TOWARDS A MATURITY MODEL FOR SYSTEMATIC LITERATURE REVIEW PROCESS

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ABSTRACT

Background: Systematic literature review (SLR) has been widely adopted to synthesize evidence in a reliable and unbiased manner. The process of conducting SLR is rigorous and well-known; however, most SLR have not followed this process systematically, leading to various problems, including poor documentation, lack of quality, and difficulty to be reproduced. These problems are added to the inherent difficulties in conducting SLR, especially regarding effort and time consumption. Several practices (including methods, techniques, and tools) have already been experimented with to mitigate such problems. Still, it is unclear which practices should be prioritized to reduce such problems and difficulties.

Aims: The main goal of this paper is to contribute to improving the SLR process being adopted by the community. For that, we introduce the idea of the Maturity Model for SLR process (MM4SLR).

Method: We systematically examined the literature searching for practices destined to support or improve the SLR process. After collecting 84 practices, we analyzed, grouped, and synthesized them into 46 key practices further distributed into 15 specific goals. Inspired by the maturity model for software development process, we also propose five process areas and an initial version of MM4SLR containing four maturity levels.

Results: MM4SLR provides a new view on those practices that could be progressively adopted to improve the SLR process. MM4SLR could define a pragmatic pathway that guides the adoption of those practices, which better fit the reality of who conducts SLR.

Conclusion: The SLR process is very complex and should be more investigated. We argue that ways to better select and adopt the various existing practices are necessary. We conclude that a long research agenda to be fulfilled addressing the SLR process still exists.

Keywords: Secondary Studies · Systematic Literature Review · Maturity Model

1 Introduction

The Software Engineering (SE) community has adopted Systematic Literature Review (SLR) over the last years [20] because it is a reliable way to summarize evidence from primary studies and support researchers in outlining the state of the art of a given research topic [16]. SLR provides important benefits, such as the possibility of dealing with information from different studies in an unbiased manner [14][22], production of auditable and repeatable results [15][5], and the opportunity to identify research gaps and also perspectives for future investigations [16].

At the same time, although SLR has a systematic process to be followed, some SLR have neglected the rigorous application of this process leading to several problems, e.g., poor documentation [29][5], poor quality [17], lack of repeatability [15], bias in studies selection, data extraction, and summarization [2], and poor coverage and lack of generalization of results [12]. These problems also lead researchers to doubt the rigor of the process and the reliability of results. Consequently, they often need to re-conduct some activities (e.g., studies selection, data extraction, data
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synthesis) when they repeat/update an SLR or even start an SLR over from scratch. This scenario reveals that despite SLR having a well-defined process, the applied process indeed may be very immature.

The SE community has discussed over the years the barriers of the SLR process [7], its main threats to validity [2], together with those inherent problems like time- and effort-consuming issues [12]. The problems of SLR resulted in the proposal of several practices (including methods, techniques, and tools) to mitigate them, such as supporting tools for SLR conduction/update [19], semi-automation/automation of SLR tasks [12] (e.g., for selecting primary studies [26]), strategies to support update [21], strategies to create more useful SLR for the industry in a timely manner (e.g., rapid reviews [6]), and different ways to transfer the SLR findings for practitioners (e.g., evidence briefings) [6]. However, researchers have had difficulties to systematically apply these practices during the conduction of their SLR. There is also a lack of a way that supports researchers to organize the application of these practices progressively and achieve a more reliable and mature SLR process. Hence, the main research question addressed in this work is: Is it worth thinking about a maturity model for the SLR process?

The main goal of this work is to contribute to improving the SLR process that has been adopted by the community. More specifically, the goal is to introduce the idea of Maturity Model for SLR process (MM4SLR). This vision paper sheds light on a novel model that could support researchers in identifying and prioritizing those practices that could/should be applied while conducting their SLR.

To achieve our goal and answer the research question, we first performed a literature review focusing on practices proposed to improve the SLR process. After finding 84 practices, we analyzed, grouped, and synthesized them into 46 key practices, which were further distributed into 15 specific goals. Following this, we proposed five process areas organized into four levels, resulting in MM4SLR. It is worth mentioning that we inspired ourselves in the maturity model for the software development process, in particular, CMMI[1][Capability Maturity Model Integration], in which the more mature the process, the higher the quality of the software system [8]. Hence, MM4SLR intends to create a new and pragmatic pathway to improve the SLR process. It could also guide researchers to assess their SLR process, identify feasible practices, and result in high-quality SLR.

The remainder of this paper is organized as follows: Section 2 presents the background and related works; Section 3 presents our research method; Section 4 presents an overview of process areas, specific goals and practices; Section 5 introduces MM4SLR; Section 6 discusses possible uses of MM4SLR, limitations, and future work; and, finally Section 7 presents the final remarks.

2 Background and Related Work

This section presents a brief overview of maturity models for processes, their structure, and associated concepts to be sufficient to understand the rest of our work.

Maturity models started in the software development context aiming to improve the maturity of software processes and, consequently, the quality of software products [25]. The idea of maturity model emerged in the late 1980s when Software Engineering Institute (SEI) released a brief description of a software process maturity framework [23]. Later, SEI also published the first Capability Maturity Model (CMM) designed for software organizations [25]. This model was intensively refactored over time through multiple versions. In the 2000s, the Capability Maturity Model Integration (CMMI) was released combining other maturity models proposed earlier. In 2010, different versions for acquisition, development, and services were released [8]. CMMI Institute has refactored this model and released its latest version in 2018 (CMMI V2.0).

CMMI is a reference model for appraising software process maturity and a normative model for helping software organizations to evolve their processes from ad hoc and chaotic processes to mature and disciplined ones [8]. This evolution occurs gradually and enables practitioners to tackle problems according to their priority and not overwhelm their processes with unfeasible changes. CMMI five maturity levels [25]: (i) Initial - processes are usually ad hoc and chaotic, and the organization does not provide a stable environment to support processes; (ii) Managed - processes are planned, monitored, controlled, reviewed, and evaluated for the adherence to the process descriptions and must be in accordance with organization policies; (iii) Defined - processes are well-characterized, understood, and described in standards, procedures, tools, and methods; (iv) Quantitatively Managed - organization and projects establish quantitative objectives for quality and process performance and use them as criteria to manage their projects; and (v) Optimizing - processes are continuously improved based on a quantitative understanding of business objectives and performance needs.

[1]https://cmmiinstitute.com/
CMMI also defines components and concepts that can guide practitioners to comprehend its structure and apply these concepts to practice. A key component of CMMI is the process area, also known as Key Process Area (KPA) [25]. A process area is a cluster of related practices that, when implemented collectively, satisfies a set of goals considered necessary for improvement in that area. Another important component is the specific goal that refers to unique characteristics that must be addressed to satisfy that process area. These goals are satisfied through the execution of specific practices.

Together with CMMI, international standards, such as ISO/IEC 12207[2] and ISO/IEC 15504-1 [3] have also contributed to support organizations to go towards more mature processes. Inspired by CMMI and these standards, maturity models have gone beyond software development as an attractive means in multiple areas that need tools to make their process more mature [27]. For example, Crawford [9] presents a maturity model for project management, Lee et al. [18] proposes a maturity model for business processes, and Shen et al. [24] presents a maturity model to assess the carbon emission in cities. Like CMMI, all these models are staged and present concepts (such as process areas). Besides, these models have benefited these domains by providing a path for progressively maturing the processes, prioritizing actions to be done, and introducing a cultural change in organizations [9]. Moreover, these models make it possible to analyze the strengths and weaknesses of current processes and develop strategies to achieve objectives [18]. These models also provide means to evaluate which process areas need more attention and make effective decisions [24]. In particular, CMM can provide significant gains in productivity and quality [25].

Similar to software development and other domains, SLR also have a process that is complex, has many activities, involves different stakeholders, and should produce high-quality results. However, this process has not been sometimes adequately performed, impairing the quality of SLR. At the same time, several existing practices could support such a process, but it is unclear which practices should be prioritized to mitigate the existing problems of SLR. This scenario motivated us to conduct this work.

### 3 Research Method

To propose MM4SLR, we performed the four steps presented in Figure 1, which summarizes our research method.

#### Step 1

In Step 1, we selected two tertiary studies [2, 29] that extracted the most common threats to validity of the SLR process and strategies to mitigate them. Ampatzoglou et al. [2] analyzed 165 secondary studies published from 2007 to 2016, and Zhou et al. [29] assessed 316 studies published from 2004 to 2015. We carefully examined the results of both studies and identified 84 practices[4] that could be adopted to mitigate problems/threats to validity in SLR. Next, we analyzed each practice to remove duplication and applied Thematic Analysis [10], which synthesized those practices into the 46 key practices (which will be discussed further in Section 4). In addition, we double-checked these practices by revisiting the guidelines for conducting SLR [14] and those studies that investigate more specific topics, in particular, techniques for better documenting SLR process [11, 5] and updating SLR [28].

#### Step 2

In Step 2, we grouped the 46 key practices aforementioned into 15 specific goals (which will be detailed in Section 4). For this, we put together practices that address the same threat to validity. For example, several practices can be adopted to ensure good coverage of a given SLR (i.e., all relevant primary studies were considered): (i) performing

2ISO/IEC 12207: [https://www.iso.org/standard/63712.html](https://www.iso.org/standard/63712.html)

3ISO/IEC 15504-1: [https://www.iso.org/standard/50519.html](https://www.iso.org/standard/50519.html)

4The list of 84 practices is available on [https://doi.org/10.5281/zenodo.6511347](https://doi.org/10.5281/zenodo.6511347)
pilot studies to calibrate search string \[2,11,29\]; (ii) using snowballing \[2,28\]; (iii) adopting broad search engines (e.g., Scopus, Google Scholar) \[2,11,29\]; and (iv) combining automatic/manual searches \[29\]. Hence, the 15 specific goals represent the critical points in the SLR process that deserve more attention from researchers.

In Step 3, we generated clusters of specific goals that address the same issues, resulting in five process areas (detailed in Section 4). For example, those specific goals associated with the definition of strategies for searching studies were assigned to the process area of Project Planning (PP). Hence, these areas represent broad topics that, when satisfied, could contribute to improving the maturity of the SLR process. It is also worth highlighting we performed Steps 1, 2, and 3 considering evidence from the literature and also our long-term experience researching, conducting, and updating SLR. Finally, in Step 4, we analyzed the process areas and organized them into four levels. For this, we inspired ourselves on CMMI \[25\] to derive the MM4SLR levels. The next section presents an overview of the process areas, respective specific goals, and key practices.

## 4 Process Areas, Goals, and Practices

Table 1 presents the five process areas, 15 specific goals, and 46 key practices.

Process Planning (PP) is the first area and covers the entire SLR planning, which defines how the review will be conducted. SLR planning concerns, for instance, the need for a review, the amount of resources needed (including budget, time, and human resources), and the review protocol. Planning an SLR is critical because decisions at this stage significantly impact the entire process. Due to the importance of this stage and its inherent complexity, it makes sense to define PP as a process area. To accomplish this process area, four specific goals (SG1 to SG4 of PP in Table 1) were defined to ensure research coverage and relevance, create systematic ways to define strategies for searching studies, and reduce the time and effort consumed. Besides, 12 practices exist associated with these goals, such as using additional search (e.g., snowballing), comparing studies selected with gold standards or other secondary studies, or even using independent experts to review the search process. However, it is worth highlighting that PP must go beyond only ensuring that researchers will strictly follow the recommendations. Instead, it must be broader and addresses multiple aspects of the SLR process, such as presenting solutions to improve the relevance and applicability of results for the target audience, techniques for better managing resources, and different strategies for better disseminating results. This means that PP can guide researchers in planning their reviews, avoiding common pitfalls and offering directions to achieve results that impact their target audience positively.

Technical Support (TS) is another process area and refers to the adoption of supporting tools and search engines (of databases) during the conduction and update of SLR. Hence, TS is essential to mitigate several problems such as the high time consumption of SLR. Carver et al. \[7\] highlighted that the most time-consuming tasks are the search for studies in databases, selection of studies, data extraction, and assessment of the quality of studies; these tasks have been major concerns of the SLR community. Several specific tools were proposed to support these tasks (e.g., SLuRp \[4\], SLR-tool \[13\]); nevertheless, the most used tools are still those generic ones (e.g., Excel, references managers) \[1\]. In this sense, current specific tools for SLR can still be considered immature \[19\], and there is a need for international collaboration to enhance and integrate them \[12\]. TS does not aim to recommend specific tools; instead, it states that it is essential to adopt those tools that better fit the researchers’ needs while a more mature process can be achieved. TS has four associated practices that recommend using tools to support the SLR process as a whole.

Results Documentation (RD) is the process area that provides ways to create reliable and complete documentation of the conducted SLR, aiming that SLR results effectively impact the target audience. To create such documentation, three specific goals (SG1 to SG3 of RD) and six associated practices recommend, for instance, documenting in detail the conducted SLR, aiming that SLR results effectively impact the target audience, techniques for better managing resources, and different strategies for better disseminating results. This means that RD can guide researchers in planning their reviews, avoiding common pitfalls and offering directions to achieve results that impact their target audience positively.

Process and Product Quality Assurance (PPQA) groups four specific goals (SG1 to SG4 of PPQA) and several practices focused on improving the SLR quality. In particular, these practices aim to mitigate bias in the SLR process, such as handling inconsistencies, ensuring the validity of results, ensuring the reliability of venues and studies analyzed, and avoiding bias in data extraction. PPQA states that it is necessary to have a systematic and quality-driven way to deal with SLR problems and assures that researchers follow it. Many of these practices can require extra effort, but PPQA can contribute to ensuring the quality of SLR, which is nowadays a recurrent concern of the SE community.
| Process areas (PA)                           | Specific Goals (SG)                                                                 | Key Practices (SP)                                                                 |
|---------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Project planning (PP)                       | SG1 - Ensure that search process adequately identifies all relevant primary studies | SP1.1 - Perform pilot search to train the search string [2, 29, 11]                |
|                                            | SP1.2 - Use snowballing technique [2, 28]                                           | SP1.1 - Use automatic search and manual search [29]                                 |
|                                            | SP2.2 - Discuss and brainstorm among authors to reach possible interpretations of the findings | SP1.2 - Use snowballing technique [2, 28]                                           |
|                                            | SP2.1 - Adopt systematic methods to create search strategy                           | SP1.2 - Discuss and brainstorm among authors to reach possible interpretations of the findings |
|                                            | SP3.1 - Perform a broad search without an initial starting date and document the exact period | SP2.1 - Discuss and brainstorm among authors to reach possible interpretations of the findings |
| Technical Support (TS)                      | SG1 - Ensure research relevance                                                    | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP1.1 - Evaluate/ document search results and document the outcomes [2, 14]          | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP2.1 - Use tools for bibliography management [2]                                   | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
| Documentation (RD)                          | SG2 - Develop strategies to reduce time and effort consumed                          | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP1.1 - Use tools for bibliography management [2]                                   | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP2.1 - Use tools for bibliography management [2]                                   | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP3.1 - Use tools for bibliography management [2]                                   | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
| Results                                     | SG1 - Provide a reliable and careful documentation                                   | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
| Process and Product Quality Assurance (PPQA)| SG2 - Ensure repeatability of the process                                            | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP1.1 - Develop strategies to handle inconsistencies                                  | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP1.2 - Use summaries to guarantee the correct identification of duplication's        | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP2.1 - Define quality thresholds                                                    | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP2.2 - Use quality of primary studies to draw conclusions                           | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
| Communication Management (CM)               | SG1 - Ensure study generalizability                                                  | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP1.1 - Develop strategies to handle duplicated studies (keep newer version or journal version) | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP1.2 - Read introduction to avoid misinterpretations during the screening phase     | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP1.3 - Use summaries to guarantee the correct identification of duplication's        | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP3.2 - Use quality of primary studies to draw conclusions                           | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP3.3 - Use systematic voting to include or exclude studies                          | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP3.4 - Use quality assessment as an inclusion criterion                            | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP4.1 - Reuse components from other SLR                                             | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP4.2 - Follow an iterative process [2, 11]                                         | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP4.3 - Use statistics to process quantitative data                                  | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP4.4 - Perform sensitivity analysis                                                 | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP4.5 - Use formal synthesis methods                                                | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP4.6 - Use statistics to assess the validity of primary studies and their impact    | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP4.7 - Use formal synthesis methods                                                | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |
|                                            | SP4.8 - Perform random screening among all authors                                  | SP3.1 - Consult the target audience before setting the research goals [2, 14]        |

**Communication Management (CM)** is a process area that handles communication among researchers involved in the SLR conduction. The need for communication is not a novelty in the SLR process because when communication is poorly managed, it can directly impact several aspects of SLR, including quality. Hence, CM outlines eight practices that improve communication and solve conflicts among researchers (who are conducting SLR); for instance, using systematic voting, adopting kappa statistics, brainstorming possible interpretations of findings, and cross-checking data extracted from studies. CM provides means to gather and report insights from different perspectives, making the contributions of SLR much more valuable for researchers and practitioners. Therefore, we advocate that CM is essential to aid researchers in comprehending their role and make their participation effective in the entire SLR process.

Considering the process areas aforementioned, specific goals, and key practices, the next section presents the initial version of MM4SLR.

### 5 Maturity Model for SLR Process

We inspired ourselves in the staged representation of CMMI to present MM4SLR. As illustrated in [Figure 2](#), MM4SLR contains four stages: Initial, Managed, Defined, and Optimization. Each stage represents a maturity level associated with process areas, which contain a set of practices that could improve the SLR process. For instance, researchers must cover the process areas PP, TS, and RD in their SLR process, aiming their process to have a given maturity level to fit in Level
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Next, we describe each maturity level, its characteristics, and the justification of process areas allocated in each level.

**Level 1 – Initial**: At this level, the SLR process is “chaotic” with no clear methodology. It means that researchers do not apply systematically recommended practices during the SLR conduction or neglect the use of techniques, methods, and tools. At the same time, the quality of SLR is not a concern. We recognize that researchers can be applying some of those practices but not accomplishing all concerns addressed by the process areas to make it possible for the advance of their SLR process to the next level. No process area is associated with this level.

**Level 2 – Managed**: The main concern of this level is the management of the SLR process. This level addresses three process areas: PP (which deals with SLR planning), TS (which refers to the adoption of supporting tools), and RD (which concerns the SLR documentation). This means that the SLR process accomplishes requirements towards its maturity and, hence, it can be considered managed. Despite that, the assurance of SLR quality is not the focus at this level. Thus, the quality of SLR is often unpredictable and can vary depending on the abilities of the researchers involved. The reliability of results can also be questionable, and many efforts are often needed to audit or replicate SLR.

**Level 3 – Defined**: The main focus of this level is to assure the SLR quality. To fulfill the requirements for this level, the SLR process must address two process areas: PPQA (which refers to quality assurance) and CM (which deals with the communication). The SLR process itself becomes responsible for ensuring the SLR quality rather than depending on the researchers’ skill. At this level, researchers apply practices to minimize bias, and handling inconsistencies becomes a major concern. Many practices refer to double-checking SLR activities or running assessments, such as the quality appraisal of primary studies and sensitivity analysis. CM is also assigned to this level because a well-defined and successful process clearly defines how communication among involved researchers occurs, including the way to gather multiple perspectives from researchers and check agreements (and even disagreements) among researchers in each activity contained in the SLR process.

**Level 4 – In Optimization**: At this level, the SLR process presents the highest level of maturity in which researchers are concerned with continuously evaluating and improving their SLR process. SLR process at this level also produces SLR that are living elements in the sense they are constantly updated and improved. It means that the researchers’ responsibility must not finish when they publish the SLR results, i.e., researchers must keep such results useful (updating them) for a long-term period and keep the value of SLR results. There are still no specific practices, goals, or process areas that focus on optimizing the SLR process and SLR themselves. Therefore, this particular level is an insightful proposition that this work provides.

The following section discusses possible uses of MM4SLR, limitations, and future work.

6 Discussion

Well-defined and well-known guidelines and process to conduct SLR exist [16] but most researchers do not follow them systematically. At the same time, they are increasingly conducting and publishing SLR without much concern for the quality of the process and product (i.e., SLR results). This scenario should be a concern of the SE community that researches SLR. We also believe that several problems in the SLR process should be examined from an integrated novel perspective. Motivated by this scenario, the idea of a maturity model for the context of SLR (i.e., MM4SLR) seems to be relevant.

From a broader view, we believe that most SLR processes used to conduct SLR reported in the literature are in Levels 1 or 2 of MM4SLR. This means these processes seem to be chaotic (Level 1) or somehow managed (Level 2). We also believe that few processes could be in Level 3, meaning that their authors are concerned with the quality of both
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processes and SLR. On the other hand, SLR processes in Level 4 have not been experimented yet. Besides characterizing SLR processes being used, MM4SLR allows researchers to evaluate which practices they used in previous work and understand which ones could be further adopted to mature their process. Hence, MM5SLR can shed light on a new perspective capable of organizing practices proposed for SLR in a comprehensible and understandable way. MM4SLR intends to open the mind of the SE community or other communities that have conducted SLR to a new staged view that can characterize better the process being used to conduct SLR.

From the first version presented in this paper, MM4SLR needs to be refined. It is also worth highlighting that Table 1 does not intend to provide an exhaustive list of process areas, goals, and practices. Other areas can emerge after more investigations. Similarly, practices proposed for SLR are in constant evolution; consequently, MM4SLR needs to be updated to comprise new practices or reorganize or remove them. Hence, it is important to note that, as with any maturity model (like CMMI for software development), MM4SLR needs to evolve continuously.

MM4SLR also requires that researchers prioritize adopting more effective practices since many of them have similar objectives (e.g., electronic search, manual search or snowballing). Applying all practices simultaneously will possibly make the work too expensive or even unfeasible.

To get started with this new research topic, there is a long research agenda that can be summarized as follows:

- **Evaluation of MM4SLR**: MM4SLR needs to be evaluated to verify: (i) the completeness, correctness, and coherence of process areas and their respective goals and practices; and (ii) the correct distribution of process areas over the maturity levels;

- **Application of MM4SLR**: An essential next step is to apply MM4SLR in the conduction of diverse SLR and also observe its applicability, feasibility, and impact of using MM4SLR to improve the maturity of the SLR process and mainly the quality of resulting SLR; and

- **Evolution of MM4SLR**: The maturity model needs to be continuously evolved following the evolution of the SLR as a research area. In particular, new process areas, goals, and practices can be further incorporated. We also foresee that MM4SLR can evolve by incorporating generic goals and generic practices, i.e., those goals and practices that could better work for multiple applications of the SLR process independently from the preference of researchers.

7 Final Remarks

This vision paper introduces the idea of a maturity model for the SLR process (whose acronym we defined as MM4SLR). We recognize that MM4SLR is an ambitious idea that will require a change in the mindset of the evidence-based software engineering (EBSE) community regarding a novel view of addressing the SLR process. Our intention with this paper is to raise awareness about the importance of characterizing the SLR process in different maturity levels and provide a pragmatic way to improve its maturity. Defining this maturity model may be an essential step to better deal with the current barriers that hinder SLR from achieving their objective and, ultimately, impacting stakeholders, particularly the industry interested in the SLR results. Finally, answering our initial research question, we believe it is worth investing in a maturity model for the SLR process.

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