PROJECT PLANNING 1: DEFINING YOUR TOPIC

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The material here goes beyond what you need to know in order to complete the paperwork for the Projektarbeit 1 registration, but it will help you with this and with all academic project proposals.

Later, we will look at how to structure the entire project, but at this point we need to prepare a proposal, which means determining exactly what we are setting out to do. In this lesson, we will look at defining the topic. In the next lesson, we will look at defining how it will be done. Then we will consider how to put the proposal together.

DIFFERENTIATING BETWEEN THE TWO PROJECTS

At the end of the first lecture, I talked about the fact that as dual-mode students with company placement, your major projects (PA1, PA2, Bachelorarbeit) will each consist of two distinct projects with distinct "clients". In each case, there is the project for your employer, and the project for the university. Of course, these two projects are closely related, but it is vital that you recognise the distinction.

Your employer has a task for you, and success will be defined by meeting the employer's expectations.

For the university, you are required to pose a scholarly question (or set of questions) about the task, and success is defined by answering this scholarly question in a scholarly way.

In a simplistic example, your task may be to develop a software module. The employer will define success as the effectiveness of the module. Your scholarly project, however, may be to assess the suitability of a certain programming paradigm for this sort of software module, and academic success is defined as assessing the paradigm and its suitability in a useful way. From an academic point of view, you can be successful even if the module is a failure – provided you have answered your scholarly questions properly.

Ideally, you will be able to keep your employer and the university happy. I can only really help you to keep the university happy, though, and that is what this subject is about.

DEFINING THE PROJECT(S) – CHOOSING A TOPIC

At this stage, we will still talk about two projects, because you need to consider both.

Your employer will hopefully have some ideas for you. Perhaps you have to come up with ideas. Feel free to communicate with me by email over the next week or so to discuss this, if you are not getting anywhere in finding an idea. Your employer's project, however, is just one side of things.

Let's take an ideal situation where your employer presents you with several different ideas. For each of these ideas, you need to consider possible scholarly questions to create your scholarly project. The next sections of this document will hopefully help you to come up with possible questions. Write down the questions you come up with for each possible idea.

If your employer has no idea for you, and you can't think of anything from the employer point of view, you could try working the other way. Think of scholarly questions, and then try to come up with a project for your employer that will allow you to answer those questions.

Occasionally – very, very rarely, your employer is happy for you to prepare a purely theoretical study that has no direct commercial value for the company.

SPLITTING THE FOCUS

We are in the *Wirtschaftsinformatik*, or *Business Information Systems*, department. A useful idea that may help to think about the combination of task and scholarly project is to combine these two fields. If your task for the employer is related to *information systems*, then you may choose to ask a *business* question. If your task is primarily related to *business*, you may find an *information systems* question is helpful.

Other combinations are possible. If your focus is *eHealth*, for example, you may choose to look at the "e" and the "health" aspects in the same way!

This is of course just one idea that may give you inspiration in the search for a topic.

WHAT SORT OF WORK IS THIS?[i]

Marcus Oehlrich has identified two types of topic and four types of method, giving us eight potential approaches, but it will become clear that not all eight approaches work very well in every field.

TYPES OF METHOD

A method may be *theoretical*, *empirical*, *meta-analytical* or *modelling*. These terms are a little more complex.

A *theoretical* method is abstract. It involves a lot of reasoning and argumentation based on literature, logic and deduction. It means developing an explanation and applying it from a non-practical point of view to understand rather than to implement. I am not going to go into theory any further here, because theoretical methods are rarely of use in the sort of projects you will be working in your dual-mode degree, because they seldom relate to commercially valuable *employer* tasks.

An *empirical* method is the complete opposite approach. It involves conducting an experiment and recording data. The experiment may be writing a program, for example, and measuring the success of the program, but there are plenty of other possibilities. The key is that you are acting and observing.

A *meta-analytical* method is a special type of *empirical* method. Here, you do not experiment and record data. Rather, you take data that is already available from other sources. You may do this because there is simply not enough time to collect all the data you need, or it is beyond the scope of what you can achieve. Often, you will combine data from various sources, and perhaps you will compare this to your own *empirical* data, combining the two methods. It is important, whenever you combine data from different sources, to normalise or standardise the data so that the comparisons are fair.

Lastly, a *modelling* method tries to simplify the complexity of a situation by eliminating external factors. Again, I will not go into this in great detail here, as it is seldom relevant in dual-mode degree work, at least at this early stage. If you are more interested further, consult Oehrlich's book, Section 4.5.

TYPES OF TOPIC

A topic may be *positive* or *normative*. A *positive* (or descriptive) topic is asking about how things are in the real world. A *normative* (or prescriptive) topic is asking about how things should be in an ideal world.

PUTTING IT TOGETHER

Most projects in dual-mode degree studies are empirical or meta-analytical, or a combination of the two. The topics may be positive or normative. It is common to have one main question and perhaps two or three secondary questions, and sometimes if you have a positive (descriptive) topic, there could be a secondary question that is very normative (prescriptive), asking how things could be done better.

How will I measure success?

Whatever your question(s) may be, there will be criteria that you have to define. Those criteria will depend heavily on the question, and we will look at them further in our next subject. But even more fundamental is the question: How will I measure success?

We are not talking about whether the task is successfully completed for your employer. That is mostly very clear. But you need to define, for every topic idea that you have, what would determine success in this topic.

As an example:

Task: Implement a new intranet-based help desk ticketing system for employees, with web and mobile (app) access

Potential topic 1: Positive (descriptive) empirical – "What are the advantages and disadvantages of the new ticketing system, as experienced by the end user and the help desk personnel?" *You succeed by identifying, analysing and categorising clear advantages and disadvantages, regardless of whether there are more advantages or more disadvantages.*

Potential topic 2: Positive (descriptive) empirical – "How does it impact the company financially?" *To succeed, you need to answer the question by measuring the impact of the new system on the company. Even if the program doesn't work, you can successfully measure the impact in terms of time, money and possibly data lost in a failed implementation.*

Potential topic 3: Normative (prescriptive) meta-analytical – "What factors need to be considered in implementing a ticketing system to ensure maximum success? Compare the experiences here with reports from other companies that have implemented new systems in the last five years." *To succeed, you will need to find other reports to compare to, determine what constitutes success, and then identify factors that contributed to success.*

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[i] This section draws heavily on the work of Marcus Oehlrich in *Wissenschaftliches Arbeiten und Schreiben*, Ch. 2, Section 2.2, pp. 7-12, Springer Verlag, Berlin/Heidelberg, 2015.