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The goal of Grounded Theory is to generate a theory that accounts for patterns of behaviour which is relevant and problematic for those involved. The goal is not voluminous description, nor clever verification.' Glaser (1978) p. 93

Chapter 1

Introduction

1.1 The Issue

The issue of this thesis is to develop a middle-range substantive theoretical framework which can suggest explanations of the behavioural patterns in a project characterised by uncertainty. The generation of theory will be based on Grounded Theory (GT) and it will take its point of departure in the everyday experiences of the involved actors. The focus is placed on discovering what concepts and hypotheses are relevant for the project in question by inquiring into the difficulties that people in projects face and how and why they handle these difficulties as they do. The intention therefore is to listen carefully to what practitioners have to say –to draw on their stories to highlight challenges, useful techniques or crises that they have experienced. The purpose of this is the development of a grounded theory; however it also results in some reflections of the process of conducting a study based on a GT approach as this proves to be a large task. The idea behind sharing the experience of carrying out a GT case study is also to involve the reader in the process of theory generation, in order for him to understand some of the choices made by me as a researcher in the process.

The area of interest in this thesis is a project process, more specific the project process of the implementation of a product catalogue system called PIDAS in Berner Denmark. Through earlier employment I had knowledge of this PIDAS project at Berner Denmark (Berner DK) which had experienced some difficulties, and I was lucky to receive permission to follow and observe the course of the project. The GT methodology allowed me to focus on the contextual, process-based descriptions of the project process. It enabled me to discover patterns of action and interaction between people in response to the problems and situations in which they found themselves. Furthermore it offered a set of established guidelines for conducting data collection and analysis which gave me a sense of security while exploring unknown ground.



Grounded Theory methodology was chosen as it seemed a suitable approach for generating an understanding of the actors' reality by developing a theoretical framework which is based on their experiences and observations as practitioners. The thesis therefore takes human practices as its starting point. These are the practices whereby project work tasks get done. This focus will allow the thesis to include discussion of some aspects of project work that are often marginalised in standard texts, including the politics and confusions of project implementation, the personal stresses associated with projects, the roles played by ordinary human interaction, relationships and humour in projects. The project team is therefore regarded a complex social setting where learning, joint action, reflection and collective sense-making takes place. Roles are not static, but dynamically changing in the flux of ambiguity, conflicting interests, identities and asymmetries of power. Micro-diversity, unpredictability, anxiety, politics and social uncertainty is the nature of the project team.

Grounded Theory can be traced back to the seminal work of Glaser and Strauss (1967), 'The Discovery of Grounded Theory'. In that book both authors were critical of what they perceived to be an approach to research that drew upon an existing 'grand theory' and was satisfied with testing hypotheses built on this underlying theory.² In response to their critical views of this traditional approach to research, they developed Grounded Theory which focuses on the problems of the respondents, their meaning and importance. GT is however not a methodology which seeks to describe the respondents' stories, instead it focuses on processes and behaviour. It follows Glaser & Strauss' (1967) position that generating grounded theory is a way of arriving at theory suited to its users.³

*"The goal of Grounded Theory is to generate a theory that accounts for patterns of behaviour which is relevant and problematic for those involved. The goal is not voluminous description, nor clever verification."*⁴

The generated theory should 'work' which means that it should be able to explain what happened, predict what will happen and interpret what is happening in the area of interest.⁵ This is achieved by achieving an understanding of the facts –what is happening – through systematic research.⁶ For the theory to work it must work the core of what is going on; it must be relevant to the action of the area. GT arrives at relevance as it allows core problems and processes to surface through the use of comparative analysis. And based on that

² Rodon & Pastor (2007) p. 71

³ Glaser & Strauss (1967) p. 3

⁴ Glaser (1978) p. 93

⁵ Glaser (1978) p. 4

⁶ Glaser (1978) p. 4



Glaser argues that the researcher does not have to explain how he deduced the focus or explain how his interest can be seen as general enough to be worth of research. Instead he should spend his time modestly, but assertively searching for and discovering the relevance in his data.⁷

Based on a systematic method of analysis, comparisons of the empirical evidence it was possible to identify the 'project dynamic constellation' (PDC) which is the generated Grounded Theory of this thesis. It is created as a model of involved actors' experiences, observations, and assessments of a project process characterised by uncertainty. The model illustrates both the interconnectedness of the different factors of the project and the dynamic inherent in the project. This dynamic is a product of the projects emerging nature, which is created by the actors' choice of behaviour in response to the perceived uncertainty. Furthermore the framework suggests an explanation of the project's attachment to the permanent organisation and to society outside the organisation and illustrates the importance of the motives of the actor in the project context.⁸

The intention of creating such an understanding of the actors' reality has been a creation of knowledge which hopefully could inspire new ways of thought in connection to project management in Berner DK. Furthermore, this thesis adds to the existing literature, which discusses the use of GT approaches by showing how GT was applied in a case study that inquires into the role of actors in a project.

1.2 The Perspective

Grounded Theory has its roots in symbolic interactionism which regard the proper object of research as being the natural world of every-day experiences. It is an empirical research tradition as well as a theoretical position.⁹ It has its roots in pragmatism, especially the work of George Herbert Mead and it was Herbert Blumer, one of his students, who coined the term "symbolic interactionism" and put forward what proved to be an influential perspective: people act toward things based on the meaning those things have for them; and these meanings are derived from social interaction and modified through interpretation.¹⁰

⁷ Glaser (1978) p. 5

⁸ The data showed that the product managers were the main characters of the project. They played an important part in the PIDAS project and based on that they were categorised as *the Actors* of the framework, and this definition refers only to them. Each actor proved to play a unique role in carrying out the task of completing the project and this category captures the attributes of the individual actors in connection to the PIDAS project.

⁹ Becker & McCall (1990), p. 4

¹⁰ Wikipidia1



The basic ideas of symbolic interactionism can be summarized as follows¹¹

'Any human event can be understood as the result of the people involved continually adjusting what they do in the light of what others do, so that each individual's line of action fits into what others do. This can only happen if human beings typically act in a nonautomatic fashion, and instead construct a line of action by taking account of the meaning of what others do in response to their actions. Human beings can only act this way if they can incorporate the responses of others into their own act and thus anticipate what will happen in the process of creating a self in the Meadian sense. If everyone can and does do that, complex joint acts can occur.' Becker & McCall

These are the views inherent in the GT approach.

1.3 The Choices which Follows the Adoption of a GT Approach

The choice of the GT methodology has some implications for the structure of the thesis. Because of this kind of research approach's assumption that theory is discovered from data gathered in the process of research, there is an emphasis on setting aside preconceived notions prior to and during theory building. Typically, a thesis would include a research question which would explain the quest of the thesis. However, in Glaser's approach to Grounded Theory the use of research questions as the point of departure of a study is not recommended. Instead, the researcher in order to gain theoretical sensitivity is to enter the research setting with as few predetermined ideas as possible.¹² This should enable the researcher to remain sensitive to the data by being able to record events and to detect happenings without first filtering them through pre-existing hypotheses and biases.¹³ The researcher's task is to remain open to what is actually happening.¹⁴ This will ensure that the generated grounded theory will achieve relevance as it allows for core problems and processes to emerge.¹⁵

A general understanding of the phenomenon under investigation is considered sufficient for the initiation of this type of research. Having established a problem or topic in general terms and chosen a site where the research question could be examined more closely, evidence is allowed to accumulate by the researcher, resulting in an

¹¹ Becker & McCall (1990), pp. 3-4

¹² Glaser (1978) pp. 2-3

¹³ Glaser (1978) p. 3

¹⁴ Glaser (1978) p. 3

¹⁵ Glaser (1978) p. 5



“emerging” theory.¹⁶ Thus, generating a theory from data means that most hypotheses and concepts not only come from data but are systematically worked out in relation to the data during the course of the research,¹⁷ and it is therefore not possible to define the research question prior to the initiation of the research process. However, it is possible to define the area of interest and to explain why a Grounded Theory methodology seemed the appropriate choice.

Furthermore the researcher using the GT methodology does not have to find areas that are untouched to ensure the originality of his theory.¹⁸ As argued by Glaser (1978),

‘It is a joy to form new theory in an untouched area of research, however there is still quite enough space for new work even in well trodden fields.’¹⁹

The field of projects especially project management can be argued to be ‘well trodden’ and this would in a more traditional approach to research indicate a need for a literature review of the existing formal theory on the area of interest. However, according to Glaser & Strauss (1967), the act of carefully trying

‘...to cover ‘all’ the literature before commencing research, increases the probability of brutally destroying one’s potentialities as a theorist.’²⁰

The concern is that the researcher may contaminate his effort to generate concepts from the data with preconceived concepts that may not really fit, work or be relevant but appear so momentarily.²¹ The danger is to force the data in the wrong direction by guidance of the adopted literature.²² Therefore, an appropriate approach is for the researcher to initially ignore related literature and existing theory to reduce the likelihood of contamination of the data with existing or biased concepts. This does not mean that existing theories are to be ignored altogether but rather that they should be set aside with the possibility for future application as the analysis progresses.

¹⁶ Glaser & Strauss (1967) p. 45

¹⁷ Glaser & Strauss (1967) p. 6

¹⁸ Glaser (1978) p. 10

¹⁹ Glaser (1978) p. 10

²⁰ Glaser & Strauss (1967) p. 253

²¹ Glaser (1978) p. 31

²² Glaser (1978) p. 31



Later in the analysis, the researcher can apply existing research at a subsequent point in the research process.

*'A discovered, grounded theory, then, will tend to combine mostly concepts and hypotheses that have emerged from the data with some existing ones that are clearly useful'*²³

This should take place when the generated theory seem sufficiently grounded and developed and it enables the researcher to take the existing theory into account rather than simply accepting it or elaborating on it, and thus create the opportunity of developing rich insights that could transcend the theory.²⁴ The literature becomes data in perspective for the researcher as it enables him not only to integrate his generated theory with the existing literature but also because it may lead to the generation of new ideas.²⁵ This means that the basic assumption of GT is that the researcher's data will be sufficiently rich to stimulate the generation of good theory. Therefore, if the new theory can be joined with existing theory, well and good; if not, then it can stand by itself.²⁶ In this thesis, I have made the choice not to include existing literature, so the GT generated in this thesis will stand by itself.

1.4 The Structure

The structure of the thesis follows Glaser's recommendations to the shape of an outline.²⁷ It is as follows. Chapter 1 introduces the issue of the thesis, the perspectives used to view the issue, how the issue is handled and the purpose of writing the thesis. This includes a short presentation of the area of interest –the PIDAS implementation project at Berner DK, and justification of the choice of GT.

Chapter 2 gives a short introduction to Berner DK, the PIDAS system, and the PIDAS project.

²³ Glaser & Strauss (1967) p. 46

²⁴ Glaser & Strauss (1967) p. 255; Glaser (1978) p. 31

²⁵ Glaser (1978) pp. 32-33

²⁶ Glaser & Strauss (1967) pp. 152-153

²⁷ Glaser (1978) pp. 130-133: In the writing of introductions, there are several standard forms which the GT does not use e.g. authors often derive the problem for the book or paper from a general perspective, from a literature search or a general interest or both. However, in introductions GT derive the problem and core variable from the research. Existing perspective and literature are only used as supplements or contrasts, if at all. The outline is written so it discusses each section and how they relate to each other, so that the reader will know what to expect in the theory. The sections simply follow the research findings. They render the hard work the researcher has done over many months. Glaser does not recommend the use of summaries, however I have made a summary as it is one of the requirements of writing a master thesis. In the conclusion he argues that recommendations are appropriate if the theory is relevant for practitioners, as the DPC is for Berner DK, and he furthermore states that it is appropriate to end with taking the core variable and generate their use and contribution for formal theory by a brief comparative analysis with data from experience, knowledge and the literature and thereby raise the conceptual level.



Chapter 3 introduces GT as a methodology and presents the theoretical sampling and data collection of the empirical evidence.

Chapter 4 presents the generation process of the grounded theory of this thesis, the DPC. Glaser's three phases of the Grounded Theory Building Process have been adopted to describe the process. I use this framework to describe the entire research and generating process.

Chapter 5 presents the nature of the PIDAS project as a process of uncertainty. It identifies the main challenges of the project and with the purpose of illustrating the environment of the project. Uncertainty proved to be the main challenge in the PIDAS project, and the behaviours adopted by the actors should be regarded responses to the different types of uncertainty which appeared in the course of the project. These responses were made as the actors had a desire of successfully finishing the project –finishing it to the deadline.

Thereafter the three motives of behaviour/action in the project have a chapter each, chapters 6, 7, 8 . These chapters uses the three motives of behaviour/action as a framework for explaining the behaviour of the actors in the PIDAS implementation project and thereby enable the reader to understand some of the dynamic inherent in the project. This serves the purpose of both presenting the identified concepts of the DPC framework in detail and as a test of the framework's explanation power. Furthermore, this will lead to the identification of the controllable variables in the framework and thereby explain how a practitioner can control and affect the situation. The result of these three chapters is some hypotheses of the actors' pattern of behaviour/action in the PIDAS project, and possible ways for stakeholders to affect this cause-effect relationship, which together form the DPC framework which is presented in chapter 8.

Chapter 9 presents the DPC, the grounded theory of this thesis. It is the sum of the identified relationships of the concepts of the motives, the behaviours/actions, and the stakeholders and the hypotheses which can be suggested based on these relationships . The DPC is a substantive theoretical framework which can be used to create an understanding of the PIDAS project and through identification of controllable variables and access variables enables the practitioner in affecting the course of the project process. The DPC was chosen as the core variable as it explains a large amount of the variation in behaviour in the PIDAS project. Finally, in



chapter 10 the conclusions and the final comments on the research and theory generating process are presented.



'The first step in gaining theoretical sensitivity is to enter the research setting with as few predetermined ideas as possible – especially logically deduced, a priori hypotheses.' Glaser (1978) pp.2-3

Chapter 2

Area of Research: the PIDAS Project

This chapter will present the Berner organisation, the PIDAS system, and the PIDAS implementation project. This chapter is meant to provide the reader with basic knowledge. However more specific information concerning the research findings of the PIDAS implementation project will be presented in chapter 5.

The choice of using the project of implementing PIDAS in Berner DK as case study was a choice of both convenience and practicality. It was a convenient choice as I am a former employee, and therefore had a connection to the organisation. Furthermore, I worked with this specific project and therefore have some knowledge on the subject. It was also a practical choice because I knew that Berner Denmark had experienced difficulties in carrying out the project and it offered a possibility of following a project while being carried out, which meant that I had a unique opportunity of researching on 'reality'.

2.1 Berner DK

Berner DK is a subsidiary of Albert Berner Holding GMBH. Albert Berner Holding GMBH (Berner Holding) was founded in 1957 and is represented in 22 European countries and in Taiwan. Currently there are 22 group sales companies, 2 manufacturing plants and 3 chemical companies belonging to the Group. The headquarter Berner Holding is located in Künselzau, Germany.²⁸

Berner DK is one of the 22 group sales companies. It is a direct sales company which operates on the BtB market where it has specialised in small parts business, consumables and tools, for professional use in the construction and automotive trades as well as other industries. It is located in Noerresundby, Denmark and has two subsidiaries Berner Norway and Berner Sweden. It is a traditional structured hierarchical organisation where the general management is responsible for the organisation and overall coordination of resources as well as results. The structure is centralised. This means that Product Management/Purchase, Sales

²⁸ Berner homepage



Automotive, Sales Construction, Finance and HRM have to refer to the General Management in terms of results. However, in their specialised fields they coordinate resources, activities and policies with reference to Berner Holding.

2.2 The PIDAS System

PIDAS is a product information database, which is connected to the system SAP²⁹. It contains pictures, descriptions and other information concerning Berner's product portfolio. It is supposed to function as product information database from which information on all Berner's products can be drawn. It consists of product information pages (PIs) which are placed in sections according to the market they belong to. A PI is supposed to include text concerning the use of an article or an article group. Furthermore, it should include technical data, pictures and if necessary also technical drawings. Creating a PI includes writing text, type in the required technical data and making a table to contain the article number, quantity and other relevant information. Furthermore a picture/pictures and/or technical drawings would have to be attached to the PI. Sometimes texts and information from catalogues could be reused, other times information was translated from e.g. German PIs and at other times creativity was needed and e.g. suppliers would have to be contacted. Creating a PI could have a time span of 20 minutes or 6 hours.

Kittelberger Media Solutions is the provider of PIDAS. It is a German company which has specialised in communication and publishing solutions.³⁰ They are responsible for adjusting the system to the needs of Berner, uploading new pictures of products, and modifying PIDAS PIs into Quark³¹. In other words they are a continuous part of PIDAS.

At the moment it is possible to use PIDAS as a basis for printed catalogues³², however, the intention is that it should function as a platform from which different online systems such as 'Pilot'³³ and 'B-Com'³⁴ should be able to draw updated information. Keeping product information updated has been a problem for the entire Berner organisation as all the divisions have large product portfolios. Each year all the sales divisions would print new catalogues well knowing that the catalogues were likely to be outdated as soon as they left printing

²⁹ SAP is an intelligent IT system

³⁰ Kittelberger's homepage

³¹ The PIs produced in the PIDAS system can be used for print in PDF, however they have to be changed into Quark files before they can be used to printing catalogues. This process goes through Kittelberger.

³² The PIs have to be modified and ordered from Kittelberger in Quark before they can be used for catalogue printing

³³ Pilot is a system which sales functions are going to use for finding information on Berner products –it is not in use yet.

³⁴ B-Com is the name of Berner's e-commerce which is expected to be launched in Denmark next year.



due to a continuous flow in the product portfolio. PIDAS was supposed to offer a solution to this problem as it, if properly maintained, would be able to offer updated information on all Berner products.

2.3 The Pidas Project

In 2006 Berner Holding initiated the process of implementing PIDAS in the entire Berner Group. The PIDAS implementation project involved creating PIs on all the product articles in the different divisions and the divisions were made responsible for carrying out the implementation and for keeping the deadlines.

I started my research in Berner DK in February 2008 at the time where the Danish PIDAS project was restarted after having failed to meet several deadlines. The project reached its final deadline on July 1 this year, 2008, and despite the closing of the project, it was recognised that the outcome had some modifications compared to the intended outcome. In other words, there were still some things that needed to be done.

The project team primarily consisted of four product managers who together covered all of Berner DK's products. However, one of these PMs resigned during the project process so in the last months there were only three PMs. Furthermore, a student helper was employed (me). I had, as mentioned, earlier worked at the project, so I was familiar with the system and knew the project team. Furthermore, an earlier part-time employee of the PIDAS project had been moved to the IT-department, but as the project was relaunched she was reassigned to working part-time on the project. All in all, we were six persons 'assigned' to the project.

The project team referred directly to the CEO, as there was no PM Manager.



*'How the analyst enters the field to collect data, his method of collecting and codification of the data, his integration of the categories, generating memos and constructing theory –the full continuum of both the process of generating theory and of social research – are all guided and integrated by the **emerging** theory.'*
Glaser (1978) p. 2

Chapter 3

Methodology

This thesis has taken the path of Glaser's approach³⁵ to GT. As mentioned in the introduction this means that the researcher should approach the research process without a problem statement to guide the research, as the process should be guided by the empirical evidence.³⁶ The point is to figure out what problems the selected people are facing and what is happening in their reality. This chapter will introduce the main characteristics of GT methodology and how the empirical evidence was collected during the research process. Here it is important to note that choice of GT as the methodology was made after the research had started, so the initial dialogues and interviews were conducted without knowing that GT would be the chosen approach to the project.

3.1 Grounded Theory

Traditionally, we distinguish between two epistemologies the positivistic and the hermeneutic tradition. Grounded Theory resembles the hermeneutic tradition but is actually a mix of the two as it is an inductive approach which includes deductive elements. In other words, it continuously shifts between induction and deduction and therefore a continuous interaction between data and data analysis takes place. This interaction process is guided by methodological procedures and rules which are followed until the theoretical framework – the grounded theory –has been generated.³⁷ In other words, first data is collected and then analysed inductively, then a new selection of data is collected based deductively on the previous collected material - this systematic shifting between induction and deduction continues until the GT has been generated.

³⁵ Egan (2002) p. 279: There is an ongoing debate on whether Glaser's or Strauss' approach to GT is the most appropriate. I have chosen not to include the discussion here. However, the fact is that the two today the two founders disagree about some basic features of the GT methodology –literature review and research questions. If interested in current debates over this Egan recommends the following work: Dey, 1999; Glaser, 1978, 1992; Strauss, 1987; Strauss & Corbin, 1990, 1998

³⁶ Hartman (2005) p. 60

³⁷ Hartman (2005) p. 54



The strategy of grounded theory is that the research process is shaped by the research material. It is therefore the analyses of the first gathered material which guides the focus of the following information collection. The role of the researcher is initially quite passive until patterns in the material start to appear and then the process become more selective. Thus, the strategy is to let the empirical evidence guide the progressing research process and by doing so, enable the researcher to capture the behavioural patterns and attitudes of the group in question.

"The researcher should not worry. The problem will emerge as well as the manner by which the subjects involved continually process it" Glaser

The purpose of GT is to describe a domain, which consists of phenomena that are shared by a group of people and in some cases all people, but there is no underlying intention of creating 'grand theory'.³⁸ The intention is to generate theory 'grounded in' empirical evidence which describes the phenomena in that particular domain.³⁹ Typically, there is a distinction between grand theories, working hypotheses, and middle-range theories.⁴⁰ Grand theories describe large complex society interdependencies and developments. On the other end of the scale is working hypotheses which describe the relationship between a few factors. Middle-range theories offer no common explanations on large complex society interdependencies but are on the other hand more than just working hypotheses. Grounded Theory is defined as belonging to the group of middle-range theories.⁴¹

"That is, they fall between the minor working hypotheses of everyday life and the all – inclusive grand theories.

⁴² Glaser & Strauss

Glaser regards the area of research as a selected group of people and the researcher is supposed to approach this area without predetermined hypotheses and problem statements. Because the main purpose is to discover what concepts and hypotheses are relevant for the area that one wishes to research. But at the same time Glaser recognises that

³⁸ Hartman (2005) p. 67, Glaser & Strauss (1967) pp. 34-35

³⁹ Hartman (2005) p. 68

⁴⁰ Hartman (2005) p. 67

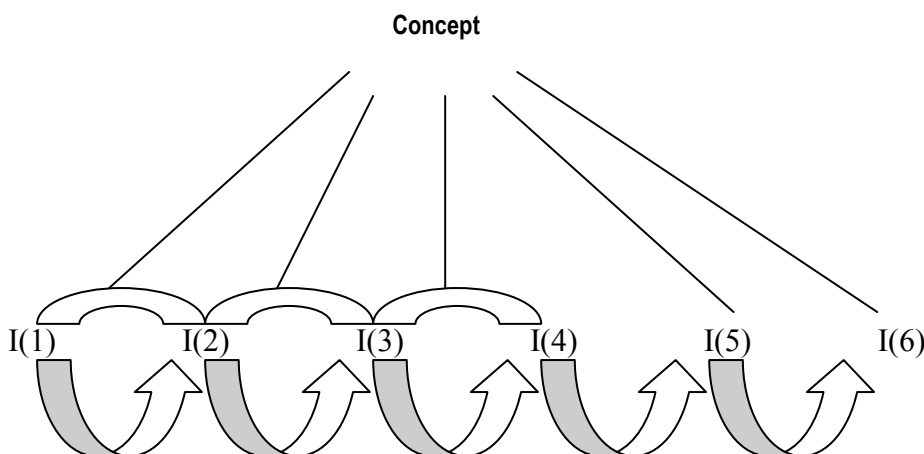
⁴¹ Glaser & Strauss (1967) pp. 33

⁴² Glaser & Strauss (1967) p. 33

*'Of course the researcher does not approach reality as a tabula rasa. He must have a perspective that will help him see relevant data and abstract significant categories from his scrutiny of the data.'*⁴³ Glaser & Strauss

GT is a methodology for generating and grounding theory and hypotheses, not for testing hypothesis. It has not been “thought up” or logically derived. It is itself a Grounded Theory. The goal is to develop a theoretical framework and the analysis starts with open coding of research material. This process is called conceptualisation, and the researcher can develop concepts and categories.⁴⁴ A code is generated through a concept-indicator model which directs the conceptual coding with a set of empirical indicators. This provides the essential link between data and concept, which result in a theory generated from data.⁴⁵ From the first level in the process of coding to the theoretical level a conceptualisation process is taking place on advancing levels of abstraction until a framework is generated by the concepts and categories and their interconnectedness, which form the hypotheses that build the theory.⁴⁶

FIGURE 1: CONCEPT INDICATOR MODEL⁴⁷



The Concept-Indicator model is based on a constant comparing of ‘indicator to indicator’ and ‘comparing of indicators to emerging concept’.⁴⁸ By comparing indicator with indicator, the researcher confront similarities,

⁴³ Strauss & Glaser (1967) p. 3

⁴⁴ A category is a phenomenon which has a specific meaning to a group of people. –Translated from: En kategori er et fænomen, der har en bestemt mening for en gruppe mennesker. Hartmann (2005) p. 47 2001. Glaser uses the terms ‘concept’ and ‘category’ as synonyms, and both of the terms are to be understood as defined here by Hartmann.

⁴⁵ Glaser (1978) p. 62

⁴⁶ Glaser (1978) p. 16

⁴⁷ Glaser (1978) p. 62

⁴⁸ Glaser (1978) p. 62



differences and degrees of consistency of meaning between indicators. This leads to the generation of an underlying uniformity of a category and the beginning properties of it.⁴⁹ The comparison of further indicators to the conceptual codes leads to generation of further properties until the code is verified and saturated.⁵⁰ This is an important part of GT as concepts and their dimensions have earned their way into the theory by systematic generation from theory.⁵¹

The GT methodology offers a guide to theory development that at each stage is closely integrated with the methodology of research.⁵² Therefore, generating theory and doing research are two parts of the same process. The way the researcher enters the field to collect data, his method of collection and codification of data, his integration of the categories, generating of memos, and construction of theory –the full process of generating theory and of research –are all guided by the emerging theory.⁵³ Also included at each state of the theory generating process is the reliance on the skills of the researcher as he operationalises the GT.⁵⁴ During the generating process the researcher becomes ‘wise’ about the data on how to detail its main problems and processes and how to interpret and explain them theoretically.⁵⁵

This interactive process is guided by rules, which defines when the collected empirical evidence has been sufficiently analysed, when a new selection of material is required, what to look for in the evidence and so forth. This process is called ‘constant comparison’.⁵⁶ By comparing the empirical evidence constantly, the important factors will appear and they are the foundation of the generated GT. Thus the theory both appears from the collected material while being grounded in it.⁵⁷

The process from data collection to having finished the writing is a process composed of double-back steps.⁵⁸ As the researcher moves forward, he constantly goes back to previous steps. The steps are: collection of research data, open coding of the data soon after, theoretical sampling, generating many memos with as much saturation as possible and emergence of core problems and processes, which then become the basis

⁴⁹ Glaser (1978) p. 62

⁵⁰ Glaser (1978) p. 62

⁵¹ Glaser (1978) pp. 63-64

⁵² Glaser (1978) p. 2

⁵³ Glaser (1978) p. 2

⁵⁴ Glaser (1978) p. 2

⁵⁵ Glaser (1978) p. 2

⁵⁶ Hartman (2005) p. 55

⁵⁷ Hartman (2005) p. 55

⁵⁸ Glaser (1978) p. 16



for more selective sampling, coding and memoing as the researcher focuses on the core. This happens all at once, but while the researcher keeps doubling back to more data and coding, the emphasis shifts more and more towards more memoing on data and on the memos. As the memos start to become saturated, the researcher starts sorting the memos into theoretical frameworks. After the sorting process is over the researcher begins writing up his piles of data, which is likely to lead to more sorting. Then the researcher starts reworking his first draft by editing and resorting to improve integration. None of these steps can be skipped and once this has been carried through, the manuscript is finalised for publication.⁵⁹

The main tool of GT methodology is comparative analysis which takes place continuously throughout the research process and I will explain how I used it in the PIDAS project in chapter 4. The use of constant comparison draws the researcher's attention to similarities and differences in the research material. Considering these leads him to generate abstract categories and their properties, which since they emerge from the data will be clearly important to a theory explaining the kind of behaviour under observation.⁶⁰ The comparison of differences and similarities not only generates categories but also generates generalised hypotheses in regard to relations among them. These hypotheses have the status of suggested, not tested, relations among categories and their properties, despite the fact that they are verified as much as possible in the course of research.⁶¹ Generating hypotheses requires only enough evidence to establish a suggestion and does not require excessive evidence as proof.⁶² In the beginning the different hypotheses may seem unrelated but as categories and their properties emerge, develop in abstraction and become related, their accumulated interrelations form an integrated central theoretical framework, which is the core of the emerging theory.⁶³

Comparative analysis is furthermore used as a means of ensuring that the evidence is as accurate as possible and to establish the generality of a fact,⁶⁴ as facts are replicated with comparative evidence.⁶⁵ But according to Glaser & Strauss then, even though verifying as much as possible with as accurate evidence as possible is important when generating theory, then it should only be to the extent where it is in service of generation of theory.⁶⁶ The job of the researcher is not to provide a perfect description of an area but to develop a theory

⁵⁹ Glaser (1978) p. 16

⁶⁰ Glaser & Strauss (1967) p. 36

⁶¹ Glaser & Strauss (1967) p. 39

⁶² Glaser & Strauss (1967) pp. 39-40

⁶³ Glaser & Strauss (1967) p. 40

⁶⁴ Glaser & Strauss (1967) pp. 23-24

⁶⁵ Glaser & Strauss (1967) p. 21

⁶⁶ Glaser & Strauss (1967) pp. 28



that accounts for much of the relevant behaviour.⁶⁷ The researcher is supposed to generate general categories and their properties for general categories and their properties for general and specific situations and problems.⁶⁸

GT furthermore includes two distinct features which are properties of the researcher and his personal characteristics. They are called theoretical sensitivity and theoretical pacing.⁶⁹ Theoretical sensitivity is something which a researcher develops while carrying out research and it denotes the task of having an awareness of the gathered material.⁷⁰ This awareness on the one hand guides the researcher in focusing on what is important and thereby helps him control the research process in such a way that he collects the material needed in order to generate the theory.⁷¹ So it is both a characteristic of the researcher while also being an important part of the methodology.⁷² There are different sources to theoretical sensitivity. There is the inner source which is the researcher's understanding of the area of interest, but there are also outer sources such as literature studies, professional and personal experience.⁷³ The role of theoretical sensitivity in the generation of grounded theory is to provide the creativity to the process, and creativity is created through understanding.⁷⁴ Thus, the discovery of GT implicitly assumes that the researcher will be creative.⁷⁵ In order to enable this creativity through understanding of the area of interest, it is important for the researcher to control his own pace and this theoretical pacing is the other part of the GT methodology which is both a part of the methodology and also a distinct feature of the researcher.⁷⁶ Theoretical pacing is the pacing of the research process.⁷⁷ This is characterised by three different stages of self pacing during the collecting, coding and categorising of data: input, the drugless trip, and saturation. The transition between input and drugless trip is marked by depression, and the transition between drugless trip and saturation is marked by writing.⁷⁸

⁶⁷ Glaser & Strauss (1967) pp. 30

⁶⁸ Glaser & Strauss (1967) pp. 30

⁶⁹ Hartman (2005) p. 133

⁷⁰ Hartman (2005) p. 133

⁷¹ Hartman (2005) p. 133

⁷² Hartman (2005) p. 133

⁷³ Hartman (2005) p. 134

⁷⁴ Hartman (2005) p. 137

⁷⁵ Glaser (1978) p. 20

⁷⁶ Hartman (2005) p. 137

⁷⁷ Hartman (2005) p. 138

⁷⁸ Glaser (1978) pp. 22-23



According, to Glaser the research process can be divided into three phases: the open phase, the selective phase and the theoretical phase.⁷⁹ In chapter 4, the GT building process of the DPC will be presented in the framework of these three phases.

3.2 The Use of Literature

This thesis is based on Glaser's approach to GT methodology and I have used three books as the foundation of the use of Grounded Methodology: they are: 'Funderet Teori' by Hartmann (2005), 'The Discovery of Grounded Theory: Strategies for Qualitative Research' by Glaser & Strauss (1967) and Theoretical Sensitivity by Glaser (1978), which is elaborates and advances some of the propositions of the 'Discovery' book. I have chosen to use these three as the main source of knowledge on the methodology, as I found that most appropriate to read Glaser's own material when following his approach instead of reading other persons' interpretations of his work as it was my experience that different works had a tendency of using GT in different ways. Furthermore I found that Hartmann provided a good explanation of the differences between Strauss and Glaser while at the same time providing me, as a novice in this kind of research, with a good understanding of the basics of Glaser's grounded theory methodology. However, in order to get a sense of how to approach the practical side of presenting a thesis based on GT, I used other grounded methodology articles and papers as inspiration.

3.3 Theoretical Sampling

Theoretical sampling is an ongoing part of the process of data collection and consists of selecting a sample according to the emerging theory. It is the process of data collection for generating theory whereby the researcher jointly collects, codes and analyses his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges.⁸⁰ Therefore on the one hand, the collection of data is guided by the sample and on the other hand, the sample is redefined by the emerging theory and it is therefore impossible to predict the size of the sample before starting the study.⁸¹ Theoretical sampling is done in order to discover categories and their properties and to suggest the interrelationship into a theory.⁸²

⁷⁹ Hartman (2005) p. 65

⁸⁰ Glaser & Strauss (1967) p. 45

⁸¹ Rodon & Pastor (2007) p. 73

⁸² Glaser & Strauss (1967) p. 62



From the beginning the area of study was decided to be the PIDAS project, and the thesis is therefore an example of qualitative research as the point of departure is a case study. These initial decisions for theoretical collection were not based on any preconceived theoretical framework. Focus was placed at the project team, however as the research process evolved, people who were not a part of the team were included in the research as they proved to have some importance in connection to the PIDAS project.

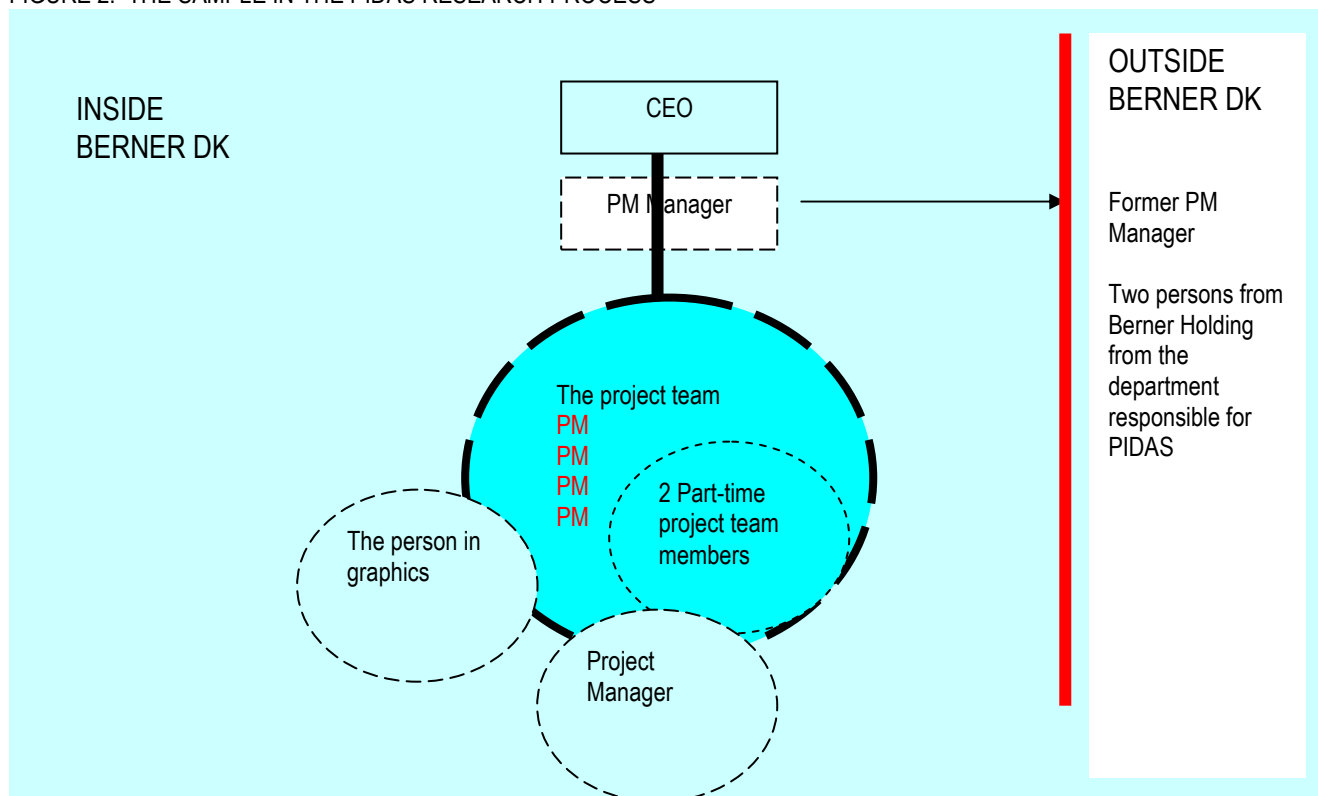
First focus was placed on the persons working at the PIDAS project. This was a heterogeneous group in regard to age, status, sex, education and cultural backgrounds with the denominator of being involved in the PIDAS project. The four Product Managers (PMs) were the 'core' project group and I started with interviewing them. They had during the research period no manager, but I contacted and interviewed their former manager as he had been responsible for PIDAS when the project was first initiated. As there was no manager, the CEO stepped in and the PMs had to refer to him. The CEO was therefore also included in the sample. Furthermore two other employees were part-time connected to the project. I was one of them, and the other one was the person from the IT-department. She was also interviewed. Furthermore, the person in charge of graphics was interviewed because she worked with catalogue production and her routines were therefore affected by the PIDAS. Furthermore, the PMs decided to draw on a Project Manager to get some guidance on how to guide the process, so he was also included in the group of interviewees. Furthermore, two persons from the PIDAS responsible office in Holding, and the IT-responsible at Berner was included in the sample. This means that I during the research process changed the sample from the formal core project team to include persons who had been formal or informal involved in the project. This follows Glaser & Strauss' argument that a researcher at the outset cannot state the size of his sample –he can only count up the groups at the end.⁸³

One of the PMs was referred to as the project manager of PIDAS but according to him the title was a matter of rethoric and there was no power behind it. They functioned as a group working for a common goal. The only way he was different from the others were that he had to refer to and inform the CEO.⁸⁴ Based on his perception of his status as the project manager and the fact that he during the project course never took the role of leading the other PMs, I have chosen refer to him as a PM equal to the others and not as the project manager.

⁸³ Glaser & Strauss (1967) p. 61

⁸⁴ Interview with PM 04.07.08

FIGURE 2: THE SAMPLE IN THE PIDAS RESEARCH PROCESS



3.4 Data Collection

In theoretical sampling, there is no predefined kind of data on a category nor are any kinds of data collection techniques regarded the most appropriate.⁸⁵ Different kinds of data give the researcher different views or vantage point from which to understand a category and to develop its properties. These different views are labelled 'slices of data'.⁸⁶ In other words, theoretical sampling for saturation of a category allows a multi-faceted investigation in which there are no limits for the techniques of data collection, the way they are used, or the types of data acquired.⁸⁷

In the data collection process I conducted 12 interviews which were qualitative and loosely structured, because the intention was to collect the qualities and meanings of the interviewee's experiences on the subject. The thesis seeks to develop an understanding of reality based on the actors' experiences, assessments, and observations and therefore this type of interview was found appropriate.⁸⁸ The starting point

⁸⁵ Glaser & Strauss (1967) p. 65

⁸⁶ Glaser & Strauss (1967) p. 65

⁸⁷ Glaser & Strauss (1967) p. 65

⁸⁸ Marschan-Piekkari & Welch (2004) pp. 230-231



of the initial interviews was to encourage people to talk about their experience of being a part of the PIDAS project but later on as I was able to narrow down the focus of the research due to coding, I started developing more specific interview guides to ensure that the interviewee commented on different aspects of the project. This happened as a consequence of the need to the continuous need to adjust my data collection to ensure the data's relevance to the impersonal criteria of the emerging theory.⁸⁹ However, I purposely formulated these questions in a way, that encouraged the interviewee to talk freely about the project so that the interview guide would not hinder the emergence of new maybe more important codes.

*'Another ongoing strategy that come with the experience are to keep grounding deductive ideas by questions as they emerge in conversations and interviews to keep the direction of the ideas and questions going toward researched interpretations and to keep trying to get behind what emerges with underlying scope and parsimony of conceptualizing.'*⁹⁰ Glaser

Initially, I tape recorded the interviews, however I stopped and started taking notes instead because I noticed, that the tape recorder affected the interviews. The interviewees took a more formal role in the interview and it created a distance between me as a researcher and them as interviewees. This was a distance that I wished to avoid and I therefore chose to take notes instead. This made the interviews have a character of informal dialogues and the information in these dialogues was much more nuanced than the information from the more formal interviews. The fact that I had worked with these persons prior to the start of the data collection, made it possible for me to notice the change of personality in the interviewees when using the tape recorder.⁹¹

The fact that I did not tape record all of my interviews and the meetings that I attended has had some implications for the style of this thesis. Later on in the analysis, I have in some places used 'constructed quotes' as illustrations of points. This means that I based on my notes from the meeting, conversation or the interview have constructed whole sentences. In other places, I had transcriptions based on tape recordings and could therefore use the quotes, but since I only had transcriptions of the first interviews, I decided to use constructed quotes when needing to refer to the later collected material. In the places where I have used these constructed quotes, I have made a reference to the summary from which it is extracted.

⁸⁹ Glaser & Strauss (1967) p. 43

⁹⁰ Glaser (1978) p. 82

⁹¹ Glaser actually argues against using tape recorders at interviews e.g. he finds that it slows down the process of the research as it provides the researcher with too much data. He argues that it is more important for the researcher to develop his or her sensitivity towards what is important and thereby make good notes of interviews and observations. Hartman (2005) p. 90



The data collection furthermore included observations, because when a researcher wishes to describe the magnitude of a relationship within a particular group –in this case the PIDAS project – random sampling or systematic observation is required.⁹² The observations took place throughout the project process and took two different forms. As I was reemployed as a part-time employee on the project I was able to follow the everyday of the project process and during this I wrote memos of what I perceived to play a role the course of the project. The observation of the daily routines took place in an open office environment, where the PMs, the graphics responsible, the counselling project manager and the purchasing department were located. I was also given permission to observe meetings where PIDAS was on the agenda and I made summaries of these meetings. However there were many meetings where PIDAS was mentioned and it was not possible for me to attend all of them, but in the cases where I was not present I was able to get summaries. It is important to note that I during these observations did not take the role of an ethnographer trying to get the fullest data on a group but instead took the role of an active sampler of theoretically relevant data.

However, my data collection of course also was constrained by structural conditions such as who is available to be observed, talked with, overheard, interviewed, surveyed, and at what times.⁹³ This especially proved to be the case with the persons from Berner Holding. However, I was given a unique possibility of attending a strategic meeting concerning the future B-Com and here PIDAS also played a dominant role. At the meeting I was able to hear Holding's points of view and also had an informal conversation concerning PIDAS.

The research process started medio February and ended medio August –In that time span I had attended 16 meetings, conducted 12 interviews, had continuous informal dialogues, and observed the everyday of the participants. In addition to this, I also collected information from other sources: summaries of meetings, internal documents, and Berner's intranet.⁹⁴

⁹² Glaser & Strauss (1967) p. 64

⁹³ Glaser & Strauss (1967) p. 66

⁹⁴ See appendix 1 for an illustration of the time line of the collection of empirical evidence.



During the research process I continuously wrote memos⁹⁵ on ideas and reflections that appeared while conducting research or coding⁹⁶ of the collected material. This included ideas and reflections on codes, their properties and interrelationship.

The writing of memos is an important task in the GT methodology, and the memos function as a way of capturing the researcher's ideas and reflections concerning the research area. This collection enables the researcher to capture the ideas and reflections when they appear and furthermore makes it possible to return to different ideas and compare them. The purpose of gathering these memos is to produce a creative source for theory generation, and the different memos are to be given headlines, so that it is easy for the researcher to orient himself. I will explain the use of these memos in the next chapter which describes the process of generating the GT of this thesis, the dynamic project constellation.

To sum up, I followed Glaser's approach to theoretical sampling in field studies, with the only exception of having to carry out interviews within certain time frames. Theoretical sampling in field studies, according to Glaser, usually requires reading documents, interviewing, and observing at the same time, since all slices of data are relevant. Furthermore, there is little if any systematic interviewing of a sample of respondents, or interviewing that excludes observation.⁹⁷ At the beginning of the research, interviews usually consist of open-ended conversations during which respondents are allowed to talk with no imposed limitations of time; this was not the case in my interviews because in order to carry out the interviews I had to book a meeting with the interviewee. However, I always had the opportunity of returning to the interviewee and have an informal conversation.⁹⁸

⁹⁵ See appendix 2,3,4, which are examples of memos from different stages of my analysis process. The first one-appendix 2- is a memo from one of my first interviews, appendix 3 includes some memos regarding theoretical coding, and appendix 5 is some memos from the final stages of the analysis where the process of the DPC is starting to appear. The purpose of including them has been to provide the reader with examples of memos but also the memos also functions as illustrations of the process of analysis.

⁹⁶ The process of coding is the extraction of codes from research material. It is further explained in the next chapter.

⁹⁷ Glaser & Strauss (1967) pp. 75-76

⁹⁸ Glaser & Strauss (1967) pp. 75-76



*'His (the researcher's) job is not to provide a perfect description of the area, but to develop a theory that accounts for much of the relevant behaviour.'*⁹⁹

Glaser & Strauss (1967)

Chapter 4

The Grounded Theory Building Process –Generating the DPC Framework

The methodology used is inspired by Glaser's approach to Grounded Theory. The thesis is therefore a study of a project as a process, where the focus is placed on the problems perceived by the involved people, and their handling of these problems –their behaviour in the project context. However, the people are not the subject of interest –it is the phenomena of their actions and relations which become the foundation of the generated GT.¹⁰⁰ In other words, the issue is 'what goes on in a project?'

This chapter will present how I built the grounded theory of this thesis. I have adopted Glaser's three phases of the Grounded Theory Building Process to describe the methodology process: open phase, selective phase and theoretical phase.¹⁰¹ Here it should be noted that even though this method of generating theory is a continuously growing process where each stage is after some time transformed into the next, then earlier stages do remain in operation simultaneously throughout the analysis and provides continuous development to its successive stage until the analysis is terminated.¹⁰² All in all, the theory which I seek to generate by using GT methodology will be a collection of categories/concepts, their properties and their interconnectedness. When this has been specified the theory is complete. The criterion for the completion is saturation; that no new information can be added.

In short, the process of generating data based on empirical evidence consists of joint collection, coding and analysis of data and this should be coupled with the notion of theory as a process.¹⁰³ The actions of joint collection, coding and analysis of data should be done together as much as possible from the beginning of an investigation to its end.¹⁰⁴ Furthermore, the process requires that the researcher is sufficiently sensitive so that

⁹⁹ Glaser & Strauss (1967) p. 30

¹⁰⁰ Hartman (2005) p. 89

¹⁰¹ Hartman (2005) pp. 60-61

¹⁰² Glaser & Strauss (1967) p. 105

¹⁰³ Glaser & Strauss (1967) p. 43

¹⁰⁴ Glaser & Strauss (1967) p. 43



he can conceptualise and formulate a theory as it emerges from the data. And with these words in mind, I will present the process of generating the Dynamic Project Constellation.

4.1 The Open Phase

After making the choice of following grounded theory methodology, the open phase was started and the empirical evidence that I had collected up until this point became the point of departure. The purpose of the open phase is to extract concepts. A concept is a phenomenon perceived by the selected group of people, and it is this phenomenon which is supposed to be captured by the researcher.¹⁰⁵

Several rules govern open coding which have the purpose of ensuring its proper use and success (1) to use a set of questions: 'what is this data a study of? What category does this incident indicate? What is actually happening in the data?' (2) to analyse the data line by line (3) the researcher must do his own coding (4) to always interrupt coding to memo an idea (5) to stay within the confines of the substantive area and the field study (6) the researcher should not assume the analytic relevance of any face sheet variable such as age, sex etc. until it emerges as relevant.¹⁰⁶

I followed the principle of continuous interplay between data collection and analysis. GT analysis involves the assignment of concepts/categories and properties to the gathered information.¹⁰⁷ This process is called coding and it consists of conceptualizing, fracturing, and integrating information to form theory.¹⁰⁸ A concept is an

*'..abstract representation of an event, object, or action/interaction that a researcher identifies as being significant in the data'*¹⁰⁹

The analysis started with an open coding by a sentence-by-sentence examination of each interview and field notes on observations.¹¹⁰ This was the first step in creating initial codes for comparisons. Open coding is the process of breaking data into discrete parts, closely examine them, and compare them from similarities and

¹⁰⁵ Hartman (2005) p. 60

¹⁰⁶ Glaser (1978) pp. 57-66

¹⁰⁷ Rodon & Pastor (2007) p. 74

¹⁰⁸ Rodon & Pastor (2007) p. 74; Hartman (2005) p. 111

¹⁰⁹ Rodon & Pastor (2007) p. 74

¹¹⁰ See Appendix 5 for examples of coded interviews



differences.¹¹¹ In practice, I examined each sentence of my interviews transcriptions/notes and each time a phenomenon e.g. 'more focus, change of management' appeared, I made a note in the margin as recommended by Glaser who argues that coding only needs to consist of noting categories on margins.¹¹² Initially, I used the 'in vivo' codes¹¹³ but these were later replaced by other codes when it was possible to bring them together into theoretical codes. Codes emerged through constant comparison of information when I noticed that they fitted together. In other words, the codes in the margins functioned as indicators which indicated the presence of theoretical codes.¹¹⁴ This followed Glaser's approach to GT,¹¹⁵ as he argues that while coding an incident for a category, it should be compared with the previous incidents in the same and different groups coded in the same category.¹¹⁶ This follows the idea of the concept-indicator model presented in chapter 3. As explained earlier, I during the research chose to include more people in my sample. This happened as a consequence of the fact that the researcher during research continually must work for reaching theoretical saturation¹¹⁷ of each theoretical point. Theoretical saturation is reached through joint collection and analysis of data.¹¹⁸ Furthermore, in trying to reach saturation the researcher maximises the variety of data bearing on a category as possible.¹¹⁹ In each category, I searched for information until I found that the category was saturated, I used the following criteria for determining saturation: the empirical limits of data, the integration and density of the theory, and my own theoretical sensibility.¹²⁰

However, I did not compare the identified phenomena –the categories –with other outside groups but I compared the core project group, the PMs, with the subgroups that had some connection to the project. These subgroups were identified as:

- The former PM manager
- The Graphics responsible
- The part-time employees

¹¹¹ Rodon & Pastor p. 74

¹¹² Glaser & Strauss (1967) p. 106

¹¹³ The terms used by the interviewed or observed person

¹¹⁴ Hartman (2005) p. 111

¹¹⁵ Hartman (2005) p. 111

¹¹⁶ Glaser & Strauss (1967) p. 106

¹¹⁷ Glaser and Strauss define saturation as a situation where no additional data are being found –once similarities are seen over and over again, then the researcher becomes empirically confident that a category is saturated. Glaser & Strauss (1967) p. 61

¹¹⁸ Glaser & Strauss (1967) p. 61

¹¹⁹ Glaser & Strauss (1967) pp. 61-62

¹²⁰ Glaser & Strauss (1967) pp. 61-62



These groups all had a connection to the PIDAS project. However, they also had their own characteristics which made them interpret the project differently, and by using their perceptions of the project process as means of comparison against the PMs' perceptions, I was able to maximize differences of the categories. Furthermore, the fact that the PMs perceived the PIDAS project as emerging and ever changing challenged their behavioural patterns and therefore they themselves actually displayed behaviour that served to indicate how certain categories could influence the project in very different ways. In other words, the PMs and their changing behaviour served as a means of testing and comparing.

The act of comparing was mostly based on memory and I did not refer to the actual note on every previous incident for each comparison. When the open phase was initiated, I used to refer to other incidents. However, as the research process evolved I based these comparisons on memory, because as Glaser argues then coding qualitative data requires study of each incident and comparison can therefore often be based on memory. Usually there is no need to refer to the actual note on every previous for each comparison.¹²¹

Following the GT methodology each time I identified a theoretical gap, it lead to further questions and a search for empirical materials through which the problem could be investigated.¹²² This systematic act of coding continued throughout the research process as I continued to note categories and properties on the margins of the field notes and other recorded data while also conducting analytic memowriting.¹²³ This continued until I was confident that the core categories had been identified.¹²⁴

The observation made it easier to identify changes in the actors' behaviour in the PIDAS project and thereby identify emergent categories, and to reformulate them as their properties emerged. It was difficult to decide from the interviews exactly what was the actors' opinion, however as I was able to observe how they acted and interacted in their daily work, I was able to decide which factors seemed the most important and made notes of these observations.

¹²¹ Glaser & Strauss (1967) p. 106

¹²² Glaser & Strauss (1967) p. 59

¹²³ Glaser & Strauss (1967) p. 72

¹²⁴ Glaser & Strauss (1967) p. 71



As the theory become more and more integrated the researcher learns which categories require the most and the least complete saturation, and which ones can be dropped.¹²⁵ Thus, the theory generates its own selectivity for its direction and depth of development.¹²⁶ The general idea is that the researcher should sample a category until confident of its saturation, but as all categories are not equally relevant then the depth of inquiry into each one should not be the same.¹²⁷ As the coding process continued, then the constant comparative units changed from being comparison of phenomenon with phenomenon to comparison of phenomenon with the category that resulted from initial comparisons of incidents.¹²⁸ Core theoretical categories, those with the most explanatory power, should be saturated as completely as possible,¹²⁹ and when a category is saturated then nothing remains but to go on to new groups for data on other categories and to attempt to saturate them.¹³⁰

The memos¹³¹ were of great help in reflecting over what was important and functioned as guides of the theoretical sampling at each step of the way as they allowed reflection and analysis of the data.

'Memos are the theorizing write-up of ideas about codes and their relationships as they strike the analyst while coding'¹³² Glaser

'Memo-writing continually captures the frontier of the analyst's thinking as he goes through either his data, codes, sorts or writes'¹³³ Glaser

According to Glaser the only way to store ideas is in memo-writing. The researcher generates a memo fund so ideas can be forgotten for the moment and referred back to later as codified and somewhat formulated theoretical ideas. Memos can be a sentence, a paragraph or a few pages which do one or more of the following things (1) it raises the data to a conceptualisation level, (2) it develops the properties of each category which begins to define it operationally, (3) It presents hypotheses about connections between categories and/or their properties (4) it begins to integrate these connections with clusters of other categories,

¹²⁵ Glaser & Strauss (1967) p. 70

¹²⁶ Glaser & Strauss (1967) p. 70

¹²⁷ Glaser & Strauss (1967) p. 70

¹²⁸ Glaser & Strauss (1967) p. 108

¹²⁹ Glaser & Strauss (1967) p. 70

¹³⁰ Glaser & Strauss (1967) p. 61

¹³¹ See Appendix 2,3,4 for examples on memos.

¹³² Glaser (1978) p. 83

¹³³ Glaser (1978) p. 83



(5) lastly, it begins to locate the emerging theory with other theories with potentially more or less relevance.¹³⁴ Thus, memo-writing is about making notes primarily for oneself, which ask questions, pose problems, suggest connections etc. about how the properties of concepts or categories are revealed exemplified or contradicted in some way by the incoming data and the process of coding. Memo-writing therefore is meant to generate discussion and self-dialogue, which fashions a linking of theoretical reflection and the practical issues surrounding data collection and analyses. The point is to get ideas out and the researcher should do so in any kind of language –good, bad, or indifferent.¹³⁵

This helped me avoid collecting a large mass of data of dubious theoretical relevance.¹³⁶ Based on the interviews and observations I could have extracted thousands of codes. I realized this early on in the open coding process and therefore deliberately only focused on the most important factors. This does not mean that I on purpose ignored codes, instead I used my memos and observations as means of gathering the codes into categories by looking at the properties of the codes and how they were described and perceived by the actor. However I must admit I got a bit lost in the details in the process of codifying. I hindsight I think this happened as a consequence of a fear of missing out on something important and the fact that I followed a project process which proved to keep on being emergent. The fact that I wanted to note everything while new factors kept on surfacing made the coding process continue until the project ended. However, once I had identified a number of categories I moved on to the selective and theoretical phase with those.

The following figure includes the list of categories which was created during the research process.

¹³⁴ Glaser (1978) pp. 83-84

¹³⁵ Glaser (1978) p. 85

¹³⁶ Glaser & Strauss (1967) p. 72



FIGURE 3: LIST OF CATEGORIES AND PROPERTIES¹³⁷

Commitment	Responsibility
Status in project context	Conflict
Loyalty to project members	Sarcasm, jokes
Communication	New CEO
Change of focus	Emphasis on deadlines
Measurement of achievement	Expectations
Missing PM Manager	Change of approach to projects
Be able to draw on the outside project manager	Creation of structured approach
Controlling-measurement of achievement	Identification of failures
Being able to track what is missing	Time-consuming
Conflict between project and tools	System failures
Berner Holding	Kittelberger
Differences between need and system possibilities	Knowledge/understanding of future benefits
Having to set own deadline	Expectations
Missing PM Manager	The position of project manager
Result achieved as a team	Bonding
New work style	Conflict
Personal contributions to teamwork	Family
Solidarity	Heritage
Age	Ownership
Understanding stakeholders prioritizing	Stakeholders influence over project
Management in Berner DK	The permanent organisation in Berner DK
Lack of information	Finding the available resources
Attitude	

The list shows the findings in a summarised way. It provides a nice overview of the factors which were perceived to be of importance by the actors in the PIDAS project. However, it provides a very misleading, static picture of the findings. It is here important to stress, that these codes were created throughout the research process. This means that the categories or properties of the project not necessarily were perceived to be of importance by the project actors throughout the course of the project. Instead, they should be regarded as fragments of the whole which was the project –that is something which played an important role at some point in the project process. For instance commitment played an important role in the initial phase of re-launching the project, but as the project progressed it became less important as other factors appeared, such as stakeholder etc.

Some of the categories are properties of other categories and others could be gathered in focal codes. However, at the time of their emergence, I found that they had some distinct features which separated them from the others and it was therefore found appropriate to keep them separate at that point in time. Later on the

¹³⁷ I kept this list handy during the later stages of coding as recommended by Glaser, in order to use it to refer to for possible relationships that I might have missed or not thought of. The list was of course modified many times as codes merged into categories. Glaser (1978) p. 90



categories are reformulated and reorganised due to the emergence of the grounded theory; I will return to that in the sections of the selective and the theoretical phase.

After a while the research material is supposed to be complete; this means that no new codes or categories appear.¹³⁸ Saturation occurs which means that the theory is approaching stable integration and dense development of properties. In the PIDAS project that happened during the last weeks before reaching the deadline. The PIDAS project was a process and therefore throughout the research process was emergent in nature. Different factors were perceived by the actors to be important to the course of the project at different times and therefore, it was not possible to regard the empirical evidence as complete until the project had reached its deadline. New concepts or properties kept appearing, for instance in the last weeks properties such as stress, irritation, frustration appeared simultaneously with concepts of team spirit.

The open coding phase ends with the choice of a core concept.¹³⁹ Which one of the concepts that becomes the core concept cannot be decided from coding.¹⁴⁰ It is decided from theoretical ideas concerning the extracted concepts.¹⁴¹ It is the category which captures the main issue of the people which are the object of investigation.¹⁴² Here I entered a period where I could not find the core concept. I knew it was somewhere but I had just paid so much attention to the details, that I could not find any underlying story in them. Here my memos once again proved to be a great help. Glaser (1978) himself also argues that the key for generating theory is the writing of memos, and also the writing of memos on memos.¹⁴³ Generating theory at the moment of collecting data is never easy; usually it takes reflection afterward to discover what one has actually found.¹⁴⁴

All my memos somehow concerned the perceptions, actions and emotions of the actors which were involved in the project. However, somehow in the process of coding, I had lost the connection between the actors and the developed concepts. The concepts were different kinds of factors that were perceived by the actors as having significant importance in the course of the PIDAS project, and I therefore had to take an approach to the concepts that linked them to the actors. It took a while before I finally realised this, however thereafter I was able to identify the concepts as parts of a process and thereby link them together. The underlying

¹³⁸ Hartman (2005) p. 61

¹³⁹ Hartman (2005) p. 115

¹⁴⁰ Hartman (2005) p. 115

¹⁴¹ Hartman (2005) p. 115

¹⁴² Hartman (2005) p. 61

¹⁴³ Hartman (2005) pp. 116-117

¹⁴⁴ Glaser & Strauss (1967) p. 72



dimension simply was 'the project constellation as a dynamic process' and the concepts should be seen as the variables which explained the action taken in the reality that was the PIDAS project.

The constant problem of the actors was the fight for making the deadline in the uncertainty which was the nature of the project. This was the object of their actions; the completion of the project within the agreed timeframe. Their actions and responses to the factors of uncertainty that appeared in the project were justified as means of reaching the goal and at the same time functioned as the driver of the project process. So their actions and responses together with all the factors that influenced them together created the constellation 'the project'. The DPC was therefore chosen as the core concept as it was the process that embraced all the nuances of the actors' experience of being a part of the PIDAS project.

This fits the criteria for a core concept. Glaser defines a core concept as having a central role where it is easy to relate it to a large number of the other categories. Furthermore, the core concept should be often present in the empirical evidence. It should define the main problem of the involved persons and the actions they take in response to it.¹⁴⁵

4.2 The Selective Phase

The next step was to create theoretical codes, which are the relations which bind the substantive codes together.¹⁴⁶ This is the theoretical coding process which enables substantive codes to be generated into a theory.¹⁴⁷ Here the focus is on selecting categories which are related to the core concept. In other words, here the main task is to decide which categories carry importance in relation to the core concept, and which properties they have. This is done through further collection of empirical evidence. This is 'complete', when no further categories can be related to the core concept.¹⁴⁸ The main tasks of this phase therefore is to gather more information in order to decide which categories relate to the core concept and try to define this relation. Furthermore non-related categories should be identified and taken out.¹⁴⁹

The core concept was 'the dynamic project constellation'. The choice of a core concept enabled me to relate the previously identified categories to this dimension. The first step I took in this process was to one-by-one

¹⁴⁵ Hartman (2005) p. 122

¹⁴⁶ Hartman (2005) p. 111

¹⁴⁷ Hartman (2005) p. 111

¹⁴⁸ Hartman (2005) p. 61

¹⁴⁹ Hartman (2005) p. 61, pp. 122-123



find the relationship between the core concept and the previous identified categories. This process included the task of finding more evidence in order to define which categories actually are related to the main category,¹⁵⁰ this was mainly carried out through observation. However, informal conversations also played an important role, especially as new categories appeared during the research. In the following I will present, how the categories were found to relate to the core concept.

Rodon & Pastor's approach to GT inspired me to I use trees as a means of presenting the generated concepts which provides the reader with an overview of how the theoretical concepts began to take shape. See the next page.

¹⁵⁰ Hartman (2005) p. 123



FIGURE 4: A THE TREE OF THE EMERGING CONCEPTS

Categories	Properties
Action	Commitment, responsibility, family, resources, attitude, age, status in project context, conflict, loyalty to project members, sarcasm, communication vs. practice,
Management	New CEO, change of focus, emphasis on deadlines, controlling-measurement of achievement, communication, resources, expectations, missing PM Manager,
Planning	Change of approach to projects, be able to draw on the outside project manager, seeking to create a structured approach, controlling-measurement of achievement, identification of failures, being able to track what is missing, time-consuming, conflict between project and tools
The PIDAS system	System failures, time consuming, Berner Holding, Kittelberger, differences between need and system possibilities, resources (capital), future benefits
Commitment	Responsibility, having to set own deadline, expectations, Missing PM Manager, the position of project manager,
Teamwork	Result achieved as a team, bonding, new work style, conflict, personal contributions to teamwork, attitude towards work, family, solidarity, Missing PM Manager, jokes, the position of project manager
Uncertainty	Unknown workload, required resources especially 'time', measurement of achievements, how to approach the project
Attitude	Family, approach to job, loyalty to the project team, age, knowledge/understanding of future benefits from the project, commitment, ownership, sarcasm, conflict, the position of the project manager
Stakeholder Complexity	Understanding stakeholders prioritizing, stakeholders influence over project, Berner Holding, Kittelberger, Management in Berner DK, the rest of the permanent organisation in Berner DK, lack of information, family
Resources	Attitude towards work, family, finding the available resources, solidarity, communication with management

The tree is shows the result of the open coding process. From the codes that were collected from sentence-by-sentence analysis, I was able to create substantive codes which are codes which either include a category or a property.¹⁵¹ The trees helped me organise the open codes but also resulted in the creation of core categories concerning factors which were perceived by the actors to be of importance in the PIDAS project

¹⁵¹ Hartman (2005) p. 111



The tree shows the findings in a summarised way. It provides a nice overview of the factors which were perceived to be of importance by the actors in the PIDAS project. However, it provides a misleading, static picture of the findings, as did the list developed in the selective phase. It is therefore again important to stress, that these codes were created throughout the research process. Furthermore, the list has been made for illustrative purposes, to include the reader in some of the ideas I had during the research, it is was not used as a tool during the research itself.

Action was the concept which denoted, how the individual actor acted in regard to the project. The goal of the project was to meet the deadline of July 1 and the project members worked as a team for achieving this goal. This concept was generated due to the fact that the research showed that the team work was made up by the actors' individual contributions which proved to differ in the PIDAS project context.

The codes included in this concept were: commitment, responsibility, family, resources, attitude, age, status in project context vs. status in permanent organisation context, project/temporary vs. permanent organisation, conflict-irritation, loyalty to project members, sarcasm, communication vs. practice, knowledge/understanding of future benefits/disadvantages of the system, ownership, stress. These phenomena all were found to have a connection to the individual actor's choice of action. When relating 'Action' to the core concept –the project constellation, then it was found that the concept of 'Action' should be readdressed and separated into other concepts.¹⁵²

By trying to relate the 'Action' to the dynamic project constellation it became obvious that 'Action' was not a concept, but instead was a label covering a mess. All the phenomena were in fact connected to the Actor's choice of action and to the dynamic project constellation. However, they needed to be reorganised in order to make sense, otherwise they could not be related to the dynamic project constellation. This indicated that the conceptualisation of the remaining codes also were false. This made me return to looking at the earlier identified codes again. Once again I consulted my memos and compared them to the codes, but this time I had an advantage which was the core concept. The core concept enabled me to view the codes in the perspective of the project constellation and thereby made it easier to (re)identify the important codes and categorise them. The findings are presented in the tree in the next figure.

¹⁵² See Appendix 3 for example on how this 'Action' concept was dealt with in a memo



FIGURE 5: PRESENTATION OF THE RE-CLASSIFIED CATEGORIES, THEIR PROPERTIES AND THEIR RELATION TO THE CORE CONCEPT

The categories/Concepts –their relation to the core concept	The properties of the categories/concepts
The individual actor –the attitude/feelings experienced	Commitment, responsibility, resources, age, status in project context, conflict-irritation, loyalty to project members- solidarity, stress, knowledge of situation, bonding, status
Stakeholders who affect the individual actor	Family situation, family tradition, management –CEO
Behaviour the individual can take in response to the perceived project situation while working for ensuring that the project meet its deadline	Communication: jokes, sarcasm, excuses, explanation Increase/decrease resources input
The PIDAS project team –the individuals' behaviour become the results of the project team. However, the context of being in a team foster new behaviours	New work style, result achieved as a team, solidarity, conflict-irritation, helping each other, covering for each other
Stakeholders who affect the project team	Management –CEO Outside project manager for counselling Missing PM manager Kittelberger through attachment to the PIDAS system Berner Holding
Actions/Behaviour the PIDAS project team can adopt in response to the perceived project situation while working for ensuring that the project meet its deadline	Communication: jokes, sarcasm, excuses, explanation Increase/decrease resources input Change planning –e.g. change of deadline, change of project requirements,
Factors that affect how the individual and how the PIDAS project team perceive the task of completing the PIDAS project within the deadline	Uncertainty/Complexity: Unknown workload, unknown required resources especially 'time', differing measurement of achievements, how to approach the project, understanding of stakeholder behaviour and influence Permanent vs. temporary project organisation: balancing the task of the project with the normal job tasks The PIDAS system: System failures, time consuming, differences between need and system possibilities, resources (capital), future benefits

While doing this, I was still engaged in conducting research and this gave me the possibility of following the identified concepts in the everyday of the actors. This enabled me to get a fuller understanding of the concepts and how the actors interacted in relation to these concepts. Another main tool I of the reclassification was writing memos on memos¹⁵³.

The list should be regarded a result of the delimiting features of the constant comparative method, because due to it the theory starts to develop and the selective sampling begins to curb what otherwise could become an overwhelming task.¹⁵⁴ Delimiting occurs at two levels: the theory and the categories. The delimiting of the

¹⁵³ See appendix 4 for examples on memos on memos

¹⁵⁴ Glaser & Strauss (1967) pp. 109-110



categories is a reduction in the original list of categories of coding. As the theory grows, the number of categories becomes reduced, and increasingly works better for ordering a mass of qualitative data. This means that the researcher is allowed to cut down the original list of categories for collecting and coding theory, according to the emergent boundaries of his grounded theory and he can devote more time to the constant comparisons of phenomena clearly applicable to this smaller set of categories.¹⁵⁵ And the above list is an example of the result of this process where the earlier identified categories have been reduced and the process of defining their interconnectedness has begun.

This process of reclassification and connection of concepts and their properties to the core concept –the dynamic project constellation –made me realise that my earlier approach to the identified codes may have been a bit rushed. In my eager of creating an overview of the research material in the form of concepts, I had overlooked the fact that the extracted focal codes actually more or less were the concepts and properties of the GT. I had tried to label them in more theoretical concepts, but had instead created more or less meaningless concepts. Furthermore, in the process of reorganising them –using my theoretical sensitivity – different hypotheses regarding their interconnectedness started to appear. Here it is important to note, that Glaser argues that theoretical sampling is sufficient when proposing hypotheses of relationships, as the purpose of the GT methodology is theory generation and not theory testing.¹⁵⁶

The reclassification is not a part of Glaser's standard approach to generating a GT. However, it still follows his logic of first coding the material and only thereafter identifying the core category; that is choosing the core category on the basis of the empirical evidence. The core category was identified by means of the research material, but as I became more and more familiar with the case, I came to realise that my earlier classification of the extracted codes, did not do the research findings justice. However, Glaser also recognises the need for modification of theoretical ideas when new insight appears,¹⁵⁷ so in that sense I followed his logic. He argues, that the researcher should readily modify his categories as successive data may demand, as categories are not precious but just are captivating. Modifications are actually encouraged when appropriate because the goal of the researcher is to ground the fit of categories as close as he can.¹⁵⁸

¹⁵⁵ Glaser & Strauss (1967) p. 111

¹⁵⁶ Glaser & Strauss (1967) p. 63

¹⁵⁷ Hartman (2005) p. 119

¹⁵⁸ Glaser (1978) p. 4



Glaser notes that as categories and their properties emerge, the researcher will discover two kinds: those that are constructed by himself and those that have been transferred from the language of the research situation. As the theory emerges the researcher will notice that the concepts abstracted from the substantive situation will tend to be current labels in use for the actual processes and behaviours that are to be explained while the concepts constructed by the researcher will tend to be the explanations.¹⁵⁹ This actually also proved to be the case in this research process. For instance the actor's changed the project requirements, when they decided that it was not possible to attach pictures to all articles within the agreed timeframe. They referred to this as the picture problem, where I regarded it as a behaviour adopted in response to the perceived project situation.

As ideas concerning the theoretical codes which could connect the different categories started appearing, I entered the theoretical phase. Once again, it is important to note that these three phases of the GT methodology actually take place simultaneously; at the beginning there is more collection than coding and analysis; the balance then gradually changes until near the end where the research involves mostly analysis, with brief collection and coding for picking up loose ends.¹⁶⁰

4.3 The Theoretical Phase

In the selective phase, I was able to relate each of the separate categories and their properties to the core concept of the GT –the dynamic project constellation. The purpose of the theoretical phase is to define the interrelationship and interconnectedness of the different categories,¹⁶¹ and the result of this definition is a model of the grounded theory 'the Dynamic Project Constellation'.

The theoretical phase is actually initiated very early in the research process. The fact is that after coding for a category perhaps three or four times, theoretical ideas are likely to pop up in the head of the researcher,¹⁶² this was also the case here, and it is these ideas which are noted in memos. These ideas include theoretical properties of the category, the full range of types or continua of the category, its dimensions, the conditions under which it is dominant or minimized, its major consequences and its relations to other categories and its other properties.¹⁶³ This means that the theory develops as different categories and their properties become integrated through constant comparisons that force (and also cause) the researcher to make theoretical sense

¹⁵⁹ Glaser & Strauss (1967) p. 107

¹⁶⁰ Glaser & Strauss (1967) pp. 72-73

¹⁶¹ Hartman (2005) p. 123

¹⁶² Glaser & Strauss (1967) p. 107

¹⁶³ Glaser & Strauss (1967) p. 106



of each comparison.¹⁶⁴ According to Glaser this makes the researcher tap directly into the in vivo patterns of integration in the data itself as questions guide the collection of data to fill in holes and to extend the theory.¹⁶⁵ And this is the how the theory emerges from the data while keeping grounded in it.

In the process of comparing incidents I learned to see the identified categories in terms of both their internal development and their changing relations to other categories.¹⁶⁶ The methodology enabled me to seek to make theoretical sense of the diversity of the research material and to develop ideas on a level of generality higher in conceptual abstraction than the qualitative material being analysed. And by doing so, it enabled me to bring out underlying uniformities and diversities and to use more abstract concepts to account for differences in data.¹⁶⁷ Based on that it was possible to identify the 'Project Dynamic Constellation', which is the generated Grounded Theory of this thesis. The goal of the methodology was to achieve saturation, which is achieved when it is possible to understand or explain the variations in the behaviour or problem of interest with as few terms as possible.¹⁶⁸ And with the completion of the Dynamic Project Constellation, I felt confident that the framework had achieved that.

The theory that emerges from the researcher's collection and analysis of qualitative data can be said to be equivalent to what he knows systematically about his own data.¹⁶⁹ A field worker knows what he knows, not only because he has been in the field and because he has carefully discovered and generated hypotheses, but also because 'in his bones' he feels the worth of his final analysis. When he participates in the social life of his subject, then he has been living by his analyses, testing them not only by observation and interview but also by daily living¹⁷⁰. This was also my experience. As I became more and more familiar with the concepts of the research, I experienced that I 'just knew' that some of the hypotheses that appeared were better at explaining the project process and therefore felt no regret in discarding earlier hypotheses, this happened not only because I was able to observe the behavioural patterns adopted by the actors, but also as a consequence of being able to experience them.

¹⁶⁴ Glaser & Strauss (1967) p. 109

¹⁶⁵ Glaser & Strauss (1967) p. 109

¹⁶⁶ Glaser & Strauss (1967) p. 114

¹⁶⁷ Glaser & Strauss (1967) p. 114

¹⁶⁸ Hartman (2005) p. 125

¹⁶⁹ Glaser & Strauss (1967) p. 225

¹⁷⁰ Glaser & Strauss (1967) p. 225



As mentioned earlier the delimiting feature of the constant comparative method affects the research process on two levels –the theoretical and on the number of categories. On the theoretical level, the theory solidifies meaning which means that that major changes become fewer and fewer as the researcher compares the next phenomenon of a category to its properties. Later changes are mainly on the order of clarifying the logic, taking out non-relevant properties, integrating elaborating details of properties into the major outline of interrelated categories and the most important change is reduction.¹⁷¹ This process actually already started in the selective phase, and with this continuous reduction of terminology and consequent generalising forced by constant comparisons, the researcher starts to achieve to major requirements of theory which are (1) parsimony of variables and formulation, and (2) scope in the applicability of the theory to a wide range of situations while keeping a close correspondence between theory and data.¹⁷²

In the theoretical phase the codes which define the interconnectedness of all the categories are generated.¹⁷³ They are created from ideas concerning the kind of relation between different categories, and ideas concerning how it is possible to obtain more information on these relations.¹⁷⁴ The main tool of achieving this is the process of 'sorting out' in the memos,¹⁷⁵ which consist of continual comparisons of memos with memos and with data.¹⁷⁶ While memos are the fund of GT, the theoretical sorting of memos is the key to formulating the theory for presentation to others. It consists of setting up memos in a theoretical outline in preparation for the writing stage.¹⁷⁷ In the selective phase I had identified the categories and the core concept of the GT and while doing so theoretical ideas of their interdependence had appeared. These ideas were noted in memos and they now functioned as little parts of a puzzle. The act of sorting helped me keep focusing on the main issue because the categories which are related to the core concept are the only ones which should be included in the sorting process.¹⁷⁸ Seeking to make the puzzle, I started making drawings of the categories in order to create a model of the 'dynamic project constellation' which was the core concept of this thesis.¹⁷⁹ By doing so, the integration of the theory started to emerge.¹⁸⁰

¹⁷¹ Glaser & Strauss (1967) p. 110

¹⁷² Glaser & Strauss (1967) pp. 110-111

¹⁷³ Hartman (2005) p. 123

¹⁷⁴ Hartman (2005) p. 123

¹⁷⁵ Hartman (2005) p. 123

¹⁷⁶ Hartman (2005) p. 123

¹⁷⁷ Glaser (1978) p. 116

¹⁷⁸ Hartman (2005) p. 125

¹⁷⁹ See Appendix 4 for examples

¹⁸⁰ Glaser & Strauss (1967) p. 41



While sorting Glaser argues, that it is important for the researcher to remember not to worry whether the sorting is correct as the task includes continuously 're-sorting' as new insights appear,¹⁸¹ for instance new ideas, holes and earlier mistakes are likely to surface,¹⁸² and it is important to constantly be aware of the fact that new selections of data might be sensible and the importance of continuing to gather evidence.¹⁸³

At this point, a large hole in the emerging theory appeared. While trying to complete the puzzle, I realised that I used an assumption as part of the foundation of the entire research process. The assumption was the existence of the PIDAS project as something which differed from the normal routines experienced by the actors. This way of framing the research had happened as a consequence of my assumption and not as a cause of research. In order to correct the mistake I started to collecting new data on this subject. In this process, I discovered that some categories were perceived as effects of the appearance of the PIDAS project, while others also were parts of the daily routines. And this actually lead to the development of the category 'the experience of being both a part of the permanent and the temporary organisation' as the empirical evidence showed that the actors engaged in a kind of continuous trade-off between the two organisations. This will be explained further in the next chapter which presents this motive of action.

After filling in the identified gab, the rest of the integration actually went quite easily; all the categories and the properties seemed to find their place in the puzzle as the data and the interrelations of the theory of the dynamic project constellation seemed so close together. However, despite the fact that the integration went quite easily, then the process of formulating the core structure of the theory took considerable time. In hindsight, this happened due to the fact that I found it difficult not to 'know everything', because as Glaser states:

*The researcher should remember that it is not necessary to 'know everything', it just prolonges the study unnecessarily.*¹⁸⁴

However even though this seems reasonable, I found that it is difficult to know when to stop. In the end, I stopped more as a consequence of the time limitation which follows writing a master thesis than reaching a

¹⁸¹ Hartman (2005) p. 124

¹⁸² Hartman (2005) pp. 124-125

¹⁸³ Hartman (2005) p. 125

¹⁸⁴ Glaser & Strauss (1967) p. 73



kind of personal saturation.¹⁸⁵ However in the end I felt that the grounded theory did explain sufficiently with concepts of the PIDAS project that fitted, worked, were relevant and were saturated.

The process of writing actually does not begin until this has finished. The act of writing is the final stage of the research. Here the researcher possesses coded data, a series of memos and a theory. The discussions in his memos provide the content behind the categories, which become the major themes of the theory.¹⁸⁶ During this process, I on several occasions chose to return to the coded data in order to validate a suggested point, pinpoint data behind a hypothesis or gaps in the theory, and provide illustrations.¹⁸⁷ When the researcher is convinced that his analytic framework forms a systematic substantive theory, that is a reasonably accurate statement of the matters studied and that it is formed in a way that others going into the same field could use – then he can publish his results with confidence.

This means that the grounded theory emerges in the memos, but the final presentation and formulation take place during the writing.¹⁸⁸ This also proved to be the case in the generation of the DPC and in the process of defining the 'dynamic project constellation' as a whole; once again it was found that some of the categories and their properties had to be modified. So the actual writing process became the last act in the generation of the grounded theory.

This was the point where I as a user and researcher of grounded theory methodology acknowledged that I was at the end of my research. This happened as the Dynamic Project Constellation as a conceptual framework formed a systematic theory that was found to be a reasonably accurate statement of the matters studied which furthermore, was formed in a way that would enable others to use it when studying a similar area.¹⁸⁹ This confidence appeared as a result of the work I had invested in seeking to understand my data and thereby enable myself to discover what I think I know; every step of the way from the beginning of the research until its conclusion. However while feeling confident in the result, I am aware that the generated theory as a process

¹⁸⁵ Glaser argues that there can be many reasons to stop sorting, nevertheless there is also a firm rule to follow which is theoretical completeness which is theoretical coverage as far as the study can take the analyst. Glaser (1978) p. 124

¹⁸⁶ Glaser & Strauss (1967) p. 113

¹⁸⁷ Glaser & Strauss (1967) p. 113

¹⁸⁸ Hartman (2005) p. 141

¹⁸⁹ Glaser & Strauss (1967) pp. 224-225



still can be developed further,¹⁹⁰ but as stated by Glaser, I feel that it is now sufficiently formulated to be closed and published.¹⁹¹

¹⁹⁰ It is important to note that when generation of theory is the aim, the researcher is supposed to be constantly alert to emergent perspectives that will change and help develop his theory and these perspectives can occur on the final day of the study or when reviewing the result, thus the published word is not the final one, but just a pause in the never-ending process of generating theory. Glaser & Strauss (1967) p. 40

¹⁹¹ Glaser & Strauss (1967) p. 225



*'The form in which a theory is presented does not make it a theory; it is a theory because it explains or predicts something.'*¹⁹² Glaser & Strauss (1967)

Chapter 5

The Condition of Uncertainty- the Nature of the PIDAS Project

This chapter and the following three chapters present the identified concepts of the DPC framework. This chapter presents the condition of Uncertainty which was identified as the main characteristic of the project task and therefore the environment in which the Actors found themselves. The following three chapters use the identified three motives of behaviour/action as a framework for explaining the behaviour of the Actors in the context of Uncertainty.

This serves the purpose of both presenting the identified concepts of the DPC framework in detail and as a test of the framework's explanation power. Furthermore, this will lead to the identification of the controllable variables in the framework and thereby explain how a practitioner can control and affect the situation. The result of these four chapters is some hypotheses of the Actors' pattern of behaviour/action in an Uncertainty context, and possible ways for stakeholders to affect this cause-effect relationship, which together form the DPC framework which is presented in chapter 9. The chapters furthermore include quotes which illustrates the concepts in different situations. These quotes are only used as illustrations as the purpose of these chapters are to present the concepts of the DPC theory, and not to describe the PIDAS project.

The research showed that the project process could be characterised as a process of uncertainty. This uncertainty was caused by three main issues which appeared during its course; they were:

- The issue of finding status quo and identifying the workload
- The issue of the pictures
- Never knowing status quo

These issues were the main concerns of the PMs during the course of the project. Of course other minor issues also appeared, however they could all be identified as belonging to one of these three main obstacles. The issues were all a part of the PIDAS project from the beginning to the end; however their importance

¹⁹² Glaser & Strauss (1967) p. 31



shifted during the PIDAS project process. In the following the roles of the issues in the PIDAS project will be presented.

In the initial planning phase of the project it was recognised that status quo itself was unknown. The PMs did not know status quo, the starting point of the relaunch of the PIDAS project because they found no reliable means for measuring it. Some of the PIs in PIDAS had already been created in the first round of the PIDAS project but there was doubt to whether the status classification that they had given were correct, as it quickly was recognised that a number of PIs in the chemistry area had been given the status 'waiting for release' which meant that they were ready for print and the PM in charge of this area knew that was wrong. This meant that it was only reasonable to question the status of all the PIs which were either classified as 'released' or 'waiting for release'. Based on that the lists of these classifications which could be extracted from the system PIDAS could only be used as an indicator of the number of PIs which had been created. However, as the earlier running of the project was started in 2006, some of the PIs had been created a long time ago and was likely to include information on outdated products and be lacking new products. In other words, the relaunch of the PIDAS project was initiated with the PMs realising that they had no knowledge of how far the PIDAS project had come in the previous years. This meant that the PMs concluded that instead of being well on the way with the implementation of PIDAS, they were actually back at square one and more or less had to start over. Furthermore the person which had the largest workload had no previous experience of PIDAS.

When not knowing the starting point it is hard to estimate how to get to the finish line. The PMs did not know what resources the project required, especially in concern to time. Time¹⁹³ was important in the project, as a large part of the work consisted of manually typing in product information which was recognised to sometimes being very time consuming. This meant that the workload was difficult to estimate. This was how the PMs perceived the situation at the beginning of the project.

Based on the fact that the status quo was unknown, the PMs faced a difficult task in settling on and committing to a deadline. The CEO which functioned as the PM manager in the absence of a PM manager, had suggested May 1 as deadline and based on his outplay, the PMs had to decide whether this date was realistic as a deadline or find plausible reasons for suggesting a later deadline. Based on their perception of the

¹⁹³ Time in the sense of working hours –the tasks which could be carried out when investing an hour in the project



situation the PMs shared the opinion that finishing the implementation of PIDAS by May 1 was impossible.¹⁹⁴ The question was then what other date would be appropriate. First, June 1 was discussed as a possible deadline but the PMs found it difficult to determine why this date would be better than the other; except for the fact that it gave them more time to finish the project. May 5 was also suggested as a possibility as it carried the symbolic meaning of 'Denmark's Liberation from PIDAS', but the PMs decided that it was not a realistic date both due to the unknown workload but also because of Easter and other holidays in the spring removed some of the workdays from the project.¹⁹⁵ The PMs talked a lot about 'gut feeling' as a driver of decisions.¹⁹⁶ This attempt of planning was the PMs first attempt to use planning tools in a project. The possibility to use tools to try to define the subtasks of the project was received positively by the PMs as it provided them with a way of entering the project. By trying to plan the project they found themselves more and more involved in the project, so the planning tools helped the PMs discover what they did not know. They did not know how the how much they could use from the previous runs of the project and therefore they did not know the workload of finishing the project. They had however learned from the earlier runs of the project that working with the PIDAS system had a tendency of being time consuming. So they knew the task of completing the implementation of the system would require a lot of resources in terms of man hours but they had no idea of the amount.

As the PMs found themselves in the middle of the project process a new cause of uncertainty appeared. The new issue was the task of taking and uploading the missing pictures to article numbers in PIDAS. This caused uncertainty as it proved to be a complex task. The reason was not that the pictures themselves seemed overwhelming but that the task had to be completed in cooperation with Kittelberger. Kittelberger's services were expensive and they were not included in the budget, so the PMs tried the alternative of trying to produce the pictures in house through the person in graphics. But Kittelberger did not find that the pictures were up to standard, so the PMs returned to the original plan of handing over the task to Kittelberger. However, when doing so they had to find the identified products with missing pictures, thereafter locate the products, have them packed and thereafter shipped to Kittelberger in Germany, where after they would be returned and have to be placed on stock again. This required that the articles were on stock and could be delayed in several weeks if the project team were to wait for delivery. Furthermore, single articles would have to be removed from packages, and large products which would otherwise typically be shipped directly from the supplier to the

¹⁹⁴ Meeting Summary 15.02.08

¹⁹⁵ PM Meeting Summary 18.02.08

¹⁹⁶ Translated from the Danish term 'maveførmelse'; PM Meeting Summary 18.02.08



customer had to be ordered, so Kittleberger could take pictures of them. This was recognised as a very complicated task and it consumed a lot of time in the project before it was decided to take out of the project.

In the final months of the PIDAS project the third issue of uncertainty appeared, it was the issue of not knowing how to measure project completion. The first deadline was set on June 1, 2008, however it was extended to July 1, as it was recognised that June 1 was not a realistic deadline. The PMs during the course of the project developed an understanding that the requirements of July 1 as a deadline was that all article numbers released for sale were uploaded into the system with the appropriate information –except pictures. They had modified an excel list developed by Berner Norway, which included information on all articles in Berner DK (status, article group, purchasing and sales numbers, stock) and included blank columns where it should be marked whether the article in question was present in PIDAS, where, if there were any problems with it, and if pictures were missing. The intended idea was that the use of excell, should have made it possible to extract lists of e.g. missing pictures and thereby enable the project team to identify what needed to be done and what was completed. However, it proved not to function as different people used different terms for the same thing, and therefore lists could not be extracted. Furthermore the fact that different ways of measuring the achievements of the project team kept appearing caused uncertainty and confusion in the perception of the required tasks for ensuring the project success. For instance, on a follow-up meeting on July 7 the PMs were presented to a list which stated that they had only completed 70% of the implementation. They had until that day never seen that way of measuring their achievements before. The poor results troubled the management, but the list made its measurements on other factors than the PMs had worked after. According to their measurements the deadline had been met with success. This had also happened on several occasions during the last weeks of the project where new lists kept appearing and which all showed different results. So despite the fact that the actors learned about the project during the project, they never felt they had any control of the project.

These three issues were identified in the research material as being causes of uncertainty in the PIDAS project. They functioned as the condition of the project to which the PMs had to respond in order to finish the task of implementing the PIDAS system in Berner DK. Together they formed the nature of the PIDAS project and the behaviours/actions adopted in the PIDAS project took place in this context of uncertainty.



This uncertainty did however not only appear due to the three identified issues. It can actually also be seen as a product of the PMs lack of knowledge on how to solve these tasks. They had never faced such a task before and therefore did not know how to approach it. This caused uncertainty, because they lacked knowledge on how to act.

How they actually decided on how to act in the project context of uncertainty will be proposed in the next three chapters concerning their motives of behaviour.

5.1 The Hypothesis of the Condition Uncertainty

When the Actors face uncertainty in a project, it is likely to be a result of either the complexity of the tasks or the Actor's lack of knowledge on how to act in regard to solving the tasks or a combination of both of these factors.



Chapter 6

The Experience of Being both a Part of the Temporary and the Permanent Organisation

This chapter presents the first of three motives of behaviour/action of the actor. It describes how the Experience of Being both a Part of the Temporary¹⁹⁷ and the Permanent Organisation (TemPer motive) functioned as a motive of behaviour/action in the PIDAS project of Uncertainty. Three different kinds of behaviours/actions were identified in the research data:

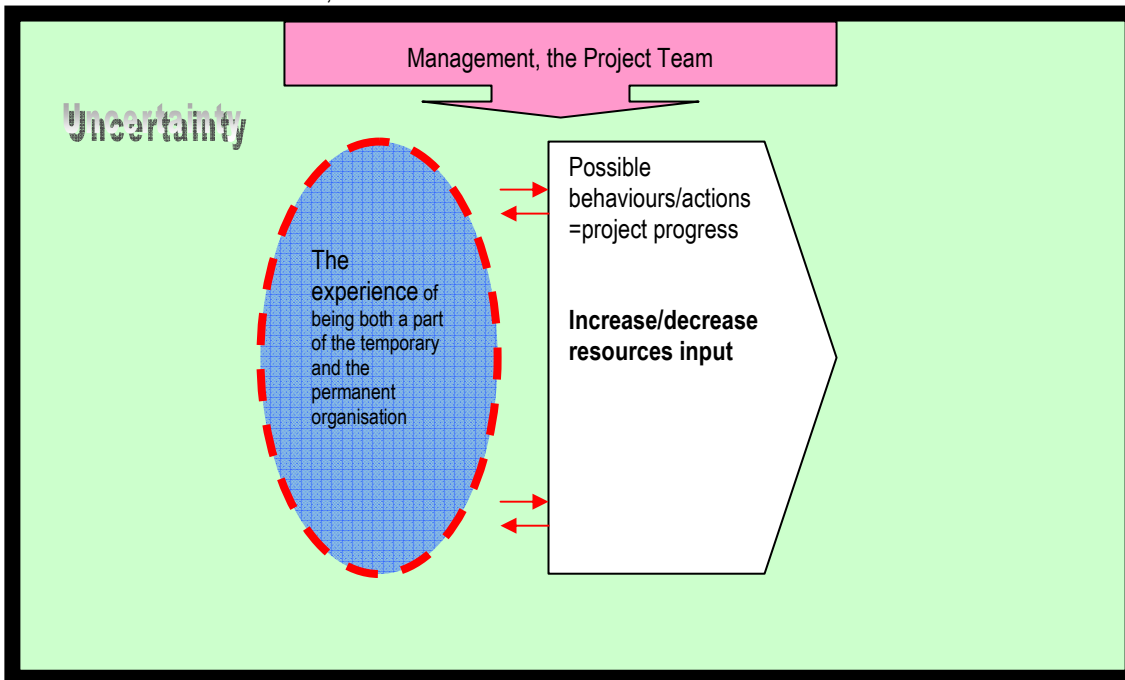
- Increase/Decrease of Resources Input
- Communication
- Learning

However, only one proved to stand in a relationship with this motive. It was the behaviour of increase/decrease of resources input into the project. This chapter presents the suggested relationship between the TemPer motive and this behaviour in the Uncertainty context. The identification of this relationship indicates that stakeholders who can affect this motive of behaviour have access to affect the individual actor's choice of behaviour and thereby have control over the project progress.¹⁹⁸ The research data in the PIDAS project showed that the management and the project team, the formal stakeholders, affected the motive of being both a part of the temporary and the permanent organisation.

¹⁹⁷ The use of the term the temporary organisation is inspired by Lundin & Söderholms (1995) theory of the project as a temporary organisation. Their suggested framework is build around four basic concepts, time, task, team and transition and four sequencing concepts: action-based entrepreneurship, fragmentation for commitment building, planned isolation, and institutionalised termination. This framework focuses on action. Sahlin-Anderson & Söderholm pp.227-228 (2002)

¹⁹⁸ As earlier mentioned the project progress was identified as being the sum of the actors' behaviour/action

FIGURE 6: WITHIN THE UNCERTAINTY CONTEXT: THE RELATIONSHIP BETWEEN THE TEMPER MOTIVE AND THE ACTORS CHOICE OF ACTIONS, AND THE POWER OF THE STAKEHOLDERS



The experience of being a part of both the temporary and the permanent organisation was identified as one of the motives of behaviour/action. The actors were all engaged in tasks in both the temporary and the permanent organisation and all their actions could as a consequence of this be seen as a trade-off between fulfilling the obligations of both the project and the permanent organisation. This functioned as a motive of the choice of action/behaviour in the project because when the actor invested resources in the permanent organisation this meant that the resources were not invested in the temporary and vice versa.

Two variables of the TemPer motive were identified; they were:

- The experience of the tasks of the permanent organisations as being the most important
- The experience of the tasks of the temporary organisations as being the most important

In the following I will explain how these two variables of experiences affected the individual Actors' choice of behaviour/action. Furthermore the relationship between the management and the project team and this motive as a means of affecting behaviour/action of the Actors and thereby the progress of the project will be suggested. The informal stakeholders were not identified in the empirical evidence as having any significant importance in regard to affecting the Actors' perception of being a part of both the temporary and the



permanent organisation and the formal stakeholders are therefore the only ones with power to affect this variable.

6.1 The Effect of the Motive on Increase/Decrease of Resources Input

In the first run of the project there was no drive in the project. It became a project without progress. This happened despite the fact that part-time employees were connected to the project and continuously produced PIs. The problem was that the PMs were the ones with the knowledge to decide whether the PIs were correct and as they did not take an active role, the project entered a grey zone where no real progress was made. PIs were created but it was not known whether they were included the needed information and the right article numbers and they therefore could not be released nor be put to any use.

"I started during the introduction of PIDAS in September 2006, and then we started the project; in other words "we scratched the surface" and then focus was shifted to other things. The project just lost focus as other things seemed more important and it ended up in the bottom of the pile and after a while it was sort of forgotten."¹⁹⁹ PM

This can be defined as one extreme trade off between the temporary and the permanent organisation. The PMs did not perceive that the project was important enough to shift focus from their daily tasks in the permanent organisation and therefore located their resources –time, effort and knowledge – in the permanent organisation.

'The PMs have handled the project poorly due to the dilemma between everyday and the project –it was very hard to get them to commit. The project would have died if the PMs had been the only participants in the project.'²⁰⁰ Former manager of the PMs

During this period several deadlines were missed, but that did not seem to bother the PMs who were in fact the main characters of the project. The project perceived as something which was of only little importance and none of the PMs committed to it. The actors perceived the tasks of the permanent organisation as being more important than those of the temporary and therefore limited their resources input in the PIDAS project to

¹⁹⁹ Interview with PM 07.05.08

²⁰⁰ Interview with former PM Manager 08.04.08



almost zero. This was identified as being the main reason to the project's lack of progress in its first run and also the reason to why the first several deadlines were missed.

In February 2008 the project was 'restarted' and now things started happening in the PIDAS project. The fact that the PMs actually started working actively for meeting the deadline was the most important change because they proved to be the key to progress in the project. However, this proved that they were also the main barrier of the earlier attempts of implementing the PIDAS system.

The perception of being a part of both the temporary and the permanent organisation changed as the PIDAS project was restarted. Now the PMs felt that the tasks of the temporary organisation were of more importance than those of the permanent organisation. This meant that they placed the majority of their resources in handling the tasks of the project; the trade off between the temporary and the permanent organisation changed to a situation where almost all resources²⁰¹ were placed within the temporary organisation.

Now the PIDAS project was the centre of focus and the daily tasks became secondary. During this, the issue of how this change of behaviour/action could affect the rest of Berner DK surfaced, however despite the expressed concerns there were no major complaints and the employees in the permanent organisation who were affected by this change accepted it.

*'The house (reference to other employees at Berner DK) actually took it quite well, they just commented on the fact that it was quite hard to get in contact with us.'*²⁰²A PM

The fact that the actors continually carried responsibilities for tasks in both organisations of course made this trade off between locating the resources available to the individual actor in either the permanent or the temporary more intense. There was no possibility to focus on either one of them without knowingly neglecting the other. And despite the fact that the PMs now perceived the tasks of the temporary organisation as being of most importance then tasks of the permanent organisation kept appearing. It was not possible for to push all of the tasks into the future, some had to be handled right away as they were of importance to the routines of other departments in the organisation. So, this trade off between the temporary and the permanent

²⁰¹ Resources are defined as: time and knowledge available to the individual actor.

²⁰² Interview with PM 04.07.08



organisation proved to be emergent in nature. Each time a new task appeared from either organisation the actor had to, more or less consciously, make a decision whether the task was important enough to be done or whether it would have to wait.

6.2 The Power of the Management

The variables of the experience of being both a part of the temporary and the permanent organisation were:

- The experience of the tasks of the permanent organisations as being the most important
- The experience of the tasks of the temporary organisations as being the most important

And as explained above they had different effects on the actors' choice of behaviour/action. This indicates that a person who have the power and opportunity to affect one of these variables actually have the power to affect the individual Actor's choice of action, and thereby affect the course of the project, the project progress.²⁰³

There were two kinds of formal stakeholders that were identified in the PIDAS project as being able to affect the motives, choice and actions of the actors and they were the management and the project team. In this section I will describe how both of these stakeholders affected the motives of the individual actors. What is important to note, is that these two stakeholders differed in the ways it was possible for them to affect the actors' choice of action and they are therefore dealt with separately. As mentioned earlier, the informal stakeholders were not identified as having any effect on this motive and are therefore not included in this section.

As it was described above there was a significant change in the trade off between the permanent and the temporary organisation which took place as the project was restarted. What had caused this change? This change happened due to changes in the management style in Berner DK,

*Berner has never before been in a hurry to finish anything, what was not done today could be done tomorrow.*²⁰⁴ A PM

"The new management style (at Berner DK) dictates that once you say that you are going to do something, then you are actually supposed to do it. Previously, this was not the case at Berner; things had a tendency of happening according to the direction of the wind –Let us move a little in one direction, then we move a little in

²⁰³ As described earlier the project progress in the DPC is defined as the sum of the actions of the actors.

²⁰⁴ Interview with PM 04.07.08



another direction and then we wait and see what happen. This has changed into, once you say you go in one direction then you actually move in that direction."²⁰⁵A PM

Based on that, management was identified as a factor which affected the perception of being a part of both the temporary and the permanent organisation. The PMs changed their perception of the situation of being a part of the temporary and the permanent organisation due to changes in the management and therefore the trade off of the available resources between the temporary and the permanent organisation changed. This means that the management have the power to affect how the individual actors perceive the importance of the tasks of the project compared to the tasks of the permanent organisation, and thereby can affect how the actor choose to locate the resources available to him.

Management furthermore proved to have power to control the chosen behaviour/action of the actors as it could affect the possible choices of behaviour/action. It could choose to either increase or decrease resources available to the actor in the project by e.g. employing student help. Of course, as earlier described the actor makes an individual choice of resources location.

6.3 The Power of the Project Team

The project team also proved to have an effect on the actors' experience of being both a part of the temporary and the permanent organisation. In the PMs' normal daily routines they had separate responsibilities and were therefore not used to work as a team. Despite the fact that the actors still made their individual decisions in regard to choice of behaviour/action, the fact that the project progress was evaluated as a product of their efforts as a team fostered new behaviour patterns which were identified as affecting the individual actor's choice of behaviour.

In connection to the motive of the actor's experience of being both a part of the temporary and the permanent organisation, the project team proved to affect the actor's perception of the importance of the project tasks. The behaviour/actions of the other actors in the project affected the individual actor's choice of behaviour/action as their actions functioned as indicators of how the actor should handle the dilemma of the resources trade off. This can be defined as a development of group solidarity, where the individual actor was guided by the other group members' behaviour/action. As seen in the first run of the project, this can mean

²⁰⁵ Interview with PM 26.02.08



that the individual chooses to follow the inaction of his team members. However, it can also mean that the individual can feel that it is necessary to put additional resources into the project, as it was seen in the last weeks of the PIDAS project. I will explain this in more detail in the next chapter concerning the Attitude of the Actor, because the feeling of solidarity was identified as one of the feelings included in the attitude.

6.4 The Hypothesis of the Motive of 'the Experience of Being both a Part of the Temporary and the Permanent Organisation

In a project there is a continuous trade off of resources taking place between the temporary and the permanent organisation when the actors carry responsibilities for both areas. This relationship is emergent in nature as the actors will have to decide a (re)distribution of resources every time a new task appear in either of the two organisations.

The management has the power to affect how the actors perceive the importance of the tasks of the project compared to the tasks of the permanent organisation, and thereby can affect how the actor choose to locate the resources available to him. Furthermore, the management has power to control the chosen behaviour/action of the actors by controlling the amount of resources available to the project.

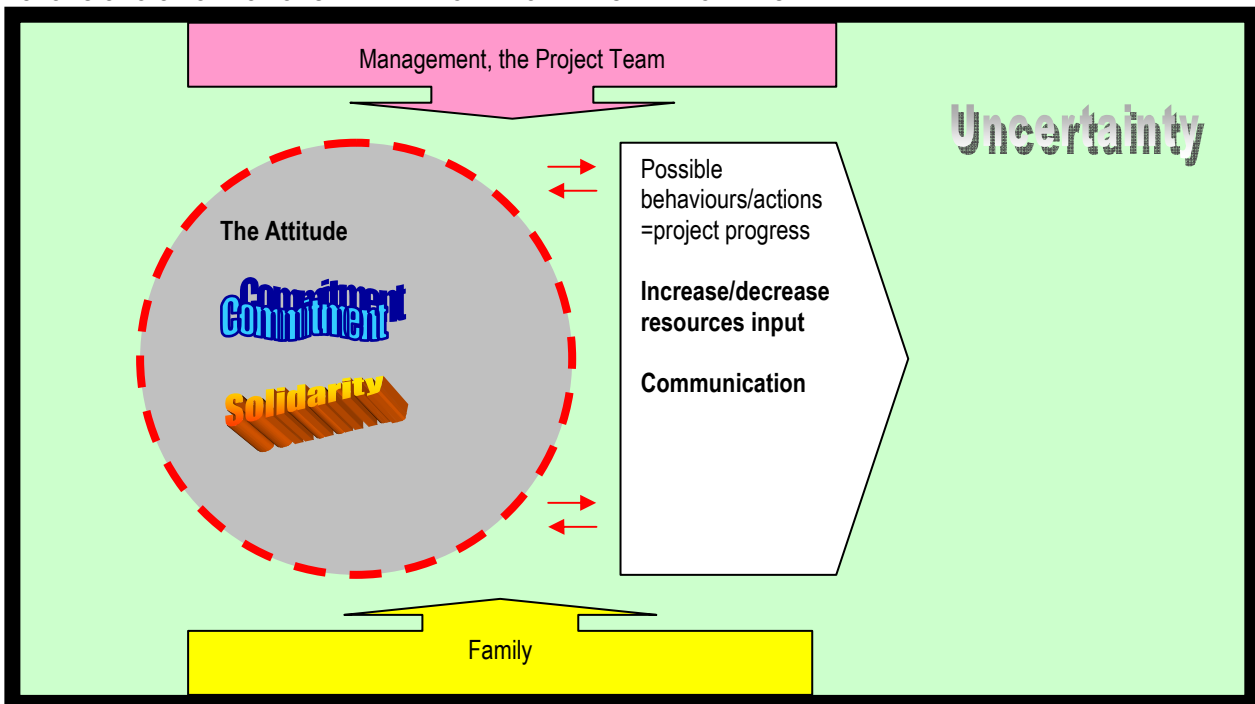
The formation of a project team also had an effect on the actors' way of perceiving the relationship between the two organisations in terms of importance. By forming a project team a sense of group solidarity appeared between the actors which made the individual actor mirror the behaviours of his team members.

Chapter 7

The Attitude

The motive of the actor's attitude²⁰⁶ includes the feelings experienced by the Actor as a consequence of being a part of the PIDAS project. These emotions or lack of them proved to have a significant effect on the Actor's choice of action/behaviour. The actors experienced different feelings which made them react to the Uncertainty in the project in different ways. The emotions identified were: commitment & solidarity and they could affect the behaviours of: increase/decrease of resources input and communication. In the following, I will explain further what affect the different feelings had on the actor's choice of action and how the identified stakeholders could affect these feelings. Family, management, and the project team were all identified in the empirical evidence as stakeholders who could affect the motive of Attitude.

FIGURE 7: WITHIN THE UNCERTAINTY CONTEXT: THE RELATIONSHIP BETWEEN THE MOTIVE 'THE ATTITUDE' AND THE ACTORS CHOICE OF ACTIONS AND THE POWER OF THE STAKEHOLDERS



²⁰⁶ Instead of choosing 'the individual actor's attitude' as the name of the category, I could have chosen to name it 'personality'. However, attitude seemed more appropriate because these feelings and characteristics changed during the course of the project and attitude is something which is possible to change whereas 'personality' often is regarded more or less fixed.



7.1 The Effect of the Motive on Increase/Decrease of Resources Input

Experiencing commitment meant that the actor would feel committed or obliged to ensure that there was a proper response to the perception of the required task of carrying the project through. This meant that this feeling functioned as a motive for ensuring that the actors invested the resources needed in the project. This feeling was therefore identified as guiding the behaviour/action of investing resources in the project. As the PIDAS project was restarted the PMs had to take charge of the process. This meant that the task of planning was placed in their hands. This had not been the case in the previous attempts of implementing the system, where they had received some deadlines from outside. This made them feel committed to solving the task of implementing the PIDAS system, because they now themselves were expected to decide on a deadline, and they felt that once the deadline had been decided on they would have to work for meeting it.

*Today we are supposed to decide on a deadline and commit to it, but it is difficult because we do not know what resources are needed e.g. how much time it takes to do the job – because we were so lucky that somebody else did most of the footwork, so we never really worked with the system and now we have to finish the process.*²⁰⁷ A PM

*“This new deadline is different from the previous ones because we are the ones who have decided on it. The others came from Holding and did not really make any sense, because we were not committed to them; they were just ink on paper. This time, we are the ones who have decided that PIDAS is important and we have estimated the process and the required resources and based on that we have settled on a date. So now there is focus and commitment. We have critically looked at the project, because Holding decide what we have to do, since they do not know how we work. We have now integrated PIDAS in our daily job. So that is the only difference between the new deadline and the previous ones.”*²⁰⁸A PM

But as the PMs had not earlier perceived the PIDAS project as being of importance, they knew only little about the task of implementing the system. Of course some of them had worked with the system in the earlier attempts but it was a long time ago and they realised while evaluating the task that they had only little knowledge of the status of the implementation process. Their new found commitment to the process meant that the actors chose to increase resources input into the project. In the first phase of the project, these

²⁰⁷ Interview with PM 21.02.08

²⁰⁸ Interview with PM 21.02.08



resources were used on finding square one; identifying the starting point in order to decide where to go next. Later on the actors' commitment to the project proved itself, as the actors chose to take time from their private life and invested it in the project. The actors thereby increased their resources input, by removing time from their private spheres and instead making it a resource to the project. Commitment can thereby lead to an increase in the resources invested in a project, however the PIDAS project also showed that lack of Commitment would lead to a decrease in resources invested. In the first run of the project, the PMs did not feel committed to the project and therefore did not invest their resources in it.

The creation of the project team had as earlier mentioned an effect on the chosen behaviour/action of the Actors, as they experienced a kind of Solidarity which encouraged that the project members acted alike. This indicated that when an actor showed commitment, or lack thereof, to the project, it was likely that others would follow his example. However, the PIDAS project also showed what happened when the solidarity disappeared. During the first phases of the re-launched project where the project team did not experience a lot of pressure, their teamwork seemed to function quite smooth as the actors adopted similar behaviours; they all chose to prioritise the tasks of the PIDAS project highest. And even though they proved to have differing skills in handling the practical tasks of the implementation, they all worked for the common cause of ensuring the meeting of the deadline. In other words, the fact that they all dedicated their commitment and resources in the project both created a solidarity feeling in the team and fostered similar behaviour between the actors. This indicated that once an actor chose a certain behaviour/action this was likely to affect the other actors to act similar. So when an actor chose to increase or decrease resources input, this would most likely affect the choices of the other actors due to their solidarity feeling.

*'The team work went good, and we have been supportive of each other, especially in the last 1 ½ month of the project, where we have been trying to supplement each other in trying to reach out mutual goal.'*²⁰⁹

However, during the last weeks the PMs were submitted to a lot of pressure in order to finish the PIDAS project to the deadline; this proved to be a difficult task and the PMs therefore chose to invest their private time into the project. According to the solidarity behaviour which appeared in the data, this would indicate that all actors all would adopt the same behaviour and thereby strengthen their solidarity feeling, but did this not prove to be the case. What instead happened was that some of the PMs started perceiving the personal

²⁰⁹ Interview with PM 04.07.08



contributions to resources input as being unequal. This caused a group formation within the project group, where those who perceived each other's resources input as equal formed a group. Furthermore, they expressed irritation of over this lack of what they perceived to be an appropriate resources input; they felt the resources input did not match their own. This indicates that once the group behaviour fails to be perceived as similar by the team members, then the solidarity feeling is likely to disappear between those whose behaviour differ. However it never came to any conflict in the project team, as the issue of frustration was never discussed openly. But even though the PMs neither discussed the issue in the project team nor in other forums in Berner DK, the fact that there was tension in the project group was known by other employees who were able to observe the everyday of the PMs, and there was a differing of opinions in concern to appreciation of this behaviour.

7.2 The Effect of the Motive on Communication

The creation of solidarity in the project team also led to a new kind of behaviour in the group; they started joking about the project. Communication took the form of jokes about the challenges or irritations the actors met in their everyday. This actually already started on their first PM meeting concerning the project where they joked about May 5 as being the day of Deliberation from PIDAS. It became a way of airing frustration in a relaxed way to the other members of the group. Instead of becoming too annoyed for instance with the sometimes very slow processing time of the system, or with changes in the system which appeared often without warning, then the PMs joked about it as being the perks of the system.

7.3 The Power of Management

As it was seen in the first attempts of implementing the PIDAS system in Berner DK, the PMs did not commit to the process and therefore did not invest their resources in the PIDAS project. Instead they committed to the tasks of the permanent organisation. In the chapter concerning the TemPer motive, a change in the management style was identified as the main cause of a shift in the trade off of resources between the project and the permanent organisation. This change was also the reason why the PMs started committing to the project.

'The job has to be done, and if we cannot make within regular working hours we will just have to share a pizza in the weekend.' CEO



The new management placed the task of setting a realistic deadline in the hands of the actors. This forced the actors to get involved in the project and start working for meeting the deadline. The deadline was theirs, and therefore responsibility could not be placed elsewhere. The actors felt a responsibility to commit to their own deadline. By involving the actors in the decisions of the project, the management fostered commitment in them.

Furthermore the fact that the management perceived the actors as committed to the project made it more willing to listen to their experiences. The fact that the management trusted the PMs' evaluation of the task of the pictures opened the possibility that a modification of the project could take place. Had the management not perceived the actors as committed to the project, it is not likely that it would allow the removal of tasks from the project specifications. This was also the case with the one month extension of the deadline. The fact that the management believed in the team's commitment especially showed at a meeting which took place two days after the deadline of the PIDAS project. Here there was a status of the tasks which were still missing before the implementation process could be closed and shift into being a maintenance operation of the permanent organisation. Despite the fact that the project in reality had not met the first expectations, then there was recognition of the hard work the PMs had placed in the project.

7.4 The Power of the Project Team

In connection with the motive of attitude, the project team was identified in the research material to, as mentioned earlier, encourage a creation of solidarity, which in turn encouraged similar behaviour in the PMs. Furthermore a new kind of variable of communication in the form of jokes appeared following the new found identity as a team. However, once this solidarity feeling was broken due to a perception of inequality then irritation appeared and caused a group formation within the project team.

7.5 The Power of Family

In the research material family also appeared as a factor which influenced the motive attitude of the actors. It could have been expected that the actors with family and children would not participate as much as those without because they might not be able to relocate the same amount of time from their private life into the project. The data did show indications that this could be a possible explanation behind the fact that one of the actors were perceived as violating the solidarity of the group. This means that the responsibilities to the family might also engage in the trade off of resources, when the tasks of work –either from the permanent or the



temporary –enter the private life. However, the data was not sufficient to prove this. Furthermore it could not be regarded a tendency as other actors' behaviour seemed to follow the perception that the commitment to the project out-ruled the obligations to the family for a period of time. The tasks of the family were, just like the operations of the permanent organisation, pushed into the future.

7.6 The Hypothesis of the Motive of Attitude

The variable Commitment meant that the actor would feel committed or obliged to ensure that there was a proper response to the perception of the required task of carrying the project through and this variable of the Attitude therefore a motive for ensuring that the actor invested the resources needed in the project. However, as the presence of Commitment would indicate an increase of resources input –or at steady flow of resources into the project, then lack thereof would also indicate a lack of resources invested.

The variable Solidarity appeared through the formation of the project team and it suggested that when Solidarity is present then the actor is likely to choose a certain behaviour/action which is similar to the behaviour of his team members. However, once this behavioural pattern is broken due to the perception of dissimilarity in behaviour, then the solidarity of the team will disappear and irritation will take its place.

Furthermore, when Solidarity is present it will foster the use of 'jokes' as a way of airing frustration in a relaxed way between the members of the group. However, this disappears once solidarity is broken.

The management has the power to make the actors experience Commitment by involving them in the decisions of the project. Furthermore when the management perceive the actors as committed it is more likely to listen to the recommendations of the actors as in the case of modifications of project specifications.

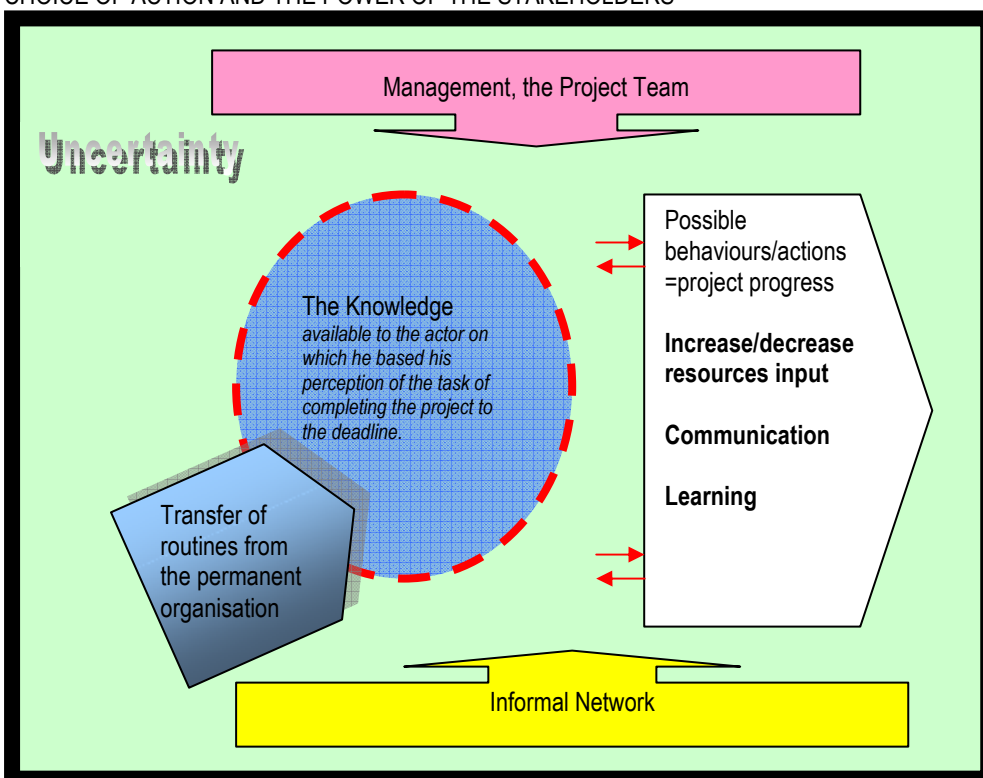
Family is suggested as a possible third player in the trade off of resources once the boundary between private time and work has been crossed.

Chapter 8

Knowledge – the availability of knowledge to solve the different tasks of the project

The motive Knowledge concerns the ability of the actor to make an appropriate response to the issue at hand. As earlier described the PIDAS project was characterised by uncertainty. The main cause of this uncertainty was the actors lack of knowledge in regard to approach the task. It has to do with the knowledge available to the actor when wanting to react in response to the uncertainty inherent in the project by a choosing a behaviour. This motive of behaviour assumes that commitment is present and that the Actor perceives the task at hand as important enough to be willing to invest resources in it; according to the suggested trade off between the temporary and the permanent organisation. If these factors are not present, then it is not likely that the actor will be willing to invest resources in the task, and then it is of no importance what knowledge is available to the actor, because the actor has no need for it, when not wanting to do the task.

FIGURE 8: WITHIN THE UNCERTAINTY CONTEXT: THE MOTIVE OF KNOWLEDGE AND ITS EFFECT ON THE ACTOR'S CHOICE OF ACTION AND THE POWER OF THE STAKEHOLDERS



On the other hand when commitment is present and the actor perceives the task as important enough to invest resources in it, then the knowledge available to the actor in solving the problem of the task or just approach the task is very important.



Based on the research material it was possible to identify two variables of the motive of Knowledge; they were:

- The possibility of transferring knowledge
- No possibility of transferring knowledge

In this chapter the interdependencies of these variables of the motive knowledge and the actors' choices of behaviour and the stakeholders' power to influence this relationship will be explained. The management, the project team and the informal network were identified as stakeholders who could affect this motive.

8.1 The Motive's Effect on Increase/Decrease of Resources Input

The actors to some extent transferred routines from the permanent organisation into the temporary project setting. This kind of transfer of knowledge in the shape of routines had the effect that it enabled the actors in putting the available resources to 'better' use, in that sense that no resources were wasted in the process of figuring out how to approach the task at hand. This was for example the way the PMs handled the problem of ensuring the correctness of the PIs before they were released and the way they tried to document the progress of the implementation of PIDAS on an article level.

'When making new catalogues we have an informal procedure of using 3-4 sales people to ensure the correctness of the material before releasing it for printing. It just seemed logical to adopt the same procedure in the case of PIDAS..'²¹⁰A PM

Berner Norway has developed the Check-it excel list which is a list over different article attributes²¹¹. They use it to check up on Danish catalogues which they use in their sales. We made a modified check-it list where we could check whether we had included all article numbers in PIDAS and make comments on pictures or other relevant things.²¹²

This meant that some of the routines which were part of the permanent organisations were transferred to the temporary setting. This happened, as the quote stated, more or less automatically.²¹³ This suggested that the

²¹⁰ Interview with PM 04.07.08

²¹¹ This includes quantity on stock, how many there has been sold, whether the article number is released for sales and/or purchasing etc.

²¹² Interview with PM 04.07.08

²¹³ I have chosen not to include this transfer of routines and knowledge as a kind of behaviour in the model, because it proved to happen 'automatically'. In the tasks where this kind of transfer was possible and happened, the Actors did not regard it as behaviour adopted in response to the tasks of the project. They saw it more as a continuation of their normal behaviour in the permanent



actors to some extent were set in the routines they used in their everyday and therefore felt that it was 'just natural' to adopt the same behaviour/action where it was possible in the project setting. This opened the opportunity that the Actors in a sense increased the available resources by improving the output of the same resources. The output was enlarged as the resources were put to better use through transfer of knowledge/routines and the end result was therefore the same as had the resources been increased. This is based on the assumption that the Actors otherwise would need to invest resources in learning, which will be explained in more detail later in this chapter. So when possible, the Actors transferred routines and knowledge they had from previous experience with similar tasks and thereby avoided to have to use 'learning' as behaviour, which proved to be a very resource-demanding behaviour.

8.2 The Motive's Effect on Communication

However, in some cases it was not possible to transfer routines of the permanent organisation into the temporary setting. This for instance was the case in the (re)start-up phase of the PIDAS project. As mentioned earlier, the relaunch of the PIDAS project was the first project where the PMs were expected to plan their own deadline and the PMs experienced some difficulties in deciding on a deadline because they could not identify a number of tasks in the project which they categorised as uncertainties.²¹⁴ They in the beginning did not know status quo and the workload of the project. Furthermore they knew that one of them had never earlier worked with the PIDAS system and they knew that the PIDAS system itself had some failures and procedures which could be very time consuming. These uncertainties were defined at the outset as being able to affect the course of the project. This lack of knowledge concerning tasks/issues of the project caused uncertainty.

The fact that the PMs at the outset could identify these uncertainties which they perceived as able to affect the project made it difficult for them to decide on a deadline, which they felt secure that they could commit to. And it made them aware that the resources they had at their disposal could prove to be insufficient, and thereby make it impossible to make the predetermined deadline.

However, the fact that the PMs in the case of the PIDAS project were able to make these identifications was itself a result of a new kind of behaviour. For the first time, the PM adopted a planning approach to the PIDAS

organisation. They never questioned this behaviour, but just accepted it as 'natural', so in a sense it was more a part of the permanent organisation which was brought into the project, than it was a behaviour adopted in response to the project.



project. They had never earlier used project planning tools, also not in other projects or other tasks, so adopting this approach was a new kind of behaviour. The fact that they adopted a planning approach to the project enabled them in identifying what they did not know. Thus the planning tools helped them discover what they needed to find out and thereby helped them to locate their resources. They gained access to knowledge on how to carry out a planning approach through an outside project manager (employee at Berner DK, but not a formal part of the project). This project manager provided the actors with tools to approach the PIDAS project in a more structured manner than they were used to. The PMs knew that this project manager had knowledge on the subject and they gained access to it through communication. They simply asked him whether he would help them start planning the project.

This indicated that the actors when facing a similar task that also were perceived to require a planned, structured approach in the future would be able to apply the skills learned in the PIDAS project. The PMs actually expressed that they in the future would adopt a structured approach to projects; however one of the PMs expressed some dissatisfaction with the time used on planning.

The planning approach furthermore enabled them to track the course of the PIDAS project, and thereby enabled identification of unsolved tasks in the project which made the actors feel less insecure in how to approach the project.

Today (a week after the deadline of the project)²¹⁵ we still have some parts of the project marked in red and yellow, but nothing will be done about it until after the summer holidays –so we've got some catching up to do. The CEO is not completely satisfied with the situation, but the good thing about a plan is that the missing factors are identified, so we know which parts of the project need more work. So in that sense we appreciate the tool which enable our boss to slap us on the head when not meeting our deadlines.²¹⁶

This use of communication to gain access to information can therefore be seen as a means of decreasing Uncertainty. It is a behaviour adopted in order to gain access to some information which is identified as needed in order to carry out a task. Through gaining access to the knowledge of the project manager the PMs received training in approaching tasks/projects in a structured manner.

²¹⁵ I have added the comment in the parentheses

²¹⁶ Interview with PM 04.07.08



8.3 The Motive's Effect on Learning

In some cases the actors they found themselves in situations where they faced tasks they did not meet in their everyday and they were not able to identify knowledge, such as the planning tools, which they could transfer into the project. In those cases they had to learn how to solve the tasks. This especially proved to be the case in regard to dealing with the partnership with the PIDAS solution provider Kittelberger. Berner DK was dependent on Kittelberger in regard to uploading pictures in the PIDAS system. However, they at the starting point did not know the extent of this dependency relationship.

This meant that they had to learn how to deal with this relationship. This proved to be a time-consuming process so in the case of the PIDAS project learning proved to be resource demanding process. First, the decision was made that the pictures should be taken in house as the services provided by Kittelberger were expensive. The person responsible for graphics was included in the process and she was given the task to take the pictures and make the corrections necessary in order to make the pictures applicable to the system. However, this proved to be a difficult task as Kittelberger did not accept most of the pictures. The solution of taking the photos in house was therefore discarded. Then it was decided to return to the original plan of outsourcing the task to Kittelberger. Though this may sound as a simple task, it required that the different articles which lacked pictures had to be taken from the ware house and physically shipped to Kittelberger in Germany. Those articles which were not on stock had to be ordered, this includes articles such as large machinery which normally would be shipped directly from the supplier to the customer due to large size. The task of keeping track of these different articles and ensuring that the warehouse and different suppliers did what was actually after a while taken out of the project because the task was perceived as being able to make the project fail in meeting the deadline.

So while trying to solve the task of the pictures the Actors learned that this task was too big to be included in the project and the task of the pictures was therefore removed from the project requirements. Thus, as the knowledge of PIDAS and its implementation process grew, it was possible to identify earlier decisions as not being realistic. Thus, creating the possibility of changing these earlier decisions and this was the reason why the project ended up meeting its deadline. The reason was that the knowledge enabled the actors and the management in modifying the project requirements in such a way that the agreed deadline was made realistic.



However, the task of taking and uploading the pictures was not the only thing which proved create difficulties in the partnership between Berner DK and Kittelberger. The act of collaboration also proved to be a difficult task.

*'We experienced some difficulties in working with Kittelberger because we at first had no idea how they worked, so we just assumed that we could order pictures in small numbers. We did not know that they hired consultants from the outside to carry out the task, so it came to a clash and Kittelberger for a period of time actually chose not to communicate with us and instead used Holding as a link between us. So I've learned that when having to with partners in a project then it is important to get them on the phone on day one and work out some terms of cooperation.'*²¹⁷

The problem was that the actors assumed that they could order the pictures as they identified that they were missing. This meant that they placed orders on small numbers of pictures. This caused some frustration at Kittelberger which ended up with refusing to communicate with Berner DK and instead started to communicate through Berner Holding. This of course caused frustration at Berner DK. This process of learning how to communicate proved to be a time-consuming process, but the process also produced new knowledge-learning as the PM expresses in the quote. This opened the possibility of a new kind of transfer between the temporary and the permanent setting. Instead of transferring knowledge in the shape of routines to the temporary setting from the permanent, the actors could now also transfer knowledge from the temporary to the permanent setting.

Furthermore, as the PMs realised that the task of uploading the missing pictures was too complicated to a part of the project, they used communication as a means of informing the management of the situation, which led to the previously mentioned change of project specifications –the removal of the picture task. Thus communication was used as a behaviour/action chosen with the purpose of reducing the perceived level of uncertainty in the project. The project team themselves did not have the power to make that decision themselves and therefore had to have permission from the management.

²¹⁷ Interview with PM 04.07.08



8.4 The Power of Management

As mentioned above the management had the power to allow a modification of the project specifications. Furthermore it facilitated the adoption of the planning approach to the PIDAS project as it allowed the actors to use the knowledge of the outside²¹⁸ project manager. The management thereby made 'new' knowledge available to the actors, which they could use as a means of approaching the tasks of the PIDAS project. This meant that the Actors did not need to learn as much as had the knowledge not been available and thereby limited the amount of resources needed to learn.

New knowledge developed through learning furthermore proved to be a resource which could be put to use in both the permanent and future temporary settings, which indicates that management by taking an active role in ensuring that the learned knowledge was incorporated in the routines of the permanent organisation could avoid that the knowledge was lost and had to be regained (once again a resource –consuming process) at a later point in time. However, the empirical evidence was not sufficient to prove this.

8.5 The Power of the Project Team

As mentioned earlier, the creation of the project team fostered solidarity and similar behaviour between its members. It furthermore, created a space where jokes appeared, but this was not the only kind of communication that took place within the group. The actors also used the group as a means of exchanging information. Thus, the project team functioned as a well of information to its members. This meant that the actors exchanged the information and knowledge they had of the tasks of the project, and thereby increased their own insight into the project process. The fact that they could draw on each others' knowledge made them more capable of facing the project and its insecurities. By gathering the knowledge of the actors the project team lowered the uncertainty experienced by the individual actor. However, when the solidarity feeling failed, then it also meant a decrease in the information flow between the actors.

8.6 The Power of the Informal Network

In the PIDAS project, the actors' informal network proved to be a source of knowledge when it was not possible to find the necessary knowledge elsewhere. This informal network consisted of colleagues in Berner DK outside the project, friends and colleagues employed at other Berner sales divisions. For instance as the

²¹⁸ Outside in that sense, that he was not a part of the project. He was however an employee in Berner DK.



former PM manager had to initiate the PIDAS project, he on his own initiative contacted the PM manager in Austria in order to learn from their experiences with implementing PIDAS.

*'I contacted the PM responsible in Austria because I knew him personally. We communicated through e-mails and phone calls and the main issues were 'location of problems' and 'identification of the required resources'.*²¹⁹ *The former PM Manager*

Here he learned that extra resources were needed in order to carry the tasks of the project out which lead to the employment of student help.

Furthermore, when the project met the challenge of the pictures, the graphics responsible took contact to friends in the advertising business in order to learn about the picture task. The PIDAS project teams' use of the outside project manager as a resource of knowledge was also an example of the power of the informal network as an opportunity to access knowledge which does not exist within the boundaries of the project.

8.7 The Hypothesis of the Motive Knowledge

When commitment is present and the actor perceives the task at hand as important enough to invest resources in it, then the Knowledge available to the actor in solving the problem of the task or just approach the task is very important.

In regard to some tasks, it will be possible for the actor transfer routines from the permanent organisation into the temporary project setting which enable the actors in putting the available resources to 'better' use, in that sense that no resources is used in the process of learning how to approach the task at hand. However, in other cases it will not be possible for the actor to transfer knowledge. If it is possible for the actor to identify the knowledge required to carry out the task, then the behaviour of communication can be used to gain access to information. This information can be collected by communicating with the informal network of the actor but the project team can also be used as a well of information. When the knowledge is received then it decreases the level of uncertainty.

²¹⁹ Austria was one of the first countries to start the implementation of PIDAS in their division. Meeting with former PM Manager 08.04.08



However, in some cases the actors will find themselves in situations where they face tasks they have not met in their everyday and where it is not possible to identify knowledge which can be transferred into the project through communication. Then they have to learn how to solve the task and this is a very time-consuming process.

As the actor gain more and more knowledge on the project the possibility of identifying earlier decisions as not realistic appears and the project can be modified in order to make its requirements realistic. Furthermore, the creation of new knowledge opens the possibility of transferring knowledge from the temporary to the permanent setting.

The management can make 'new' knowledge available to the actors so that they do not need to learn as much as had the knowledge not been available and thereby limit the amount of resources needed to learn. It is also suggested that the management have the possibility of taking an active role in ensuring that the learned knowledge is incorporated in the routines of the permanent organisation and thereby avoid loss of knowledge and avoid using resources to develop the same knowledge more than once.



*The story goes that a king employed a cartographer to produce a map of his territory. The king found the map most useful and was so captivated by the power of representation that he asked the cartographer to produce a better map, to a larger scale. The cartographer complied, but after some time the king asked for an even better map. And so on, until eventually the cartographer produced a one-to-one map, which of course was the **territory** and was therefore a useless **map**.²²⁰*

Chapter 9

The Dynamic Project Constellation

In this chapter the Dynamic Project Constellation is presented. It is the result of applying the grounded theory approach to a case study of a project.

According to Glaser, theory should enable prediction and explanation of behaviour and thereby provide the practitioner with understanding and some control of the situations. The person who applies the theory must be enabled to understand and analyse ongoing situational realities, to produce and predict change in them, and to predict control consequences for both the object of change and for other parts of the total situation that will be affected.²²¹ In order to provide the user with this kind of control, the theory must provide a sufficient number of general concepts, and their plausible interrelations which provide the user with understanding, with situational control, and with access to the situation.²²² The core of this controllability is the production of and control of change through 'controllable' variables and 'access' variables.²²³ Furthermore, it should provide an explanation on behaviour and provide clear enough categories and hypotheses so that crucial ones can be verified in present and future research.²²⁴ The purpose of this is to enable the practitioner to anticipate other additional kinds of consequences, conditions and strategies of an act besides what he knows of empirically. He can thereby expand his description and meaning of incidents by placing them in greater scope as his thoughts transcends the details he knows so well. The practitioner should begin to see the processes causing

²²⁰ Hodgson & Cicmil (2006) p. 51 The story of the king and the cartographer

²²¹ Glaser and Strauss (1967) p. 245

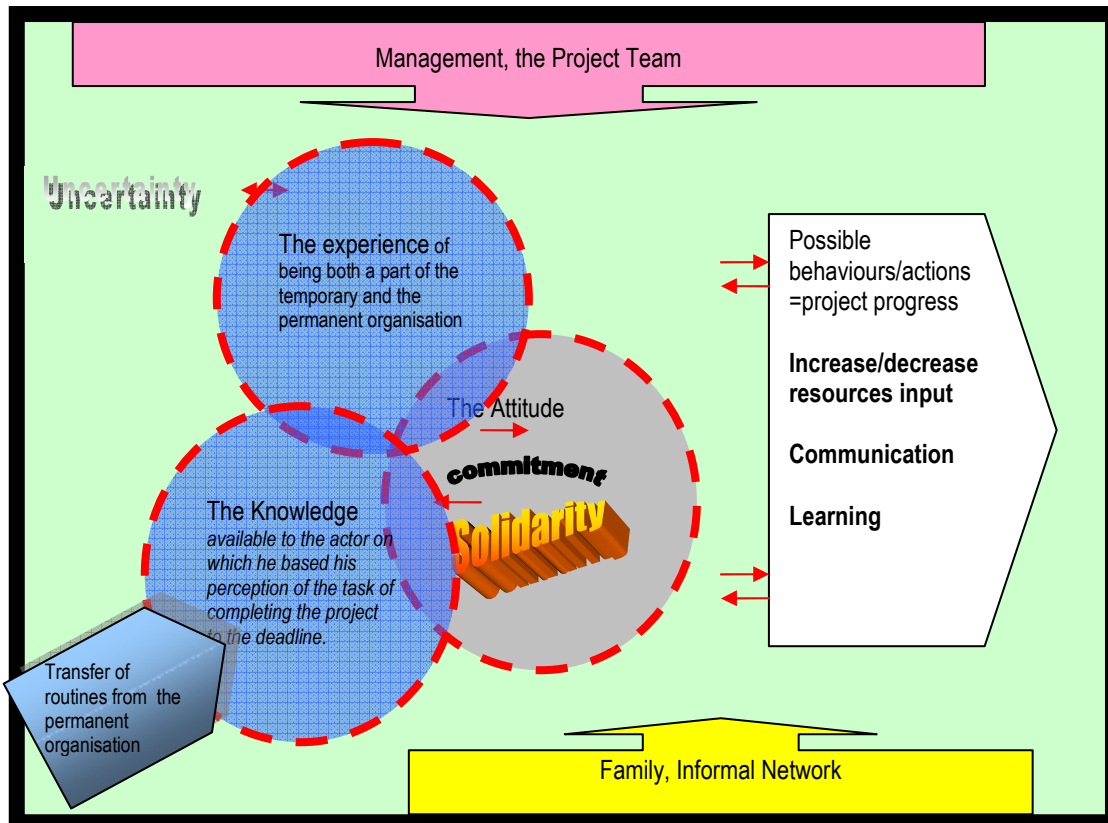
²²² Glaser and Strauss (1967) p. 245

²²³ Glaser and Strauss (1967) p. 245

²²⁴ Glaser and Strauss (1967) p. 3

change and can modify his ideas to handle the new knowledge and this opens the possibility of variable new strategies, conditions and consequences.²²⁵

FIGURE 9: THE DYNAMIC PROJECT CONSTELLATION



The DPC is a substantive theory.²²⁶ It is a theory of a process which proposes that the life of 'the project' is to be found in the processes within the project and not in the project itself. Thus, the project is actuated by the process. And this process is created by individual actor's choice of behaviour. It does not move sequential steps, instead it continually moves both front and back as the information dimension changes and new information appear and the project team moves back and changes the planning.

It is furthermore a developmental theory²²⁷ which isolates some of the common factors and instances of development in the PIDAS project and furthermore demonstrate the variety of forms which a project as a

²²⁵ Glaser (1978) pp. 13-14

²²⁶ Hartman (2005) p. 125

²²⁷ The constant comparison of phenomena in Grounded Theory has a tendency to result in the creation of a developmental theory, because it especially facilitates the generation of theory of process, sequence, and change pertaining to organisations, positions and social interaction. Thus the 'Dynamic Project Constellation' is in that sense a typical result of the GT methodology. Glaser & Strauss (1967) p. 114:



unified process can take. The model captures both the interconnectedness of the common factors of the project and the dynamic inherent in the project. It furthermore illustrates the project's attachment to the permanent organisation and to society outside organisation and illustrates the importance of the actor's attitude to what he perceives to be of importance in the project context. The grounded theory of this thesis is therefore 'the project dynamic constellation' which should be regarded a product of the involved actors' perception of the PIDAS project and the process of making the deadline.

In the following section I will present the categories of the DPC and their properties. As mentioned earlier, a category is a conceptual element of the theory and a property is a conceptual aspect or element of a category. Both properties and categories are concepts indicated by the data and not the data itself,²²⁸ which means that they have a life apart from the evidence that gave rise to them.²²⁹ Thereafter I will present, the hypotheses suggested by the DPC. The intention behind their creation is that they should also be 'sensitizing' and yield a meaningful picture that will enable outsiders to grasp their meaning in terms of their own experience.²³⁰ The framework of these hypotheses suggests a possible explanation of the behavioural patterns which appear in a project. It is the sum of 'what goes on?' It is intended to help the reader to see and hear vividly the people in the area of study and grasp the theory developed for the area.²³¹

9.1 The Concepts of the Dynamic Project Constellation

The DPC suggests that there are different types of participants in a project characterised by Uncertainty. The most important group is the Actors as their behaviour and actions is defined as the progress or lack thereof in the project.²³² And the project progress is therefore defined as the sum of the Actors' adopted behaviour. Furthermore two types of stakeholders are present in the framework: the informal stakeholders consisting of family and informal network, and the formal network consisting of the management and the project team.

The Actors are suggested to have three different choices of action in response to the perceived Uncertainty of the tasks of the project; they are:

²²⁸ Glaser & Strauss (1967) p. 36

²²⁹ Glaser & Strauss (1967) p. 36

²³⁰ Glaser & Strauss (1967) pp. 38-39

²³¹ Glaser & Strauss (1967) p. 39

²³² However, the management of course had the opportunity to bring resources from outside into the project, which they also did when they employed two student helpers to create PIs. However, as the PMs were the only ones who could decide the PIs correctness, they proved to be the key to project progress or lack thereof. The PMs were defined as the Actors in the DPC in the PIDAS project.



- Increase/decrease of resources input
- Communication
- Learning

The Actor have three motives which decides which kind of behaviour he should adopt in response to the Uncertainty they experience in the project, they are:

- The experience of being both a part of the temporary and the permanent organisation:
 - The experience of the tasks of the permanent organisations as being the most important
 - The experience of the tasks of the temporary organisation as being the most important
- The attitude:
 - Commitment
 - Solidarity
- The knowledge available to the actor on which he based his perception of the task of completing the project to the deadline.
 - The possibility of transferring knowledge
 - No possibility of transferring knowledge

These motives are to be regarded as unique features of the individual Actors. The motives were emergent in nature as they continuously shifted according to the challenges faced by the Actors. This means that at different points in time the individual Actor would perceive one of the motives as more important than the others, however as changes appeared in the project, this would make the Actor redefine his motives for choice of behaviour/action in the specific situation and after that, he would respond to the change in the project based on the newly arranged motives. The importance of the motives should therefore be seen as emerging and changing in nature. Furthermore, they should be regarded interconnected –intertwined and their interaction should be regarded as a continuous interplay which both happens in response to the Uncertainty inherent in the project and as a creator of change through action/behaviour in the perceived Uncertainty.

As the chosen behaviour was identified in the research material as being dependent on the three motives, it was possible to identify a number of controllable variables. Controllable variables are variables which provide anyone who wishes to apply these concepts to bring about a change a controllable theoretical foothold in



diverse situations.²³³ The controllable variables of the different motives were identified in chapters 5, 6, 7, and the following refer to the findings presented in those chapters.

The controllable variables were the variables of the different motives, that is:

The controllable variables of 'the experience of being both a part of the temporary and the permanent organisation' were: the experience of the tasks of the permanent organisation as being the most important, and the experience of the tasks of the temporary organisation as being the most important. The controllable variables of the 'attitude' were: commitment (present/lack thereof), and solidarity (present/lack thereof). The controllable variables of the 'knowledge' were: the possibility of transferring knowledge, and no possibility of transferring knowledge.

Controllable variables sometimes provide the possibility of controlling only one's own behaviour and sometimes primarily the behaviour of others. But control usually involves the effort of two parties, that is control of the interaction between two people by one or both of them.²³⁴ In DPC the controllable variables are identified as possibilities to affect the action/behaviour of the Actors, and thereby affect the course of the project, which was identified as the sum of the chosen behaviours/actions of the actors. This indicates that the identified controllable variables in the DPC can be used by both the Actors in a project, but also by outside stakeholders who wishes to affect the course of the project.

A number of stakeholders were identified to actually affecting these variables in the DPC. They were the earlier mentioned formal and informal stakeholders. However, the research indicated that this controllability of the actors actually took place as an interaction between the actor and the stakeholder. For instance, it was found that the management by giving the actors responsibility in setting a deadline fostered commitment in them. This shift of behaviour in the actors in turn had the effect that the management perceived the information received from the actors as more reliable, which made the management follow the actors' recommendations of modifying the project specifications.

²³³ Glaser and Strauss (1967) p. 245

²³⁴ Glaser and Strauss (1967) p. 248



In order to use a controllable variable the practitioner must have means of access to it. Access variables are structural variables that allow, guide and give people access either to controllable or to help the people who control them.²³⁵

The management has access to the controllable variables due to its location in the formal hierarchy. This means that the management has formal power over both the project team as a group but also over the Actors as individuals. The project team can also function as a manifest of formal power to the individual actor through the use of a planning-oriented approach which enables the Actors to follow the progress of the project and thereby follow the actions of their fellow team members.

The informal stakeholders can gain access to the controllable variables when the Actors seek their guidance. The family gains access through their close relationship with the actor. These different stakeholders all have different degrees of access to control the motives of behaviour/action. The research suggested that the management is the most powerful.

9.2 The Hypotheses of the Dynamic Project Constellation

It is important to note that as earlier mentioned, the hypothesis developed by using a GT approach are only suggested as possible explanations to the behavioural pattern of the area of interest, in this case a project characterised by uncertainty, the PIDAS project. The hypotheses are as follows:

- The perception of Uncertainty in a project is caused by either the complexity of the tasks or the actor's lack of knowledge on how to act in regard to solving the tasks or a combination of both of these factors
- There is a continuous trade off of resources taking place between the temporary and the permanent organisation when the actors carry responsibilities for both areas. This relationship is emergent in nature as the actors will have to decide a (re)distribution of resources every time a new task appear in either of the two organisations. Furthermore family is suggested as a possible third player in the trade off of resources once the boundary of private time and work has been crossed
- When the actor feel committed to the project tasks it is likely that the actor invests the resources needed in the project. However, lack of commitment indicates a lack of resources invested

²³⁵ Glaser and Strauss (1967) p. 248



- Solidarity is likely to appear within a project team, and when solidarity is present then the actor is likely to choose a certain behaviour/action which is similar to the behaviour of his team members. Furthermore, solidarity fosters the use of 'jokes' as a way of airing frustration in a relaxed way between the members of the group. However, if dissimilarity in behaviour is perceived to be present, then solidarity will disappear and irritation will take its place
- The actor can transfer routines from the permanent organisation into the temporary project setting when the tasks of the project are similar to those of the permanent organisation
- When it is not possible to transfer routines to solve a task of the project then the actor can adopt the behaviour of either communication to gain access to knowledge that can make the actor able to solve the task at hand. However, in order to be able to choose this kind of action, the actor must be able to define what knowledge he needs and where he can find it. The informal network and the project team are suggested as sources of knowledge
- When it is not possible to transfer routines nor choose the action of communication, because the actor cannot define the knowledge he needs, then learning is the behaviour adopted to gain access to knowledge to solve the task of the project. Learning is a resource-demanding process.
- The creation of new knowledge from either communication or learning can reduce the perceived level of uncertainty
- When the actors learn about the project, the possibility of discovering that earlier decisions are not realistic appears; this opens the possibility for project requirement modifications
- The creation of new knowledge from either communication or learning opens the possibility of transferring knowledge from the temporary to the permanent setting
- The management can affect the trade off of resources between the permanent and the temporary organisation, by fostering commitment by involving the actors in the tasks of the project. Furthermore the management can control the amount of resources available to the project
- When the management perceives the actors as committed it is more likely to listen to their recommendations
- The management can make 'new' knowledge available to the actors so that they do not need to learn as much as had the knowledge not been available and thereby limit the amount of resources needed to learn. It is also suggested that the management have the possibility of taking an active role in ensuring that the learned knowledge is incorporated in the routines of the permanent organisation and



thereby avoid loss of knowledge and avoid using resources to develop the same knowledge more than once.

These were the hypotheses which can be extracted from the DPC.



Chapter 10

Conclusion and Final Comments

The issue of this thesis was to develop a middle-range substantive theoretical framework which could suggest explanations of the behavioural patterns in a project characterised by uncertainty. The means of developing the theory was the adoption of a GT approach to the case study of the PIDAS project.

The use of the GT approach enabled me to discover patterns of action and interaction between people in response to the problems and situations in which they found themselves. The focus was placed on discovering what concepts and hypotheses are relevant for the project in question by inquiring into the difficulties that people in projects face and how and why they handle these difficulties as they do and the result of this was the development of the Dynamic Project Constellation. It is created as a model of involved actors' experiences, observations, and assessments of a project process characterised by uncertainty. The model illustrates both the interconnectedness of the different factors of the project and the dynamic inherent in the project. This dynamic is a product of the projects emerging nature, which is created by the actors' choice of behaviour in response to the perceived uncertainty. Furthermore the framework suggests an explanation of the project's attachment to the permanent organisation and to society outside the organisation and illustrates the importance of the motives of the actor in the project context.

The purpose of the DPC was to offer suggested explanation of what happened, predict what will happen and interpret what is happening in a project characterised by uncertainty, as the PIDAS project. And it arrived at this as it allowed core problems and processes to surface through the use of comparative analysis.

The intent behind the creation of the DPC was a creation of knowledge which hopefully could inspire new ways of thought in connection to project management in Berner DK. Furthermore, this thesis adds to the existing literature, which discusses the use of GT approaches by showing how GT was applied in a case study that inquires into the role of actors in a project.

However the process of generating the DPC also resulted in some reflections of the process of conducting a study based on a GT approach as this proved to be a large task.



Epilogue

Being a novice in the field of GT, I found it difficult to define exactly what GT consisted of, because in the literature there seemed to be many contradictions and different opinions in regard to the 'proper' use of this approach to theory generation. This was actually the main reason to why I decided to use only three books as the foundation of my entry into the field.

It furthermore proved to be difficult and very-time consuming to handle the large amount of data, which I collected in the course of the project, especially the processes of codification and constant comparison which took about 5 months.²³⁶ As earlier mentioned, Glaser describes three stages of pace in the process where depression is one of them and it proved to be true. I must admit, that at times during the course of the coding processes, I had no idea of where the data was taking me or whether it was actually taking me anywhere. This created a feeling of irritation and stress as the writing of a master thesis has to take place within a certain timeframe.

However, when pieces of the puzzle then 'magically' found their place, it felt wonderful. But it was hard work, and I as described on several occasions felt that it was necessary move back and rearrange codes and redefine concepts as I gained more and more insight into the process. Memos and sketches proved to be very important in seeking to create concepts based on the identified codes. Furthermore, there was the continuous fear of missing out on something important. There is no doubt that some of these problems appeared due to my lack of practice and lack of routine in conducting a GT study. The task of conducting a case study with the purpose of generating theory is by far the most ambitious challenge in research I have ever taken on, I have never before been so involved a the case study, nor I have earlier I used myself as a tool of creativity in the ways prescribed by the GT. And it was fun. It was very rewarding to create something and I have never earlier had so much fun in writing a paper.

²³⁶ The experience of GT case study analysis as being time consuming and difficult is also recognised by Rodon & Pastor (2007) pp. 81-82



Summary

This thesis develops a middle-range substantive theoretical framework which can suggest explanations of the behavioural patterns in a project characterised by uncertainty. The area of interest in this thesis is a project process, more specific the project process of the implementation of a product catalogue system called PIDAS in Berner Denmark. The generation of theory is based on Grounded Theory (GT) and it takes its point of departure in the everyday experiences of the involved actors. The focus is placed on discovering what concepts and hypotheses are relevant for the project in question by inquiring into the difficulties that people in projects face and how and why they handle these difficulties as they do.

Based on a systematic method of analysis, comparisons of the empirical evidence it was possible to identify the 'project dynamic constellation' (PDC) which is the generated Grounded Theory of this thesis. It is created as a model of involved actors' experiences, observations, and assessments of a project process characterised by uncertainty. The model illustrates both the interconnectedness of the different factors of the project and the dynamic inherent in the project. This dynamic is a product of the projects emerging nature, which is created by the actors' choice of behaviour in response to the perceived uncertainty. Furthermore the framework suggests an explanation of the project's attachment to the permanent organisation and to society outside the organisation and illustrates the importance of the motives of the actor in the project context.

The intention of creating such an understanding of the actors' reality has been a creation of knowledge which hopefully could inspire new ways of thought in connection to project management in Berner DK. Furthermore, this thesis adds to the existing literature, which discusses the use of GT approaches by showing how GT was applied in a case study that inquires into the role of actors in a project.



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