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| **premise** | **comment** | **panelist** | **coding** |
| General | “Sustainable systematic review principles should be applied from the beginning of a review. ” | P01 |  |
| PR01 | “It is important to emphasize that in some cases researchers do not necessarily have an overview of the state of the art or the challenges of the research area. However, it is one thing when the researcher does not have knowledge or there is not enough evidence in the literature about it. Another thing is for the results to be relevant. | P01 | * The lack of experience of researchers can hinder obtaining an overview of the area |
| PR01  PR02 | “As a reviewer and in my research I have already seen reviews that were not necessary to be conducted as there are already other similar reviews conducted. So, people instead of inventing to do that review from scratch and spend all their efforts, they could just reuse the review and complement it, avoiding starting from scratch and that would be more sustainable. In planning this review, it is necessary to make clear the need for that systematic review. We see many systematic reviews in the same area where it would not be necessary to invest so much resources, as they could be complementary. ”  “In this vein, planning in the protocol should focus on really understanding whether it is necessary to conduct this review given the amount of work. | P01 | * Lots of revisions not needed. People instead of doing the revision from scratch should just complement and reuse what already exists. * Protocol planning should focus on understanding whether it is really necessary to conduct the review, making clear the need that justifies the work. |
| PR03 | So, one of the things to do is to ensure that the topic studied is going to be relevant, so he avoids investing efforts in something that is not relevant.”  “One of the main factors that will provide the basis for a systematic review is to understand whether it will contribute positively and is necessary; in addition, it is necessary to verify if there are already published studies in that area”. |  | * One must ensure that the topic studied will be relevant, so he avoids investing efforts in something that is not relevant. * A fundamental factor to justify the existence of a systematic review is to understand if it will contribute positively to the area and if it is really necessary. |
| General | “It is important to think about how these assumptions will impact the protocol. The plan would be to create a protocol that follows the premises of sustainability” | P01 |  |
| PR09 | “Reliability, transparency and reproducibility of research are priorities to build more sustainable SLRs even if it takes more time”  “To be sustainable, it is necessary to improve some systematic review processes. For example, focusing on an objective that will be useful, i.e. being sustainable, has more to do with whether you can identify the problem and plan your review in the best way that minimizes the time spent and the results maintain the level of reliability.” | P01 | * Reliability, transparency and reproducibility must be priorities to build more sustainable reviews even if it takes more time. * We should focus on improving the SLR processes, that is, focusing on identifying research problems and planning the SLR aiming to minimize the expenditure of resources, however, prioritizing ensuring the reliability of the results. |
| PR09 | “To be sustainable, a deeper analysis of the usefulness of the review is lacking. Currently, many publish the review and do not continue the work, they are shelved. So there is no cycle where you do the review and later go back to that review checking if it can be expanded, improved, etc. ”. | P01 | * To be sustainable, a deeper analysis of the usefulness of the review is lacking. This would prevent results from being forgotten or shelved. * Today, there is no cycle in which researchers check the reviews conducted and look for ways to expand and improve. |
| PR09 | “High impact reviews will have more citations and will be more useful and therefore more sustainable. Even if a review is interesting to consume less resources, the trade off should still prioritize the impact of the results on the community”. | P01 | * High impact reviews will have more citations and will be more useful and therefore more sustainable. * Even if it is interesting for a review to consume fewer resources, the trade off should still prioritize the impact of the results on the community |
| PR08 | “The more faithful the protocol is, the better other researchers are able to understand how the study was conducted and this supports sustainability. ” | P01 | * The fidelity of the SLR process followed against the protocol supports the sustainability of the reviews. |
| PR08 | “The protocol can be changed until the end of the review process. Furthermore, the protocol should be versioned and these versions can be reused even after publication” | P01 | * The protocol can be changed until the end of the process, even these versions must be versioned and reused. |
| PR10 | “Revisions, in addition to consuming financial resources and human effort, are also liable to consume office materials (papers, pens), computers and tools to process the data. In addition, they consume database processing and storage space on researchers' machines. These are other examples of resources that are directly consumed by reviews.” | P01 | * The resources consumed by SLR extend to other materials such as papers, computers, data processing tools. * Data storage (on the researcher's machine) can also be considered a resource. |
| PR11  PR12  PR13 PR14 | “To be sustainable, people must focus on contribution and on good research practices. This must be accompanied by a good report so that they are transparent and reproducible”. | P01 | * The focus must remain on good research practices and a good report that ensures transparency and reproducibility. |
| PR15 | “Accessible and understandable language depends a lot on the target audience. For example, if the target audience is practitioners, it is not interesting to use scientific terms. Thus, an intern at a company that works with tests could easily use the results in his decision making”.  “However, it only makes sense for data to be accessible when we refer to their availability and also to the way they are presented, that is, their formatting. For example, a table where its columns are easily understood and the auxiliary documentation of the components is easily understood”. | P01 | * The language that should be used depends a lot on the target audience you want to reach. * Being accessible also means making SLR data available in a way that readers can easily understand it. |
| PR17 | “The modification, given the current editorial system of the research, is impossible. In this case, it would be better to use the term extendable, in the sense that it is important to be able to refactor what has already been done and adapt it leading to new evidence. | P01 | * It is not possible to modify the editorial system (modifying an article already published), however, it would be better if the revisions were extensible. |
| PR18 | “It is important that the review preserves the reusability of the items in your protocol. For example, a data extraction table must be opened for adaptation allowing a new column to be inserted allowing a reanalysis of the results”.  “In this context, being adaptable is leaving the table in a format that the researcher can easily change. Avoiding documents such as photos, PDF and other formats that prevent this easy change.”  “Being able to adapt a review to new goals is directly linked to sustainability” | P01 | * It is important to maintain the reusability of protocol items. For this, the table must be formatted so that the researcher can easily change it, including avoiding formats such as PDF or photos. * The fact of being able to adapt a review to new objectives is directly linked to sustainability. |

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| PR01 | This is a common action I do, I always look to see if there is already something published on this topic. There have already been situations where I wanted to conduct a new systematic review on a topic, however, when searching I found a systematic review that answered exactly what I wanted, so I didn't have to spend efforts to conduct another review. | P02 | * Always looking to see if there are any reviews on the same topic helps to save effort and avoid conducting a new review |
| PR02 | Many times I want to use the strings, do the searches according to the particularities of each database, however, when I look at the published material it is common that when I try to apply the string to the database it doesn't work. This happens because many times the base itself changes its rules, so because of the passing of a few years, this use is complicated. Therefore, reuse is a good premise as long as the components are up to date or there are ways to mitigate this problem. | P02 | * The constant change of rules in search engines and databases greatly hinder reuse, it is good to reuse, as long as there are ways to mitigate these problems. |
| PR04 | Open science is very important and contributes a lot to the sustainability of reviews | P02 | * Open science is very important and contributes a lot to the sustainability of reviews |
| PR06 | A very important part of making the review sustainable is identifying threats to validity and reporting them correctly, as this brings security to the reader. Considering that all studies have threats and if you present actions to mitigate them this brings reliability and care with the quality of the studies. It shows that she is really interested in creating a quality review and not leading it in any way. | P02 | * Reader safety depends on mitigating threats to validity, this increases the reliability and quality of studies, this has a positive interaction with sustainability. |
| PR07 | It is important to follow the patterns as they emerged from good experiences in the community that has already conducted this type of study. As we are from software engineering, paying attention to process standards is essential for quality. So if we bring this into the context of a systematic review it is essential. | P02 | * It is essential to follow the standards as they are derived from good experiences in the community and this has a direct impact on the quality of the SLR. |
| PR08 | At times, I had to carry out the pilot study to validate the protocol and we realized that it would be necessary to take steps back, remodel and reconduct since we were not able to find relevant studies or the extraction protocol was not adequate. As much as we did the pilot study we realized it was not correct. In addition, when conducting studies, it is common for them to have new information that was not foreseen and the protocol would need to be adapted with a new research question to capture that information. I don't agree that changes need to be made until pilot testing.  It is still important to always take a step back and start extracting the information again. | P02 | * It is very common (even after pilot testing) to have to refactor elements of the protocol. Often our understanding after reading the studies also changes, so it is necessary to add or remove, for example, research questions. I don't agree that changes need to be made only until the pilot test. |
| PR09 | Often we are working on a topic that we believe to be promising in the coming years, a systematic review is carried out, but after some time the researchers completely change the focus. In this case, the expectation you had was not met. Therefore, the review you conducted did not have a long-term impact, but a short-term one. Honestly, I believe this is much more related to the topic you are studying and how it will behave over the years.  It is important to mention that the usability and impact of the review (long term) on the community has a lot to do with the research topic being investigated.  For a systematic review to be sustainable, it is indeed interesting to consider its long-term impact. But prioritizing this can be problematic as we don't know how the community has behaved over the years. | P02 | * Community interest in topics is variable, so even if you expect the impact of your SLR to happen in the long term as well, it may not due to the loss of interest from researchers. * It is interesting that there is long-term impact, but prioritizing this can be problematic as community interest is volatile. |
| PR10 | Although there are many barriers in the adoption of tools, processes… being responsible with the use of data is essential for sustainability. | P02 | * Being responsible with the use of resources is essential for sustainability, although there are several barriers to adopting tools. |
| PR14 | The natural thing would be that all the knowledge that is generated in the academy is applied in the industry. But, we know that in computing this is often not reality…. Many companies do not follow or adapt the processes, many contributions made in academia are not really applied in the industry. It is unclear whether practitioners would also be interested in a particular type of information.  In contact with industry friends, they often mention that the industry is skeptical of the knowledge generated by academia. Except for those practitioners who are involved in the academic field, it is difficult to say that they would be interested.  But despite everything, if the practitioner is interested, he should be able to understand and extract the main information that is useful for his work through the documentation. | P02 | * In computing, not all knowledge generated by academia is adopted by industry. Many do not follow the proposed processes and create adaptations. * It is unclear whether practitioners would be interested in the information collected by SLR. Furthermore, some industry insiders are skeptical about the contribution generated in academia. * If there is interest, the practitioner should be able to understand the main useful information of an SLR. |
| PR16 | Although I agree that they must be reusable, there is a problem that naturally after publication the databases change and some artifacts naturally no longer work. However, this is not the fault of the researcher, but of the process as a whole, which naturally has this problem.  Being reusable is very good for sustainability, it helps a lot, but we need ways to keep this information up to date. | P02 | * Over time, some artifacts (like search strings) stop working due to technical issues. It would be interesting to consider ways to keep artifacts up to date to improve reusability. |
| PR17 | I do believe that this question is important, there are examples where tertiary studies, reviews or mappings are revisited after some time and then it is necessary to add new questions. In this case, the review needs to facilitate the researcher's work in modifying what already exists. Since it was realized that the community needed other information that had not been reported previously. | P02 | * When revisiting secondary and tertiary studies, modifiability is very important, as it facilitates the researcher's work in modifying what already exists and contributing by providing more information that had not been previously reported. |
| PR18 | Again, evidence from old revisions tends not to be very helpful, as artifact changes happen. | P02 | * Old revisions tend not to be as helpful as artifact changes happen. |
| PR19 | It is important to update a review only if there is community interest in the topic. In addition, one must consider the amount of new information on a given topic. If there is not enough information, it is not necessary to expend new efforts.  Sustainable reviews are those that are continually updated, however, considering the interest of the community. | P02 | * The interest of the community must be considered before performing any updates. Thus, it can be continuous, but only if there is interest. |
| PR21 | It is interesting, since there are situations in which the researcher finds it important to verify where the information was taken from and to check for possible discrepancies. As a reader, I like to check at the source what the study really said and clear up any doubts. It may happen that the author's interpretation has been wrong, so when bringing this evidence they need to be accessible to confront information. | P02 | * Keeping data available is important to help readers clear any doubts about the author's interpretation in some situations. |
| PR22 | As a reader and also a stakeholder of the review, my goal is to find a research question in which information is reported. So if you have within your research the needs of supporters translated into research questions, this is ideal for your review to have an impact. | P02 | * For SLR to have an impact, the ideal is that the needs of those involved are translated into research questions. |
| PR23 | While I agree, there may be cases where readers are interested in specific information rather than the review as a whole. Therefore, for a review to be sustainable, it does not necessarily need to be so comprehensive, as it can meet the needs of a specific community and continue to be sustainable. | P02 | * Reviews that address the needs of specific communities may still be sustainable. You don't necessarily have to be so comprehensive in your goals. |
| PR24 | It is possible for a review to be conducted to solve a specific research problem and still be sustainable. This is because there are other researchers who at the same time have the same research interest. So, it may happen that a survey you imagine can impact a limited group of people, however, the interest is much greater than you imagine. | P02 | * It is possible that reviews aimed at a more specific problem will be sustainable, since other researchers at the same time may have the same interest and even imagining that the impact of the review will be low, in the future the interest may be confirmed to be greater than if imagined. |
| CF1 | The exchange of information within a study, particularly in decisions on whether or not a study should be included or excluded, is very important. There are cases that even though several people collaborate and communicate, there are still doubts. So communication can be considered a critical factor. | P02 | * Exchanging information, mainly to resolve doubts about the inclusion and exclusion of studies, is very critical. |
| CF3 | This factor I consider very critical, since you can collect wrong information if you don't have knowledge in the domain. In some cases, extra effort is required when team members do not have knowledge in the area and the expert needs to validate all the data collected. | P02 | * This factor is quite critical since it is possible to collect wrong information if there is no knowledge in the domain. * Extra effort is required for an expert in the field to validate the data collected by the participants. |
| CF4 | It is essential that there are at least 1 or 2 members who are experts in driving, as you can clear doubts about the process. However, the team as a whole mastering the method does not impact sustainability so much. | P02 | * It is essential 1 or 2 members with experience to ask questions about the process, however, it is not critical that everyone has knowledge of the SLR process. |
| CF5 | If you use good quality components, the idea is that you have fewer defects and you can produce in less time and with higher quality. So, if you use good quality and up-to-date systematic review components, it is assumed that this is positive for the SLR that will be conducted. | P02 | * Using higher quality and updated SLR components can have a positive effect (in terms of time and quality) of the conducted SLR. |
| CF7 | Showing lessons learned and insights is very important, as is providing information and also meetings to share experience. | P02 | * Showing lessons learned, insights and making data available are very important. As well as sharing experience in meetings. |
| CF8 | Tools are essential to reduce time. For example, the Parsifal tool removes duplicates very fast. Without the use of tools it would be necessary to compare each study and this is very time consuming. | P02 | * Tools are essential for reducing driving time. |
| CF9 | It is possible to build sustainable revisions without mature tools when time and effort are disregarded. But when we look at the time and effort factors, mature tools are essential. | P02 | * The biggest impact of tool maturity is the amount of time and effort required to drive. |
| CF10 | It is possible to conduct an overhaul with non-accessible tools, but this has a major impact on the time and effort required to conduct. There are currently very complex tools, however, the impact is greater on the economic axis. Accessibility is indeed a risk factor, however, mainly in terms of time and effort. | P02 | * Inaccessible tools consume more time for the researcher to learn how to deal with the tool. Thus, the greatest impact on the economic axis. |
| CF11 | There are studies that prove the efficiency of these techniques and it really helps a lot when we are looking at the issue of effort. But there is not much impact on the other issues.  If you do an extensive search, you will likely find all the important results, but it will take a long time. So, if we had an agile way to do this, we would reach the same result, with less effort. | P02 | * There are studies that prove the efficiency of these techniques and when looking at time and effort this is really critical, however, I don't see much impact on other perspectives. |
| CF12 | I totally agree, it is necessary to manage all resources efficiently. And revisions are now largely done in digital form, so when thinking about the physical side, resource management in this sense is essential. | P02 | * Most reviews are done digitally (using computers and electronic resources), but it is necessary to manage all resources, including physical ones. |
| CF13 | Doing a feasibility study is very important to do, it gives you a much better idea that you are proposing something that will really be of value to the community. But if you don't do this study it is still possible to have a good quality and sustainable review. This factor is something of a “plus”, that is, this study does not guarantee that its review will be sustainable. | P02 | * Feasibility studies can be an addition to help understand the impact and value to the community, however, it is not critical to conduct them to ensure that the SLR is sustainable. |
| CF14 | It makes sense to actually update the review only if there is relevance to your target audience. If there are new studies and advances in the areas, that is, if these advances can answer new research questions, it makes sense that maintenance is a critical factor. | P02 | * Updating only makes sense if updated results are relevant to the target audience, but it does make sense that this maintenance is a critical factor |
| CF15 | Much depends on the context in which the review is being conducted. If the team has a lot of experience, it is common for there to be many more iterations, however, the more experience it is normal for not so many iterations to be needed. | P02 | * The number of iterations can vary greatly with the experience of the research team, but being iterative is very important. |

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| PR01 | It is important to remember that research questions are often not exactly the same. It should be better established at what level we are saying when we say “If an SLR already exists on the same topic”. | P03 | * Often the research questions are not exactly the same, so this analysis needs to define how this should be handled. |
| PR02 | Component reuse can also be hampered by different research questions. | P03 | * Reuse may be affected because of different research questions |
| PR07 | Even if you have a process that participants strictly follow, depending on the experience of whoever is conducting it, this will not guarantee that the process will be adequate. The experience factor here is quite important, since as much as you try to follow everything to the letter, there is still a subjective factor that is experience. | P03 | * Even following the process rigorously, this does not guarantee that the process will be the most suitable, in which case experience is a decisive factor. |
| PR08 | Iteractivity is very important, as you begin to reap some results, it is possible to better understand which path the study is taking. It is very difficult to accurately predict from the beginning every step and that 100% of the time it will be a success. It is always subject to improvement. | P03 | * Iteractivity helps to understand the path that should be followed in the study based on the evidence collected, thus, it is very difficult to predict everything from the planning stage. |
| PR09 | It depends a little, as technology evolves a lot, so, depending on the effort you are going to put into the SLR, it is possible that this thinking does not pay off much. So, maybe it's better not to think about the long term, but the medium term. For example, an SLR from 5 years ago today may have been outdated to the point where it is nearly unusable. Therefore, it is important to think about it by looking at the period, context and the market. | P03 | * Technology evolves a lot, so depending on the effort required, long-term thinking may not pay off. * It is important to note the period and context (market) in which the SLR was conducted |
| PR11 | Detailing is important, but it is important to check the time cost to detail this. So, if we have a very large SLR, the cost for detailing must be considered. | P03 | * Detailing is important, however, it is necessary to verify the cost and time to perform this task, in larger reviews (mainly) the cost to detail the documentation must be better evaluated |
| PR14 | Industry and research should converse at a certain level. So, if we agree with the terms used, that is, we follow a pattern that both industry and academia are aligned with, we wouldn't have this problem so much. In some topics, for example, health sciences that recently had to explain the results obtained to people outside of science, it is indeed interesting that there is a detail in this sense. One must take into account who the target audience is, however, if this audience is the software industry, it is possible that we are talking on the same level. | P03 | * The industry and the academy must be in agreement regarding the terms used, currently we follow a pattern that both can understand. * Except if it is necessary to communicate with a more lay target audience (in computing) I do not see an adaptation of the way of communicating the results as something necessary. |
| PR16 | It is important to check the research topic and the investigated questions, since within the same topic we can have different information. So reuse becomes more sensitive at this point.  So, it is interesting that, when possible, authors create components that are reusable. However, in some cases this is not possible due to limitations of the study itself. In this case, the SLR does not necessarily become unsustainable. | P03 | * Reuse is sensitive to the research topic, it is interesting to create reusable components, however, in some cases this is not possible due to limitations of the study itself and this does not make SLR untenable. |
| PR19 | It may not make much sense to make the SLR process continuous, as in some cases the research interest in the topic may have shifted and there is no longer any need for updates. | P03 | * Making the SLR process seamless may not be interesting due to the lack of community interest in the topic. |
| CF8 | I believe that the tool is important, but not necessarily the lack of use of them is a critical factor. That is, it is possible for me to conduct a sustainable review without using them. But this also depends a little on the researcher who is conducting it, given that the human factor is still decisive in the successful use of the tool.  In this case referring to tools specifically for SLR, however, this does not mean much to the use of more general tools (such as Excel, latex, reference managers). | P03 | * The use of tools is important (those specific to SLR), however, I do not consider it critical, since it is possible to conduct a sustainable review without using them. In this case the human factor (who is conducting the review) becomes decisive. |
| CF9 | Considering that the person is using a specific tool for SLR, the maturity of these tools is very important. | P03 | * Considering that we are using a tool for SLR, I consider the maturity of this tool to be critical. |

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| PR01 | It is extremely important to verify what has already been done, including considering that the type of study may change according to this analysis, that is, instead of conducting a secondary study, it is possible that it will be necessary to conduct a tertiary study (given that there are already several secondary studies in the area). | P04 | * It is extremely important to verify what has already been done and adapt the type of study used according to what has already been published. |
| PR02 | This behavior is already quite common within the driving process | P04 | * This behavior is already quite common. |
| PR03 | It is very common for the research conducted to reach the industries very little. So, it is interesting that the publications reach companies faster | P04 | * It is common for the results to reach the industry little, so it is necessary for the publications to arrive faster in the companies |
| PR06 | It is critical to mitigate all threats and produce reliable results, without which research is worthless. | P04 | * It is critical to mitigate all threats and produce reliable results, without which research is worthless. |
| PR07 | As the standards for conducting the process are already well established, it is common that all researchers are more likely to follow well-known authors in the area and common standards. However, it would be important to revisit these patterns to verify if the current path is really the best path, it might be interesting to explore whether the proposition of new ways to make the process simpler. Finally, having a standard is important, but it's also important to ask yourself if the current standards are the best to achieve the best results. | P04 | * Patterns that have already been well established are important, but it's worth revisiting those patterns and seeing if they still represent the best way and perhaps new ways to make the process simpler. |
| PR08 | If the driving process is too iterative, it can change many times during the study and this can be harmful. Then it is necessary to verify to what extent iteractivity is beneficial. It is interesting to do several pilot tests to understand what you want to change, however, once defined, we must follow what was planned to avoid changes that cost a lot of time and effort. Iteractivity should be limited, of course it is possible to make one adjustment or another, but it should be before the pilot. | P04 | * When iterative is excessive, it can be harmful, it is necessary to check to what extent making changes (which cost a lot of resources) are viable. Until the pilot test there is a greater possibility of changes, however, after that the changes should be limited. |
| PR09 | Change in technology is very constant, so outlining something in the long term is difficult. It is possible that many processes, methods and technologies will soon replace current methods even more efficiently. It is necessary to impact the community, however, the research must be continuous. This means that there must always be a search for something new, so the paths outlined by a review are never permanent. There is a continuity of new knowledge. | P04 | * Change in technology is very frequent, so long-term contributions are difficult. The impact on the community must happen and the research must be continuous, so the paths traced by a review will hardly be permanent. |
| PR11 | Sustainability is very much about the idea of reducing some things (leaving only what is essential). However, at the same time the SLR is characterized by reproducibility. So, on one side of the scale how it was done and on the other side the question of sustainability (referring to the question of time and effort). It is important then to save a little on the detail, so I believe that the level of detail that should be applied should be reviewed. | P04 | * Sustainability should consider ways to reduce some aspects of SLR and leave only the essentials. However, the trade off with respect to the reproducibility of the studies must be considered. The level of detail should be reviewed considering sustainability. |
| PR14 | You need to be concerned about all possible readers (target audience). However, the language spoken by both (academy and industry) should be the same. It is quite common for the industry to absorb professionals who have passed through academia, so there is a certain experience in understanding the terms and the way that academia speaks. Currently, university access is much more common today. So, the trend is that over time it will be possible to “speak a single language”. It is actually unfeasible to produce different content for different target audiences. So maybe the solution lies in both striving to speak the same language.  Currently, for example, most jobs are in the English language, however, not everyone in the industry currently has the ability to read in that language. This already becomes the first barrier in this sense. | P04 | * The language spoken by academia and industry should be the same, given that the exchange of professionals between the two is still quite large and access to the university has improved in recent years. * It is unfeasible to produce different materials according to the audience, so there should be an effort to unify the interests and languages used. |
| PR16 PR17 PR18 | The term reusable already encompasses the term modifiable and adaptable | P04 | * The term reusable already encompasses the term modifiable and adaptable |
| PR19 | It is common for you to have a theme that has already been “surpassed”, that is, something new has emerged that has made the previous theme obsolete. It may make sense in some contexts, but not all. So, you often lead the review, but the state of the art has moved in another direction, so it doesn't make sense to always be updating the SLR in that context. | P04 | * Depending on the research topic, continuous updating may make sense, however, this is not a rule and topics already outdated do not need this constant updating. |
| PR20 | It is important to mention that reuse often goes through refactoring. | P04 | * It is important to mention that reuse often goes through refactoring. |
| PR21 | It is important to review what should be made available | P04 | * It is important to revisit what should be left available |
| PR24 | The results should positively impact the research area, but also the industry. | P04 | * The results should positively impact the research area, but also the industry. |
| CF1 | Communication is one of the main factors that lead the results to have an effective impact in the area. | P04 | * Communication is one of the main factors that lead the results to have an effective impact in the area. |
| CF2 | Someone from the domain (expert) participating in the construction of the SLR is critical. Since without such participation it is very likely that wrong decisions will be made. | P04 | * The presence of domain experts is essential, since without this participation it is very likely that wrong decisions will be made. |
| CF3 | It is possible to conduct a review without having full knowledge of the area. The master's and doctoral student, for example, usually has no knowledge and yet the results are positive. But it stands to reason that conducting this study will expend more energy. | P04 | * Even if all participants do not know the SLR process, it is possible to conduct it, however, it consumes much more time and energy. |
| CF4 | I don't believe it's a critical factor in the success of the SLR | P04 | * I don't believe it's a critical factor in the success of the SLR |
| CF5 | Reuse is really critical, especially for the economic axis | P04 | * Reuse is really critical, especially for the economic axis |
| CF7 | Excessive knowledge transfer and detailing tends to consume a lot of energy. It is possible that this makes much more sense when considering the social axis, but economically it is complicated. | P04 | * The transfer of knowledge and excessive detailing tends to consume a lot of energy (economic axis). However, this greatly impacts the social axis |
| CF12 | I believe that this factor is less impactful since in the scope of research these resources are common (referring to resources such as the internet, computers) | P04 | * In the scope of research, this resource management is already common, so I don't think it's critical. |
| CF13 | I believe that a feasibility study would only delay the process further. In this case, the pilot study should already resolve this issue, in a more simplified way and not insert a new stage. | P04 | * Feasibility studies would only delay the process even further, so the pilot study should be enough to resolve all planning issues. |

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| PR01 | I agree that checking if there is another SLR can be a way to avoid wasting efforts, but in many cases it is necessary to update or redo the SLR. It also depends on the context | P05 | * Checking other SLR requires can save a lot of effort, depending on the context it is necessary to update or even redo. |
| PR02 | Reusing is very important, even this is something I'm experiencing right now. I'm conducting a review and will reuse other pre-existing artifacts. | P05 | * Reusing is very important, it's something I do in my revisions. |
| PR03 | To be useful or not can be very subjective. It is very difficult to measure what is useful and what is not in the context of SLR. Unless the researcher has high expertise on the topic it is quite difficult to say what is useful and what is not. Also, you often have a lot of work producing the review and from the perspective of whoever is reviewing the topic it's not that interesting. | P05 | * It is difficult to measure what is really useful in the area. It may happen that the researcher believes he is researching something useful and in the reviewer's view it is not that useful. |
| PR04  PR05 | Anything that is done to minimize the negative impact and reinforce the positive impact on the current driving team and future researchers is really quite important. | P05 | * Every effort made to minimize the negative impact on the current team and future researchers is important. |
| PR05 | Usually when we try to use things (not just in systematic reviews, but also in other types of studies) it is very difficult if things are not very well documented. | P05 | * Poorly documented reviews are very difficult to use (as are other types of studies). |
| PR06 | We do not always find published studies that report really reliable results. When analyzing and verifying the amount of effort and detail that should be done, we often observe that systematic reviews do not have all this rigor, so reporting reliable results is already a premise of the systematic review, but it is extremely important for sustainability. | P05 | * Published studies do not always report reliable results. * The amount of effort needed to detail a review report should be verified. * Detailing is essential for sustainability |
| PR08 | The pilot test is really very useful and the possibilities to calibrate the string and verify that the studies you are collecting are really capable of answering the research questions are essential. In addition, you can get an idea of how much effort it will take, as you can better understand how many studies you will need to extract data from. Most protocol changes should occur until the pilot study and should be avoided afterward, however, it is still necessary to maintain iteration and make minor changes when necessary.  The main item that I realize needs to be very iterative is the extract form. Even with the pilot test guiding and giving a good idea of what will need to be extracted, in many situations it is common that when reading the studies it is necessary to change it to better reflect the information available.  So, especially the research questions should not change after the pilot study. | P05 | * Pilot testing is essential to better understand your review and better calibrate extract strings and form elements. The changes * Iteractivity must be maintained and most changes should occur until pilot testing. * The extraction form must remain iterative throughout the process. |
| PR09 | I see systematic reviews as an entry point into a particular area, so the more knowledge you can summarize about the area, the better. So I agree that she has to have long term goals. I still see SLR with two perspectives: 1) short term (2 years for example) to identify gaps and research problems, I think this is a relevant contribution of SLR in the short term. 2) long term to summarize the basis of what the research area is. So, thinking of the SLR as a gateway that will summarize the knowledge of a research area is important. | P05 | * SLR are entry points for a particular area of research, as they create a knowledge base, so the more knowledge that is summarized, the better. * SLR's can have short-term objectives (eg identifying gaps and research; and long-term (eg creating a knowledge base for the research area). |
| PR10 | Always thinking about tooling to reduce the amount of effort is important, however, considering that there are several subjective points within an SLR it is difficult to have a tool that meets all needs. | P05 | * Tools to reduce effort are important, however, several points of the SLR are subjective and difficult to be executed by tools. |
| PR11 | We must have a deeper analysis of how detailed it is. The most important thing for me is that it is easy to understand. So I believe it needs to be detailed to the point that it doesn't compromise how easy it is to understand. Being easy to understand is more important than being too detailed. | P05 | * It is necessary to investigate further the depth of the detail. * The detailing should be limited to the point that it does not compromise its ease of understanding. |
| PR14 | In the short term, it makes perfect sense for the language to be accessible to industry, for example, it is very interesting. But, in the long term, perhaps the objective of SLR remains in the academy, even with the objective of mapping the evolution of the area. But I agree that the documentation must be accessible to both. In my reviews I always try to include something more practical in the objectives (like the tooling part) so that the industry can also use the results. | P05 | * In the short term, an accessible language for industry is interesting. But in the long run it might only interest the academy. * Documentation should be accessible and whenever possible include something more practical (eg tools) so that the industry can use the results. |
| PR17  PR18 | The more we move towards the line of things being reusable by other researchers who want to redo or update the studies, this contributes a lot to sustainability. | P05 | * We must move towards making artifacts reusable for updating or renewal. |
| PR19 | I agree that to be sustainable the review should be updated, however, it is critical to consider how long they should be updated. I see the systematic review as a snapshot of that moment in the research area. So, I believe that looking at the long term we can say that naturally the SLR already meets this requirement. | P05 | * Upgrading is essential for sustainability, however, consideration must be given to the window of time needed to make the upgrade feasible (which can vary greatly). * The SLR represents snapshots of the area, so in the long run, if the update is done multiple times, it already meets the goal of being continuously updated. |
| PR20 | Leaving everything available is a way of allowing other researchers to assume the authorship of the update and this is harmful to the first researcher. This shows that there may be a conflict of interest that could jeopardize this availability of data. | P05 | * Leaving artifacts public allows other researchers to take authorship of an SLR update without including the original authors. This creates a conflict of interest. |
| CF3  CF4 | The criticality of this factor may vary according to the type of secondary study and the defined objectives. In broader studies such as systematic mappings, it is possible that knowledge about the domain is less critical. However, in SLR itself, this domain can become more critical. | P05 | * The criticality of knowledge in the domain and on the SLR process varies according to the type of study. In larger studies (such as mappings), having prior knowledge may not be as essential given the exploratory nature of the study. |
| CF8 | The criticality of the use of tools also depends on the size of the systematic reviews. In case of revisions that are smaller, this factor may not have much impact, however, in larger revisions (for example 5000 articles), if you don't have a tool that organizes your work process this can be problematic. | P05 | * The use of tools is more critical in larger reviews, given the volume of information, in smaller reviews it has less impact. |
| CF13 | In an ideal world, a feasibility study would be excellent to better understand how much impact we could have by conducting a review. However, in practice I think there is a very large trade-off in terms of the amount of time needed to conduct the study and the benefits that this would bring.  For example, if you believe you can find a cure for cancer by conducting a 10-year review. In this case, it is well worth doing a feasibility study as it will be a lot of effort. But in practice, in the daily routine of the gym, it is necessary to consider whether this trade-off is worth it. | P05 | * Feasibility studies would be interesting, however, its feasibility given the amount of time and effort required and the benefits it brings is questionable. |

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| **premise** | **comment** | **panelist** | **coding** |
| PR01 | Conducting a review and not considering others that already exist is a lot of rework. This I have already faced in my master's work. I was looking for quality models and there were already some reviews about it, in fact, there were several reviews and it was clear that these authors did not know each other and also did not know the other works. You could see that the research questions were very similar and it was evident that this was unnecessary work. | P06 | * Not checking for other revisions generates a lot of rework, and therefore a lot of effort. * When doing this search, I have already found very similar reviews (with very similar research objectives and questions) that apparently did not consider the results of each other, this may be an indication that the authors were not doing this search. |
| PR02 | Not sure if reuse exactly as they are is the case. But use as a reference (for example) an eventual term or a selection criterion that may at least influence your review. | P06 | * Reusing the artifact may not be feasible, but we can still use the artifacts as a reference. |
| PR03 | Certainly, it is useless to publish a work that will not be useful to anyone. | P06 | * There is no justification for publishing a work that will not be useful to anyone. |
| PR04 | Sometimes, in an attempt to be inclusive (democratic) the researcher chooses to consider bases that will naturally generate extra work (which affects sustainability), however, he still does not want to leave anything aside and to obtain greater coverage he can take that risk. In addition, depending on the topic of the systematic review (which is still new and does not have much published material) it is common to often search in databases that are not so traditional because of the aggregation of more studies for the analysis. However, in studies where the topic is widespread, considering less used (little optimized) databases can be very harmful. | P06 | * Sometimes it is necessary to include lesser known and optimized bases to achieve greater coverage of the study. This varies greatly according to the topic, availability of studies. However, the use of these bases can be harmful when the topic is widespread. |
| PR05 | While I agree, I still a little doubt that the researchers will dig deep and investigate whether you actually followed all the steps. This could be a lack of maturity in the area, unlike areas such as (medicine).  It is important that this documentation follows these principles, this generates an extra effort, however, it is important in general that it can be verified, but at the same time I believe that this is still not so widespread and rigorous today.  Another important point is that in reviews it is not possible to check everything. In fact, if you open a review documentation, and verify all the data, you will need to rerun the full review, which is an unprecedented effort. For this to be justified, the topic should be of very high interest.  In this scenario, I believe that the effort to be truly “open Science” does not bring much return because of this. | P06 | * There is an apparent lack of maturity in software engineering (unlike medicine). Since I don't see it as a common practice for researchers to thoroughly investigate whether all the steps of the review were followed. * It is very important to document to allow verification (audition). * In revisions, not everything can be verified, since the effort to verify is comparable to redoing everything again. Thus, the community's effort to be Open Science did not have many effects. |
| PR07 | I do believe that the proposed standards should be followed, but I don't know exactly if everything that has been proposed can be followed. But the ideal would be to really follow that. | P06 | * Following the standards is important, however, I don't know if it's possible to follow everything proposed in the guidelines. |
| PR08 | In many cases, it is argued that experience is needed to conduct a systematic review. However, often those who will conduct a review do not have that much experience and an iterative process can greatly increase the quality and allow you to make a protocol that is really capable of answering the research questions. This has a big impact on sustainability. | P06 | * Often those conducting the review do not have that much experience, in which case the iterative process can greatly increase the quality of the study. |
| PR09 | Having a long-term impact is important, but this can be difficult when the research is still young. This can hold you back a bit from achieving those long-term goals. I agree that a systematic review should have long-term goals, or at least aim to do so.  For example, I have a review that includes 50 studies that have been published since 1992. This makes it easier to outline research questions and a review that has a longer-term impact. | P06 | * SLR should have long-term goals, however, in areas that are very new and have few published studies, outlining and achieving these goals can be very difficult. |
| PR10 | There is a trade-off here, for example we can use 1 person or 3 people to conduct the review. Fewer people can have an effect on quality as it is not possible to select and extract data using consensus meetings and avoid bias at these steps. Theoretically, if people are from the same field they can reach a consensus and the quality of the review increases. On the other hand, if you only have one researcher, human errors can go unnoticed.  So, I must spend more resources (which has to do with economic sustainability) to increase quality. Or I can also reduce resources and also affect the quality of studies, which is also directly related to quality. | P06 | * It is important to note that there is a trade-off between: 1) spending more resources on conducting double-checking processes, 2) saving resources on conducting them. Both can affect quality by minimizing/increasing bias and human error. |
| PR11 | Here we find another trade off. More effort spent on reviewing detail affects sustainability, however, this effort generates a product that is reproducible, thus setting up a trade off again.  It is interesting to explore how trade offs work and factors that when applied greatly increase quality, however, do not generate as much effort. | P06 | * Review detail is another trade-off that needs to be explored. The effort spent on detailing a product that is more reproducible and has future impacts should be further investigated. |
| PR16 | There is a difference between having to develop components that need to be reusable. Another thing is having to solve a specific problem that you only focus on the objective and don't worry about reusability. Being reusable in the review context will not have as much of an impact, as your decision within a review often depends heavily on the objective. It is possible that someone is inspired by your string and reuses some things. However, the researcher doing this for others to use will not have as much impact. | P06 | * There is an important difference between producing reusable components for SLR and solving problems specific to your study alone. * Reuse in SLR doesn't have as much impact as the components are very purpose-dependent and are hardly reusable. |
| PR17  PR18 | Modifiable and adaptability are important, but not so important. | P06 | * Modifiable and adaptability are not that important as it is very difficult to reuse components in SLR. |
| PR19 | Particular consideration should be given to the area in which the review is being carried out. Depending on the area it doesn't make sense to update this continuously. For example, in COVID research, researchers who decided to do a review after 1 year, the next year had a lot of work. Perhaps it would be interesting to let the research become a little more mature and then carry out the review. | P06 | * Depending on the area the review is being done, it doesn't make sense to continually update. Very new topics (such as COVID-19) and which are of very high interest, it may be interesting to wait for the area to mature before conducting a review. |
| PR23 | We often do systematic reviews that are not intended to contribute to the area, but simply because it fits into our master's or doctoral project. In this sense, the purpose of the review is more to learn from the reviews than to contribute. In addition, in the initial stages of research, we often do not know the research topic well, this hinders the author to really contribute in the area. | P06 | * In many cases the review is used for the researcher to learn more about the area than to contribute, thus, it is quite difficult that without experience in the area the researcher contributes significantly. |
| PR24 | In other types of studies (eg surveys) there is a current of thought that says that if the research is not intended to generalize about the population, it should not be accepted. This may be related to SLR, a possible adaptation is that if the review is not intended to contribute to the research area, it should not be accepted. And if you're conducting research like that, you should lean in that direction. | P06 | * There is a tendency among other types of research that if it does not contribute positively to the area, it should not be accepted. In SLR it may be necessary to adopt this same view. |
| CF3 | It is important to have knowledge, however, it is important to point out that part of this knowledge can be built throughout the process. | P06 | * Prior knowledge is important, however, it is possible that some of this knowledge is acquired during the process. |
| CF4 | It is important, but it is also not critical to the point of invalidating the result. | P06 | * I do not consider it critical to the point of invalidating the process. |
| CF5 | It may be that there are no revisions to be a base. In addition, worrying about creating elements that are reusable for other researchers may not be possible, however, making data available and easily accessible to researchers for reuse is critical. | P06 | * The concern to create elements that are reusable may not be feasible, but making the elements available and easily accessible to researchers is critical. |
| CF6 | From an effort point of view, if you don't adopt techniques for refactoring it is possible that you will fall into some pitfalls that could be avoided. The use of guidelines could help to prevent important studies from being left out, preventing concepts from being misinterpreted because a double-checking process was not followed. The guideline can avoid a problem that you could have in the future and force you to repeat a certain step. | P06 | * Guidelines can avoid common pitfalls in conducting SLR and that can lead researchers to repeat certain steps, consequently consuming more effort. |
| CF7 | There is a big trade-off in detail. I agree that it is important, however, one should analyze to what extent this documentation is worth, since most likely these steps will be little checked. | P06 | * One should check to what extent SLR detailing is worth it. |
| CF8 | The use of tools is critical, I myself have had many technical problems during SLR and without this support it is very difficult. There have already been cases that in the middle of the review I had to change the tool as it did not meet a need of mine. Often some meet some requirements but not others. There is no one tool that does it all. | P06 | * The use of tools is critical, in many cases incomplete or problem tools end up forcing the migration consuming even more effort. |
| CF9 | I think there is an impact, however, it is not critical. Even if the tool is not at a great maturity level, it is still possible to use what is relevant from it and complements its use with other tools. It takes a little more work, but it's not critical to be sustainable. | P06 | * There is an impact, but it is not critical. Even with tools with a low maturity level, it is possible to use several in a complementary way, but this undeniably takes a little more work. |
| CF10 | It certainly has a certain impact, but it's not that critical, as once you've used it once it doesn't become a problem anymore. | P06 | * It's not critical as once you learn the tool it's not a problem. |
| CF11 | The use of techniques such as snowballing for review conduction is quite interesting and has already been proven to bring good results. | P06 | * Using snowballing for driving is quite interesting and brings good results. |
| CF12 | I think that even including one person in the systematic review is already a tremendous impact. This addition can increase the quality, but it will generate more effort due to meetings, etc. | P06 | * Adding a single person to the process can already have a big impact. Thus, resource management is quite critical. |
| CF13 | Feasibility studies can be very critical if there are many studies, but if it's a new area it might not be that critical. It really depends on the area. | P06 | * In newer areas, feasibility studies are not that critical. However, in areas that already have many published studies conducting a feasibility analysis can be critical. |
| CF14 | Especially when the amount of studies is very large, minimizing efforts is essential. It is also important to consider the time range you are trying to update. Older revisions are more difficult to update, from an effort point of view maintenance is quite critical. | P06 | * When there are many studies available, minimizing efforts is essential, so from the point of view of effort the maintenance of SLRs is very critical. |
| CF15 | The iterative process is very critical and in several situations in my experiences with SLR, I had to stop and reflect on what was possible or not to do, creating new research questions. I'm very much in favor of the iterative process and that's pretty critical. | P06 | * The iterative process is critical as it gives the opportunity to better reflect and align the research objectives with what is available of information. |

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| PR01 | It is essential to verify that it already exists, as we spend much less effort on updating than if we had to conduct a review from scratch. It's possible that I won't find a revision that looks exactly the same, but I can find revisions that I can use as a basis for reusing elements in my revision. | P07 | * Checking what exists is essential to avoid conducting reviews from scratch, in addition, we can use elements from other SLRs as a basis for the review. |
| PR02 | We are not always able to reuse in full. Unless we're reusing components from a review that's in the same area with the same scope, then this might be easier. So if the scope is not the same we can reuse some things, but not everything. For example, the exclusion criteria we usually reuse a lot, however, the inclusion criteria are very specific and tend to vary a lot. | P07 | * It is not always possible to reuse everything, in general, reviews in the same scope can take advantage of some elements (e.g. selection criteria, quality, etc.) |
| PR04 | It would be interesting to explain better which Open Science principles should be better worked (since there are many). Also, it is not always possible to document everything and make everything available. | P07 | * It is not always possible to document everything in one review, so we should make it clearer which open science principles should be followed. |
| PR05 | Although it is very important to make documentation accessible and with recommendations accessible to readers, this is not always achieved. This is because in the view of the reviewer, everything is very explicit and clear, however, for readers this may not be so clear. That is why it is important to have external *Stakeholders* to participate in the review and give their opinion on the results. This is tacit knowledge and researchers are not always able to make it explicit. | P07 | * It is not always possible to explain everything in the documentation due to a bias of the researcher who is documenting. That is why it is important that external stakeholders participate and give their opinion on the clarity of the results. |
| PR08 | We tend to make a lot of changes throughout the review, not just in the pilot test. If you're too advanced, you can't go back too much either, since in that case a lot of refactoring is necessary and that becomes unfeasible. | P07 | * Many changes are made in the course of the reviews, not just in the pilot tests. But if the researcher advances in conducting the review, excessive refactorings can be harmful. |
| PR09 | It is difficult to predict over a long period of time as research evolves very quickly. However, when we do the driving the goal should be to have an impact and provide future directions for a long period or a considerable period of time. | P07 | * Research evolves very quickly, so it is difficult to predict the direction of the area over a long period of time. But it is important that reviews seek to have an impact and provide direction over a considerable period of time. |
| PR10 | We don't always get people to drive the SLR. This is often the task of the researcher/student and it is difficult to find collaborators committed to validating something. We always try to make responsible use of resources, however, this is not always possible. | P07 | * It is not always easy to find collaborators committed to research, responsible use of resources is not always possible. |
| PR23 | There is a bias among researchers, as we look at exactly what we want. But, we must also seek the scope of that topic as well. | P07 | * There is always a researcher bias, but we should seek a scope of that topic. |
| CF4 | It's not necessary for everyone to have experience, usually a project always has a leader (and that's enough). However, experience is undeniably important since even with all guidelines documented, there are often pitfalls that are not documented. | P07 | * Driving experience in the SLR process can avoid some pitfalls. But usually a leader who has experience is enough. |
| CF8 | Use of tools is essential, as I don't see how to conduct systematic reviews without supporting tools. Even though these tools are not specific to review they are very important (reference managers, Excel, etc.) | P07 | * Even though they are not specific tools for SLR, their use is essential and critical for conducting SLR. |
| CF9 | I don't think this is relevant, as we currently don't even have a mature toolset. We use tools that are available, but they don't always have that maturity. That doesn't seem so relevant to me. | P07 | * The maturity of the tools is not so relevant as the current tools are not so mature and we are still able to use them. |
| CF13 | I think that would only delay the delivery, it would require a greater effort. It's interesting, but I don't think it's feasible. | P07 | * Feasibility testing would only delay delivery and require more effort, so it is not feasible. |

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| PR01 | There may be systematic reviews that are on the same topic, however, they do not necessarily answer everything you are looking for. Overall, I agree that we need to consider other similar reviews and can't help but look. This research favors the research even avoiding bias of the researcher who is conducting it. However, it is very difficult to find everything we want in a single search. | P08 | * I agree that you should search for similar reviews and this contributes positively to the research, however, it is very difficult to find SLRs that deal with the exact same topic and have the same research questions. |
| PR02 | Component reuse is important, as some SLR activities take a lot of time and if we have something that has already been tested and tweaked it might be easier (eg string calibration). | P08 | * Reusing components is important, so if there are ways to use components that have already been tested and tweaked it would make the job easier. |
| PR03 | The result of a research is always important to be published, regardless of whether it is really of interest to the industry or academia at that time. A result published today may only become relevant after a long time for further research. | P08 | * Results should be published regardless of whether or not they are of current interest to industry and academia, as research can only become relevant after a long time. |
| PR04  PR05 | These issues, regardless of sustainability, should be obeyed, as this is a principle of SLR itself (reproducibility) | P08 | * Regardless of sustainability, documentation guidelines (for example) should be followed as these principles come from the SLR itself. |
| PR06 | As we mitigate threats, validity does influence it. Sometimes we find revisions that are not complete (not of good quality), so when we mitigate threats to validity this contributes to sustainability as we are saving efforts from another (future) team.  Considering sustainability, it is necessary to understand that certain decisions that the researcher makes have an impact on other researchers. In this context, if the researcher needs to redo or generate results that previous research proposed to do and did not do, we can naturally interpret that the previous research was not sustainable. | P08 | * The mitigation of threats to validity contributes to saving future teams efforts. Thus, sustainability must consider the impact of certain decisions on other researchers. In this context, it becomes unsustainable for an author to be forced to redo something that a previous research set out to do and did not do. |
| PR07 | It is important to follow the quality standards, however, it is necessary to review the current guidelines, as they may not be sufficient to conduct sustainable reviews. The best practices are without a doubt the best we have so far, but they could be refactored to consider sustainability. | P08 | * Best practices are the best we have so far, but current guidelines may not be sufficient to conduct sustainable reviews. |
| PR08 | Many of the problems that exist today are a lack of attention to protocol items. So, in some cases, during the course of the research, the author may lose the focus initially defined.  It may be that in some cases it is necessary to adjust a research question, but in general terms we should stick to the defined protocol. | P08 | * In many cases, the researcher deviates from the defined protocol and this can cause problems, in general terms, we should stick to what is defined in the protocol, with some necessary exceptions. |
| PR09 | It is difficult in the field of software engineering to define long-term goals due to constant change. However, at the same time, to be sustainable, the SLR should be able to be consumed for a longer time. | P08 | * Define long-term goals in the area of Eng. Software is difficult given the constant change in technologies, however, sustainable SLR should envision being consumed for a longer time. |
| PR11 | Detailing requires a lot of work, perhaps this goes in the opposite direction of what can be sustainable. On the other hand, the more details you record about the study you conducted, the more you can give evidence to other researchers to understand the best direction to take. So, I do believe that it should be detailed. | P08 | * Detailing requires work and this compromises sustainability, on the other hand, this effort is justifiable as it allows other researchers to better understand the decisions taken. |
| PR15  PR16  PR17  PR18 | Even though the cost to produce SLRs that have these features can be great, it's still worth it. Since the effort over time will be diluted in the general context of the research. | P08 | * It is worth putting more effort into producing understandable, reusable, modifiable and adaptable reviews as in the long run in the overall research context this cost will be diluted. |
| PR19 | In some surveys it is not interesting to continually update. | P08 | * In some surveys it is not interesting to continually update. |
| PR23 | This feature makes a lot of sense for sustainability. However, in many cases we are looking to know a specific topic to solve a problem that we are aiming to advance the state of the art, ie, questions directly related to research.  From a sustainability point of view, it would be interesting for the results to be accessible and useful to a large community, but this is not always possible.  But it's also possible that once you're conducting a review, you can still include questions that will be useful to a wider community. | P08 | * In many cases, the main objective of the review is to better understand the research area and identify research gaps, in which case it is not always possible to create accessible and useful results for the entire community. * It is always possible to include research questions that may be useful to a larger community. |
| CF3 | I think knowledge is important to unravel some things. Often we are not even able to synthesize results that you have found due to lack of knowledge in the area. | P08 | * Knowledge about the area is critical, as we are often unable to synthesize findings correctly due to lack of domain knowledge. |
| CF4 | There is the possibility that, even if a group has no experience in conducting SLR, they can carry out a really sustainable research. However, at least one person who knows the process is required. | P08 | * At least one person needs to know the process, but not necessarily the whole group. |
| CF7 | I could cite several ways in which knowledge sharing could affect sustainability, so I do believe it is critical. | P08 | * Knowledge sharing is critical and there are many ways that knowledge sharing could affect sustainability. |
| CF8 | Use of tools is critical, you can even drive without using them, however, looking at sustainability is very difficult. Tools today save a lot of effort, they are essential. | P08 | * Tools save a lot of effort and conducting revisions without the use of tools is impractical, meaning their use is critical. |
| CF11 | The reviews I've conducted so far have all been very traditional, so I don't have an answer for that. | P08 | * I've never conducted reviews that use these techniques, so I can't answer. |
| CF13 | It would be perfect if this could be done, however, in many cases this may be unfeasible. First, because this can be quite complex, and second, because the review you are doing is not for others, but for you. | P08 | * The review is designed to meet the researcher's needs, but if it could be done it would be perfect. |

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| **premise** | **comment** | **panelist** | **coding** |
| PR01 | The first thing I do with my students is this. Even before deciding whether to conduct a review. We do not conduct reviews without it. We start by checking to see if a revision exists, then check to see if it is recent. If we find any, we look to see if this review has the parameters we are interested in. We take care of the time issue a lot, depending on the topic, it's ok to take 10 or 5 year reviews, however, subjects that are more popular the time limit would be between 2 to 4 years. If we find one, we decide whether or not to supplement this review and don't invest time if there's already one two or three years ago. We followed what Wohlin suggests is using snowballing to complement. | P09 | * It is essential to check if other reviews exist and the decision to conduct a new one goes through an evaluation of the research topic. * We should also check the time elapsed since publication. Depending on the topic, it is acceptable to take 10- or 5-year reviews to reapply, however, for subjects that are more popular, the time limit would be between 2-4 years. |
| PR02 | In theory it would be fantastic, but the quality of the literature reviews that we see (apart from the top tier venues ), it is very rare to be able to take advantage of it. For example, we find many literature reviews in journals that are not even qualified in qualis , meaning they don't get on the international community's radar that they are interesting, they bring a valid result, however, we can't trust the process. Also, the material is not enough to be able to reproduce, for example, it reports some keywords from the string , but it doesn't show the logical operators ( why people don't use PICO to determine). Yes, we should reuse it, but that's not feasible given the status of community-led reviews. | P09 | * Yes, we should reuse the components, however, currently many reviews are published in little-known venues and are not rigorous enough to be able to trust the process. This makes reuse impractical. |
| PR03 | I can't even imagine any other way of thinking. It doesn't make sense if it's not useful to the community. My mindset is first I make a good result by making it useful and applicable and then I worry about where it will be published. My research is immersed in a technology park and 90% of the research is funded by the industry and the research is to fulfill contractual agreements. So first we try to fulfill the criterion of being useful to fulfill the agreement that we have and then we discuss where it should be published. Eventually, a student can't run at the pace the industry needs so we try to adapt that, but that never happens with literature reviews. When we arrive with partial results, it doesn't mean it's not useful, but it's partial. | P09 | * It makes no sense to publish reviews that are not useful to the community, so we must first fulfill the criterion of being useful, ie clearly understand the applicability of the results and then discuss other aspects of the review. |
| PR04 | The first thing I do with them is this. Juniors in the master's I sit with them and tell them to read group reviews, bring questions (what you need to know to be able to do the review) and I never let them do a review without taking the methods course. I have them study their peers' examples and I have them figure out what you need to do in practice (what tools do you need), find out good practices. I agree that we should try to save resources. | P09 | * I agree that we should adopt these effort-saving best practices and within my research group researchers are encouraged to discover these good practices during interactions with colleagues and by studying the research group's previous productions. |
| PR05 | There is research currently underway that already seeks to define quality standards for empirical studies (including SLR). By putting Paul Ralph's checklist in the hand of a student of mine, student was able to code an algorithm, so I think it would be important if we started documenting these best practices. For example, I have a student of mine who discovered how to customize strings to be used in different bases, however, he is in his last year, so next year there will be no one to pass this tip on to others. So, if this were written, it would make it easier, I think the community could have something like that, like an “ on boarding ” of the process. Also, the databases are horrible and they have become more commercial and are trying to hide how searches work. | P09 | * I strongly agree that we should establish a better way of “ on boarding ” in the review process. This would help researchers to adopt good practices and facilitate the transmission of practical and useful knowledge to group members, avoiding the loss of this knowledge. |
| PR06 | The concept of threats to validity is difficult to deal with, as there is no consensus in the community. For a more constructivist view, I usually work with the concept of limitation. Generally threats should be a risk mitigation mechanism and not just after the research reports threats (it should be considered a priori in planning). So I agree that we should mitigate these threats to validity. | P09 | * I agree that we should mitigate threats to validity and these threats should be considered (a priori in planning) as a risk mitigation mechanism. |
| PR08 | As an industry researcher where I can manage my own metrics, I would say that I strongly agree with iteration. However, as the context in which I do research is managed by the student's training deadlines  – today I do not conduct research with international partners, but the projects are always linked to the student's education and aligned with the company and the expected deliverables .  So I would say that making a literature review iterative in the master's cycle is humanly impossible. We try to make an effort to find previous revisions and only supplement them. In addition, there are doubts in the community today about the added value of doing systematic reviews. 10 years ago we were sure there was value and now we are questioning the added value of that. My decision is that the review is iterative, however, it is not feasible to do. | P09 | * In the context of academic research, making the review iterative in the short cycle of a master's degree is humanly impossible. So I do believe that it should be iterative , but this is often not possible to do because of the short time. |
| PR09 | I don't see the literature review as something that I am contributing to the community, but I do see the review as a mechanism that the researcher has to be the starting point for deciding the research design. The fact that I share these results with the community is simply to establish common ground with others. However, I don't see that the role of reviews would be to help the community over a long period of time, but I do think they are timely and informative. For this reason they can become obsolete very quickly.  However, my view is a constructivist different from a pragmatic researcher. In more pragmatic views, to do a controlled experiment I need to be absolutely sure of the definitions and where I can fit each definition into the variables of the hypothesis I want to test. So SLR is the basis of successful controlled experiment. In constructivism, SLR is simply to help understand the universe of the topic I am investigating. Even I don't always do it at the beginning, but at the end. To help me understand the phenomenon I'm researching. | P09 | * Reviews should be a tool used by researchers to help decide research design. I don't agree that they should impact the community over a long period of time, her contribution is timely and informative. * The view here can be constructivist and claim that reviews are just ways of understanding the context where the research is being conducted, but it can also be pragmatic and be the basis for conducting controlled experiments, in which case this premise might make sense. |
| PR10 | In our department, only 8% of students have a government grant, the rest come from industry. This means that we produce results in line with what the company is paying us. So my understanding of Saving time and due dates, outcomes and success criterias are always the driver of our work. It's not always easy in times of a pandemic, but yes, I strongly agree. | P09 | * The development of reviews must be completely aligned with the interests of the industry. In this case, saving time, deadlines, results are always factors that drive our work. |
| PR11 | I strongly agree, there are examples of students who have worked with me who have prioritized this and documented their process in great detail. For example, the search string , a student did a 7 page documentation of how she arrived at the final string . My dream is for students to reach this level, but I understand that for Master's students this is almost impossible, but for PhD students it is more feasible. | P09 | * Detailing is extremely important and it would be perfect if everyone got to a really high level of detail. In master's cycles this is more difficult, however, for doctorate it is more possible. |
| PR12 | I have worked a lot with my students that: “there is no point in doing something that you, reading later, cannot understand”. It needs to be documented, it needs to be so clear that I need to understand without having to talk to you. That's the goal of success for easily understandable. | P09 | * You need to document the artifacts so that I don't need additional information to understand them. |
| PR13 | I understand auditable more in the sense of being able to replicate later, than verifying that the author followed the standards. | P09 | * Audible should be understood more in terms of the possibility of allowing future replication than checking whether the revision complies with the standard. |
| PR15 | I don't like that word very much, but I understand that it expresses that it is possible to be replicable. | P09 | * I understand reusability as something necessary for the study to be replicated. |
| PR17  PR18 | A research group in 2017 replicated a 10-year-old review published in a university repository. However, at the time of publishing the article, the reviewers did not find this replication valid due to the lack of verifiability of the review (even though the report was highly detailed). In that case, perhaps with open science policies this would not have happened. In addition, understanding this as valid may be part of the maturity of the area | P09 | * I strongly agree that modifiability and adaptability are essential. Open Science policies address this issue and can support these features. But I believe that there is still a lack of maturity in the area in understanding how valid an update is. |
| PR19 | I believe that from the beginning you need to have a well-documented review. At every step, there must be conferences ( kappa ). However, stopping to document mid-review can cost time and delay deliveries. Thus, it is possible for people to understand that doing continuous assessment and documentation is valid to delay deliveries. I really like to go in “light” mode, I believe a lot in the agile vision, in which people are committed and they are doing their best. So in this case, with people following the agreements, documentation is a consequence and not a driver to attest to the quality of the process. This is a paradigm shift too. | P09 | * The review must be well documented, however, this process can be time consuming and disrupt the progress of the project. Verification steps must be done ( kappa ), but I believe that documentation should be the result of a good process and not a way to ensure that the process was done with quality. |
| PR20 | I strongly agree, I myself have published several systematic review updates. If it is possible to reuse quality elements produced by other people, it should be done. But I see that this is a community bias and any review that is not systematic is not accepted as valid. | P09 | * If it is possible to reuse quality elements produced by other people, it should be done |
| PR21 | In my experience, I had a mentor who taught me that every researcher should have a logbook and everything he does should be in the logbook. All diary data must be published through technical reports to support the research. Unfortunately, I wasn't able to reach that level with my students, as it takes a certain degree of maturity from the group. Supervision by more experienced researchers is important. I think this is essential, I have lived it and I see added value. | P09 | * All data collected from conducting the research should be recorded and I see a lot of added value in this. However, for this to happen in a research group, the group's maturity and the supervision of experienced researchers are necessary. |
| PR22 | I always start from this principle, that the work needs to be aligned with the stakeholders . I write status reports myself and need to attend meetings with companies. | P09 | * I always assume that research needs to be aligned with stakeholders and this is part of everyday life. |
| PR23 | I don't believe that in the long term I should help the community (conducting SLR), but I do believe that I must help my stakeholder at the moment I am conducting it. I always ask students what the use of that result will be. In addition, I always present the results in an executive summary format. We are learning to use canva to share this information in a visual format to disseminate in the company's communications journals . | P09 | * I don't believe the review needs to have long-term goals, but it needs to address stakeholder needs . |
| PR24 | I don't see that the reviews should have an impact on the research area, but on the stakeholder that is promoting it. | P09 | * Reviews should not prioritize the impact on the research area, but the stakeholders who are the target audience. |
| CF2 | In my experience, this participation is very important and the participation actions are well defined. When doing the planning with the industry I already enter with the students with a high level vision. In this case, we are already aligned with the stakeholder . When we started the project, every 15 days we align with stakeholders and these discussions never get too low, in fact the conversations take place at the business level. | P09 | * This participation is very important. In my experience this happens fortnightly and we align stakeholder expectations in high-level discussions and prioritizing the business vision. |
| CF3 | If I don't have a good understanding of the domain, I'm wasting time on my process. | P09 | * Understanding the domain is essential and if I don't know the domain I end up wasting a lot of time reviewing it. |
| CF4 | I increasingly agree with this, as there is a clear difference between putting together a group of articles and punctuating a few details. It's another thing to conduct a review and say what I learned from it, and show trends. I have convinced myself that revising a master's degree is almost impossible. | P09 | * The participants' experience in conducting SLR is critical, as novices have a hard time creating an overview of the area and reporting really relevant results. |
| CF5 | It's important, but if I can't do that, I shouldn't be stuck in production. | P09 | * It's important, but production shouldn't suffer if I can't provide this feature. |
| CF6 | There is still a bias in accepting update articles that use these snowballing techniques to update the SLR (for example) | P09 | * There is still a bias in accepting update articles that use these snowballing techniques to update the SLR (for example). |
| CF7 | It is very difficult to do this as people are not used to sharing information and documenting. Also, many are at a different level of education. But this is very important | P09 | * Knowledge management and transfer is essential, although there are some difficulties due to the different level of training and the lack of a culture of sharing and documentation. |
| CF8 | In this case I will not look at the tools I know, but the tools as a whole. We need tools for automation. I don't currently use specific tools, but I use Excel and they are essential | P09 | * In this case I will not look at the tools I know, but the tools as a whole. I agree that we need tools for automation |
| CF9 | There are demands (such as production monitoring) that could be implemented and do not exist. In this case, as a supervisor, I could do my role better if there were tools for it. | P09 | * The maturity of the tools is essential and if there were more robust tools, the members of the process would gain more efficiency to perform their role. |
| CF11 | I don't think it's a critical factor, if it's in the sense of automation. In my context, I prioritize evidence that the results are reliable. For example, with the commercialization of databases, they hide the functioning of the search engine. So if I insert a layer still above the databases I'm emptying the possibility of finding relevant things reliably. | P09 | * It's not a critical factor, as I prioritize reliability. Currently, these techniques do not yet have concrete evidence that they work with complete reliability. |
| CF13 | I think if we can get to a degree of maturity where we have good resources and the articles are well written and the abstracts are useful. Feasibility studies would spare a lot of literature reviews that don't make any sense. | P09 | * I think if we can get to a degree of maturity where we have good resources and the articles are well written and the abstracts are useful. Feasibility studies would spare a lot of literature reviews that don't make any sense. |

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| PR01 | This extends to any other type of secondary study, be it mappings or rapid reviews . So if there is a secondary study in the area this should be considered, for example a mapping study can be evolved into a systematic review adopting a standard for comparison. | P10 | * It is necessary to check any type of secondary study, as other studies may also meet some needs. |
| PR04 | There are some practices that can be leveraged on both (both by future teams and current teams). For example, open Science is useful for both current staff and people in the future. In this case we can face “ current research team ” as the entire research community involved, so the results of a research can be enjoyed by everyone. For example, there are mappings that even the search string finding the study for some unjustified reason the work is excluded, thus, this attitude of the current research team ends up interfering in the area. | P10 | * We must consider practices such as open science capable of benefiting the entire research community and not just future researchers. |
| PR07 | I'm not sure how much the standards we use to date are aligned with this sustainability issue. I agree that we must follow a standard, however, the question remains how much these standards favor sustainability. There has even been a great evolution of the techniques for secondary studies that have been proposed over time to ensure the reliability and quality of the studies, however, it is doubtful how much this is in line with sustainability. In addition, there are still other factors that influence, for example, when I started to conduct secondary studies myself, I followed the guidelines, however, I didn't worry too much about snowballing for example. After a few years as a teacher I ask my students to lead and I already think about which type of secondary study best fits the objectives outlined. | P10 | * The question remains to what extent the defined standards and also those that have evolved over time are aligned with the vision of sustainability. * There is also a matter of maturity that, over time, the researcher is able to better understand what the best standards should be adopted. |
| PR08 | There are some changes that are simple to make, for example, changes in the extraction fields (extraction form), in this sense it makes no sense not to be able to modify the protocol after the pilot test. It needs to be clearer what the main changes are, for example, change in the search string is very critical and can greatly disrupt the conduct of the study, but other aspects are acceptable. | P10 | * There are some acceptable changes (eg extract form) in this sense keeping the whole process iterative is interesting. However, deeper changes like the search string are more difficult to make. |
| PR09 | It is difficult to understand what long-term goals are, as there are areas that evolve very quickly. So I believe that this is not closely linked to the objective of the work, but the way in which it was done (structure, protocol, insights) supports for a long term that other studies use it as a basis. In this case, this study is turning into a seminal paper and helps to compose arguments since it was important in that period. So the long-term is linked to the protocol itself and how this item will support new research, that is, the protocol will be reproducible for a longer time. | P10 | * Long-term goals may be much more linked to the way it was done (structure, protocol, insights) that support other studies to use it as a basis, that is, the study protocol becomes reproducible for a longer time. |
| PR10 | Reducing time consumption is more related to a strategic objective, which may be related to the training of the person or the organization they are part of. For example, if I adopt rapid review is because I want to reduce the time and it is also more aligned with the goals of using the results. There are elements that can and should be used to reduce time, for example, tools to refine strings or tools that use machine learning . However, the pressure for excessive reduction of resources undermines the synthesis, the results and several other aspects of the review. | P10 | * The reduction of time can be done, however, when it is excessive it can harm the work, thus, it must be done with awareness of the objectives of the work and also not harming the quality of the results. |
| PR16 | When we talk about reuse, we need components that fit perfectly in our study. In this sense I need to understand if this is really reusable (we can trust that that item is usable and will not introduce problems). | P10 | * There must be a way to verify and validate if the component is really reusable, that is, if it has been validated and does not introduce problems in reuse. |
| PR19 | The update must occur organically, that is, according to the needs of the community. | P10 | * The update must occur organically, that is, according to the needs of the community. |
| PR21 | It is necessary to think of structures or ways to store this. Thus, it is necessary to understand what evidence we need to store. It is necessary to discuss a format that allows to reduce the impact of this | P10 | * It is necessary to think of structures or ways to store this. Thus, it is necessary to understand what evidence we need to store |
| PR22 | Stakeholder needs do not always need to be fulfilled, it is necessary to align and reconcile with scientists who also have their needs. Thus, research questions reflecting stakeholder needs can lead to bias. Not always who will read the review is the expected audience, that is, this review should not be focused on serving a single group of people.  Research does not just fall into the sustainability of an SLR being reused several times, when we think about research, we must also think about the impact of research for those who perform it, for those who consume it and several other developments around it. Also, a computer for a long time emitting light and energy has an impact as well. That is, the impact that SLR generates on other types of sustainability (in the case of software). | P10 | * The needs of stakeholders do not always need to be met in research questions, it is necessary to align and reconcile with scientists who also have their needs and avoid bias |
| CF3 | It may happen that when driving SLR you are looking to build a body of knowledge. | P10 | * It may happen that when driving SLR you are looking to build a body of knowledge. |
| CF4 | Members' experience interferes, this is critical . However, it is not necessary for everyone to have this knowledge, but at least someone who has experience. | P10 | * Members' experience interferes, this is critical . However, it is not necessary for everyone to have this knowledge, but at least someone who has experience. |
| CF13 | Already enter the pilot | P10 | * Already enter the pilot |