieee.org/abstract/document/4181709

http://www.theijes.com/papers/v5-i6/C05014019.pdf (BAD SMELLS)

