User Guide

PM4R AGILE

IDB

User Guide

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Introduction

The Project Management for Results (PM4R) adventure started in 2011 with the development of a methodology based on the PMBOK® Guide, the international standard for project management of the Project Management Institute (PMI®).

PM4R is the first project management methodology for development and social impact projects in Latin America and the Caribbean.

As a result of continuous successes in applying the PM4R methodology to the management of projects financed by the Inter-American Development Bank, the PM4R Agile approach presented here constitutes a leap into the future for the management of development projects.

PM4R Agile is an approach to managing projects or parts of projects iteratively in short cycles that allow for frequent and valuable deliveries that show results in the short term. PM4R Agile does not replace the PM4R methodology but instead complements it, particularly to manage certain critical work where time is the most important element to control.

The PM4R Agile approach is based on the PMI® Agile Learning Guide and gathers good practices from Agile PM (Prince 2) and Scrum.

It represents a cultural change in the management of Development and social impact projects and, in particular, a new way of working by the people who make up the team of a project.

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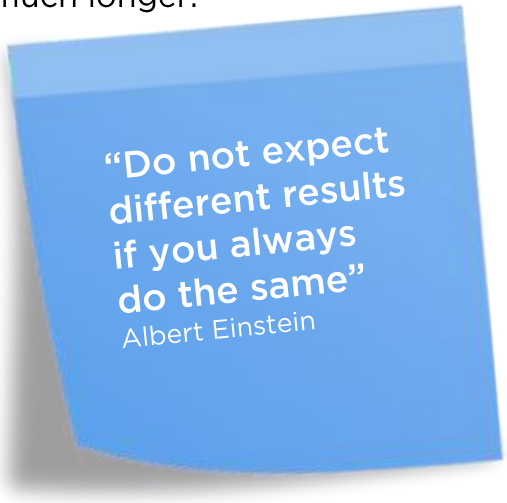
Project Management for Results

This 3rd edition of the guide is a product of more than three years of successful experiences with workshops in more than 12 countries in Latin America and the Caribbean and with different projects, ranging from providing drinking water to the population and improving road infrastructure to strengthening public safety systems for citizens. In these workshops where the main stakeholders participated, a non-traditional approach was used so that the projects could obtain results with more value in less time.

PM4R Agile is based mainly on the Lean philosophy (eliminate waste, involvement of all, and continuous improvement) that originated in the Japanese automotive industry. The Agile practices that derived from it were initially used in the software development industry and then applied to all different types of projects. Now the PM4R Agile methodology is being introduced for the first time for Development and social impact projects in Latin America and the Caribbean.

The purpose of this document is to serve as a quick implementation guide for visionary teams that are willing to make a radical change in the way they manage their projects and the most critical work. By using PM4R Agile, your list of successful projects will be much longer.

Ernesto Mondelo
Founder PM4R



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The Agile Fundamentals

Basic principles

Why should we use a project management approach that is different from the one we already know? The answer is simple: projects need an adequate approach to the particular situation they are going through, especially those projects that are carried out in a complex, changing, and uncertain environment.

This new approach is based on the following principles:

Change is welcome

One of the fundamental principles of traditional project management is to try to influence the factors that cause changes so that they do not happen or are minimal. Agile sees this differently: it is expected the project requirements will change and indeed we welcome those changes, even if they happen late in the project. Responding quickly and adapting to change can give project beneficiaries a significant competitive advantage when opportunities arise.

Work in small increments of added value

Agile teams do some planning, deliver something of value, get feedback, and repeat the cycle.

Use short execution and feedback cycles

The point is to quickly put a result into the hands of the users or beneficiaries that can be used and to obtain valuable feedback about it.

Learning through discoveries

In Agile teams, having specialists with a broad set of skills is encouraged, which means people who can assume different roles during the execution of the work and who are willing to learn by doing.

Execution driven by value

To maximize success, the team tries to deliver high-value components as soon as possible, before things change or move in another direction. Another reason is that stakeholder satisfaction plays a substantial role in the success of the project.

It is acceptable to be wrong, but the team has to react quickly to mistakes and learn from them

In the traditional approach, if mistakes are made, they are discovered at the end when nothing can be done to fix them. The Agile approach includes short execution and feedback cycles where mistakes can be discovered early and corrected before the next cycle.

Continuous delivery

Agile teams deliver results quickly and continuously.

Continuous improvement

This refers to Deming's cycle on continuous quality improvement: Plan, Do, Study, Act.

Applying these principles and making them our own will not only make us use different tools, but also lead to the desired change in mentality:

The Agile mentality

Characteristics of social impact and development projects

The final goal of development projects is to obtain concrete results that can boost the socio-economic development of a country or region. The projects are carried out under socio-economic assumptions that correspond to a logic of gradual change whose long-term results are only achieved through the achievement of intermediate results. Projects must respond to this logic by generating intermediate results on a path of change whose ultimate goal is to obtain sustainable results in the long term.

These characteristics are ideal to use as a different approach to the traditional project management approach to achieve the different results. In addition, more and more Development and social impact projects have to do with the generation of knowledge – for example, a project to create a new justice system or to produce regulatory improvements. These projects that generate knowledge have the following characteristics:

- Less structure with more decisions
- Autonomy for the execution of the work
- Continuous innovation
- Focus on quality
- Continuous learning and teaching
- Treat employees as capital, not as costs

So, if we combine the characteristics of Development and social impact projects with those of projects that generate knowledge, and if we take into account that stakeholders in both types of projects are diverse, we have the ideal base to apply an Agile approach. In addition, the execution of these projects is characterized by uncertainty and risks, so the process has to be empirical, that is, iterative and incremental with frequent revisions and adaptation.

Communication and collaboration in this environment are crucial to avoid frustration and failures.

Agile mentality

The goal of Development and social impact projects is to enhance the socio-economic development of a country or region, and they are carried out under assumptions that go through multiple changes. Therefore, flexibility and resilience are indispensable to achieve results. These projects need an adequate approach to the particular situation that they are going through, particularly projects undertaken in a complex and changing environment.

The Agile mentality represents a cultural change in project management in terms of flexibility, high performance, and frequent results of value. When we speak of Development and social impact projects, PM4R Agile promotes a new way of working for the project team to get better-value results in less time.

This means that project teams must progressively change with the final goal of getting the attitudes among the team to develop naturally.

- The Agile approach to projects is an iterative and incremental method of managing activities in a very flexible and interactive way.
- Agile methods aim to respond to high levels of change and to the continuous participation of stakeholders.
- Being Agile is not simply a matter of using a certain set of tools or practices or following a specific methodology. Agility implies adopting a new way of thinking that is based on Agile values and principles.

> **"It is not the strongest of the species that survives, nor the most intelligent that survives. It is those the one that is most adaptable to change."**
> Charles R. Darwin

- Being Agile begins by making the Agile mentality a habit, then using that understanding to select and implement the right practices, adapting them to different situations as needed.
- People are the central focus and the fundamental purpose of Agile projects, so clients, beneficiaries, and project teams must work together closely with constant communication and feedback.

Agile triangle

In the traditional approach we were accustomed to defining the scope of the project first and then planning its duration and cost. Both were defined precisely according to the agreed-upon scope, and if it was necessary to make some adjustment in time or cost, this had a direct impact on the scope.

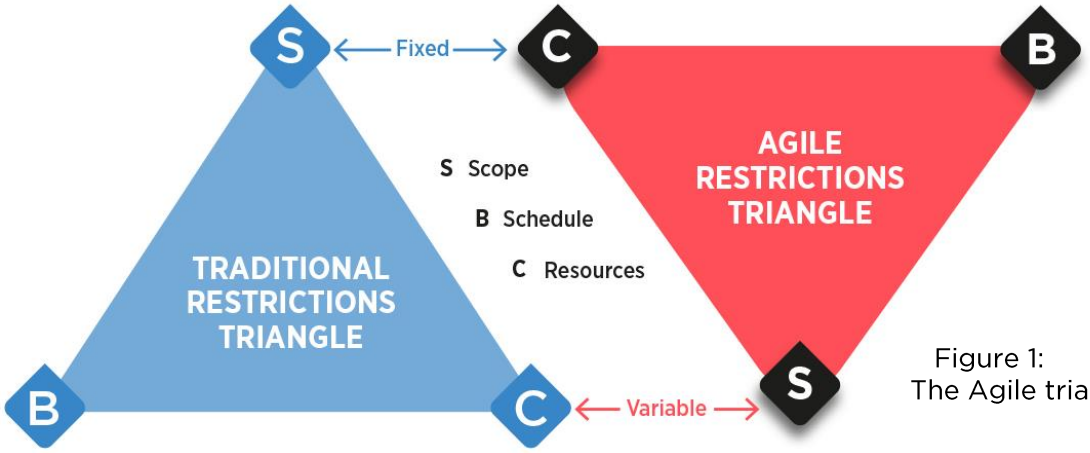

Figure 1:
The Agile triangle

In contrast, in the Agile approach, cost and duration are fixed. The scope varies depending on the delivery of value to the beneficiaries in each iteration or sprint, keeping in mind the final result of the project envisaged at the beginning.

Development and social impact projects have a results matrix that defines the final goals of the interventions and their expected impact. A "variable" scope does not mean that today we want one project result and tomorrow we want a different one, which could change the matrix. It means that while we generate value in each sprint and gradually deliver portions of the work, that work is checked to determine if the obtained value will allow us to achieve the expected benefits of the project within the time and cost constraints.

For example, imagine that we are developing the procedural manuals of a new criminal justice system (a project that generates knowledge). Do you agree that, in this type of project, we could continue to add figures, examples, references, activities... "indefinitely"? Or maybe it is not necessary to provide this level of detail in order to deliver the expected result to the beneficiaries. Therefore, we set a fixed delivery date and a budget. This means we set the time and cost as fixed.

Agile manifesto

The Agile Manifesto includes a statute with four values and 12 guiding principles:

”We are discovering better ways to develop software both from our own experience and from helping others”

This manifesto was created during a meeting of software developers and software methodology experts convened by Kent Beck to discuss new techniques and development processes. At this meeting, held in February 2001, the term “Agile Methods” was created to define alternative methods to the traditional methodologies that at the time were already considered excessively cumbersome and rigid due to their prescriptive nature and heavy dependence on detailed planning prior to development.

The 12 principles are:

1. Our highest priority is to satisfy the customer through **early and continuous delivery of valuable software.**

2. **Welcome changing requirements,** even late in development. **Agile processes harness changes** Agile processes harness change.

3. **Deliver working software frequently,** from a couple of weeks to a couple of months, with a preference to the shorter timescale.

4. **Business people and developers must work together** daily throughout the project.

5. **Build projects around motivated individuals.** Give them the environment and support they need, and trust them to get the job done

6. **The most efficient and effective method of conveying information** to and within a development team **is face-to-face conversation.**

7. **Working software** is the primary measure of progress.

8. **Agile processes promote sustainable development.** The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

9. **Continuous attention** to technical excellence and good design enhances agility.

10. **Simplicity –** the art of maximizing the amount of work not done – is essential.

11. The best architectures, requirements, and designs emerge from **self-organizing teams.**

12. **At regular intervals, the team reflects on how to become more effective,** then tunes and adjusts its behavior accordingly.

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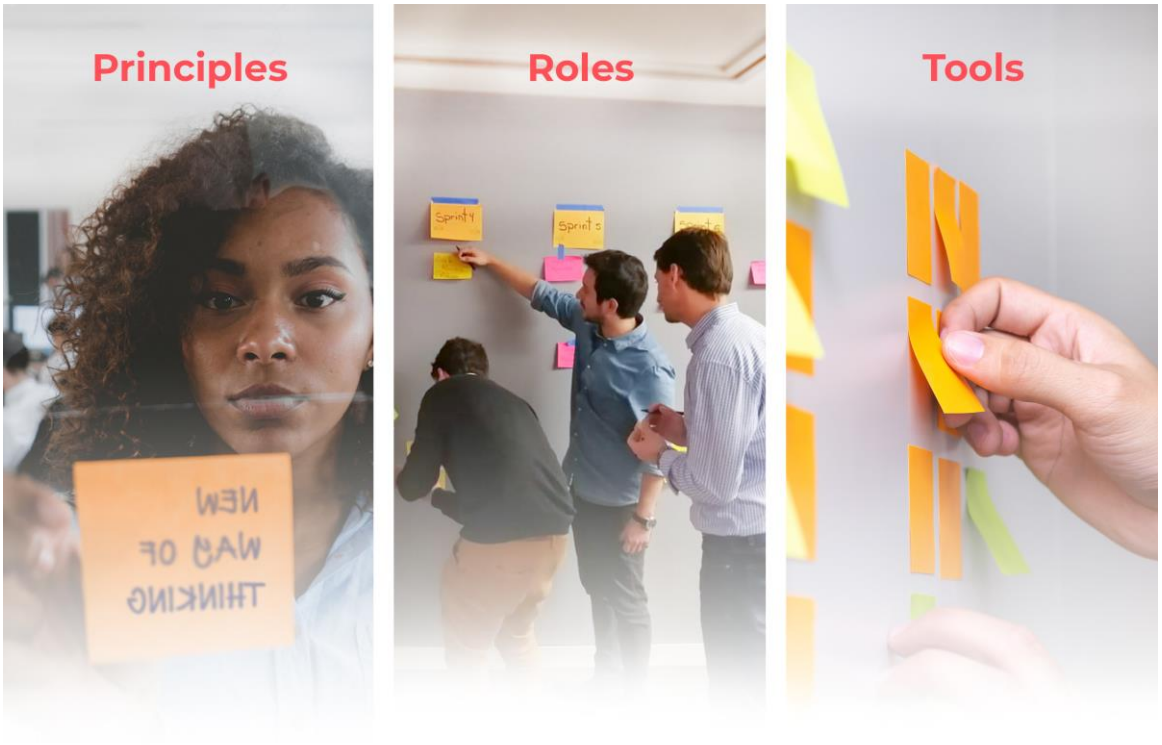
PM4R Agile Methodology



PM4R Agile methodology

The PM4R Agile methodology is a set of principles, roles, and tools designed to guide the team towards an Agile execution of the project through five simple steps.

This methodology focuses on the project's priority tasks, which are those that add the most value for the beneficiary and allow for showing results in a short period of time.

Principles

As mentioned above, the Agile approach is, above all, a change of mentality, and it works when this way of thinking is embraced by a visionary project team that is willing to change the way they work.

PM4R Agile is based on three principles:

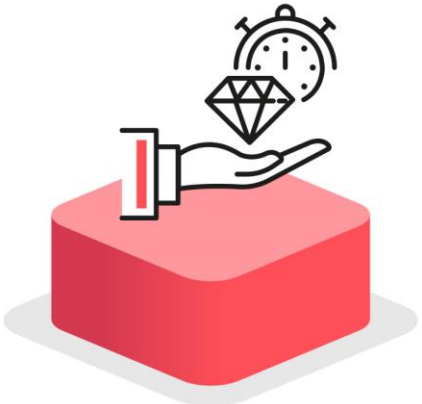
1. Commitment to the result

The commitment to the result comes when the team works together in a collaborative and coordinated way to achieve the project results. Everyone understands the shared goal and does their part to achieve it in an environment of mutual trust.

To achieve this goal, the teams prioritize the wellbeing of people and their interactions rather than processes and tools. This generates trust within the team and facilitates collaboration among team members, avoiding working in silos.

The team is self-organized and they structure their joint effort to carry out the work. The team understands the importance of delivering on time to achieve the goal, and team members are aware of the contributions required of them to make that happen.

By understanding the value of the result and their contribution to it, and by having the capacity to make the decisions needed to meet these objectives, team members are empowered. This strengthens their commitment to the result of the execution of the project.



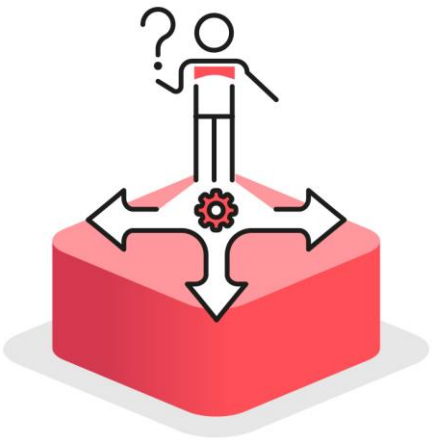
2. Frequent Deliveries of Value

When we say frequent deliveries of value, two concepts need to come to mind: iterative and incremental. Development and social impact projects are implemented gradually, and in the language of projects, change is the action of leaving one situation in order to take on another.

This principle comes up when we undertake change in an iterative or repeated way. For each one of the repetitions, we continue adding value to the previous iteration. This allows us to continuously deliver the value generated by the project without having to wait for it to be completed, making the results more visible in a shorter amount of time.

In Agile teams, deliveries are made frequently in very short cycles called "sprints" (time is a fixed restriction) that put the results in the hands of the beneficiaries quickly. In this way, teams make the results more visible, fostering transparency in project management and allowing for continuous feedback. This simplifies the process of inspecting the deliverables when possible errors are detected and corrected prior to the next cycle.

To determine how and when to make small deliveries of the project's value, we need to understand its value to the different beneficiaries, stakeholders, and project team members, and then prioritize the deliveries, as we will see going forward.



3. Adaptation to Change

As we have seen, change is the action of leaving one strategy in order to adopt another. We see on a daily basis how Development and social impact projects evolve in changing environments. Given the uncertainty that can be caused by deviations, we need to address them quickly. Deviations can happen as a result of changes involving the project team, beneficiaries, communications processes, contracts, a risk that arises, or other unexpected contingencies.

However, as we said at the beginning, in Agile, change is welcome.

During the execution of the project, the experience and learning that generates the retrospective of each "sprint" allows for increasing the efficiency and effectiveness of the response and quickly addressing any deviations that arise. Adaptation to change continues to improve throughout the life of the project and is strengthened through empirical control of the processes.

Roles

The characteristics of Development and social impact projects make it difficult for them to be managed by one person That is why we speak of project teams and not individuals – that is, multidisciplinary teams whose common objective is to achieve the project results.

In the PM4R Agile methodology, the following roles have been defined:

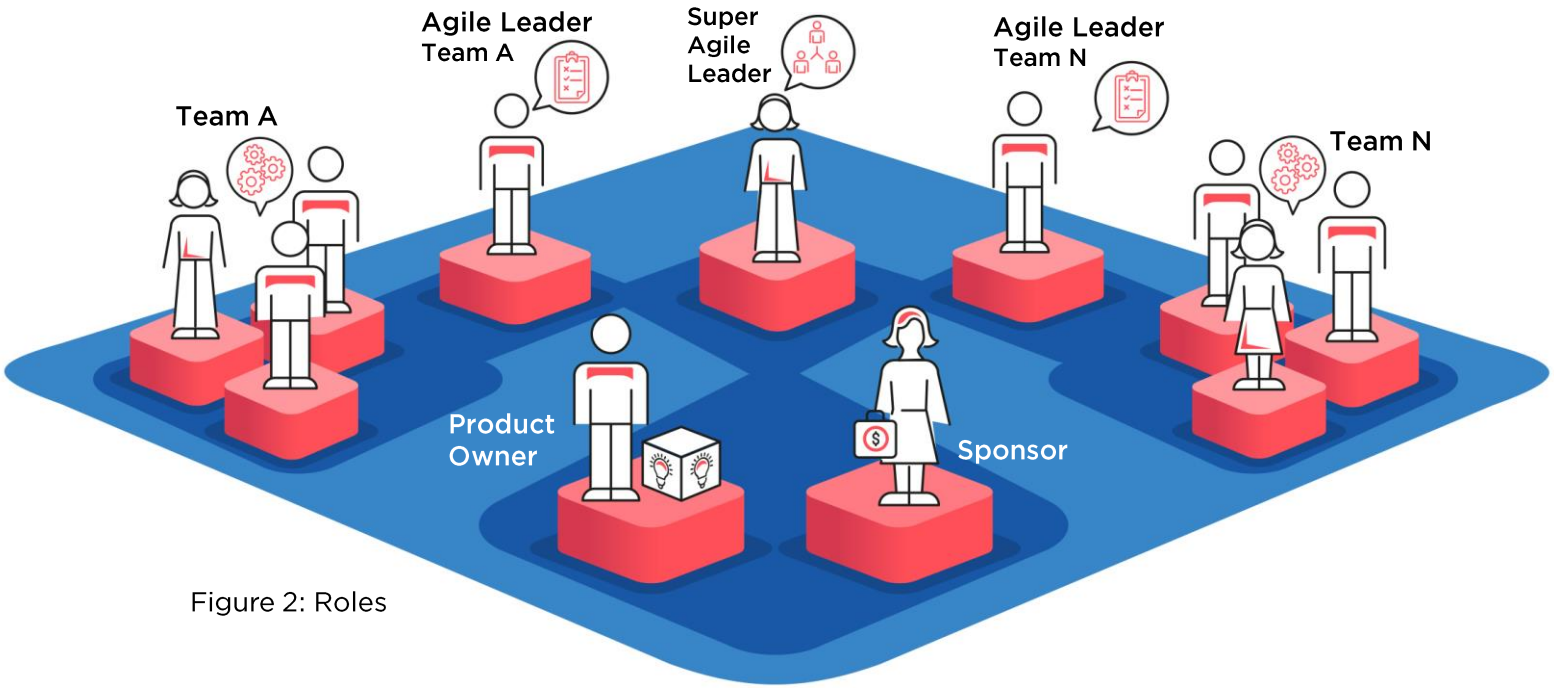
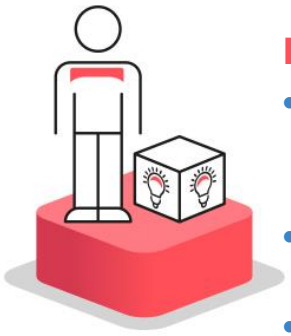


Figure 2: Roles

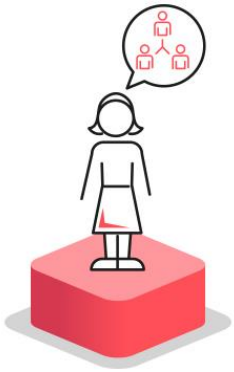


Product Owner

- Is the sole authority responsible for deciding the characteristics and functions that the final result or product of the project will have.
- Is in charge of prioritizing the work in terms of its value for the beneficiaries.
- Approves or rejects the work done in each sprint and redefines the priority of the work that was rejected.
- Represents other users and stakeholders.

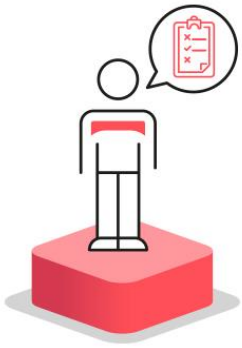
Sponsor

- The sponsor promotes and provides resources and support for the project and is responsible for facilitating its success.
- Serves as the project spokesperson to high levels of management.
- Participates in the authorization and/or change in the project scope, end-of-phase reviews, and decisions on the continuation of the project.
- Is responsible for the result of the project.



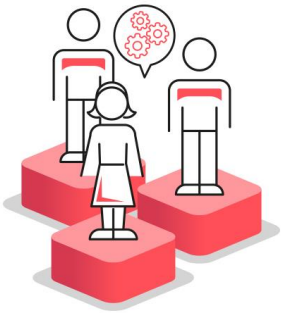
Super Agile Leader

- Coordinates the Agile leaders to ensure that the priorities established by the product owner are maintained.
- Supports each Agile leader in resolving the problems or impediments faced by each team.
- Provides assistance with respect to resources and the authorization of work.
- Serves as the bridge between the work teams and the product owner and the sponsor.



Agile Leader

- Owns the process and is responsible for adapting it to the particular conditions of the project.
- Manages obstacles faced by the team and coordinates control activities.
- Is responsible for ensuring that the work committed to gets done.
- Leads retrospective meetings, taking note of lessons learned and looking for opportunities for improvement.



Agile Team

- Responsible for defining how the work will be done.
- It is recommended that the team have a limited number of members and work in close physical proximity.
- Agile teams work best when they are made up of experienced, skilled, and highly self-directed persons/members.

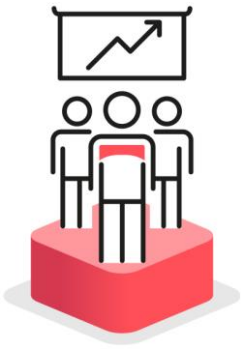
At the beginning of this chapter, it was mentioned that this Agile methodology works when it is used by a visionary project team that is willing to change the way it works. It is also required that the team is self-organized, which means the team members can commit themselves, resolve conflicts, and work towards a common goal. All team members are collectively responsible for everything, which means that the responsibility for the outcome of the project is shared. Self-organization provides a way for the team to succeed, fail, adjust, and improve together. Agile teams work best when the team consists of experienced, skilled, and self-directed persons.

According to Schwaber and Sutherland, an Agile team could have 7 ± 2 members.
If the teams are small, they develop better relationships and communicate more directly. Team members must have complementary skills and be committed to a common purpose. The team must share ownership of the project result.

Regarding the participation of team members, each one is expected to make a positive and measurable contribution to the success of the project. The key is that the contribution of each member should be visible to the whole team. Team motivation should increase as each team member contributes to the success of the project.

Having team members who can perform different tasks helps minimize having members doing nothing and avoids peaks and valleys in their workload. Broadening the skills of specialists so that all team members can do different tasks helps solve bottlenecks, sharing the workload.

According to Carl Larson and Frank LaFasto, high-performance teams are built as follows. They:



- Create a shared vision for the team.
- Set realistic goals.
- Limit the team to 12 or fewer members.
- Build a sense of team identity.
- Provide strong leadership.

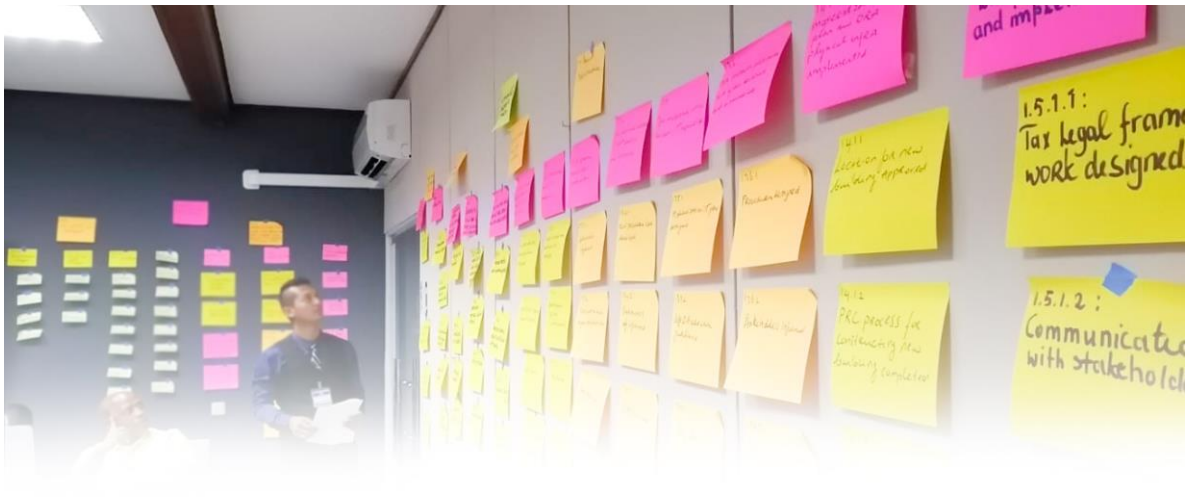
In development projects, you typically have an Agile leader and one team for each project component.

Leaders who use the PM4R Agile methodology recognize that it is team members, not them, who do the work and achieve value for the organization and the beneficiaries. They provide what the team needs, remove the impediments to its progress, and perform support tasks to maximize its productivity. This type of leadership is called *service leadership*.

There are five clear actions that highlight this type of leadership in Agile leaders:

- Protect the team from interruptions.
- Remove the impediments to progress.
- Limit the team to 12 or fewer members.
- Communicate the vision of the project whenever it is necessary.
- Provide the team with what it needs to do its work.

The Agile leader is not a filter or control for decision-making, but rather is in charge of making things happen so that the team can progress and fulfill the project objectives.



Tools

Priority Work

Teams that manage their projects with the Agile mentality focus their efforts on work that adds value, prioritizing it within the overall scope of the project. Toward this end, the product owner, with the collaboration of the team, orders the work into a list of the elements required to create the product or final result.

This list is called the product "backlog" or prioritized product list, or the priority work list.

This process also defines the criteria for joint acceptance of each prioritized element, which will be used by the product owner to accept or reject deliveries presented in the review of the "sprint."

Work that is rejected should be included again in the list for the next "sprint."

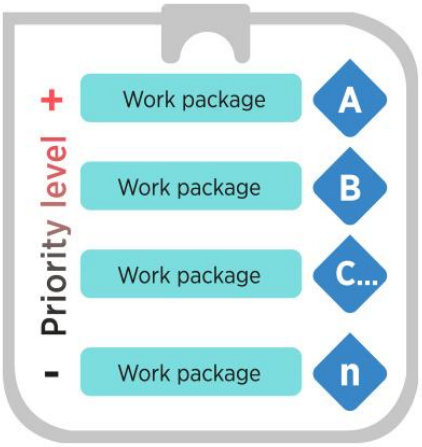


Figure 3. Priority work packages

Sprint

Agile projects are divided into consecutive periods of fixed duration called sprints. For Development and social impact projects, it is recommended that the sprints last two weeks, but that will depend on the complexity and characteristics of the project.

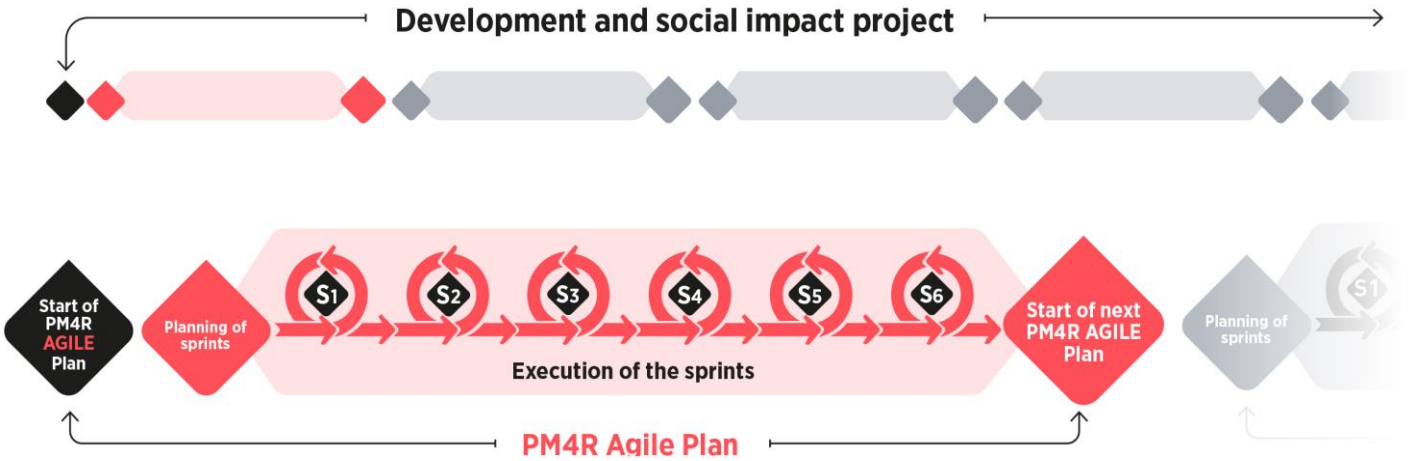


Figure 4: The PM4R Agile

The PM4R Agile Plan

The PM4R Agile plan is comprised of the subset of work packages selected by the team from the Work Breakdown Structure (WBS) for each of the six sprints. The set of work can be decomposed to the level of tasks. It is important that when selecting the work packages, the team estimates the complexity and time required to get them done in order to make sure they can be completed in the sprint.

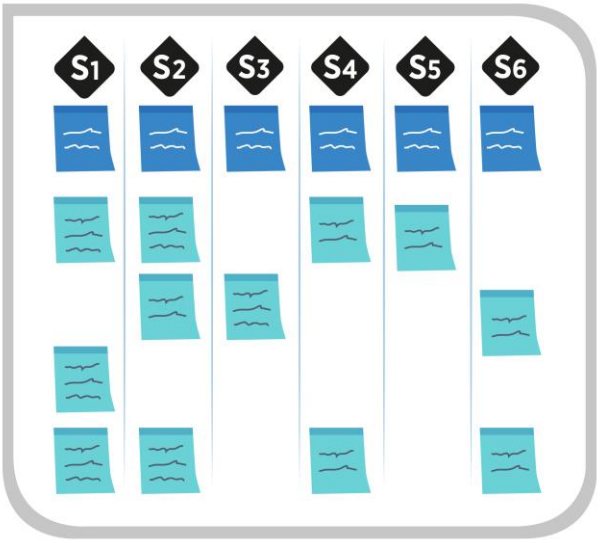


Figure 5: The PM4R Agile Plan

In the event that a work package requires more time than a sprint lasts, it will have to be decomposed into smaller parts that will be programmed in the other PM4R plan sprints. If it is not possible to decompose a work package because of its nature, then in each sprint it will be necessary to program a partial result that serves as a control. For example, in an acquisition, which usually lasts more than two weeks, the minutes, reports, or any other document will have to be included in each sprint to indicate the progress of that work.

It is recommended that an Agile plan be developed every three months until the project is concluded.

Kanban PM4R Agile

"*Kanban*" is a Japanese word that, translated literally, means "card with signs" or "visual sign." In PM4R Agile, "*Kanban*" is a board in a visual format that enables us to identify the progress of the work of each sprint using four columns: "To do," "In progress," Pending acceptance," and "Done."

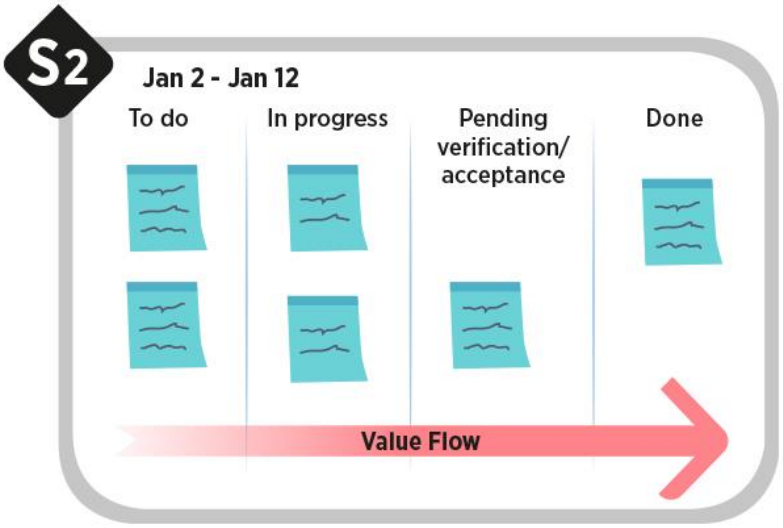


Figure 6:
Kanban board

In the first column or the "To do" column, the work is placed in the sprint. At the start of the sprint all of the work will be in this column. Once execution of the work starts, the work is moved towards the "In progress" column, and when it is completed, it is moved to the "Done" column. Ideally, at the end of the sprint you would expect all of the work to be completed.

Activities

Analysis of the existing elements of project planning

The key stakeholders of the project, team members, sponsor, personnel of the financing group, and any other person whose participation is important meet to analyze the existing project planning instruments, such as the project plan (the PEP and AOP for IDB projects), the WBS, and any other of the project's planning elements. If there is not a WBS or the WBS is not sufficiently detailed, it has to be developed, since it is the base for the selection of priority work.

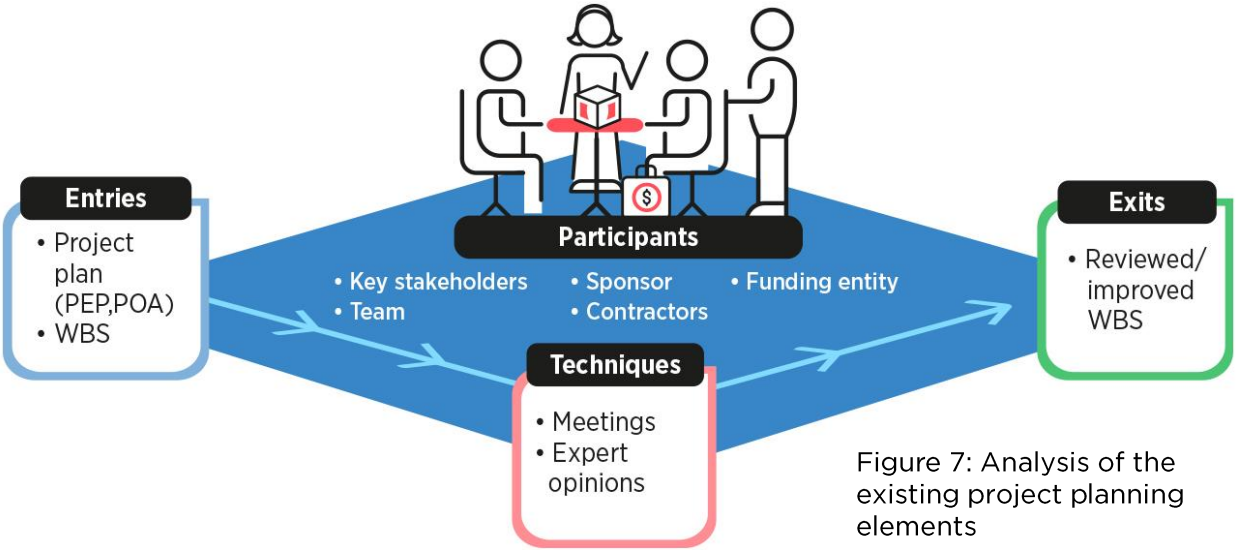


Figure 7: Analysis of the existing project planning elements

Prioritization of Work

The product owner, with support from the team, identifies which products resulting from the WBS are priorities. These can be part of the critical path or be defined based on their relevance given the project circumstances, and therefore their delivery should be completed as quickly as possible.

It is important to undertake prioritization that is selective because, if 100 percent of the scope were to be prioritized, the concept of priority would become irrelevant.

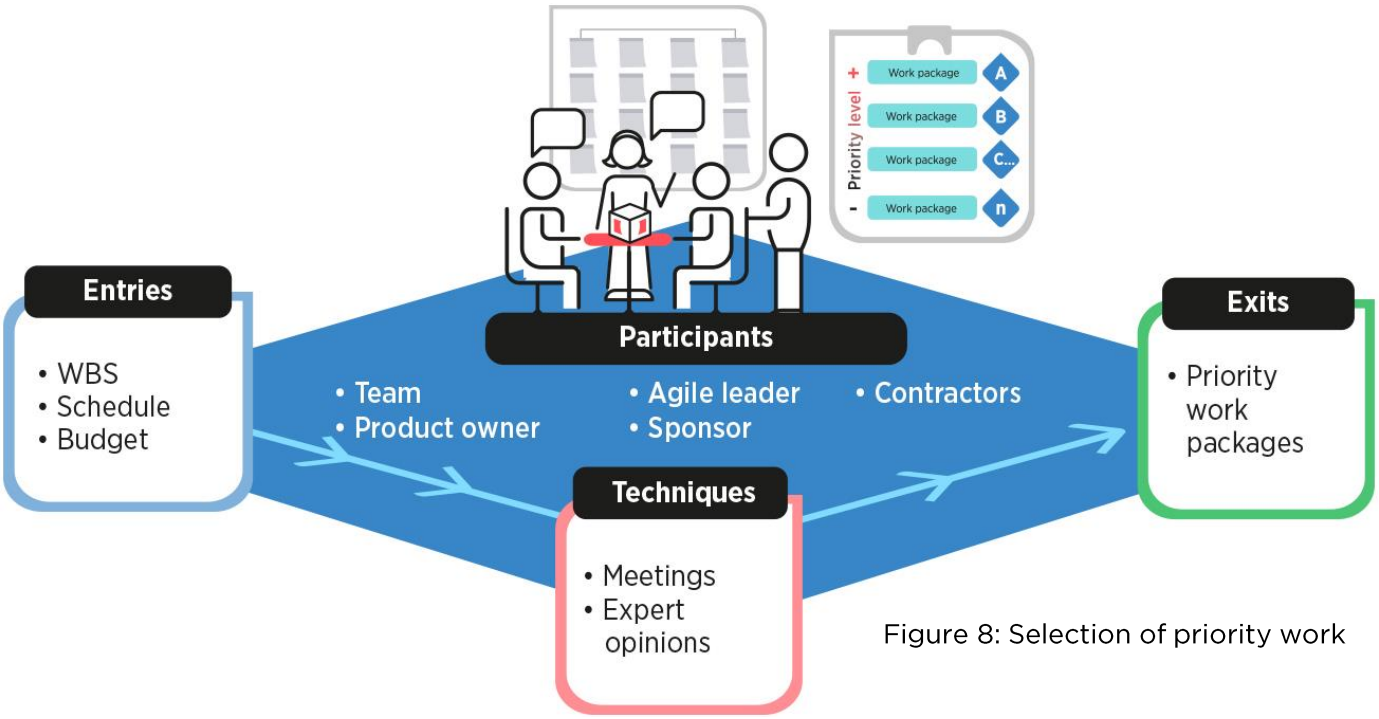


Figure 8: Selection of priority work

Selection of Priority Work

The team, in collaboration with the product owner, the super Agile leader, and other key stakeholders, selects the priority work packages for the next three months from the WBS. These work packages are prioritized according to the value they bring to the project's objectives and they must have three characteristics: critical, priority, and achievable. The output is a prioritized set of work packages for each component of the project.

Development of the PM4R Agile Plan

The work team meets to determine which work packages will be developed and delivered at the end of each sprint. For a development project, it is recommended to plan six sprints of two weeks each and repeat this as many times as necessary to complete the project. This means the PM4R Agile plan will last for three months and be repeated as many times as necessary.

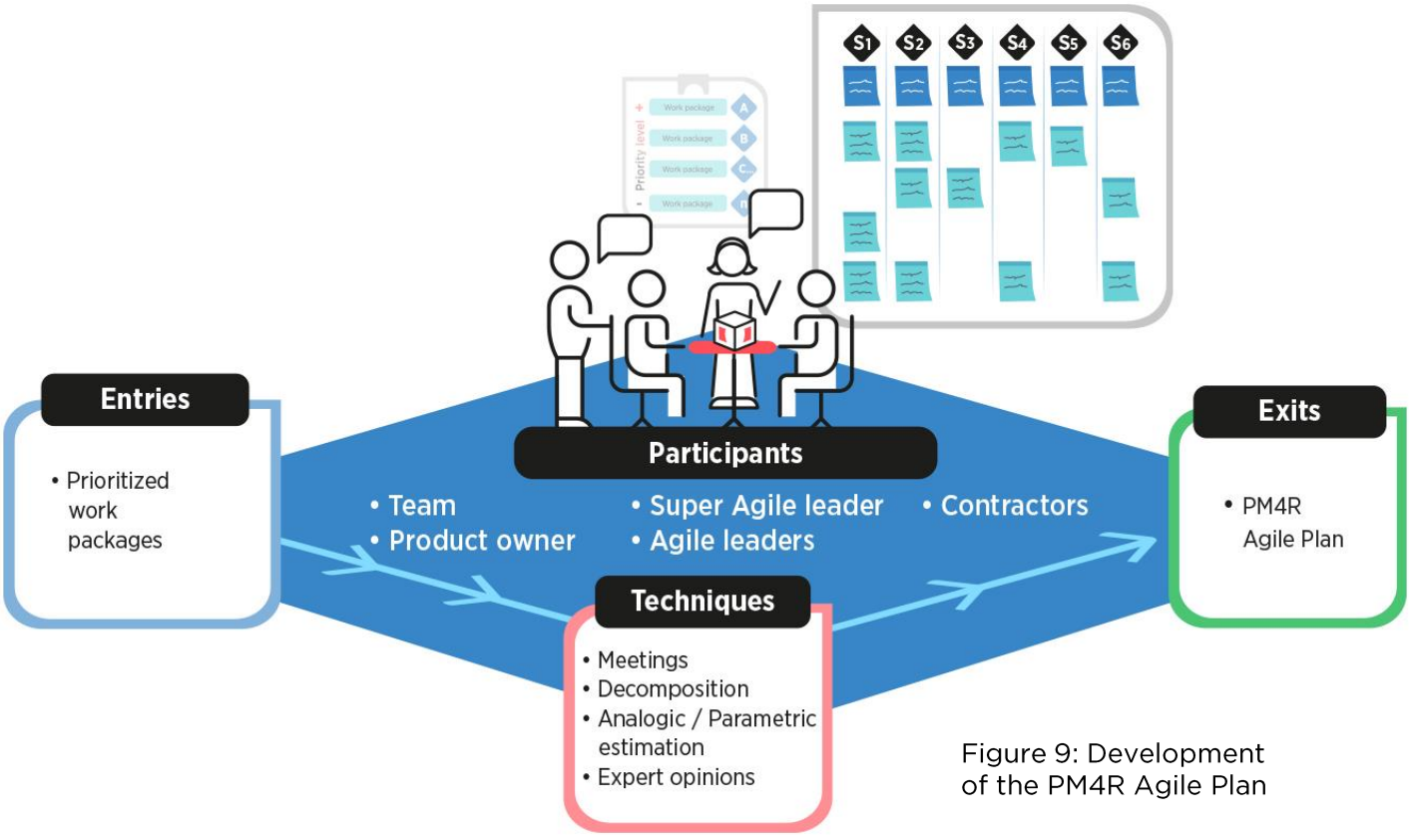


Figure 9: Development of the PM4R Agile Plan

The team breaks down the work packages into tasks and decides how the work will be done, taking into account the estimate of the effort involved. It is valid to seek out expert opinions to perform these activities. The product owner must be present to clarify his or her vision of the final result of the project, if necessary. The output is the three-month PM4R Agile plan.

Execution of the Sprint

The team performs the necessary tasks to complete the work packages engaged in each sprint. During execution, it is very important to maintain accurate and effective communication, especially through the co-location of the team, informal conversations, and face-to-face interactions.

For the execution of each sprint, it is recommended to use the "Kanban" board with its four columns – "To do," 'In progress," "Pending acceptance," and "Done." It can be used by project team members and other stakeholders at any time to quickly and easily identify the progress of the sprint. In the Agile approach, the use of tools called "low tech high touch" is promoted, as seen in the following board:

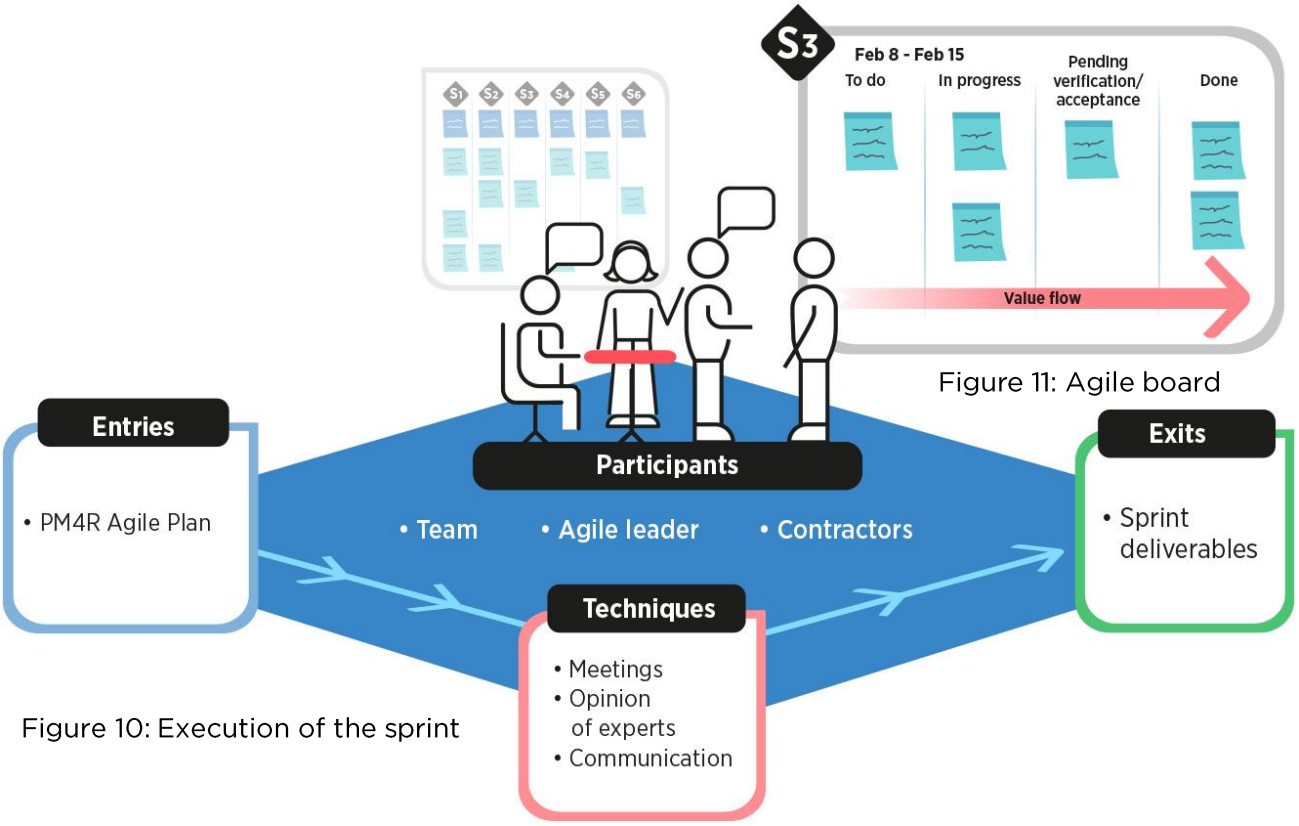


Figure 11: Agile board

Figure 10: Execution of the sprint

Sprint Review

The team meets with the product owner and the Agile leader to present and review the deliverables completed at the end of each sprint. The focus of this meeting is on the product or result of the sprint. The work must meet the acceptance criteria defined by the product owner at the start of the sprint. A deliverable that does not meet the acceptance criteria will be

considered a rejected deliverable. Work that is rejected will be incorporated in the prioritized set of work so that it can be considered for execution in the next sprint.

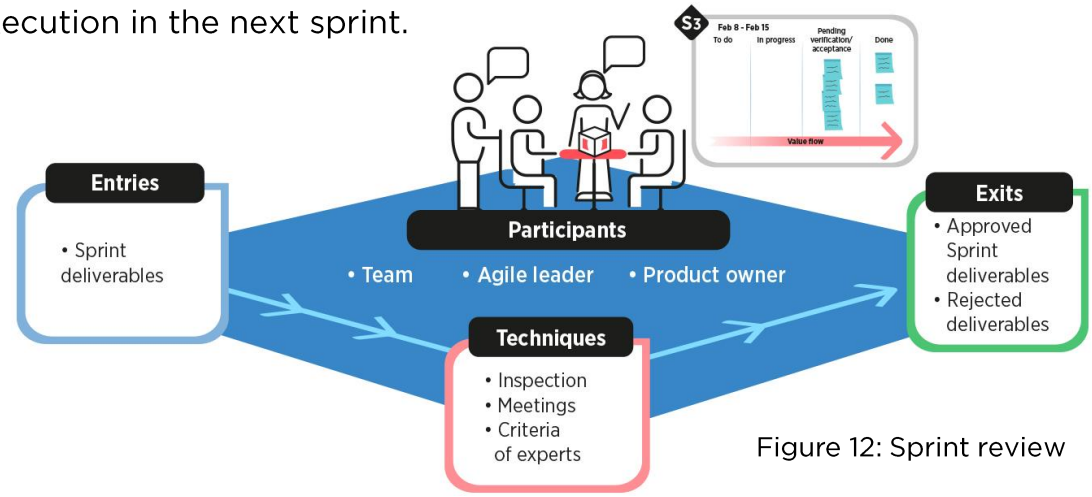


Figure 12: Sprint review

Sprint Retrospective

The team carries out the activity of inspecting and adapting at the end of each sprint. It compiles lessons learned and looks for opportunities for improvement. The focus is on the process of generating the deliverables. The discussions in these meetings should include both what went well and what went wrong. The objectives of the retrospective are to identify:

- **Best practices:** the things that the team needs to keep doing.
- **Improvements in the process:** the things that the team needs to start doing in the next sprint.
- **Problems with processed and obstacles:** the things that the teams needs to stop doing.

The Agile leader takes note of the problems and obstacles reported by members of the team in order to solve them. In cases where he/she cannot solve them, the Agile leader should submit them to the super Agile leader. If they still cannot solve the problems, the super Agile leader must submit them to the project sponsor.

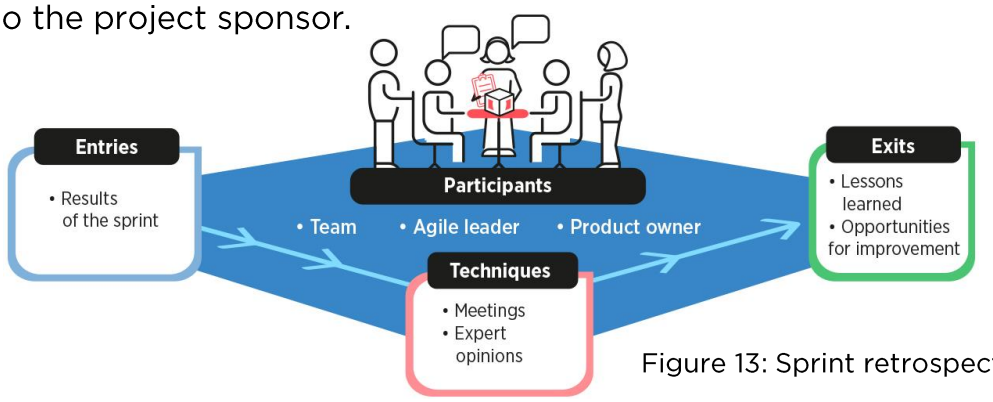


Figure 13: Sprint retrospective

Steps for development of the PM4R Agile plan

Once the tools and activities of the PM4R Agile methodology have been presented, we will proceed to present the processes for development of the PM4R Agile plan.

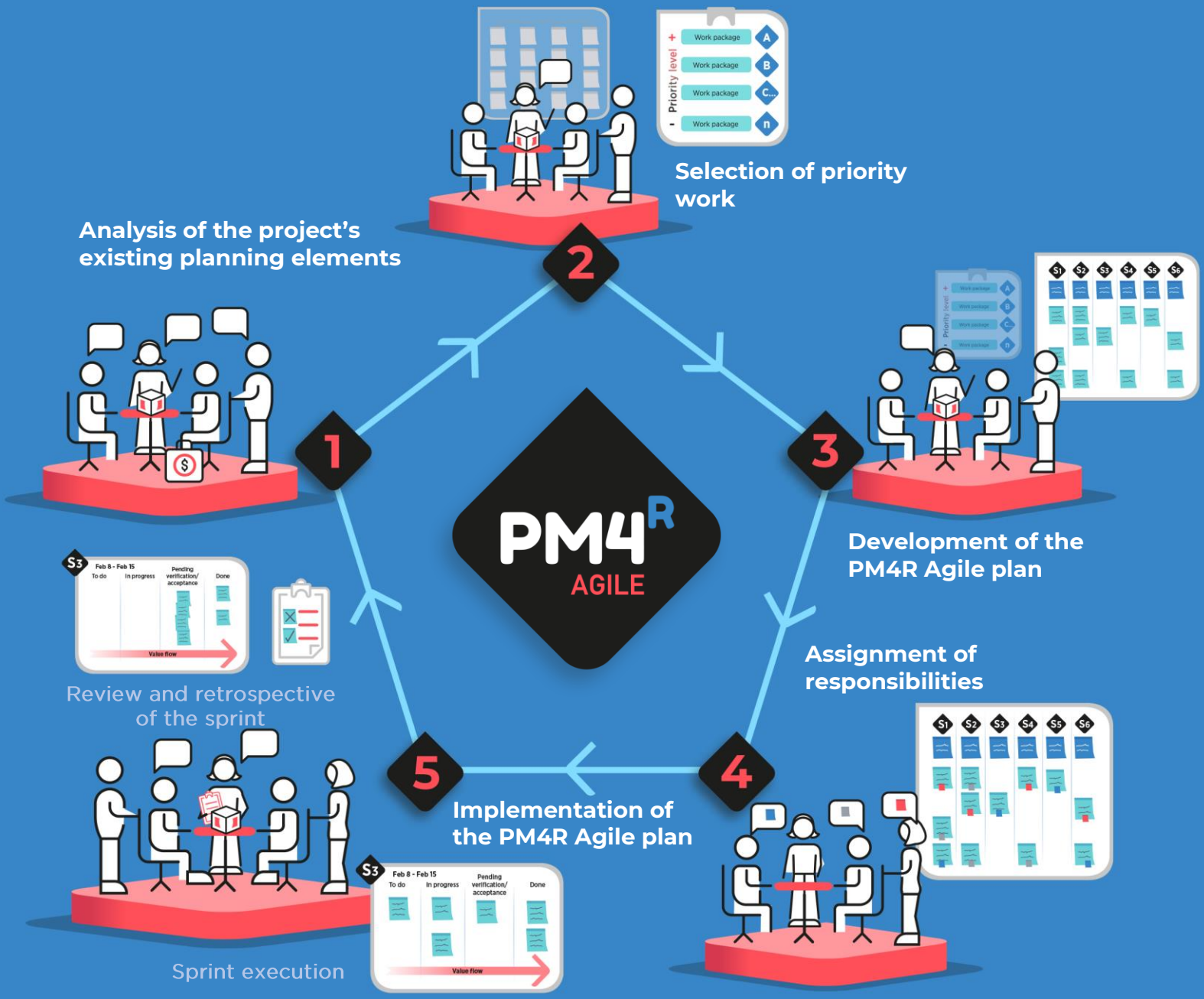


Figure 14: Steps for Development of the PM4R Agile Plan

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5 steps for development of the PM4R Agile Plan

Step 1 Analysis of the existing elements of project planning

This begins with the formation of work teams, usually by component, according to the PM4R Agile roles described in Chapter 3. Once the teams are formed, they conduct the analysis of the existing project planning elements, such as the project plan (the PEP and POA in the case of the IDB), the Work Breakdown Structure (WBS), the schedule, the S curve, etc. If the WBS is not available, the team, with the help of the PM4R Agile experts, will have to develop it, since the WBS is the base for selection of the priority work that will be included in the PM4R Agile plan. If the component you are working on is already in execution, ensure that only the work that has not been done is considered for inclusion in the WBS.

Video
Analysis of the existing elements of project planning
Scan or click to play

The result of this step is the **revised/improved WBS.**

Step 2 Selection of the priority work

Once the project's existing planning elements have been analyzed and there is a revised/improved WBS, the team, with the collaboration of the product owner and the super Agile leader, selects the work to be done for the next three months. This work must have three characteristics:

- Priority (what has priority over something else)
- Critical (has great importance and requires urgent attention or actions)
- Attainable (can be obtained or achieved).

If work does not have these three characteristics, it should not be selected. It is also fundamental that the work selected have a significant weight in the budget, or is part of the critical path, and that it relies on a person who is part of the team that is present during this process.

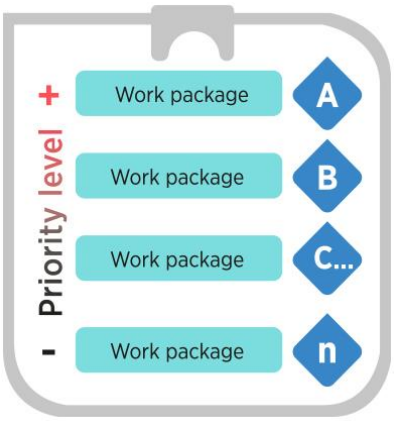


Figure 15: Priority work packages

Video
Selection of Priority Work
Scan or click to play

The result of the step is a **set of prioritized work packages.**

Step 3 Development of the PM4R Agile Plan

It is recommended that the PM4R Agile plan be comprised of a three-month planning horizon. These three months are organized into six sprints of two weeks each. For their realization, the work team meets to determine which elements of the set of prioritized work will be developed and delivered in each sprint. If a work package is estimated to last more than two weeks (that is, a sprint), it must be broken down into smaller elements.

The suggested way to prepare the plan is to draw six columns on the wall representing the six sprints. Each sprint should have a beginning and ending date. The team members then place the work packages, represented by post-it notes, in each one of the columns. It is important that the workload in each sprint be balanced, since there is a tendency for more work to be scheduled in the initial and final sprints.

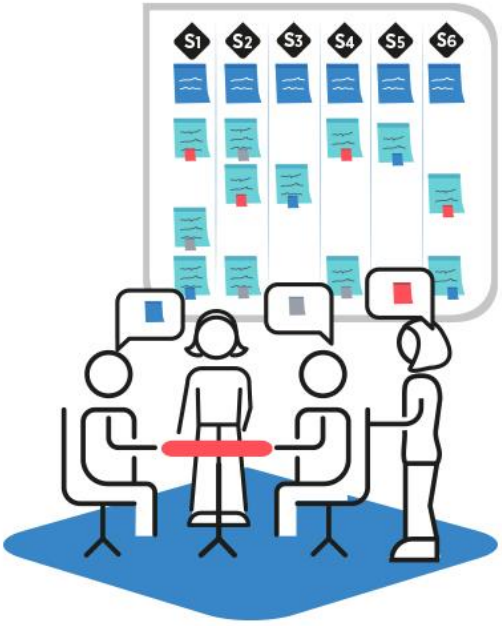
Once the work packages have been placed in the sprints, the work team validates the plan with the product owner and the Agile leader. It is fundamental that the plan be realistic, since it represents a commitment that the entire team must fulfill.

Video
Desarrollo del plan PM4R
Scan or click to play

The result of this step is the **PM4R Agile Plan.**

Step 4 Assignment of responsibilities

The responsibilities for each work package are assigned when the team has validated the PM4R Agile plan with the product owner and the Agile leader. This can be done by writing the names of those responsible on smaller post-it notes and placing them in the corresponding work packages. It is very important that you not assign a responsibility to someone who is not present. If in an exceptional case that is done, the team must commit to inform that person about the responsibility assigned to him or her and inform the designated Agile leader that the person has accepted the responsibility assigned.



Video
Assignment of Responsibilities
Scan or click to play

The result of this step is the **assignment of responsibilities in the PM4R Agile Plan.**

Paso 5

Implementation of the PM4R Agile plan

Execution of Agile

Once the PM4R Agile plan for the next three months is developed, what follows is to carry out the committed work for each sprint.

As seen in Chapter 3, the team, the Agile leader, and, if called for, the contractors, should participate in this process. The techniques that are used to carry out the work are meetings, expert opinions, and communication. The output of the execution of the sprint is the set of deliverables.

Video
Implementation of the PM4R Agile Plan
Scan or click to play

It is suggested that a board such as the one that follows be used. It is an adaptation of the Kanban method showing the work packages in each stage of the production process defined by the team:

All of the work packages for the sprint are placed in the first column. Once the sprint starts, the work packages are moved to the next columns according to the progress made on them, as indicated by the value flow arrow. For example, if a work package has started, it should be in the "In progress" column. If a work package is already completed and is being reviewed or pending acceptance (authorization), it is placed in the "verification/acceptance" column.

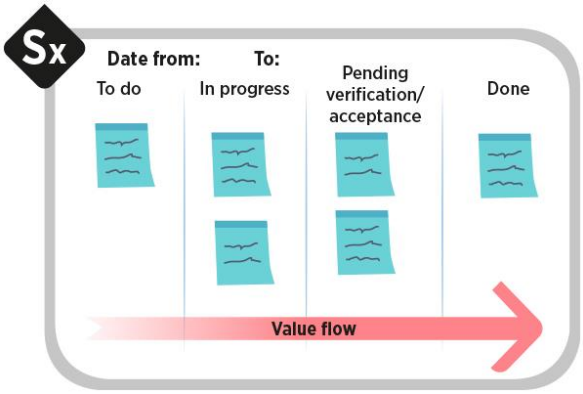


Figure 16: Execution of Agile

Finally, when a work package has been verified or accepted, it is placed in the "done" column. The idea is that at the end of the sprint, all of the work packages that were in the first column will be in the last column, which means that they will be done. If by way of exception a certain work package has not been completed by the end of the sprint, it should be scheduled for the next sprint. This situation should not repeat itself from sprint to sprint because it would cause an accumulation of work to be done at the end of the plan, with the consequence of failure of the activities.

It is recommended that at the first moment when this situation is presented, the Agile leader request support from the super Agile leader, since the reason why a work package is not completed in a sprint usually has to do with decisions that must be made and that are beyond the authority of the team.

The result of this step is a **set of sprint deliverables.**

Agile follow-up and control

In the PM4R Agile methodology, monitoring and control takes place, but it is reduced to a minimum. That means only what is necessary, and what is conducted by the team, as mentioned previously, must be self-directed and self-controlled. The focus must be on adaptation and continuous improvement, that is, instead of only inspecting to find mistakes for correction, the team learns and improves the process with which it produces the deliverables in every sprint.

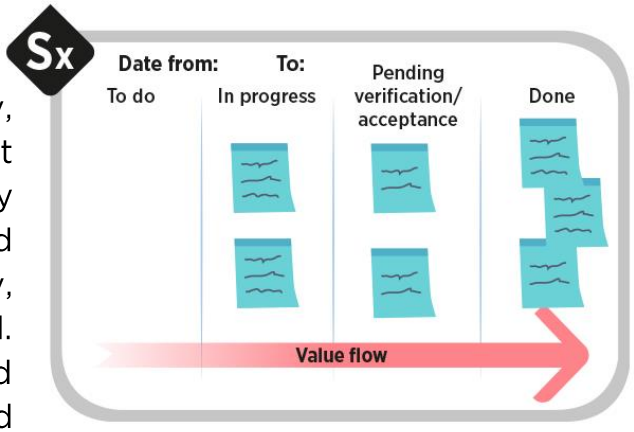


Figure 17: Agile follow-up and control

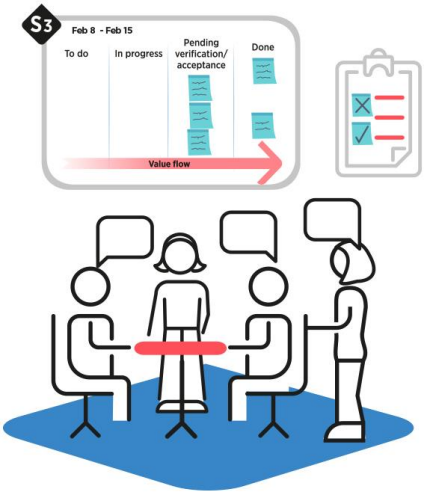
Agile tracking and control is done at two points in time: during execution and at the end of the sprint. During execution, the team can use the board shown in the previous section.

With this board, besides graphically and easily showing the flow of the work packages, the amount of work in progress can be controlled (second column). When the work starts to accumulate in this column, it means that you have created a bottleneck and there is something that is preventing the team from progressing. This is a good indicator for the team to identify problems or impediments and be more productive. These problems or impediments must be communicated to the Agile leader to manage and resolve them.

At the end of the sprint, two monitoring and control activities need to be carried out: review of the sprint, and retrospective of the sprint. Both have to be carried out through a team meeting with the Agile leader and the product owner.

Sprint Review

This focuses on the results of the work; this means that the deliverables generated are displayed and inspected at the end of the sprint. If any deliverable does not meet the criteria of acceptation defined by the product owner, it must be included in the following sprint for correction. As mentioned previously, this is not ideal, since all of the work dedicated in the sprint should comply with specifications (acceptance criteria).



Sprint Retrospective

This focuses on the process that the team used to generate the deliverables. The discussions in these meetings should include both what went well as well as what went wrong. The objectives of the retrospective are to identify:

- Best practices: the things that the team must keep on doing.
- Improvements in the process: the things that the team must start doing in the next sprint.
- Process problems and obstacles: the things that the team must stop doing.

This lesson must be applied immediately, that is, in the next sprint.

Finally, these 5 steps can be repeated in three-month cycles until the project is completed.

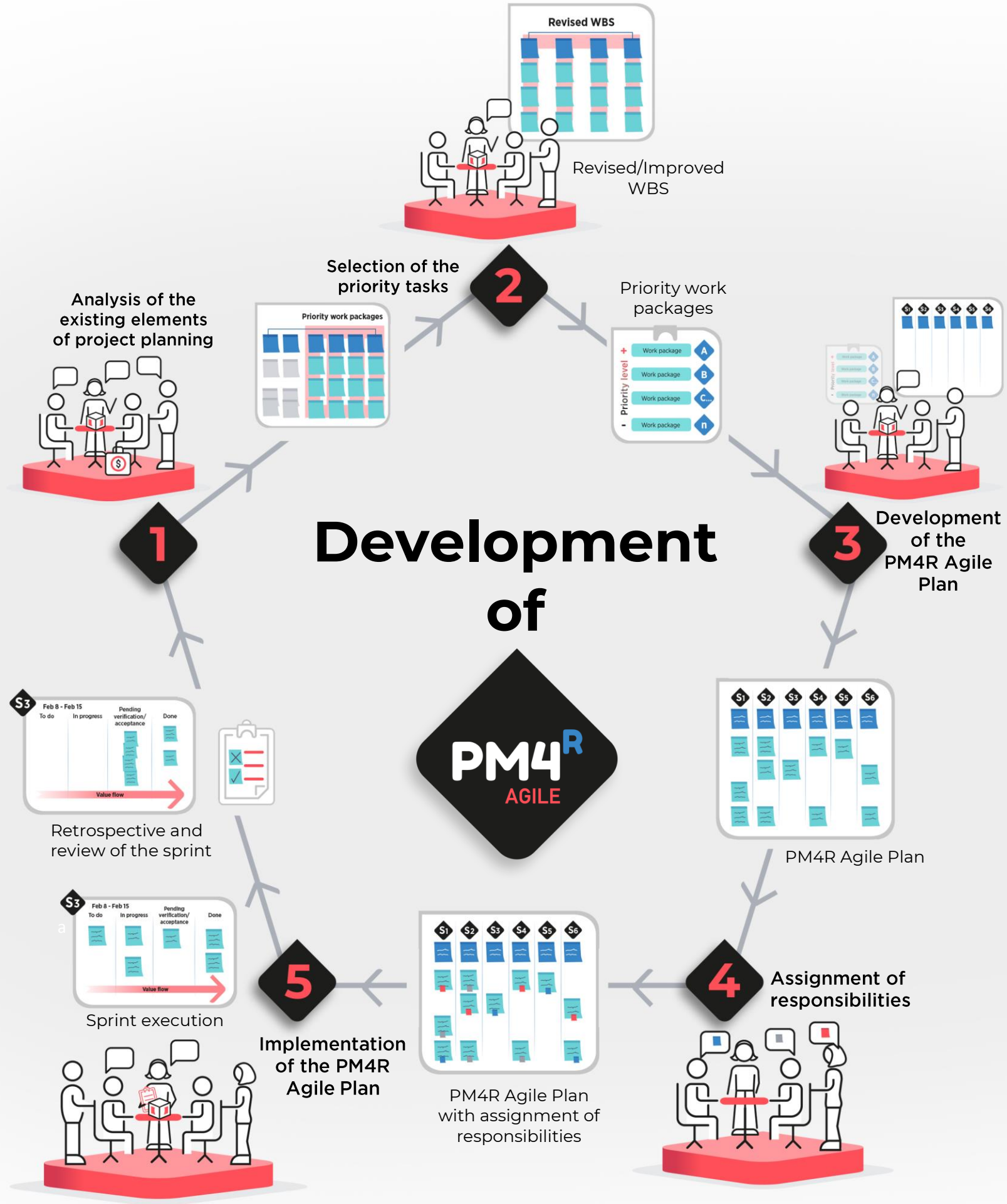


Figure 18: Development of the PM4R Agile Plan

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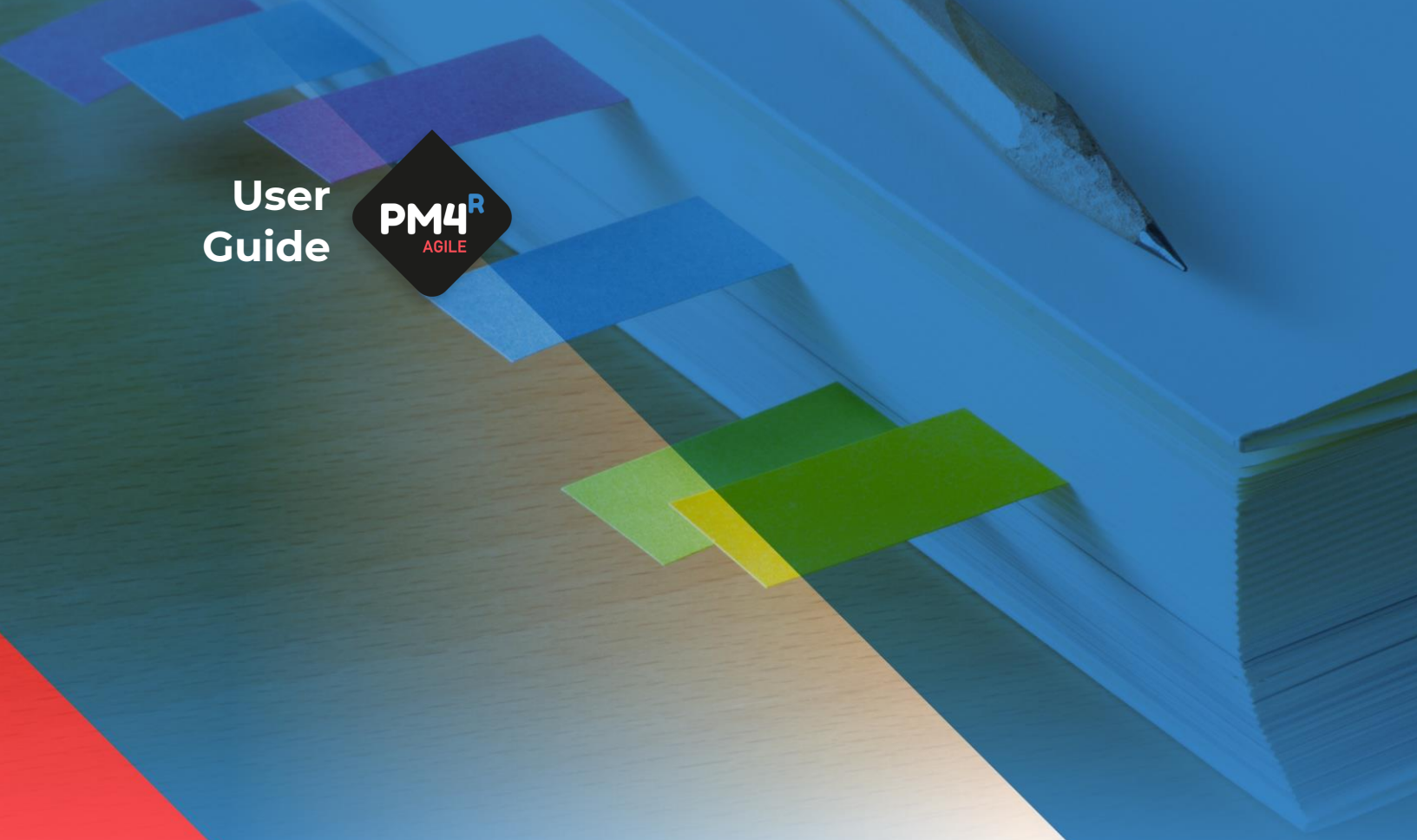

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Glossary

Adaptive life cycle
The adaptive lifecycles (Agile methods) aim to respond to high levels of change and the continued participation of stakeholders. Adaptive methods are also iterative and incremental, but are differ from each other in that iterations are very rapid, and time and cost are fixed.

Agile teams
If the teams are small, they develop better relationships and communicate more directly. The team members must have complementary skills. The teams are committed to a shared purpose. The team shares ownership of the result of the project.

Analogous estimate
Technique used to estimate the duration or cost of an activity or a project using historical data from a similar activity or project.

AOP (Annual Operating Plan)
Detailed plan that shows the implementation methods, schedules, goals, time periods, objectives, and provisional evaluation points of a project or program.

Co-location
All team members working together in the same location. This means working at a maximum distance of 10 meters from one another without physical barriers.

Continuous improvement
Also known as the Deming cycle: Plan, Do, Study, Act.

Deliverable
In the context of the WBS, a deliverable is the result of an effort, not the effort itself.

Estimate
Evaluation of the duration, effort, and/or cost required to complete a task or project.

Frequent reviews and adaptations
Agile uses tests and review points on a regular basis to address problems before they get bigger. This is an antidote for mistakes that are made as well as for misinterpretations of what the client wants. With frequent verification and validation, we make sure that the work and other matters progress as they should.

Gradual delivery
This is another way in which the Agile methods deliver value. The team regularly deploys work increases of the product throughout the course of the project. Identifying problems early reduces the amount of work that needs to be redone, thus contributing to the delivery of value to the project.

Stakeholders
People and organizations that could be impacted by the project or the result of the project.

Iterative and incremental
Iterative and incremental life cycles are those in which, within different phases of the project, one or more project activities are intentionally repeated as the project team's understanding of the product increases. The iterations develop the product through a series of repeated cycles, while increments add continuous functionality to the product.

Lessons learned
Group of experiences obtained after conclusion of a project or a part of it. The experiences describe in a neutral way what worked and what did not, and they include a report about the risk that could be caused by ignoring the lesson learned. Capturing and sharing lessons learned is an important part of the improvement process.

Low technology and high awareness tools

These tools are simple, such as cards and graphics, and they are easy to handle by all stakeholders. By using these techniques, the accurate perception of the data is avoided and allows more people to update the plans as needed. They promote communication and collaboration, which is where the transfer of knowledge and learning really happen in a project.

Parametric estimation

An estimation technique that uses an algorithm to calculate the cost or duration based on historical data and project parameters.

PEP

Pluriannual Execution Plan for the project or program.

Self-organized teams

A self-organized team requires members who can commit, solve conflicts, and work towards a common goal. All team members are collectively responsible for everything. Self-organization provides a way for the team to succeed, fail, adjust, and improve together.

Service leadership

The leader provides what the team needs, removes impediments to its progress, and carries out support tasks to maximize productivity.

Sprint

A short and fixed period of time during which a defined set of activities or work are carried out.

Value-added increments

This is a keyway that Agile teams seek to maximize value. It means that the team manages to deliver the highest-value portions of the project as soon as possible.

Value-driven execution

The Agile methods are value-driven, their objective is to maximize business value with the delivery.

Work Breakdown Structure (WBS)

A hierarchical organization of the deliverables of the project that defines the scope of the project. It includes neither time nor cost, only deliverables.

Work package

The work at the lowest level of the Work Breakdown Structure for which the cost and duration can be estimated and managed.

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PM4R AGILE

This 3rd edition of the guide is a product of more than three years of successful experiences with workshops in more than 12 countries in Latin America and the Caribbean and with different projects, ranging from providing drinking water to the population and improving road infrastructure to strengthening public safety systems for citizens. In these workshops where the main stakeholders participated, a non-traditional approach was used so that the projects could obtain results with more value in less time.

PM4R Agile is based mainly on the Lean philosophy (eliminate waste, involvement of all, and continuous improvement) that originated in the Japanese automotive industry. The Agile practices that derived from it were initially used in the software development industry and then applied to all different types of projects. Now the PM4R Agile methodology is being introduced for the first time for Development and social impact projects in Latin America and the Caribbean.

The purpose of this document is to serve as a quick implementation guide for visionary teams that are willing to make a radical change in the way they manage their projects and the most critical work.

By using PM4R Agile, your list of successful projects will be much longer.

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