

The following is a description of the five categories that group the 11 criteria defined:

- **Clarity:** this criterion made it possible to evaluate the level of study relationship with respect to the research domain of interest. Similarly, to identify whether the studies expressed a clear definition and solution to address the research domain of interest. Criteria 1, 4 and 5.
- **Quality:** this criterion made it possible to evaluate the clarity of the problem addressed by the study. Criterion 2.
- **Credibility:** this criterion made it possible to assess that the study methods used guarantee that the results and findings are significant, valid and effective. Likewise, limitations of the research process carried out, as well as the analyses and results obtained, are clearly discussed. Criteria 6 and 8.
- **Relevance:** criterion that made it possible to assess the value, importance and contribution of the study in the industry and/or academia. For this criterion, the criterion of relevance proposed by [14] was taken; academic relevance can be evaluated through the publication of articles and citations obtained through other researchers, and industry, through the application of the proposed solutions in the industrial context. Criteria 7, 9, 10 and 11.
- **Rigor:** This criterion made it possible to evaluate the characteristics of the research methods applied in the studies, and which make it possible to declare the validity of the data collection tools and instruments and the methods of analysis used, and consequently; the reliability of the results/findings. Criterion 3.

Table. Quality Assessment Criteria used in Primary Studies.

No.	Assessment Criteria	Answers Score		
		+1	0	-1
1	The study focuses on researching the debt phenomenon and bad smells in requirements in the software development context. Clarity.	Yes	Partially	No
2	The study presents a clear description of the research problem addressed. Clarity.	Yes	Partially	No
3	The study follows a structured, well-founded, appropriate research process in accordance with the proposed objectives. Rigor.	Yes	Partially	No
4	The study provides a clear definition of the debt and bad smells requirements. Clarity.	Yes	Partially	No

5	The study proposes a way to assess debt and bad smells requirements on software development. Clarity.	Yes	Partially	No
6	The study clearly exposes in detail the results obtained after validating its proposal. Credibility.	Yes	Partially	No
7	The study clearly presents the research contributions towards industry and/or academy. Relevance.	Yes	Partially	No
8	The study clearly describes the discussion of the research process limitations made and the results analysis. Credibility.	Yes	Partially	No
9	The study clearly describes future works or research alternatives. Relevance.	Yes	Partially	No
10	The study has been published in a relevant journal, conferences or congress. The quartile classification proposed by Scimago [15] was used to classify journals and the Computing Research & Education (CORE) [16] ranking for conferences and congresses. Relevance.	Highly relevant (quartile Q1 for journals and A* for congresses and conferences)	Relevant (quartiles Q2 and Q3 for journals and A or B for congresses and conferences)	Not relevant (quartile Q4 for journals and C or not ranked for congresses and conferences)
11	The study has been cited by other authors (according to Google Scholar index). Relevance.	It has been cited by more than ten authors.	Between one and ten authors.	It has not been cited so far.

Abbreviation: Criterion number (No.).