Rapport MF2070

1. Post positivists believe that absolute truth can never be found; an evidence of a theory is never considered as absolute and unrefutable. Instead, the current data is observed objectively and is analyzed without personal bias or opinions. Research based in post positivism tries to refute or confirm hypothesis, but never leave the realm of uncertainty. This worldview is rooted in the natural sciences and is mostly used in quantative research.  
   Proponents of social contructivism assume that peoples views are generated by their interactions with their environment. As an extension, this means that people act and think depending on the context within which they live and act, and that their history is important to their actions.
2. Post positivists: According to Kuhn, an acceptable theory is one that is simple, provides accurate predictions and shows compatibility with other contemporary theories.

Social Constructivism: According to Lincoln and Guba, a theory is acceptable if it is more informed and thus elaborates on earlier theories.

1. Examining a cross section of Mats Magnussons research, one can conclude that he uses the mixed methods research methodology (MMR) and as such can be expected to adhere to the pragmatic worldview. The most important characteristic of an MMR researcher is methodological eclectisism (Teddlie & Tashakkori, 2012), i.e choosing methods from different worldviews. Magnusson uses a wide range of methods such as Case Studies ( (Dahlander & Magnusson, How do Firms Make Use of Open Source Communities?, 2008) and (Dahlander & Magnusson, Relationships between open source software companies and communities: Observations from Nordic firms, 2005)) and interviews (Gutiérrez & Magnusson, 2013) which are methods of the qualitative domain (source). In (Magnusson, Dahlman, Molen, & Magnusson, 2012) he uses statistical inference, which is used by quantitative resarchers (source). Much of Magnussons research is centered around innovation which by it’s nature requires a qualitative approach which is why one might say that, even though he uses freely from both quantitative and qualitative methods, he has a stronger leaning towards qualitative research.
2. Before the 1980s the public was skeptical to mixing paradigms since incompatibility were seen between them, but the discourse changed since they could be seen as complementary to each other.

Magnusson’s way of doing research can be criticized from a constructivism point of view. In his studies he comes to the conclusion that his results are always valid and not only as his subjective opinion in the investigated area.

In his report “How do firms make use of open source communities,” he is using a qualitative method and by interviewing a few participants of great impact in four companies. His way of doing this can be criticized by lack of a description of how the companies are chosen, if they are diverse in history and culture, and also how he presents the presentations. What questions are asked, in what context were the interviews held and the backgrounds of the participants.

MM är pragmaticer och vi kritiserar honom från en social constructivism synvinkel  
open source- kvalitativ

Obs källor innan 1980 gäller ej för kvalitativa

Quantitative research is about collecting numerical data which is analysed through mathematical methods… (Aliaga and Gunderson 2000)

1. The survey design is performed on a fraction of a population, a *sample*, to see trends in a whole population. The researcher collects data through questionnaires and then analyzes data statically to test research questions and hypothesis. (Creswell, educational research, s. 293)

The experimental design is performed though experiments on separate groups, for example one where an intervention performed and the other as a reference group who are not subject to the intervention. (Creswell, educational research, s. 21, 293) The analysis is done for a dependent variable and the results are interpreted in comparison to the hypothesis. The following sub-categories of experimental designs exist:

* In a true experiment, the subjects are randomly assigned to the groups (intervention/no intervention), thus eliminating systematic errors caused by certain groups sharing a common attribute.
* Repeated measures, all interventions are administered to all subjects who are observed after each intervention.
* Quasi-experiment, the use of existing groups in experiments. For example a school class. (Källa alla tre: Ross & Morrisson Experimental Research Methods s.1022-1023)

1. Quantitative methods/instruments

*Quantitative* *Instruments* are means for measuring, observing and also documenting data collected in a quantitative fashion. The aim in quantitative research is to collect numerical data from a smaller number of individuals in order to generalize the results to a larger population. (Creswell, educational research, s. 14)

The researcher can administer the instrument to a respondent in order to collect data. In the case of questionnaires, the respondent answers independently. Another instrument can be a checklist the researcher uses when observing a respondent. (Creswell, educational research, s. 14 långt ner) The data collected is numerical and can be analysed mathematically through different methods. For example Regression analysis or correlation analysis.

1. Ellen Bergseth – quiet tracks

An experimental design was used where the goal was to make a tool for identifying severe wear of train tracks through analyzing sound data.

Through lab tests (a method/instrument) a correlation between the degree of wear and level of noise was established. This was then tested in a full scale field experiment using real metro trains in steep curves to provoke wear. The same type of wear and particle morphology was found in the full scale experiment as in the lab tests. The wear/sound coherence was then established to be valid in the real world case. Mathematical modeling was made which concluded that the difference of noise from the inner wheel and the outer wheel is a parameter which can show the probability of severe wear.

8. In (1), several types of validity are defined. One of these is content

validity. This type of validity regards whether or not the items in the survey

properly covers all the relevant data of the sample domain. Content validity is

subjective (1) and is usually determined by a group of experts (1)(2).

When conducting quantitative research, one should consider external validity,

which regards whether or not the results are generalizable. One external

perspective according to (3) is ecological validity where one considers whether

the research study was realistic and as such if the results are applicable in a

natural enviroment.

9. A concern about the external validity can be that the wheels/track are cleaned between tests which raises ecological (external) validity concerns since the natural environment is not as clean, thus threatening the generalizability of the results. Lab test, external validity! Ej generaliserbart…men….

10. ….…they prove the external validity by proving that the lab tests can be generalized, i.e. that the topological wear and particle morphology is similar from the field test.

11-12. The emphasis in grounded theory is grounded in data gathered from participants through for example interviews and focus groups, which is a homogenous group of people with shared experiences who are interviewed as a group. The number of participants is not determined from the beginning, instead the research continues until further data does not provide new information. The data is summarized in a form to easily be able to analyze it. A method of analyzing the data is comparative analysis where the data from different participants is compared.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2550365/pdf/bmj00603-0031.pdf

Ethnography focuses on studying a group of people to understand and describe their cultural behavior. Data is gathered through fieldwork where the researcher makes observations and taking notes while being a part of the group.

*Introduction to Research Methods -* Dr. Catherine Dawson, Fourth Edition 2009

13.  
Susanne Nilsson utilizes the instruments document analysis and observations in her doctoral thesis “*Making innovation everyone’s business”*. Documents related to the research question were gathered from the company’s internal system, and analyzed to make a better understanding of company routines and how these can be used in the research. Observations were made both as a participant during regular meetings and casual conversations, and as a non-participant during formal events. The notes taken during the observations were used to form the questions for interviews and also to compare to the answers.

“*Making innovation everyone’s business”* Susanne Nilsson sid. 38

14.  
A concern when being involved and using participant observation is to not make assumptions and be able to remain objective.

“*Making innovation everyone’s business”* Susanne Nilsson sid. 40