**Lesson 07: plan in scientific research**

**-Part 01-**

### 1-What is a research work plan?

A research work plan is another name for a research plan, which is a critical component of any research proposal. Universities, labs, and companies use them to evaluate research projects before they decide to accept them.

As a researcher, it’s essential when targeting a funding opportunity of any kind. [[1]](#footnote-2)

A research plan is a documented overview of your entire project, from the research you conduct to the results you expect to find at the end of the project. Within a research plan, you determine your goals, the steps to reach them and everything you need to gather your results. Research plans help orient a team, or just yourself, toward a set plan. It can help keep you or a team organized with a full understanding of what needs to be done and when.

These can also be helpful for external members of the project. If you're administering a project that involves stakeholders or other kinds of external observers, a research plan can help keep everyone informed about the progress and general direction of the project. Professionals typically update their research plan document as objectives or resources change to offer everyone the most extensive information.

**2-Why is a research plan important?**

A research plan is important and beneficial for your project for many reasons, including:

* **Helps organize your project:**

A research plan is important because it can help you organize the different elements of your project. With a research plan, you can predetermine who's involved in the project, what the project steps are and how you may document the information or results that you gain from the project. A research plan can help you organize your objectives, giving you the opportunity to create a tentative timeline before your project begins.

* **Keeps participants informed:**

Another reason creating a research plan for your project is important is because it helps keep everyone involved up to date. During a research project, you may have participants to help you, such as friends, employees or external members of a company. Regardless of the context of your project, be it personal or professional, creating a research plan allows everyone to see both the scope and the steps involved within the project. It can also act as a general timeline for a project, allowing everyone to understand the basic outline of when they need to accomplish each task.

* **Defines your project's purpose:**

Creating a research plan before you begin your research can help you define the project's purpose. While you may understand the purpose of a project, aligning that goal with everyone else's expectations may require some explanation. Writing a brief section within your research plan about the project's goals and your expectations can help everyone better understand how they contribute to the plan's purpose. Even if you're the only participant in the plan, restating your goal on paper can help you better align yourself with your own objectives.

* **Eliminates distractions:**

A research plan can help you by limiting distractions throughout your project. If you create a document that outlines every step of a project, the project's purpose and a basic timeline, a team is less likely to get distracted with extra steps, items or objectives. A research plan helps ensure that the team only works on necessary items rather than extra plans or research items. If you're working on this research plan by yourself, having a documented idea of what you're going to do can help you organize your thoughts and better manage your expectations for the entire project.

* **Schedules individual project tasks:**

If you're working with others during your research, creating a plan can help you schedule tasks for everyone. With a research plan, you can allocate different tasks to different participants based on the skills they bring to the project. If you're working on the project alone, having a research plan can help you set goals realistically. Setting realistic goals can help you accomplish them appropriately, helping improve your attitude and drive toward the project. If your research project is longer than a few weeks, setting tasks and goals for everyone can help them maintain appropriate expectations and deadlines over time. .[[2]](#footnote-3)

## 3-The value of a good research plan:

## A research plan is a guiding framework that can make or break the efficiency and success of your research project. Oftentimes teams avoid them because they’ve earned a reputation as a dry or actionless document — however, this doesn’t have to be the case.

## Why is the research plan pivotal to a research project?

## A research plan is pivotal to a research project because it identifies and helps define your focus, method, and goals while also outlining the research project from start to finish.

## This type of plan is often necessary to:

## Apply for grants or internal company funding.

## Discover possible research partners or business partners.

## Take your research from an idea into reality.

## It will also control the entire journey of the [research project](https://monday.com/blog/project-management/research-project/) through every stage by defining crucial research questions and the hypothesis (theory) that you’ll strive to prove or disprove.

## 4-What goes into a research plan?

## The contents of a thorough research plan should include a hypothesis, methodology, and more. There is some variation between academic and commercial research, but these are common elements:

## Hypothesis: the problem you are trying to solve and the basis for a theoretical solution. For example, if I reduce my intake of calories, I’ll lose weight.

## Research questions: research questions help guide your investigation into particular issues. If you were looking into the potential impact of outsourcing production, you might ask something like: how would outsourcing impact our production costs?

## Research method: the method you’ll use to get the data for your research. For example, a case study, survey, interviews, a clinical trial, or user tests.

## Definitions: a glossary for the research plan, explaining the terminology that you use throughout the document.

## Conceptual frameworks: a conceptual framework helps illustrate what you think you’ll discover with your research. In a sense, it’s a visual representation of a more complex hypothesis.

## OK, so you’ve got a handle on the building blocks of a research plan, but how should you actually write it?

## How do you write a research plan?

## The first, and perhaps most crucial part of having a good research plan is having the right medium for creating and sharing it. Using a pre-defined template can also make it much easier to get started.

## The next step in writing a research plan is choosing the topic. To pick the right topic, focus on these factors:

## What are the priorities of the potential funder/employer, such as the company or institution?

## Are there any relevant recent studies with results you can build on and explore with further research?

## Can you creatively adapt your experience — whether post-grad or professional — to make you the natural candidate? They don’t just need to believe in the research project, but also in your ability to manage it successfully.

## Do your research, no pun intended. Once you’ve got the topic, you need to work on fleshing out the core ideas .

## [The research plan should convince a committee or executive that not only will the research be beneficial, but the outlined project is realistic and achievable with available resources.](https://twitter.com/intent/tweet?text=The%20research%20plan%20should%20convince%20a%20committee%20or%20executive%20that%20not%20only%20will%20the%20research%20be%20beneficial%2C%20but%20the%20outlined%20project%20is%20realistic%20and%20achievable%20with%20available%20resources.&url=https://monday.com/blog/project-management/why-is-the-research-plan-pivotal-to-a-research-project/)

## 5-What is a good research plan?

## A good research plan is one that gets accepted and funded to start doing the research.

## If you want to plan a pivotal study, it’s not enough to consider the problem in a vacuum. You also need to evaluate how you can best communicate the value of your project .

## Consider the entirety of your current situation and what that means for your project.

## For example, inputs like funding, staff, IP, and how the scale of the project lines up with your company’s research budget. Or how it aligns with the goals of a University program. If the primary goal of the research is to impact a company or government agency directly, you should consider these stages of research engagement.

## Inputs: anything from funding and staff to company IP that you need to both run the project and implement any results. Does this line up with the budget?

## Activities: case studies, trials, surveys, the actual research.

## Outputs: the final reports, any publications, and raw data.

## Outcome: how will it directly impact the company, organization, or larger society?

## Impacts: what are the indirect benefits or downsides?

## In an internal research proposal, you can outline these aspects in separate sections. That allows different execs or managers to focus on the details that matter most to them. You must also work to engage [stakeholders](https://monday.com/blog/project-management/stakeholder-analysis-ultimate-guide/) and make sure that they understand the importance of your project.[[3]](#footnote-4)

## 6-What's the purpose of a research plan?

It depends on who's asking the question, and who's answering it. From your immediate point of view, the purpose of a research plan is to help get you hired.

The research plan, however, serves another, very important function: It contributes to your development as a scientist. Your research plan is a map for your career as a research science professional., one of the functions of a research plan is to demonstrate your intellectual vision and aspirations. It's also an opportunity to begin to demonstrate the creative and independent thinking required of a successful scientist.

A research plan isn't just for demonstrating; it's also for honing and refining. It's possible to function quite well as a postdoc or grad student while giving little thought to your future. Writing a research plan casts your gaze forward and prompts you to begin planning for when you have your own laboratory. And if you've already started to think about your own lab, it will help you to refine your plans.[[4]](#footnote-5)

1. Indeed Editorial Team:**What is a research plan?** July 20, 2023, https://www.indeed.com/career-advice/career-development/how-to-write-research-plan

 [↑](#footnote-ref-2)
2. Indeed Editorial Team:**What is a research plan?** July 20, 2023, https://www.indeed.com/career-advice/career-development/how-to-write-research-plan

 [↑](#footnote-ref-3)
3. https://monday.com/blog/project-management/why-is-the-research-plan-pivotal-to-a-research-project/ [↑](#footnote-ref-4)
4. [JIM AUSTIN](https://www.science.org/content/author/jim-austin) : writing-research-plan , 26 JUL 2002, https://www.science.org/content/article/writing-research-plan [↑](#footnote-ref-5)