Given the emerging state of the iSBSE field, there appears to be a general lack of readily agreed and available benchmark case studies and standards. Considering the presence of human interaction with search, statistical analysis is appropriate, although it is recognized that this might be difficult if the sample size (in terms of number of participants and problem instances) is small. To address this, we note that Arcuri and Briand offer a helpful guide to statistical tests for assessing randomized algorithms in software engineering [47], and Neumann et al. suggest a useful executable experimental template pattern for the systematic comparison of metaheuristics [72].

1 - Run the solution on Mechanical Turk. (Build a benchmark/standard with big data from humans)

2 - Do appropriate testing of the randomized algorithm (Oracle - Arcuri and Briand).

3 - Follow a standard template for the comparison of different metaheuristics. (Weighting scheme and decision process within selected cluster of solutions – Neumann et al.)

The lack of iSBSE studies in the areas of source code implementation and project management would seem to indicate a gap in the field.

1 – There are no studies on iSBSE on project management automation. Or the selection of project management rule template.

In addition, we speculate that incorporating expert knowledge into search in iSBSE represents a gap in the field. As is typical in metaheuristic search, sources in the review initialize populations of solution individuals either at random or according to domainspecific heuristics. However, the reuse of expert knowledge (e.g., patterns, benchmarks etc.) to initialize populations might offer possibilities.

1 – Use the acquired knowledge (during search) to insert soft crosstree constraints to redefine the search space.

2 – Use previously known knowledge from the area to pre-insert some soft crosstree constraints.