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Towards Continuous Systematic Literature Review in Software Engineering

CASE STUDY RESULTS
APPLICATION OF THE 3PDF FRAMEWORK [1]

Step 1.a Does the published SLR still address a current question?
Yes. Effort estimation in software projects is still an open challenge in SE. Researchers are still addressing the investigation of using cross-company versus within-company data. Nevertheless, the combination of both types of data to estimate effort has been explored too.

Step 1.b Has the SLR had good access or use?
Yes. The original SLR has over 428 citations where more than half of these citations (234) were after 2014. In 2021 the SLR received 32 citations. In addition, the SLR Update has received 25 citations since its publication in 2014, and six of them are over the last year.

Step 1.c Has the SLR used valid methods and was well-conducted?
Yes. The SLR, SLR-Update, and both replication used were well-conducted using valid methods and published in SE in renowned venues. Besides, the original SLR made available its protocol in an external file where all the performed steps were detailed, and the update counted the participation of an author of the original SLR.

Step 2.a Are there any new relevant methods?
Yes. A new SLR update can be performed by adopting the guidelines for search strategy to update SLRs in SE presented in [2] as well as following our proposed CSLR process (which includes the search strategy proposed in [2]).

Step 2.b Are there any new studies or new information?
Yes. We identified five new potential studies to be added in a new SLR update. In addition, we identified five other studies that can add change to the research direction on the SLR topic.

Step 3.a Will the adoption of new methods change the findings, conclusions or credibility?
No. We based our decision for this question on the inclusion of new methods in the SLR-Update and both replications that resulted in no changes in the studies' findings.

Step 3.b Will the inclusion of new studies/information/data change findings, conclusions or credibility?
Maybe. As mentioned by Mendes et al [1] it is a challenge to answer since it requires preliminary searches to evaluate the risk of performing an update. Observing the potential five included studies and the five other studies that could address a new research direction for a new update, there is a considerable probability of changing the SLR findings.

[1] E. Mendes, C. Wohlin, K. Felizardo, and M. Kalinowski, "When to update systematic literature reviews in software engineering," Journal of Systems and Software, vol. 167, pp. 110–167, 2020.
[2] C. Wohlin, E. Mendes, K. R. Felizardo, and M. Kalinowski, "Guidelines for the search strategy to update systematic literature reviews in software engineering," Information and Software Technology, vol. 127, 2020.