



Assignment clarification: Theory/ practice transfer paper

Matriculation number: 8240

Since you are developing a research question or a solution for your company, a comprehensive clarification of the assignment is mandatory and has three essential objectives:

- ✓ You will have a clear picture from the very beginning of the requirements and expectations of your company for your theory/practice transfer paper.
- ✓ The supervisors of your company know what output and thus which benefits they can expect from the transfer paper.
- ✓ NORDAKADEMIE can check whether your chosen topic appears consistent in itself, is realistic in its scope, and whether you can work on it successfully with the chosen means.

Please, answer the questions jointly with your company supervisor. As a guideline, the answers should comprise around two thousand characters.

What is your topic (the operational question/ research problem)?

What electricity usage can tell about private households

What is the reason for the research question or problem?

How did the problem come to your attention and what has already been done?

Electricity usage may not seem very sensitive on a first glance. However, looking deeper it may reveal a lot of details about a household and the persons within. This data may be abused for malicious purposes so it is of some importance to determine what information can be extracted from it.



How does the research question or problem arise concretely in the workplace?
What does it mean that the question or problem has not yet been answered or solved?

Each individual at the workplace does use electricity at home. A breach of confidentiality for this kind of data may influence the company's security.
Attackers may deduct work patterns and holidays/vacations.

Which objectives do you pursue with this theory/practice transfer paper?

The goal is to uncover what kind of information can be extracted and classified from electricity usage data collected by today's smart meters.

How is the procedure for answering the posed research question/problem?
Which methods/materials will I use to find out/prove/test this?
What do I mainly want to do in my transfer paper: to argue? To analyse? To compare?
To interpret? To test?

To begin with, existing research will be consulted. A non-exhaustive list of potentially extractable information will be created. Later on, data from a real-world household will be collected and analysed manually without internal knowledge of the house. Theories uncovered by this will then be proven by unplugging/turning on suspected appliances and verifying the expected data.



☐ I hereby approve the topic and supervise the student during the development of the transfer paper:

J. Hauschild

Signature, company supervisor

Afterwards, please upload the assignment clarification in CIS. You will receive information on whether your research question has been accepted within one week (calculated on working days). If the topic has been accepted by NORDAKADEMIE, the 4-week processing period starts. If your topic has been rejected, you will receive information about the reason for rejection and can upload the research question again, eg with a different focus or another planned procedure. This process can be repeated several times until the question has been accepted.