

The logics of the plan

Since my feedback to most students concerning the final assignment in the research-planning course is related to the elements and the interrelations between the elements of the presented plans, this document aims to clarify my views on this “the logics of the research plan”.

The elements of the research plan

I allow some freedom in how the research plan is formulated, but in one form or another the following are key elements of the plan:

- The hypothesis, which is a statement capturing the essence of the research work that you intend to perform. Try to be as specific and concrete as possible, while keeping the hypothesis at a reasonably abstract level. The hypothesis should be formulated such that you in the conclusion of your thesis is able to summarize your findings in terms of the extent to which they provides positive (or negative) evidence concerning the validity of the hypothesis. Typically, a hypothesis can be formulated in a few lines of text, although some additional background or explanatory text may be required.
- A set of research questions that should be related to the hypothesis in the sense that answering these questions will give the above evidence. The research questions should additionally relate to how you structure/organise the research. Typically your research will amount to providing answers to these research questions. The questions should be more detailed and specific than the hypothesis. You probably want to limit yourself to 3-5 research questions.
- A set of activities presenting the concrete steps planned to provide answers to the research questions. Make sure that these activities include some technical depth, such as details on what will be developed or how something will be evaluated. The level of detail may vary, but I would recommend in the order of 5-10 activities.
- A set of expected results that should be consequences of the activities.
- A set of milestones that identifies the major achievements planned. Make sure to include concrete research achievements.
- A set of deliverables that indicate the tangible output from the research, including publications, software prototypes, etc.
- A time plan indicating the timing of activities, milestones and deliverables.

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The elements of the research plan should be explicitly related, i.e., indicate in the plan at least the following:

1. How the questions relate to the hypothesis (and to what extent the set of questions fully cover the hypothesis; this is particularly important if some important aspect of the hypothesis is not covered by the research questions).
2. Which research questions the different activities relate to, and if not obvious: in what way and to which extent.
3. To which activity the different results relate, and if not obvious to which research question(s) they relate.
4. To which result the different (technical) milestones and deliverables relate.

The key issue is to make it possible to trace the logical flow from hypothesis to deliverables, via research questions, activities, results and milestones.

As long as this – the logical flow of the plan – is explicit and well-communicated it is not forbidden to structure the plan differently and even omit/replace some of the elements.

As always, you should aim at being clear and concise, and make sure that you and the reader understand what you will do (and need to do) when starting to execute the plan.

Good luck with the planning and (more importantly) with your research!

/HansH