The Library for the Inquisitive Dutchmen

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The Library for the Inquisitive Dutchman
Evaluation and Redesign of radical organization renewal project

Master Thesis (1JM96)

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The appendices corresponding to this report are available in an external document:
Library for the Inquisitive Dutchman - Appendices
Abstract

This research contains an evaluation and recommendations for a redesign of a radical renewal project of the Dutch public libraries. For the last years, libraries have seen a decrease in performance, but lack a culture that is able to adapt to the needs of the inquisitive Dutchmen. The aim of the project is to change this culture, by developing the innovative capabilities of the employees of the libraries to become more innovation oriented. The approach chosen is based on the Chaos and Complexity theory. This report evaluates the first year of this project in order to optimize the process for future years. The study of the context of the research, the project and the evaluation of the project show that the used concepts and methods do create a positive change. However, not all participating employees have reached that same development. The interventions have not all triggered the right mechanisms and/or led to the right outcomes. To optimize the process to reach the aim of the project a number of recommendations are made for a science-based integrated redesign. Both the project and the research are based on a Chaos and Complexity approach, which leads to interesting insights of applying those concepts.
Management Summary

Research Context
The public libraries in The Netherlands have experienced a decrease in their performance in the last years. The number of members, members’ visits and the number of borrowed books have gone down. Within the library branch the question has arisen whether the libraries are able to serve the people of today, stated as the inquisitive Dutchman. Over the past twenty years several projects have been initiated to catch up with this changing world. However, none of these have been successful so far. Thus, a new approach is searched for in the organization renewal project that is initiated at the end of 2008 by the ‘Vereniging van Openbare Bibliotheken’ (VOB) in cooperation with ‘DeLimes’, a consultant specialized in the Chaos and Complexity (C&C) methods.

Problem owner
The organization that is responsible for the innovation project is the ‘Vereniging van Openbare Bibliotheken’ (VOB). The VOB is the sector- and branch organization of all public libraries in The Netherlands. As the branch organization, the VOB represents its members, all 175 libraries, to create cohesion and collaboration between the libraries. As sector organization the VOB protects the ‘national treasure’ as the libraries and its possessions are named in order of the Dutch Ministry of Education, Culture and Science.

Research Objectives
The objective of this research is closely related to the goal of the organization renewal project. In order to reach that the project’s objective is to improve the innovative capabilities of the employees to be more innovation oriented. One of the main assumptions thus is that changing the capabilities of the employees will eventually lead to changing the culture of the libraries and the branch. The objective is to create a practical solution in shape of a redesign that aims to optimize the process of the project as executed in the first year. This practical solution will be formulated using a science-based design approach.

The objectives within this research are stated to shape this practical solution, as it will first study the project, which will lead to a redesign. The objectives are stated as follows:
Research objective A: To describe the problem context and analysis that led to the start of the organization renewal project.
Research objective B: To describe and analyze the organization renewal project.
Research objective C: To evaluate the organization renewal project.
Research objective D: To create a redesign of the organization renewal project.
Research objective E: To generalize the project redesign for other types of situations

Theoretical Background
Methodological lens: The paradigm from which a research is conducted affects the research greatly. There are three types of lenses recognized; the variable, the system and the C&C based approach. For this research it is argued that the C&C approach can lead to interesting insights, as the studied system is a complex one, with many interactions and chaordic characteristics.
**C&C paradigm:** The C&C paradigm aims to include the complete reality, with all its complex interactions. The main goal is to model this complex reality with help of some simple theories. Those simple theories include the categorization of systems as chaordic and a life-cycle in shape of the Sigmoid curve, which indicates that every system grows to a growth limit. In order to survive a system should be able to reach a new Sigmoid curve, also called a complexity level. Systems are also illustrated as part of a holarchy, in which every entity is both a part of a large whole and a whole in itself (a holon). Those holons can be characterized by four quadrants, divided by the interior vs. exterior perspective and the communion vs. agency perspective (see figure below). In this research it is expected that this Integral Theory can support the jump to another complexity level. It is stated that when the right resources in all four quadrants reach a certain state of maturity, the whole system will jump into the next complexity level. Another model is the panarchy that explains that changes in different aggregation levels have revolutionizing effects (smaller on larger changes) or conservative effects (larger on smaller changes). The strength of the C&C paradigm is that one can describe the complex reality without having to specify all the details, but by studying the patterns visible.

**Theoretical framework:** This research is based on the expectations that different triggers can cause a change. As triggers are recognized the C&C paradigm, the consultant process, change management and HRM processes. This research is focused on the C&C paradigm and how those stimulate the development of the resources in the quadrants of the Integral Theory and whether they lead to a change in the capabilities of the libraries and its employees.

![Diagram](image)

**Research Methodology**

In this research a combination is made between three methodological models. A combination of the regulative and reflective cycle defines the order of the research, which divides the research in five parts likewise to the five objectives. In line with the C&C paradigm the five parts are executed in parallel, and continuous revision is necessary. Moreover, CIMO-logic structures the findings of the research and will especially shed light on the mechanisms behind the interventions and outcomes.

**Results:**

**Part 1:** A study of the history of the libraries has shown that there are a number of issues that have affected the need for an organization renewal project. The performance decrease is the direct cause, but also indirectly the changing society has affected the libraries. Moreover, the type of organization
and the type of previous projects do not promote an innovative organization. Therefore the organization renewal project is specially selected, as it promises a different approach.

**Part 2:** The organization renewal project took place from February 2009 till November 2009 in which 20 libraries took part with 24 teams in total. The teams were supported in their own innovation process by one member of their management team and a so-called guide. Moreover they met, five times with all teams where they were given the opportunity to exchange experiences with each other and gain extra insights through workshops and activities. The concepts of the project can be related to many of the models from C&C perspective.

**Part 3:** The evaluation has shown that there is an overall increase in enthusiasm and change towards the aimed innovative capabilities. A focus on the innovative process instead of the outcomes has brought a lot of discomfort at first, but in the end changed towards ‘taking control over time and confidence given’. Large issues were the team building that was necessary at first and the fact that the supporting participants (MT and guide) can be very helpful, but struggled with their own change at the same time. The project was too short to see any changes on level of libraries or the branch. At the end of the project, the participants were ready to start spreading their findings.

An analysis of the project and the evaluation clarifies that especially the cultural dimension is underexposed; the culture did not become more innovative. Moreover, it needs to be questioned whether the level of interventions have been on the right level to trigger a change towards a new complexity level.

**Part 4:** Based on the stated requirements, parameters and a number of design rules that have been derived from literature, a number of recommendations for an integral redesign have been made. Improvements that are suggested are on the topics of the selection of team members; the aim to include interventions on all aspects of the Integral Theory and on the right themes at the right time; improved communication on the goal and aspects of the project; and a track for the supporting participants that runs ahead of the track of the teams. A brief validation shows that the recommendations for the redesign would fulfill the requirements and according to the experts it is both executable and expected to lead to an improvement.

**Part 5:** The generalization of the redesign has not taken place, due to time restrictions.

**Reflections**

The majority of the objectives are met in this research; although the generalization of the project is left out due to time limitations. Time is an issue that returns in the reflections as the dynamics of the project and research differ. Moreover, the scarcity of documentation on the project increases the time issues. The methodology and methods are influenced by the C&C paradigm, therefore the emphasis laid on qualitative data. This has the advantages that details and the factor time can be included, but is less precise and dependent on the interpretation of the researcher. Therefore a combination with quantitative data would be optimal. The quantitative data in this research is collected by the questionnaires, which do give interesting insights, but need more development.

Furthermore the project and research struggled with the same issue as they search for a combination of the C&C paradigm and more traditional ones.

Implications for the organization lay in continuation of the project; as this research can be used as basis for future years. Implications for the literature can be found in an exploration of the C&C paradigm in research. Suggestions for further research, thus, are in more comparison of the effect of the project’s concepts in the organization and the development of the C&C approach.
Preface

This Master Thesis research is conducted at the ’Vereniging van Openbare Bibliotheken’ from September 2009 till February 2010. It illustrates the final step to fulfill my Master Degree in Innovation Management. And moreover, it is my final chapter of six and a half years at Eindhoven, University of Technology. Thus, six months that formed a worthy conclusion of my time as student.

This Master Thesis project has been an interesting and instructive journey, which started with mastering the Chaos and Complexity paradigm. And although at times, it might have been hard to convince others of the value of this new and less traditional paradigm, this field of study has been able to grasp my interest. It has been a struggle to combine the progressiveness of this new world and the more conservative world of science and libraries, but it has been an enjoyable struggle in which I have met many inspiring people. And it will be interesting to follow how this struggle will continue in the future. The VOB and DeLimes gave me this great opportunity to experience, learn and research in this new world. And despite all skepticism the word library evokes, it has been a great and exciting experience.

Performing this research has also been a journey with ups and some downs. The challenge of shaping every step of the process has been motivating; however, the solitude in which this project needed to be conducted does not fit me. The main reason why this still has been a good experience is largely because of the people around me. Therefore I need to thank a number of people.

First, Frans van Eijnatten, my first university supervisor, who has guided me for the last two years and for whose commitment and support I am very grateful. Moreover, his critical, but always motivating, remarks have been extremely valuable and have led this research to what it is now. Second, I need to thank my second university supervisor, Isabelle Reymen, for making time to evaluate my work. And for introducing me to another perspective on research and design, which adds to the completeness of this research.

Next to good guidance from university, I was fortunate to receive great support from the VOB as well. Especially, I need to thank my company supervisor, Naomi Deegenaars. Her enthusiasm, interest and support in my research have contributed greatly. She ensured that I got involved in the project from the beginning on and that I received all the freedom to do my research. Moreover, I need to thank Jaap Peters and Harold Janssen for sharing their working methods, philosophies and the interesting discussions.

However, next to my official supervisors, there are a number of people who have been just as important during this project and the other six years in university. Of course, most important, my parents, whose continuous support and trust in me enabled me to develop into the person I am today. I also like to thank my brother, with whom the discussions are increasingly fascinating. And last, but (of course) not least, my student life cannot be finished without expressing my gratitude for the friends I have made during my time in Eindhoven. They have been there to study and learn, to challenge and help, to have an active student life and at times, to relax; everything that has made these six and half years as beautiful as it has been.

Thank you all for all your contributions. I hope this report shows the interest, studiousness and enthusiasm I have had throughout my studies and during this Master Thesis project.

Selinde van Raalte, February 2010
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1. Research Context

Libraries in The Netherlands experienced a decrease in the activities of their members for the last years. They observed a decrease in the number of members, the number of visits and the number of borrowed books (CBS, 2007). Although Dutch people borrowed fewer books, book sells went up. So, it can be questioned whether libraries serve the people of today or whether libraries have failed to evolve along with the innovative world. Furthermore signs from within the sector suggest that something needs to happen. The ‘Vereniging van Openbare Bibliotheken’ (VOB) is responsible to address this problem sector-wide, being the branch organization of the Dutch public libraries.

Over the years the VOB has initiated several projects for the libraries to catch up with this changing world. However, those previous attempts had not been successful so far. They all ended in good intentional plans, but were never successfully executed. Therefore an organization renewal project, called ‘Goudklompjjes’ (Gold nuggets, Dutch)\(^1\), was based on a different approach: a project based on work structures and processes from a Chaos and Complexity perspective. This new, unconventional method should have the effect they are aiming for, namely to lead the employees of the libraries to become more innovative.

The project has a number of different stakeholders. The project is initiated by the VOB and converted into the project plan in cooperation with a consultancy firm, DeLimes. The organizing team is therefore a combination of VOB and DeLimes employees. In the program 150 employees of different libraries are the participants. They are supervised by their managers, called sponsors, and guided in the project by a guide. In this research on the organization renewal project certain terms for stakeholders are used; an overview can be found in Table 1.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>This master thesis project</td>
</tr>
<tr>
<td>Project</td>
<td>The organization renewal project as executed by the VOB, alias ‘Goudklompjbes’ project</td>
</tr>
<tr>
<td>Organizing team</td>
<td>The responsible employee of the VOB and the involved consultants</td>
</tr>
<tr>
<td>Participants</td>
<td>All chief librarians, management team members, employees of the libraries that are involved in the project, plus the guides of the teams</td>
</tr>
<tr>
<td>Sponsors</td>
<td>The chief librarians or management team members that are responsible for the participating teams</td>
</tr>
<tr>
<td>Guides</td>
<td>Individuals from within or outside the library sector that guide the teams in their process</td>
</tr>
<tr>
<td>Team (members)</td>
<td>Library employees that participate in the project</td>
</tr>
<tr>
<td>Initiators</td>
<td>The responsible employees within the VOB that are in charge of the execution of the ‘Agenda for the future’</td>
</tr>
</tbody>
</table>

\(^1\) Within the VOB the project is referred to as ‘organization development’ project.
2. Research Problem and Objectives

2.1. Research Problem

This Master Thesis studies the organization renewal project called ‘Goudklompjes’. The project is initiated by the VOB and the consultant. The complete project is meant to take place for at least four years. Each year both a new group of participants will start and a follow-up program will exist for the participants of previous years. The time frame that this research focuses on is the first year of the project, which lasted from February 2009 till November 2009. The research problem that formed the basis for this project was formulated by the initiators. A study of the relevant documents and some small conversations with the organizing team and initiators has exposed the origin of this project:

Throughout the sector the need to change was felt, however no methods were found to realize that change. The innovation projects executed in the past did not have the desired effect, to turn the future of the libraries around. Another approach needed to be taken. Last year the ‘Agenda voor de toekomst’ (Agenda for the future, Dutch; VOB, 2008) was formulated. Every four years the VOB forms a policy for the libraries to focus on for the years 2009-2012 this is documented in the ‘Agenda for the Future’. This ‘Agenda’ is based on different internal and external researches on the future of the libraries and the awareness for the need to change. The ‘Agenda’ showed it had become clear that in order for the libraries to be successful in the future, large changes have to be made.

In this ‘Agenda’ is stated that the VOB believes that the focus of the libraries should change toward independent knowledge centers. They argue that libraries are in the center of society and therefore have to change along with the changing society. The final goal is therefore to be able to serve the inquisitive Dutchman. In order to do this, the libraries have to innovate and moreover, they need to become innovative. The main research problem of the organization renewal project and hence this research is thus how the libraries can become innovative.

This problem is addressed in the ‘Agenda’ by stating three goals: 1) The aim for the libraries is to adapt to the changing needs; 2) to improve the supply and demand balance; and 3) to improve the infrastructure and availability of the services of the libraries. To achieve these goals, multiple themes are focused on. The answer is mainly explored in an integral approach of marketing, ICT and HRM. The focus on HRM means the VOB works on a new educational program for library employees, on new HRM instruments and on organizational development. The last focus point is aimed at changing the way employees work and think and to enhance innovativeness; this is also known as the ‘Goudklompjes’ project.

The organization renewal project is aimed at the process of the employees of the libraries to become more innovative. This indicates that the focus is on the process and not on the end-result. Therefore, the end-result might not be a perfect match as the policy stated in the ‘Agenda’. However, it is believed that when the goals are set right, the process will also lead more or less towards the goals.

2.2. Problem Owner

The problem owner of the project and this research is the ‘Vereniging van Openbare Bibliotheek’ (VOB), which is the sector- and branch- organization of all public libraries situated in The Netherlands. The main goal of the organization is the creation of cohesion in the library system of The Netherlands. As the VOB is both sector- and branch- organization of the libraries, it has multiple responsibilities. As the branch organization, the VOB represents all 175 Dutch libraries. These
Libraries are members and pay a subscription to the VOB. The VOB focuses on collaboration between the different libraries. The main goals of this branch organization are the promotion of common interests and the creation of cohesion; mostly in terms of economies of scales. Advantages can be achieved by common branding, promotion and marketing. But also the economies of scales in terms of lending rights and such are favorable for the libraries. The development of one collective vision and mission is another task of the VOB. The branch organization is roughly divided in two sections; one section focuses on the content related topics, such as reading, learning and illiteracy. The other section focuses on business processes. This section includes marketing, ICT and HRM practices.

Secondly, the VOB is the sector organization for the libraries. This is an institute by order of the Dutch Ministry of Education, Culture and Science. Libraries and their possessions are regarded by the government as a national treasure and are consequently considered highly valuable. The sector institute is responsible for the documentation and valuating of this legacy. Furthermore, the libraries are with almost 10 thousand employees the largest employer in this field (CBS, 2009). Therefore the libraries can expect good support from the Dutch government. Moreover, this sector institute is the official representative of the Dutch libraries towards other countries and the government. The work of the sector organization is mainly on policy level; the execution of the plans is done by the branch organization. Next to the VOB, the libraries are also supported by provincial service organizations (PSO). All libraries in one province receive support from their PSO on level of ICT, logistics, personnel administration etc. So, not only the libraries are represented on national level by the VOB and on regional level by the cities of settlement, but also on provincial level by the PSOs. A graphical representation of the system of the public libraries can be found in Figure 1.

Finally, the VOB works closely together with the ‘Werkgeversvereniging Openbare Bibliotheeken’ (WOB). The WOB is the employers’ organization. They represent the libraries as employers.

During the time frame of this research a large reorganization of the VOB has taken place. Per the 1st of January 2010 the VOB is divided into three separate organizations. The branch and the sector organization will continue to work individually and the foundation ‘Bibliotheek.nl’ will work on digitalization of the library. Although still unclear during this research, the organization renewal project will most likely be an integral project of the three organizations. This research is continued within the third organization, bibliotheek.nl.

![Figure 1: System of public libraries in The Netherlands](image-url)
2.3. Research Objectives

When one speaks of research objectives, one has to differentiate between the objectives of the research and the objectives within the research. The first objectives describe the aim of the research, what the end result will try to reach. The latter type of objectives includes the activities that will be performed by the researcher to achieve the first type of objectives.

The main objective of this research is related to the objective of the organization renewal project. The main goal of the project is for the Dutch public libraries to become innovative, so they will be able to serve the inquisitive Dutchman and consequently will see a growth in number of members etc. The project is therefore aimed at improving the innovative capabilities of the employees of the libraries to be more innovation oriented. Innovative capabilities here are seen as the abilities and competences of the employees to innovate; how well the employees can adapt themselves and their organization to the changing needs of the environment. As a result, they will shape the innovative organization. It has to be stated that this is one of the major assumptions of the project. Although one can argue that the employees shape the organization and consequently also shape the innovativeness, other factors on the innovativeness of the organization cannot completely be ruled-out. However, when making this assumption the research problem of this Master Thesis is similar to the project’s objective. The research objective is stated as follows:

| Research objective: To create a practical solution, grounded in Chaos and Complexity theory, based on the organization renewal project that is aimed at improving the innovative capabilities of the employees of the Dutch public libraries to be more innovation oriented. |

The practical solution will be a redesign of the project as executed and studied in this research. The redesign is aimed at optimizing the process of the project to improve the project for future generations. So, this will be a redesign of the project in which the employees are confronted with this project for the first time. The aim of this redesign is to increase the effect of the project’s interventions on the innovative capabilities. The effect this change of innovative capabilities has on the actual, daily work of the employees is not focused on.

The objective within the research is to specify a practical solution for the organization to use. This redesign will include improvements on the project’s design, the interventions and other suggestion to execute the project in the future. However, the project itself will be studied first. The first objectives within the research will be to study the problem’s context and the problem and to document the plans and actions of the project as it has been executed. Then the project will be evaluated to find out how successful the project is in the present design. Findings from those previous steps will form the input for a redesign of the project. At last, the research will focus on the validation of the redesign and the question whether it can be used in another, similar situation. The objectives within the research are therefore stated as:

| Research objective A: To describe the problem context and analysis that led to the start of the organization renewal project. |
| Research objective B: To describe and analyze the organization renewal project. |
| Research objective C: To evaluate the organization renewal project. |
| Research objective D: To create a redesign of the organization renewal project. |
| Research objective E: To generalize the project’s redesign for other types of situations |
2.4. Structure of Report

In this previous chapter ‘Research Context’ (1) the background of this research is elaborated on and in chapter 2 a short description of the organization ‘Vereniging van Openbare Bibliotheek’ is given. Moreover, the research objectives are stated. In the next chapter, chapter 3, the most relevant theories from literature are summarized. This literature shapes the theoretical framework from which the research is done. The methods and methodology used to do this research are described in chapter 4. From the methodology derives that the research will be done in a number of parts, which corresponds with the paragraphs of the results in chapter 5. Lastly, in chapter 6 the discussion, limitations and suggestions for further research can be found.
3. Theoretical Background

3.1. Methodological Lenses

Before considering the theories behind this research, it has to be stated that the paradigm which is used to carry out the research affects the research greatly. A paradigm can be considered a methodological lens; it looks at reality from a different perspective and thus leads to a certain view of the world. Every paradigm is unique, because it has its own set of claims about the world; people who are in such a paradigm measure and interpret data from different standards (Godfrey-Smith, 2003). Therefore the paradigms are incommensurable and can never be completely objectively compared.

Within research three different lenses can be recognized; the variable based lens; the system based lens and the Chaos and Complexity (C&C) based lens. All three lenses give a completely different perspective on topics and theories. Each lens can therefore add a valuable perspective to the research according to the Integral Theory (Edwards, 2008). Multiple lenses can give a complete overview. However, researches from different lenses can never be compared.

The first, most traditional, methodological lens is the variable based lens. This lens focuses on direct relations between variables and how those relations explain the fluctuation in other variables. Here is spoken of independent and dependent variables and it is attempted to discover which independent variables explain the variation of dependent variables (Cooper & Schindler, 2003). In variable-based research researchers mostly try to create a controlled environment where they can control the effects of other variables than the ones studied. In that way they can control the reaction precisely and define what the effect is of the independent variables. Another characteristic is that researchers who work from a variable based perspective commonly express everything in numbers. Although in social sciences not everything can automatically be expressed in a number, in variable-based research most variables are quantified. Even qualitative research is converted in quantitative research by e.g. the use of a Likert scale (Bryman, 1988; Cooper & Schindler, 2003).

The second methodological lens is the system based lens. This lens especially flourished by the invention of the computer, when it became possible to model multiple relations at once. Within a system based research not the individual variables are studied, but a system. A system consists of three basic elements (In ‘t Veld, 1998; Blanchard & Fabrycky, 2006):

1. The objects, the elements or parts within a system;
2. The attributes are the qualities and properties of the systems and its objects; and
3. The internal relations define how the objects are linked together.

All objects in a system are influencing the other objects through direct or indirect relations. These three elements shape a closed system. However, in reality a system will also be related to external forces. A system including interactions to its environment is called an open system. When studying a system, it is not the aim to study its objects or relations in isolation. However, one considers the system as a whole. A system is frequently sketched as a set of functions and it is studied what happens with the output of a system, when certain values are going in (the input). Moreover, certain values of the output will have a backwards effect on the input. During this feedback loop the output of the system is compared to predefined values; depending on the discrepancies the values of the input are adjusted. This process is continued until the set values are reached.
The third methodological lens is the Chaos and Complexity (C&C) based lens. This lens studies systems on yet another higher level of complexity. The C&C approach assumes that it does not pay off to research the direct relations or a system’s input and output. One needs to research the behavior of a system, to recognize the patterns in behavior. Those patterns exist because certain forces keep a system in balance or will pull it out of balance. One studies the direction towards which a system is drawn to under certain circumstances and under which circumstances the system becomes so instable it will jump over in another direction. Research results will not give exact numbers or perfect analysis, but it will show the boundaries wherein the system moves and it might give insights on certain circumstances forcing a system to transform. Nevertheless, a C&C based research does not give specific answers, because too many factors are influencing the system.

Van Raalte (2009) argues that the C&C lens can give interesting and useful insights in work systems. A comparison of the lenses can be found in appendix I. The C&C lens is most useful in complex situations where many actors, interactions and uncertainty are, such as in an organization. Therefore, the C&C approach will be used in this Master Thesis and will be elaborated on in the next section.

3.2. Chaos and Complexity Paradigm

The C&C paradigm aims to include the complete reality, with all its complex interactions. The main goal of the paradigm is to model this complex reality with help of some simple theories. An important term in this paradigm is the chaordic system. A chaordic system says that the system finds itself between chaos and order. Within a complex system the outcome can be unclear; however one can still recognize some patterns in the behavior of a system. As Heylighen (1996) argues complexity can be positioned ‘on the edge of chaos’: at the same time, a system has certain elements that are independent of each other, and simultaneously the system has another dimension that leads to close relations. The Chaordic Commons (2009) give a definition of chaordic:

1. “Anything simultaneously orderly and chaotic,
2. Patterned in a way dominated neither by order nor chaos,
3. Existing in the phase between order and chaos.”

Moreover, the chaordic system has a number of characteristics, also named the Five Chaordic Principles, namely consciousness, connectivity, indeterminacy, dissipation and emergence (Fitzgerald, 2002; Van Eijnatten, 2004). A short explanation of those concepts in terms of social systems can be found in Table 2.

Another important component of the C&C paradigm is a holon. Holon is a combination of the Greek word ‘holos’ and the suffix ‘—on’. The word ‘holos’ means a whole, something complete. In contrary the suffix ‘—on’ means ‘to be part of’ something. Two contradicting parts in one word it seems at first sight. However, it implies that that every component of a system is both a part of something and a whole on its own (Wilber, 1996). Every component can be studied as one complete whole; it functions without direct external relations. However, at the same time all components function as a part of a bigger component. Holons can be divided into two groups: the individual and the collective holon. The difference is in quantity (Edwards, 2009). An individual holon is a single functioning holon. A collective holon is a holon consisting out of multiple other holons; together these holons function to create one new holon. Often within a collective holon synthesis exists. This
means that the performance of the collective holon is higher than the performance of the sum of the individual holons.

Table 2: Chaordic Principles (based on Fitzgerald, 2002; Van Eijnatten, 2004)

<table>
<thead>
<tr>
<th>Chaordic Principle</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consciousness</td>
<td>Social systems are not only physical aspects. One important matter is the so-called mind of an organization. This mind influences everything and every decision. To change anything within the organization, the mind has to change first.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>The different parts within social systems are highly related in complex ways. Therefore it is necessary to study all entities within a system.</td>
</tr>
<tr>
<td>Indeterminacy</td>
<td>In a dynamical system everything that happens is related: it is both a cause as an effect. That fact makes it extremely difficult to predict the future. One can only prepare for what all can happen, but cannot predict what will happen.</td>
</tr>
<tr>
<td>Dissipation</td>
<td>A social system is both self-creating as self-destructing. Changes in the system or environment lead to ineffectiveness, which a system has to deal with by changing. To be able to do this, a system needs to destruct itself, before it can adapt to the changes.</td>
</tr>
<tr>
<td>Emergence</td>
<td>Social systems have the ability to grow to a higher level of complexity by self-organizing, self-referencing, and self-iterating. To achieve this, all entities within the system should have the same vision and goals.</td>
</tr>
</tbody>
</table>

In Figure 2 one can see how holons are related to each other; every holon is part of a larger holon and consists out of one or more other holons. This type of hierarchy is called holarchy (Wilber, 1996). Three types of holarchies are defined (Edwards, 2008): the developmental holarchy, the ecological holarchy and the governance holarchy.

To organize different types of holons a differentiation is made between the interior and exterior of a holon and the differentiation between the agency and commune perspective of a holon, the Integral Theory. These differentiations divide every holon into four quadrants (Wilber, 1996; Edwards, 2009). The interior/exterior differentiation implies that a holon can be seen, on one hand, in perspective of itself, the interior. It approaches what goes on inside the holon. These are the aspects of holons that cannot be observed; they are subjective and part of the inner consciousness. Exterior on the other hand means what the holon shows to the world outside; what others can observe (Wilber, 1996). The differentiation of agency versus commune should be seen as on one hand how a holon acts within its own boundaries, the agency perspective. This perspective reflects only on the holon itself. And on the other hand the relational perspective which reflects on how a holon relates to its surroundings (Edwards, 2009). The four quadrants that emerge out of these differentiations all give their own perspective on a holon. The four quadrants are 1) intentional, 2) behavioral, 3) cultural and 4) social (see Figure 3). One can interpret the quadrants as a bundle of resources or competencies of a system with certain aspects.

When studying chaordic systems, one also has to study its life cycle. Within C&C theory chaordic systems are assumed to follow a life cycle in the shape of the Sigmoid curve, as shown in Figure 4. The Sigmoid curve is an S-shaped curve that shows the growth rate of the system. After a period of growth the system reaches its growth limit. During this last period, a chaordic system moves into an
instable phase, at this point the system is very extra vulnerable to external forces (Van Eijnatten, 2003). As a result a chaordic system will die or it will adapt to these forces and a new chaordic system begins its life cycle, as can be seen in Figure 4. This means a new level of complexity has occurred (Van Eijnatten, 2003). So, every time a chaordic system reaches the end of its ability to grow a new system can evolve that will be the next complexity level.

To reach this next complexity level a system needs to change both the way of doing things and the way of thinking. One illustration of this transformation can be found in Figure 5. The best course for a system is to jump from ‘old thinking/old doing’ (quadrant I) directly to ‘new thinking/new doing’ (quadrant IV). Whenever the system fails to change its previous dominant thinking or behavior, the system is not likely to survive (Van Eijnatten, 2003). Another illustration of the essential aspects for a system to reach a higher level of complexity is the Integral Theory (Wilber, 1996; Edwards, 2008). In Figure 3 the four quadrants are shown; under the identical assumption as before, all aspects of a system need to change in order for a system to reach another level of complexity, it can be stated that a system needs to develop in all four quadrants.
All four quadrants exist out of a number of resources or competencies that the system possesses. With every complexity level certain resources are needed for the system. This indicates that to reach a new complexity level a system needs to develop certain resources or competencies. These resources can have a status of 1) existing, 2) developed or 3) mature. Only when all resources reach a mature state, and consequently all four quadrants reach a mature state, the system will reach a new complexity level.

As the number of complexity levels add up, the graphical representation of the Sigmoid curve becomes unsuitable. Therefore the Sigmoid curve is often illustrated by the adaptive cycle (Figure 6), in which every Sigmoid curve is a loop of the adaptive cycle. How they relate can be seen in Figure 7. Such adaptive cycles appear in all different scales within a system. The different scales of changes can be seen as micro, meso and macro changes, or as different levels of aggregation. This effect is called panarchy and is shown in Figure 8. Here can be seen that there are both small and fast changes and large and slow changes that affect the adaptive cycle. The micro changes are changes happening within the smallest level of aggregation. Those fast changes have revolutionizing effects on changes in a holon of a slower and higher aggregation level (the meso), which in turn is affected by conservative changes from the holon in the slowest and highest aggregation level (the macro). The fast changes stimulate the change in the meso-level, while the larger and slower changes in the highest macro-level, slow the changes in the meso-level down. Changes in every holon are therefore affected by changes in both the lower as the higher level of aggregation.

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**Figure 6: The adaptive cycle**  
*(People and place, 2008)*

**Legend:**  
- \( r_n = \) Exploitation,  
- \( K_n = \) Conservation,  
- \( \Omega_n = \) Release,  
- \( \alpha_n = \) Reorganization for cycle \( n \).

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**Figure 7: Phases of the adaptive cycle within the Sigmoid curve** *(Van Raalte, 2009, p. 17)*

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**Figure 8: Panarchy** *(Holling, 2004, p. 4)*
As the system approaches its limit during the Sigmoid curve the system becomes more affected by other forces. This can be explained from the attractor perspective. An attractor is a set of conditions forcing the system into certain patterns of behavior (Weisstein, 2009). This does not happen in an orderly way, but it happens within clear boundaries (Marchall & Zohar, 1997). Every individual attractor is the smallest force possible which can attract the system. A number of different attractors are defined which have a different effect on a system. However, they do have in common that they force the system in some kind of equilibrium or pattern (see Figure 9).

The concept of an attractor is explained in terms of a fixed-point attractor, the simplest form pulling the system into one direction. Other forms of attractors are shown in Figure 9. Within the environment of a system multiple attractors influence the system in a certain direction. Whenever a system comes within close reach of an attractor, it will take more turbulence to distract the system from the direction of the first attractor. In case of a point attractor, the attractor will pull the system into a kind of stable phase, equilibrium. However, when turbulence of another attractor becomes too heavily the system will eventually, also from the stable phase, jump in direction of the second attractor (Ott, 2006).

A system is assumed to behave within a certain attractor landscape. An attractor landscape is the phase space, the space in which all possible states of a system are represented, where the system is in and in which the different attractors are located (Weisstein, 2009). Every attractor has its own basin of attraction within this landscape. The basin of attraction is the region within this landscape in which a certain attractor can affect the system the strongest (Polley, 1997). Within this area the system is drawn towards this specific attractor.

Within C&C thinking attractors are assumed to influence the full Sigmoid curve. An attractor works as a kind of magnet on the system and as long as the system stays within the same attractor basin it follows the growth of the Sigmoid curve. When the growth limit is almost reached another attractor might get the overhand in attracting the system and thus, the system will jump to another attractor basin or complexity level (Van Eijnatten, 2003).

The discussed concepts of the C&C paradigm all help to describe the complex reality without having to discover all the details. The C&C approach is able to model the complex interactions between the actors in the system and with its environment. Moreover it is able to deal with the uncertainty and change in time that can also be found in organizations (Van Raalte, 2009). So, the C&C approach models the reality in such a way that one can research the trends within the system and draw conclusions.
3.3. Theoretical Framework

In this paragraph the objectives will be explored in terms of the theory. A theoretical framework is created which combines the objectives and the literature.

The project as described in this research can be categorized as a process innovation, as it aims at changing the libraries’ work system and processes. This process of change can be caused by a number of triggers.

In the case of the project four triggers may be identified. The first trigger is the C&C approach of the project. As discussed in the previous section, the C&C approach is able to give a new perspective on the complex world. The C&C approach is especially strong in dealing with a complex network and uncertainty and is therefore appropriate for this situation. It can be expected that a project design following the C&C principles can lead to change.

Secondly, the external consultant hired for the project might work as a trigger. An external consultant, who is unknown to the company, is able to approach the project from a different viewpoint and background than the employees of the organization can (Harvey & Brown, 1988). Moreover the consultant is independent of the organization and is, therefore, able to come up with something new that might trigger change. However, the same reasoning can also be seen as a disadvantage to the external consultant, because knowledge, both structural and cultural, on the organization is needed for the project. For that reason the most promising team in such a situation is a team where internal and external consultants work together. Another aspect of the consultant trigger is the type of consultant that is involved in the project (Harvey & Brown, 1988). A different background of a consultant leads to a different approach and consequently to a different type of change. Choosing the right consultant can be crucial to reach the right goals.

Change management is another trigger that can be used. Change is an important factor in organizations, but it also brings a lot of troubles with it. So, good change management can make a difference. Paton and McCalmen (2008) argue that there are a number of key rules that affect the success of change management. Most important in those rules is the human factor. All factors within an organization can easily be changed with sufficient sources; however, human beings are from origin rather afraid of imposed changes. In short, it is argued that a change strategy is needed where employees in all layers of the organizations are involved and motivated to change.

And lastly the introduction of new or adjusted HRM processes might also be used as a trigger for change and innovation. De Leede and Loise (2005) argue that HRM should be used as a strategic and integrated manner to stimulate the innovativeness of a company. A good HRM strategy focused on innovation will lead to higher results (Shipton et al., 2005). The new work structure that is designed for the project is thus an important factor. At the same time other HRM instruments are developed that can influence the success of the project.

How these triggers relate to the framework of this research is made graphically in Figure 10. In that figure a number of different interventions from different sources are used as triggers to start the changing process. For this changing process, the Integral Theory is incorporated. It is assumed that the triggers can cause a development in the different quadrants which causes the resources to reach a state of maturity. When resources in all four quadrants have reached maturity, the whole system, an employee of library, will enter a new, higher complexity level. When the resources are set right, this new complexity level increases the innovative capabilities of the system. To clarify, this research focuses on the effect of the interventions on the system and not on the effects of the new capabilities on the processes of the system.
Although all triggers might influence the process, this research will especially focus on the C&C paradigm. It will be researched what effect this specifically trigger has, however, the other triggers cannot be ruled out.

![Figure 10: Theoretical framework of change within project](image)

### 3.4. Design Principles

As this research includes a science-based redesign, it is necessary to translate the theory in design principles that can help shape the redesign. The theory, as described in the previous section and more elaborated in ‘Sustainability within Work Systems’ (Van Raalte, 2009), does have an effect on the design of a project. So, a number of design principles can be derived from the theory.

As the C&C paradigm believes systems to be chaordic, the chaordic principles (Table 2) are guiding for the design principles. As will be shown other C&C concepts can be related to the chaordic principles and will explain certain implications of the principles. Next, the five design principles will be discussed:

1. **Consciousness:** *The mind is the fundamental aspect of a system*
   
The mind of a system is more important than its matter, especially in terms of ability to change. In order to trigger a change the mind has to change first. In other words, focusing on the structure, solely, as in changing the outside, will not lead to a change.

2. **Connectivity:** *All entities are connected with each other*
   
   As the reality is explained as a holarchy, all entities are both part of a larger entity and a whole existing out of (a number of) smaller entities. Related to consciousness, connectivity adds that focusing on the mind only is not sufficient. Because of the interrelatedness of the entities, an integral approach is necessary. To cause a real effect all aspects of a holon and all entities in the holarchy should change as well, thus all quadrants and all holons should change.

3. **Indeterminacy:** *Every event is both a cause and an effect*
   
   Similarly to the fact that all entities are related, also the events are related in a chaordic system. And thus the events are both a cause and an effect of other events. The indeterminacy therefore
implies that, because of the complex interactions, it is impossible to predict the future. One can only prepare for what can happen and take one step at the time into a certain direction. This mechanism can also be seen as different forces of attractors that affect the system. The different forces affect the system in an unpredictable way. By organizing many forces in a certain direction, they might trigger the system to move in that direction.

4. **Dissipation: A social system endures a continuous cycle of self-destruction and self-creation**

   The adaptive cycle explains that for a chaordic system to survive it should be able to self-destruct the previous equilibrium to reach the next one. Thus the system has to be able to self-destruct the old habits to be able to embrace the new ones, this is called dissipation. To do so, the system can use the ‘undercurrent’ of the new complexity level. They naturally embrace the new methods of working and will possible cause a development towards the new complexity level, while the old complexity level ensures the system will maintain in the meanwhile.

5. **Emergence: Relative simple interactions lead to an increase of coherence and complexity**

   As all entities are related and interact with each other in a complex way; the effects of interactions are also complex. Emergence proclaims that simple interaction in a complex network lead to an increase level of coherence and complexity. These interactions can both have a revolutionizing and a conservative effect; as explained in the theory of panarchy. To let these effects happen, time is needed.
4. Research Methodology and Methods

4.1. Methodological Lens

In the theoretical framework the methodological lenses are explained. The choice for a certain lens will also affect the methodology. In this case the chosen lens is the perspective of the C&C paradigm. This means that the methodology described below will follow a certain pattern. However, the constant interaction that is assumed in the C&C lens, leads to the need of continuous revision and adjustments of the model. During every step of the model, all other steps need to be reflected and when necessary adjusted. Therefore the steps will not be executed exactly in strict order; more likely the steps will be executed in parallel. Continuous revision also means that some steps will be repeatedly executed; these iterations will lead to a complete research.

4.2. Research Methodology

The research methodology of this research will be influenced by three different models, namely the regulative and reflective cycle and the CIMO-logic. The first two models are models that can outline the methodological order of a research. Secondly, the CIMO-logic is a framework that structures scientific design propositions. It focuses on underlying mechanisms of the studied system and how they explain the outcomes. Thus, the methodological cycles and the CIMO-logic do differ from perspective. However, both are design-aimed and can therefore be applied in this research. The methodological cycles, which will structure this report, and the CIMO-logic, which will be used to discuss the mechanisms behind the interventions and outcomes, will be supplementary in this research. In the next sections the models will be explained.

As this research is conducted as Master Thesis, this practical solution will be formulated by using scientific knowledge. Knowledge from management science will be applied in this specific situation. This approach is called science-based design: design solutions are developed based on scientific knowledge. The scientific knowledge may first be transformed into useful design principles, which can be applied in a specific situation to design a practical solution. Moreover, design solutions in practice may be the input to shape the scientific knowledge on this topic. In case of this master thesis the main focus will be on the use of scientific knowledge for designing purposes.

4.2.1. Regulative and Reflective Cycle

This research will cover a combination of the regulative cycle (Van Strien, 1997) and the reflective cycle (Van Aken, 1994; Van Aken et al., 2007), see Figure 11. Within the regulative cycle it will be researched how the specific problem of the VOB can be solved; and simultaneously, within the reflective cycle will be researched what the theory states on the appropriateness of the solution and the question whether the solution is appropriate for other, but similar problems. The two cycles in this research will be executed in five parts.

Part 1: Problem analysis

In the first part of this research the first two steps of the regulative cycle will be analyzed. The problem definition and diagnosis are both executed previously by the VOB and the consultant. This part of the research will contain a description of those steps in retro-perspective.

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\(^2\) As will follow in this report the fifth and last step will not be executed during this research due to time limitations. For elaboration see chapter Reflections.
Part 2: Implemented Project

Step 3 and 4 of the regulative cycle are covered in the second part. These steps, design and implementation are also executed or in progress. This part again will be in retro-perspective. It will describe the planned and actual actions and outcomes of the project. Moreover it will explore the theoretical background of the project, by describing the theories and mechanism used to design the project and by analyzing the project in the proposed theoretical framework.

Part 3: Evaluation and Analysis

Part three contains the fifth step of the regulative cycle, the evaluation phase, and the first step of the reflective cycle, the reflection. First an evaluation of the project and its outcomes will be done with the stakeholders of the project. And secondly in the analysis phase, the project will be linked to the literature. It will be explored why this solution could work according to the literature.

Part 4: Redesign

The fourth part is similar to the second part; part 4 contains again the third and fourth step of the regulative cycle. Based on the findings of part 3, the design of the project will be adjusted to improve the project for the future. The design will be updated to meet the new specifications and to be used in the following year(s) in a project with a new group of libraries.

Part 5: Validation and Documentation

In the last phase, part 5, the redesign will be validated and documented. This includes the second and third step of the reflective cycle. In this part it will be evaluated whether the design matches with the specifications and the literature to be effective in the future for all libraries. It will be researched whether the design is appropriate for other, but similar cases. Lastly the validated redesign will be documented for the libraries to use.
4.2.2. CIMO-logic

Instead of the regulative and reflective cycle, a science-based design can also benefit from the perspective of CIMO-logic (Denyer et al., 2008). This logic aims to discover the relations between intervention and outcome and is therefore a different possibility to interpret the concept of this research. The logic describes how in context C, interventions I cause mechanisms M to happen which lead to outcome O. In case of this Master Thesis research the CIMO-logic can be used to try to define the used triggers and to explain how the mechanisms and the different triggers relate to the outcome. In Table 3 one can find the CIMO-logic behind this research.

<table>
<thead>
<tr>
<th>Component (C)</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
<td>The circumstances in which this research is conducted are shaped by the situation of the Dutch public libraries and the history of innovation processes within the sector, previously analyzed by the initiators of the project. In case of the redesign the context will need to be studied with help of other researches and findings in the research and will be on level of the sector.</td>
</tr>
<tr>
<td>Interventions (I)</td>
<td>The interventions of the project are initially designed by the organizing team and secondly by the researcher within the redesign. These interventions will be done on individual and group level.</td>
</tr>
<tr>
<td>Mechanisms (M)</td>
<td>The interventions trigger different mechanisms; these will be studied with help of questionnaires, interviews and focus groups and will be done on individual and group level.</td>
</tr>
<tr>
<td>Outcome (O)</td>
<td>The outcome is the change in innovative capabilities of the Dutch libraries; this is on individual, group and organizational level. Here questionnaires, interviews, focus groups and a video assignment may be used.</td>
</tr>
</tbody>
</table>

Although the structure of this research will be guided by the regulative and reflective cycle, the CIMO-logic is also used. The context cannot be influenced by the researcher, but is formed by the situation of the libraries and the organization. This context will be analyzed and described in the first part of the regulative cycle (Section 5.1). Similarly the interventions are predefined by the project as executed by the organizing team. These interventions will be thoroughly studied in the second part of this research and will be documented in the planned and actual interventions (section 5.2.1 and 5.2.3). Consequently the possible mechanisms that are caused by the interventions are studied in the theoretical background of the project (in Section 5.2.2) and during the evaluation. In section 5.2.2 the proposed theoretical framework is reflected upon the evaluations to discover the mechanism behind the outcome. By studying these mechanisms the design principles, which followed from the literature, can be specified in design rules (discussed in redesign, section 5.4). The outcomes of the interventions are studied in the discussion of the implemented interventions and the evaluation (section 5.3.1 and 5.3.2). Based on the insights the CIMO-logic gives on the relation between the context, interventions, mechanisms and outcomes a ‘redesign’ can be made. All findings together can be used to further develop the design principles (part 5), which can be a foundation for other, similar projects in Dutch public libraries in the future.
4.3. Methods

Next, all five methodological parts will be elaborated. The methods will provide a detailed description of how the different parts will be executed.

**Part 1: Problem Analysis**

In the first part data will be collected on the initial steps of the project. The process until the initiation of the project will be studied. In retro-perspective it will be analyzed what the initial situation was of the library sector and what the main causes from this situation were for the project to be initiated. And lastly, because the project has been initiated before the start of this research, it will be described how the specific project was chosen. The data will be gathered by semi-structured interviews and by collecting documentation.

The interviews will be held with the initiators of the project and the organizing team. They will focus on the motive and the initial conditions for the project; and the selection of this specific project. The interview questions that will be leading during the semi-structured conversation can be found in appendix II (Questions I through III). Moreover, interviews will be held with employees of the VOB with many years of experience to gain insights on the culture of the libraries, these interviews will be guided by the cultural dimensions of Hofstede (Hofstede, 1980).

Next to the interviews, relevant documentation will be collected. The documents that are collected are amongst others the ‘Agenda of the Future’ and the researches that shaped the basis for the ‘Agenda’. Those are studied to investigate the actual problem statement and as well how it is communicated to other parties. The study of the interviews and documentation will result in an overview of the development in the public library sector over the last decade on the subject of the future of the libraries.

In the diagnosis phase the gathered data will be analyzed on the problem statement for the project and causes of this problem. Different types of problems and issues will have triggered the need for the project. The result of this first part will be a cause and effect diagram, which will show the reasoning behind the problem diagnosis and the goal of the project. In this research an Ishikawa diagram is chosen, for its ability to graphically show the different sources of a problem.

An extra paragraph of this step will be dedicated to the description of the process from the initial plan for a project, until the choice for this organization renewal project. Here will be focused on the reasons for the VOB to choose this specific project.

**Part 2: Implemented Project**

The data collected in the second part is to discover the planning and execution of the project. The researcher is interested in the original plans of the project (the planned interventions), how the actual project was executed (the executed interventions), which theories were used as theoretical background for this project and how the project can be seen from a theoretical perspective. The data necessary for this step will be collected through both studying of documentation, observations and interviews.

Documentations that can be useful for this research are the official documents of the project planning, documents made by the organizing team and the guides and the communication towards the participants. Documentation cannot only be found in form of documents; also the project
websites and forum will be used. These documents will be studied to reveal the interventions that have taken place and the topic of those interventions.

Observation will take place as the researcher is present at the events of the project and during meetings of the organizing team. The researcher will attend the third, fourth and fifth general meeting of the project, here data can be collected first hand on whether the interventions happen as planned and what happens at those interventions. The researcher will be able to observe how the interventions take place and whether they are executed as planned. Next to that, the researcher will attend several meetings of the organizing team in which especially is observed what the approach, theories and mechanisms are that shape the project.

The interviews with the initiators and organizing team will be used to discover the reasoning behind the project; why certain choices are made in the project plan and in the actual project. Semi-structured interviews with the initiators (Appendix II, questions IV and V) will give some insights in the overall execution of the project. On the other hand unstructured interviews with the organizing team will give a detailed overview of the interventions and will be used as reflection on the findings.

The analysis of the data will lead to three paragraphs: First, the description of the original plan that will consists of a description of the overall concept and an analysis of the planned interventions. Because of the large number of interventions they will be searched analyzed on the different types and themes of interventions. Secondly, the theoretical background of the planned project will be considered. On one hand the interventions will be studied in terms of the theoretical framework of this research. And on the other hand the theoretical background used by the organizing team to develop the interventions will be discussed. This theoretical reflection will give insights in the mechanism behind the project. And lastly, a description and analysis of the implemented plan will be given.

Part 3: Evaluation and Analysis

Evaluation: The first step of part three will evaluate the project; how it has been executed and how successful it has been. Hereby the effects of the interventions will be studied; which changes were caused by which interventions or aspects of the project. Furthermore, it will include what the differences are between the planned project and the actual projects. The researcher is interested in the change of the innovative capabilities; the perception of participants; and to some extent the real outcomes of the project, the found innovations. These data will be collected through a number of methods, including interviews, focus groups, a small assignment, study of documentation and observations.

A small assignment during the fifth and last conference will give a broad evaluation by the participants. The assignment will be used to collect the overall opinion of the participants on topics like the usefulness and successfulness. The assignment will be a ‘Babbelbox’; a box in which digitally a question will be asked that can be answered by the audience, by taping their response on video. The ‘Babbelbox’ will be used to gain responses from random respondents, under the only condition that they are team members of the organization renewal project. Random and in-depth responses are chosen over an evaluation covering all participants. Because the group can be seen as homogeneous and can be expected to have similar experiences, a random sample will provide a good representation. For this method is chosen, because the concept is in line with the C&C theory and

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3 After concept of TV-series ‘Man Bijt Hond’ (NCRV)
the concepts of the project. Not only is the assignment in line with the use of video in the project; it also uses the interaction of the event itself. Moreover, although the ‘Babbelbox’ will be promoted by the researcher; participants are responding voluntary and by own initiative.

Right after the last conference an evaluation day will take place with the guides and sponsors. This will provide the possibility to discover a more general evaluation. During this day the guides and sponsors will be asked for their opinions during a special method for a focus group called ‘World Café’ (see box) and by filling in a questionnaire. The ‘World Café’ will be led by an external and experienced moderator; he will explain the concept and will lead the conversations and program. During the World Café the groups of guides and sponsors will be at separate table, but in the same room. In such a way it is possible to catch the opinion of both perspectives and at the same time, find a general opinion, because of the final discussion. The opinions will be recorded in several ways, such as video and in writing. Because the method of ‘World Café’ means that the participants have a thorough conversation and each topic is discussed by a large part of the group, it can be assumed that the results are a general opinion of the group.

Box 1: Description of World Café method

| World Café | is a conversation method which can both be used to get a collective opinion of a group or to discover new insights on certain questions. The concept is that people converse in small groups (5-6 people) on a certain question in café-like atmosphere. They discuss guided by a number of conversation rules and make notes on a paper that covers the table. After a set time, all table members but one leave the table and sit down at another table. The one who stays at the same table shortly summarizes the previous discussion to the new table guests; before continuing the discussion. This can be repeated multiple rounds. In the last round one person per table gives a small presentation on the main findings at that table, so, at the end, everyone in the room has heard all findings. (Worldcafe.com, 2009; Worldcafe.nl, 2009) |

The sponsors will be asked in a questionnaire for their opinion on how they place their organization, team and themselves on the line from old to new thinking, based on the ten statements from the project (see appendix III). Those statements define behavior in the old situation (A) and the new, foreseen situation (B). The statements will be put opposite from each other with a five point Likert scale. This scale is chosen as a response format as it is designed to allow a response in varying degrees to each item (Hayes, 1997). The sponsors will rank their organization, team and themselves to what extent they work from the old situation or new situation or a combination of both. Under the assumption that all ten statements are parallel questions for the definition of complexity levels, the data can be analyzed using the modus of the data.

In a second questionnaire the guides will be asked to rank the teams on the line between the old and new complexity level. Each guide will only rank the team (s)he has supported. The questionnaire is based on an analysis of the work of library employees and the library culture (Appendix IV) that has led to a profile of an average team, interpreted as a holon. For each quadrant of the holon five streams are stated that cover the work of the team (see appendix V). For each stream three two folded statements will be shaped, associated with the statements of the old complexity level (stated as A) and the higher complexity level (stated as B) in the project concept (see appendix VI). Here, as well, the two statements will be put opposite from each other with a five point Likert-scale.
To interpret the Likert scale in the questionnaire, it can be discussed where on the Likert scale the line between the old and new complexity level is. Figure 12 shows how the levels correspond to the Sigmoid curve. To interpret the questions it is assumed that they can be considered parallel questions per stream and thus the average of the questions can be taken to calculate the level of maturity reached on each stream. This indicates that a team needs to score 2 or higher leveled answers to be assigned a stage of maturity for that stream, which is pointed as 1 to 0 when the stream is not considered mature.

To analyze the questionnaire the teams will be compared on all four quadrants to see in which frequency the team scores on the higher complexity level. Under the assumption that all four quadrants should improve to reach a higher level of complexity, the four quadrants can be summed up. The total will form the ranking of the team.

The ranking of the teams will indicate which two to four teams will be interviewed; one or two teams at the bottom of the ranking and one or two at the top of the ranking. The interviews with the team members will add valuable insights on the successfulness of the interventions and the project. The leading questions for the semi-structured interviews are based on both the aspects of the evaluation and the profiles (see appendix VII). By interviewing teams from the highest and lowest end of the ranking, the interviews are expected to cover the complete range of issues of all teams.

Extra data will be collected by studying the documentation, like the websites, as participants and organizers leave their opinions on the forums. And moreover the researcher will be able to observe the interventions during the last three conferences (third, fourth and fifth conference).

To conclude on the evaluation of the effect of the interventions the theory of C&C will be used. The data will be analyzed on trends. As the theory of attractors claims, systems will always move towards a certain state and thus the interventions of the project are expected to lead the organization towards a certain stage. Moreover the Integral Theory will be incorporated (Wilber, 1996; Edwards, 2009).

**Analysis:** After the evaluation phase, the results will be used to relate the findings in combination with the literature. The concept of the project, interventions and the effects of the interventions will be analyzed in relation to the project’s concepts. It will be reviewed whether the concept meets the
requirements to reach the goal of the project. And the concept of the project will be reviewed to both the interventions as the evaluation of the effects of the interventions.

The effect of the interventions is largely caused by the level of the interventions. The level of the interventions should be in the new complexity level to be able to cause an effect towards this complexity level. One type of interventions are the workshops given during the different conferences. These are the interventions that are not led by the organizing team and are therefore less controllable on their level. It is chosen to explore the levels of these specific interventions by conducting a survey among the workshop leaders. A questionnaire is created that measures the complexity level and focus of the workshop (see Appendix IX). The complexity level will be measured in the aimed effect of the workshop, whether the workshop is just to inform its participants or to change the way the participants’ work and think. In Table 4 the goals belonging to the old and new complexity level can be found. Because it is assumed that because a new complexity level indicates both self-destruction as self-creation, it is necessary for the workshop to fulfill at least 2 out of the 4 goals as defined in Table 4. Next, the complexity level will be measured by the type of interaction that is used. Three levels of interaction are defined as indicators for different complexity levels in ascending order (Table 5). Here, it is assumed that the levels are inclusive, thus one type of interaction from the third level is said to be positive to reach the new complexity level. Ideally the workshops should score high on both the goal as the interaction.

The focus of the interventions will be tested as well. To reach a new complexity level, all aspects of holon should be reached, and thus all four quadrants of a holon. Therefore the focus of the workshop will be approached by positioning the workshops’ aim in the four quadrants. This will shed light on the commune or agentic perspective of the workshops and the interior and exterior focus. Moreover, it will clarify whether the workshops were addressed to the individuals or to a team. The results will not be applicable to each individual workshop, but the total of the different workshops will shed light on the level of the interventions.

Moreover, the interventions and the effects will be analyzed against the theory as developed in the theoretical framework. It will be studied which of the theories match the findings of both the project plans and the actual project and the differences between those two. The found links between the project and the theories will be analyzed to find out whether the literature can explain why some aspects of the project did work and others did not. The result will give an overview of the used theories and mechanism that were proven to be successful in the project and others that did not.

<table>
<thead>
<tr>
<th>Interaction level</th>
<th>Indicators</th>
<th>Complexity level</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Presentation by workshop leader, Individual assignment</td>
<td>Old</td>
<td>Informing, Provision of knowledge, Teaching of skills</td>
</tr>
<tr>
<td>Second</td>
<td>Presentation by participants, Question to- and answer from workshop leader, Question and answer within group of participants</td>
<td>New</td>
<td>Developing of competencies, Breaking out of/Disrupting of old habits, Experiencing / teaching of new thinking, Experiencing / teaching of new doing</td>
</tr>
<tr>
<td>Third</td>
<td>Group assignment, Discussion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Interaction methods per level Table 5: Goal of workshops in old and new complexity levels
Part 4: Redesign

All findings from previous steps will form the input for the fourth part. The evaluation of the project and the theoretical reflection will give insights for improvements of the project design. It can be concluded whether the followed method and used mechanism led to the goals as stated in the beginning of the project. These findings can be combined to find out which specifications of the project need improvement and how they can be improved. At this point it will also become clear which focus and structure the project needs to have.

The actual redesign will be science-based, which implies that it will incorporate design principles from literature, specified as design rules. In order to create an integral design the objective, design requirements and design parameters will be defined. The type of requirements that are identified (Van Aken et al., 2007) are 1) functional requirements, which are the core specifications of the project; 2) user requirements; 3) boundary conditions; the conditions to be met unconditionally; and 4) design restrictions, which indicate the preferred solution space. The integral design will fulfill as many requirements as possible to meet the objectives. The design rules will help shape the redesign, as they illustrate the expected mechanisms behind the interventions. It is assumed that those mechanisms lead to an increase of the successfulness of the design.

The course of this research led to the decision to drop the fifth part out of this research. To test the redesign, a brief validation of the redesign will be done. In this validation the redesign will be checked against the set requirements. Moreover, an expert opinion will be used to validate the expected success of the redesign. As experts the members of the organizing team will be approached, because they have all knowledge on the execution and the success of the project as studied. Their response on the redesign will be gathered by a short questionnaire on the completeness and the feasibility of the redesign. For the questionnaire, see appendix X.

Part 5: Validation and Documentation

Validation: The main question in the last part of this research is whether the redesign of the project is expected to be successful to continue the project and whether it can be expected to work in different settings, as in different projects with similar goals. It will be analyzed which triggers are expected to be most successful and which one could be and why. That will be compared to the triggers used in the redesign to do some estimation on the validation of the redesign.

Due to the time limit of this research the proposed redesign will not be implemented. Validation will thus take place by expert evaluations. The organizing team, the consultant and other experts on innovation or change management will be interviewed to discover their opinions on the expected success rate of the project. Each in their own expertise can give insights about the successfulness of the triggers presented in the redesign. It will also be discussed whether the redesign could work in different settings, like a different project within the libraries of a similar project in a different branch. Interviews with a number of library employees who did not participate in the project before will give an evaluation of the redesign itself and can lead to clarifications and adjustments.

The gathered data will be used to adjust the redesign to a concept that is validated by the experts and expected to be successful.

Documentation: The final step is the documentation of the generalized redesign. Taking into account all findings of the previous steps, the redesign will be documented in such a way that it can be used in any project that suits the criteria of the project.
### 4.4. Time Framing

The research will be aimed to be finished within 6 months after the research proposal is approved. Even though there are some indications when a certain phase will take place, all steps will take place in parallel and will be updated continuously. The general time frame will look as follows:

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>Start</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Part 1</td>
<td>14-2009</td>
<td>1-10-2009</td>
</tr>
<tr>
<td>2</td>
<td>Part 2</td>
<td>14-2009</td>
<td>1-10-2009</td>
</tr>
<tr>
<td>3</td>
<td>Part 3</td>
<td>1-10-2009</td>
<td>1-12-2009</td>
</tr>
<tr>
<td>4</td>
<td>Part 4</td>
<td>2-1-2009</td>
<td>23-4-2010</td>
</tr>
<tr>
<td>5</td>
<td>Part 5</td>
<td>1-12-2009</td>
<td>1-2-2010</td>
</tr>
<tr>
<td>6</td>
<td>Master thesis documentation</td>
<td>14-2009</td>
<td>12-3-2010</td>
</tr>
</tbody>
</table>

Table 6: Planned time table of research
5. Results

In this chapter the results of this research are presented. The first four steps of the methodology described in section 4.2.1 (based on the regulative and reflective cycle) elaborates on the organization renewal project and will finally lead into a redesign of the project. The fifth part as suggested has not taken place.

5.1. Part I: Problem Analysis

5.1.1. Problem Definition

In case of this research the problem definition should be searched within the whole sector of Dutch public libraries. The VOB’s goal is to improve libraries sector-wide. Over the last two decades a decrease in libraries’ performance indicators can be found. The numbers of subscriptions, library visits and book loans went down. Partly these decreases are caused by the changing society. Generally it is accepted that the society has turned into a more demand-driven culture and the digital revolution also has its effects. These effects also caused a change in the position of the libraries. Where the libraries fulfilled a more social role in the past, when they had a monopoly position for spreading information; nowadays the library finds itself in competition with the internet and other modern communication forms.

Within the sector the awareness has arisen that in order for the libraries to survive change is needed. Both from the interviews with the initiators of the project and the found documents it becomes apparent that on awareness for change exists within the sector. In the last ten years, many projects and studies are done to trigger this change, but they have not resulted in the needed improvements. A large reorganization in the sector has brought the number of libraries down from 450 to 175 and created a more efficient organizational structure. However, this has not led to an alteration in the decreasing performance numbers.

Next to an agreement on the need for innovation within public libraries, all found sources consent as well on a number of statements:

1. Public libraries need to refocus their processes, including the key processes;
2. The innovative capacity of the sector should be increased;
3. The sector needs to take action, although this might not naturally come to the sector;
4. The culture of libraries is hierarchical, individualistic, feminine and risk-avoidant;
5. The diversity of employees is limited, especially the younger generations are missing;
6. To innovate the libraries ought to use professionals; they have the knowledge about the sector;
7. At the same time, an integral approach should be preserved; and
8. It needs to be accepted that innovation takes time and it will be a long-term project.

During the summer of 2008; the ‘Agenda for the Future’ is accepted by all chief librarians during the general meeting of the VOB. Included in this document is an integral approach of HRM, marketing and ICT to facilitate the change towards libraries that serve the inquisitive Dutchman.

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4 A summary of the projects, researches and documents on innovation of public libraries from 1998 till present can be found in Appendix XI.
5 A summary of a study of the libraries’ culture can be found in appendix IV
5.1.2. Problem Diagnosis

All stakeholders seem to agree that a new project should aim to increase the innovative capabilities of the public libraries. By improving the innovative capabilities of the organizations and its employees a situation is created where the sector can facilitate the change towards serving the inquisitive Dutchman itself. From the previous section a number of issues can be found that are crucial.

First issue is the question whether the library will be able to exist in the same form as before. As mentioned, the libraries need to overlook their key processes and refocus them to match the requirements of the future. Secondly, large question marks are put whether the library in its present existence is able to be innovative. The type of organization has a number of characteristics that might influence the innovative capabilities negatively. Next to that, the changing society should be taken into account. The ‘Agenda for the Future’ does include this as well; the society has changed tremendously over the last decades. In order for the libraries to be ready for the future, they will need to find its new position in this society with inquisitive Dutchman. And lastly, it needs to be revised whether the methods of the previous innovation projects have been the right ones for the libraries. The fact that none of the previous projects have led to the expected changes, might indicate that a different approach may be necessary. A graphical overview of how these issues relate to the problem can be found in Figure 13.

![Figure 13: Problem analysis (Ishakawa model)](image)

5.1.3. Link from Problem to Project

Because of the retro-perspective case of this section, also the link from the problem analysis to the start of the program will be discussed here shortly.

In order to find a solution to the problem as stated in the previous section; the VOB searched for an external consultant. The choice for the consultant as chosen was based on good previous experience with the methods of this consultant specialized in the C&C methods. Moreover the C&C approach offered the different approach than the previous projects as was aimed for. And the
proposed plans seemed to be in line with the wish to focus on a number of the findings in section 5.1.2: the project would focus on professionals; it supported an integral approach; and aimed for action instead of planning; and the program aimed at bringing a new perspective to the libraries to stimulate change.

5.2. Part II: Implemented Project

The new project chosen to stimulate innovation within the Dutch public libraries is approached as an organization renewal project, as it aims to increase the innovative capabilities of the human capital of the libraries. The project is strongly influenced by the specialization of the organizing team in the C&C methods. This chapter focuses on the project; its concept, the planned interventions and the execution of the interventions. Also the influence of the C&C paradigm on the project discussed in the theoretical background of the project discussed.

5.2.1. Design of the Project and the Planned Interventions

Organization

This organization renewal project is carried out within the HRM department of the VOB. The HRM, ICT and marketing departments of the VOB are responsible for executing the ‘Agenda for the future’, in which the need for innovation is emphasized. The team that is responsible for the project consists of one employee of the HRM subunit and two consultants, of which one is assigned as interim-manager organization renewal of the VOB.

Concept

To stimulate innovations the project focuses on improving the innovative capabilities of the library employees. Therefore the objective of the project is to change the attitude, thinking and acting of the participants, so, that innovation is differently positioned within the libraries and its employees. The change in thinking and doing is made explicit in Table 7.

Table 7: Aimed change from old thinking, old doing to new thinking, new doing (VOB, 2009a)

<table>
<thead>
<tr>
<th>Old thinking, old doing</th>
<th>New thinking, new doing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be inspired</td>
<td>Inspire others</td>
</tr>
<tr>
<td>Be organized</td>
<td>Organize</td>
</tr>
<tr>
<td>Management should move first</td>
<td>I can take initiative myself</td>
</tr>
<tr>
<td>I don’t get any structure, so I just mess around</td>
<td>I will make my own structure</td>
</tr>
<tr>
<td>The goals are set by others</td>
<td>I set my own goals</td>
</tr>
<tr>
<td>People tell me what to do</td>
<td>I decide what to do</td>
</tr>
<tr>
<td>Working via your own time schedule</td>
<td>Be there for others timelessly</td>
</tr>
<tr>
<td>Get work done and then go home</td>
<td>Be interested in others</td>
</tr>
<tr>
<td>What can you do for me?</td>
<td>What can I do for you?</td>
</tr>
<tr>
<td>To be a consumer</td>
<td>To be a producer</td>
</tr>
<tr>
<td>I have experienced that before</td>
<td>I have tried that before</td>
</tr>
<tr>
<td>I have been to an amusement park</td>
<td>Can I build an amusement park myself?</td>
</tr>
<tr>
<td>What is useful for me</td>
<td>What is useful for the bigger picture</td>
</tr>
<tr>
<td>I am working on my own project</td>
<td>I am working on the innovation of libraries</td>
</tr>
<tr>
<td>Of course I know what is wrong</td>
<td>Of course I know what to do</td>
</tr>
</tbody>
</table>
The concept of the project is shaped to facilitate the change suggested in Table 7. From the C&C perspective, the project finds its foundation in three main assumptions:

1. Knowledge and skills to innovate can best be found by the professionals
2. The future already exists, but it is just not distributed yet
3. To protect the energy innovation should start with professionals who are open to change; others will follow

The elaboration of this concept is shown in the mind-map, which can be found in appendix XIII. The mind-map is a collection of the underlying concepts that are used to shape the project. Roughly eleven different concepts can be recognized (the numbers correspond with appendix XIV).

1. Assumed is that there are 5 levels of development in the project; namely development of 1) the reality; 2) the structure of the organization; 3) the ambition of the participants; 4) the sponsorship of the management team; and 5) ‘to take control’.
2. The Sigmoid-model indicates that the old and new world can co-exist. Therefore one can explore the ‘new world’ while the ‘old world’ ensures the stability within the organization. The assumption is that by ‘infecting’ others more mass and commitment is created, so, the new world will eventually defeat the old one.
3. Participants need to develop a different attitude towards change; this is symbolized by six tips.
4. Learning requires time; it cannot be expected to be a straight learning curve, but a detour should be pre-calculated. One should be conscious of the fact that it is impossible to go straight from A to B. This learning curve can also be seen as Organization Development (OO) that consists of Personnel Development (PO) and Management Development (MO) and which is guided (GC).
5. Motivating and stimulating others is central for the success of the project. By interacting with others the positive energy and experiences are transferred to them.
6. The project assumes four different steps of change; namely 1) think differently; 2) see differently; 3) make choices; and 4) connect with others. This can be related to out-of-the-box thinking were it is necessary to switch ‘thinking’ and ‘doing’ from the known.
7. The participants of the project should fulfill a number of requirements. Not only should participants be professionals, also should they be open and curious to change.
8. The final goal is to be able to serve the inquisitive Dutchman with the libraries.
9. The project facilitates the concept that the libraries are all individual legal entities; all their key processes, visible for their clients, are done by the libraries themselves; the secondary processes, including innovation, can be done in collaboration.
10. The project is an integral program for the libraries. All libraries follow their own journey, but they meet each other multiple times to have interaction and time for infection.
11. The search for innovation should be a journey and not a trip. One does not know the destination and therefore the focus should be on travelling itself.
12. The outcome of the project is unknown; however, it is expected to form foundations for a new strategy.

**Participants**

In the project four types of participants can be recognized: the sponsors, the team members, the guides and the coaches. In the following paragraph will be discussed which role they play in the project and how they were selected.

The **sponsors** are the chief librarians or another member of the management team of the library. The sponsors are responsible for the team that participates in the project; they selected the team members and created the time and money for the project. They were also specifically instructed to
position themselves to the team in a supportive and not leading role towards the team, but allow the team to follow their own path. Some sponsors did give some hints on the topic the team could work on. However, the sponsors needed to be aware of the fact that their presence and commitment would influence the team’s result. The sponsors were selected by the organizing team. They visited a number of interested libraries for interviews with the chief librarian and selected the libraries to participate, which were open to the new approach and prepared to invest in the project.

The team members were, as mentioned, selected by the sponsors. In most cases, the teams are a mixture of employees with different backgrounds which did not work together before. Moreover, it was aimed to select employees that have a natural interest and openness to change.

Guides are assigned to one team, to support the process of change during the program. Guides are not supposed to intertwine with the content of the project, but are supporting the process itself. The guides are both advisors from within the libraries as other advisors from outside, but all of them have some knowledge on the type of project/process. The guides were selected by the organizing team and were assigned to a team during the first conference, when the teams got to choose their guide themselves. The so called coaches are also guides; but only for the group of sponsors. They should be of help to the sponsors to deal with their own struggles with the change.

Program

The set-up of the project is based on two different processes. First of all, each team worked on their own innovation project. Within a theme, which was often provided by the sponsor, the teams searched for improvements within their own library. The goal was to develop and implement the innovation, and moreover, to seek for opportunities to turn the innovation into a concept to be used by more libraries. And secondly, all teams met five times a year to share experiences, thoughts and findings and to ‘learn’ from workshops and the theory of the project. A graphical representation of the program can be found Figure 14 (only in Dutch).

The figure shows that the participants followed a pattern with five conferences. Between the conferences the participants worked on an innovation in four steps: 1) adjustment; 2) research; 3) application; and 4) reflection and transferring. It is assumed that every individual participant had to go through this change, but not everyone did this with the same speed.

![Figure 14: Graphical representation of the different stages of the project. (VOB, 2009a)](image-url)
Planned interventions

In terms of the project an intervention is an interference with the daily work of the participants caused by the project. So, the interventions can influence the teams, sponsors and the guides. These interventions can be divided in those which were caused 1) by the program itself; 2) by the organization; 3) by the guides; and 4) by the sponsor. The interventions took place during several meetings of the project.

Type of interventions

During the project roughly three types of interventions can be recognized. The team meetings by the individual team shape one type, the conferences are the second type and the third type is the ‘Kick-off’ and ‘day after’s. The sponsors and guides met once during a kick-off meeting and after the five conferences during the ‘day after’s, with exception of the fourth conference where both sponsors and guides were present during the conference itself. The first conference of the teams is also named a kick-off meeting.

One main process within the project is the exploration by an individual team of an innovation to implement in their own library and to explore the possibilities to turn the innovation into a concept that can be used by other libraries as well. This part of the project is executed by the teams during team meetings in which the teams could work with guidance of their guide on their topic, but also could search for inspiration and help outside their own library, by visiting other libraries or different organizations. Moreover, a small part of the conferences can also be seen as team meetings. During all the conferences time was reserved for the teams to share new impressions of the conferences and to make plans for the next months.

Apart from these team meetings, the conferences are the second type of interventions. During the conferences all team members met at a specific location in The Netherlands. Here, the organization had different possibility to intervene with the participants. The interventions can be divided in presentations by the teams, presentations by the organization or others, workshops, exercises, etc.

During the conferences the guides and sponsors had no or little role and always an inferior role to the team members. The interventions with the sponsors and guides took place during the ‘day after’. The day after a conference all guides and sponsors met at the same location as the conference to exchange experiences and to learn about the project.

Themes of interventions

An analysis of the different interventions has led to Figure 15. All interventions are grouped together in different themes. In Figure 15 the different aspects of the project are shown; first the different themes of the interventions; such as the explanation of the concept, exchange of experiences and also digitalization.
The first theme that is topic of many of the interventions is the explanation of the concept. To understand the background and concept of the project is a large step in direction of the aimed change. The leading document for this purpose is the mind-map (Appendix XIII). This mind-map shows all theories and aspects that are put into the concept and which should lead to the goal of the project. The concepts of the mind-map are explained to sponsors, guides and team members during the kick-off meetings. Different aspects are discussed during the other conferences in presentations, workshops and example cases. Moreover, each conference focused on a certain topic from the mind-map. For the different topics, see Table 8. Other interventions during which understanding of the project was enhanced are the team meetings. Own insights by the team and the guides of the teams increased the understanding as well. An assumption here is that the guides do understand the concept themselves as well, so, they can support the team correctly. For the sponsors and guides the ‘day after’s were occasions where they were informed on the concepts of the project.

<table>
<thead>
<tr>
<th>Conference</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick-off with sponsors and guides</td>
<td>Mind-map</td>
</tr>
<tr>
<td>Kick-off 1 with team members</td>
<td>Mind-map</td>
</tr>
<tr>
<td>Conference 2</td>
<td>‘Infect’</td>
</tr>
<tr>
<td>Conference 3</td>
<td>‘Small within large’</td>
</tr>
<tr>
<td>Conference 4</td>
<td>Out-of-the-box thinking</td>
</tr>
<tr>
<td>Conference 5</td>
<td>First library innovation day</td>
</tr>
</tbody>
</table>

Another theme of the interventions is closely related to one of the main aspects of the project, namely the use of digital media. In the preparation of the project it became apparent to the organizing team, that one of the issues in the libraries was that plans were made only on paper, but were never really executed. For that reason the participants of this project were motivated to use digital media instead of paper. This is also in line with another program on the use of digital media that had been offered by the VOB in the previous year. All participants were given a video recorder at
the kick-off meeting. Moreover, they were stimulated to use an online network called ‘bibliotheek 2.0’. Within this network a group exists where the participants and others can discuss issues from the project and the organizing team was able to communicate with the participants. Hereafter, use of digital media that was stimulated was the use of Twitter; this online social network was especially used during the final conference to communicate on the project with the world outside. During several conferences workshops were dedicated to this new digital media. Workshops were given on how to use the different kinds of digital media and on how they could be used within this project.

A third theme within the interventions is the exchange of experience. The project is an integral project, which indicates that the individual libraries do not only innovate themselves, but also learn from each other. For this, a number of interventions were aimed at exchanging experiences and findings. Not only do the participants learn from each other’s innovation, but also from each other’s journey to find an attitude towards innovation. Exchange took place on different levels: within the team the team members exchange experiences, because of their different backgrounds; the teams could exchange experiences with other teams, and moreover, the teams exchanged experiences when visiting other organizations. During the conferences time is also spent on the exchange of experience (see Table 9); in different settings the teams showed each other their journey and findings and at the same time collect new insights from the other teams. For example during the second conference the teams were asked to write down their most valuable insights and put them on a wall, which turned into the ‘Golden Wall’. At the fourth conference each team brought a physical presentation of their findings that would fit into a ‘treasure box’. During the day the different teams searched for the different treasure boxes to learn from others.

<table>
<thead>
<tr>
<th>Conference</th>
<th>Exchange of experience intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick-off 1 with team members</td>
<td>World Cafe</td>
</tr>
<tr>
<td>Conference 2</td>
<td>Golden Wall</td>
</tr>
<tr>
<td>Conference 3</td>
<td>Workshops</td>
</tr>
<tr>
<td>Conference 4</td>
<td>Treasure boxes</td>
</tr>
<tr>
<td>Conference 5</td>
<td>Presentations/workshop</td>
</tr>
</tbody>
</table>

A last possibility to exchange experiences was via ‘bibliotheek 2.0’. On this online portal everyone was able to post ideas, findings and comments. Each team created their own page in which they could show their insights and findings. For the sponsors and guides the kick-off and ‘day after’-s were the moment to exchange experiences with each other.

Out-of-the-box thinking is the fourth theme that can be recognized. Assumed is that to be able to innovate it is necessary to look outside the borders of the known area. Inspiration comes from things that are new and unknown. Therefore a number of interventions and a complete conference were dedicated to this theme. First of all, it may be concluded that the structure of project and the team meetings are out-of-the-box for the team members. The work for the project differs greatly from their daily work and the teams often included co-workers that did not work together on a daily base. Secondly, the team meetings, elsewhere than the own library, were out-of-the-box as well. Experiencing a different library or a different organization might lead to the new insights. Thirdly the use of videos instead of paper and writings also forced the team members to work out-of-the-box. Fourthly the conferences themselves, and especially the locations, added to the out-of-the-box
effect. The locations, being somewhere far from a library surrounding, can be considered out-of-the-box. And lastly, some of the workshops at the conferences and the fourth conference itself were dedicated to out-of-the-box thinking.

Another theme that is apparent from the project is team building. Most teams were especially put together for this project, which indicates that the team members did not know each other well and did not naturally act as a team. A large part of the team building activities took place during the team meetings, however, also during some of the workshops team building was a topic of discussion.

5.2.2. Theoretical Background and Mechanism of Planned Interventions

In this research is incorporated how the organization renewal project is grounded in theory. However, this is done from different foci. On one hand the theoretical background of the project is explored. These are known theories from the C&C perspective that form the design principles for the organizing team to shape the project. These theories are used both consciously and subconsciously and thus, these concepts are interpretations both by the organizing team and the researcher. On the other hand, the project can be seen from perspective of the Integral Theory by Wilber (1996) and Edwards (2008), as suggested in the theoretical framework. This link is purely an interpretation by the researcher. This section of the research is also the exploration of mechanisms behind the interventions in term of the CIMO-logic. These mechanisms might explain the outcomes discussed in the next paragraphs.

To start with the latter perspective; in the theoretical framework (Section 3.3), the Integral Theory was explained. This concept also has large implications for the project. Firstly, to reach the aimed complexity level, the right resources should be selected and stimulated. Secondly, the interventions should stimulate the resources in all four quadrants to reach the mature state. Here two different developments can apply, both transcendence where stimulating one quadrant results in a development in the same quadrant and translation which means stimulating one quadrant, affect the resources in another quadrant. A third implication for the project is that the interventions itself should be on the aimed higher level of complexity to be able to stimulate the resources towards this complexity level.

Next to the interpretation of the project in terms of the Integral Theory, some other concepts of the C&C theory are incorporated in the project. At first, the assumption is made that libraries can be seen as a chaordic system. The five principles of a chaordic system (Fitzgerald, 2002; Van Eijnatten, 2004) are valid for the libraries. Therefore a number of design principles count in this project; such as the mind or consciousness of an organization, that has to change first or parallel with the structure. And secondly, in order for the libraries to change, the libraries need to be able to self-destruct before it is able to self-create (dissipation).

Another principle of a chaordic system, connectivity implicates that libraries contain a large number of highly related entities. To organize these entities the concept of holons can be applied. Entities as employees, teams, departments and the different libraries within the branch form a complex ecological holarchy. Consequently, it is necessary to develop all holons within the setup of the project.

At the same time the goal of the project in terms of a higher level of complexity can also be seen as a developmental holarchy. Besides, this can also be seen in terms of the Sigmoid curve or the adaptive cycle. The goal of the project is to reach the next curve with the libraries. The Dutch public libraries have been able to sustain growth in the old situation for a long time. However, now, they
realize that they may have reached their limit and therefore there is a need to adapt to the next complexity level, the new situation. Whenever the system reaches its limits to growth, it finds itself in an instable phase and thus is sensitive for external forces. If they fail to jump to a new stable phase, the possibility of elimination exists.

The model of the Sigmoid curve illustrates the fact that the new curve can coexist with the older level. For that reason it is possible to work on the new development, while the old situation still rules. Furthermore, it can be assumed that not everyone develops with the same pace. So, at first, it is more worthy to work with those who are open to change and to explore this new situation, before convincing everyone at the same time. The assumption of the project is that the innovators are able to ‘infect’ others and in such a way create commitment and mass, so, eventually the new complexity level will defeat the old one. As common assumption is the so-called Pareto principle (Koch, 2001); which states that 20 percent of the sources causes 80 percent of the change. In this case, it can be assumed that when 20 percent of the library employees have higher innovative capabilities, a large possibility exists that change within the branch will happen.

Within the chapter of the theoretical framework the perspective of the diagonal jump from old thinking, old doing to new thinking, new doing is given. The interventions of the project aim to change both the thinking and the doing in order for the system to reach the higher level of complexity.

A last concept discussed with the C&C perspective is the attractor based model. The organization renewal project can also be discussed from this perspective. In the project different methods and interventions are used to influence the participants and the libraries. These interventions can be seen as forces or attractors that influence the system (in this case a participant or library); they push and pull the system. Comparable, external forces, such as a changing economical or social situation, also pull the system. It can be stated that when one or more of those forces become strong enough it is able to force the system into a different state (equilibrium).

Another theoretical subject can be related to this project, namely the theory on knowledge creation. Van Eijnatten & Putnik (2005) argue that for an organization to learn and find real novelty, it is not necessary to define or know the path neither the goal of the project. The aim is to create fertile circumstances in which employees can interact and be creative. In the project these circumstances are attempted to create during the conferences and the team meetings. During these meetings new knowledge is created. Important here as well is the concept of emergence. During interaction with each other, the employees are able to create new implicit knowledge; the interaction leads to emergence of new ideas, insights and findings, which can be used to create innovations. In another field; Collins (2001) argues in ‘Good to Great’ that organizations should take small steps; when continuously taking small steps that are based on the here and now and follow up on each other, an organization will experience an acceleration of progress that will lead to real change. The indication for this project is the so-called, trip versus journey issue. Traditionally, change is directed towards a foreseen goal. However, in this case, it is stated that the future is unknown and therefore impossible to foresee. A journey in which one leaves in a certain direction to create the future.

Rhine Capitalism\textsuperscript{6} can be interpreted as a business model closely related to the C&C perspective. In this model the human factor is central. The main goal is to create a system in which as many

\textsuperscript{6} A short summary of Rhine Capitalism can be found in Appendix XV.
humans as possible find their lives satisfactory and significant. In terms of organizations this leads to an emphasis on the work community and the professional. In Rhine Capitalism all stakeholders are of importance to the system; professionals who do have the knowledge and skills of the processes are thus most valuable to the innovation process. Similarly, this is the case in the organization renewal project, where the professionals are put central in creating innovations. Rhine Capitalism also states that leadership is not to control the processes, but to guide them and to stimulate the employees in their capacities. The aim is to use the human capital optimally. Here again a clear link to the project can be seen, as the sponsors are motivated to have a more guiding role than controlling.

5.2.3. Implemented Interventions

Naturally the execution of planned interventions cannot be expected to go as planned. The differences between the planned and actual interventions can plausibly lead to different results. Therefore it can be useful to analyze what the differences are and what kind of effect that might cause. However, in the case of this project it appeared to be impossible to make this differentiation, for which a number of reasons exist.

The project as described in section 5.2.1 is the project as was planned from a retrospective perspective. The plan for the project is documented after it has taken place. For that reason it cannot be assumed that the plans are not influenced by the execution. Moreover, part of the working method of the organizing team was adjusting the plans by the current needs of the participants. So, part of the plan is shaped with knowledge of the execution of previous parts. Thus, it is harder to differentiate between the real planned interventions and the implemented. And lastly, the documentation of the project is insufficient to make this differentiation. Little of the interventions is structurally documented; no project plan is written and about the execution of the intervention as well little documentation is made. The documents that are available do not differentiate clearly what was originally planned and what was executed or adjusted. So, it is not feasible to make a comparison between the planned and actual interventions. However, some things can be stated on the implementation of the project:

The numbers of participants are definite numbers of the execution. In the project 19 libraries and 1 PSO participated with a total of 24 teams. 21 sponsors and 24 guides supported the total of 150 team members.

The timeframe of the project does tell something about the execution of the project. The timeframe can be found in appendix XVI and tells that five conferences took place during the year and the teams worked on their individual themes in between. Observations during the conferences have confirmed that all interventions took place as planned (except one due to illness of a workshop leader), although no statements on how they are executed can be made. Within this research also a number of the workshops given during the third and fourth conferences are analyzed. These results will be included in the evaluation of the project and its interventions in the next chapter.

In another table (appendix XVII) a list is made, based on documentations, interviews with the organization team and observations, which approaches a complete overview of the interventions. The interventions are categorized by the different themes of interventions. Table 10 shows that all themes are covered, although some more than others.

The real outcomes of the teams were always inferior to the process. This research has not focused on the innovations found by the teams. They are all well summarized in a booklet “Goudklompjes –
De agenda voor de toekomst in uitvoering” (Gold nuggets – The agenda of the future in execution, in Dutch; VOB, 2009b).

Table 10: Number of interventions per event categorized in themes

<table>
<thead>
<tr>
<th>Event Type</th>
<th>Explanation</th>
<th>Out-of-the-Box thinking</th>
<th>Exchange of Experiences</th>
<th>Example cases</th>
<th>Digitalisation</th>
<th>Team building</th>
<th>Extra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick-off sponsors</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kick-off guides</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference 1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day-after 1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference 2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day-after 2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference 3</td>
<td>7</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Day after 3</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference 4</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Conference 5</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day-after 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Legend: x = theme is present, but an unknown number of interventions

5.3. Part III: Evaluation and Analysis

5.3.1. Evaluation of Effects of Interventions

In this research a large number of methods are used to gather the data on the evaluation of the effects of the interventions. All give a different perspective on the effects. In line with the C&C paradigm it is assumed that when multiple sources have the same opinion independently, that opinion will count for the larger part of the participants. Following, the separate methods of data collection are elaborated on. Subsequently the findings are analyzed per type of stakeholder to find out what the main evaluation per stakeholder is.

**Evaluation per data collection event**

**Babbelbox:** The ‘Babbelbox’ was installed during the final conference of the project to collect the opinion of the team members on the successful factors of the project. Via a video presentation the team members were introduced to the subject and the question: “Which moment or insight during the project caused a change in the way you think or do your work?” At the final conference, approximately all participants were present; during the day the ‘Babbelbox’ was running for 6 hours, 21 reactions were received of which 17 were useable for analysis; the other four respondents did not meet the criterion of being a team member of one of the participating teams. A summary of the responses can be found in appendix XVIII.

The response of 11 % of the participants is rather low. Explanations for that could be that some of respondents spoke in representation of his/her entire team. Moreover the final conference appeared to be a rather overwhelming event, where many workshops could be attended. In multiple cases a response on video was asked; therefore the participants reacted ‘video-tired’ when actively approached by the researcher. And last, the team members felt unable to answer the asked question right away.
However, despite of the low number of respondents, the feedback is valuable, because of the general characteristic of the data. The responses are analyzed in terms of questions, causes and problems. Although the responses differ greatly, some themes can be recognized. Those themes are summarized in appendix XIX.

**Evaluation day with sponsors and guides:** The evaluation day with the sponsors and guides existed out of two rounds. The first was according to the ‘World Café’ principle and secondly filling in of the questionnaires. During the day 17 of the 24 guides were present, 2 coaches of the sponsors (during the ‘World Café’ considered as guides) and 9 of the 21 sponsors.

**World Café:** The ‘World Café’ was executed with help of an external moderator. In three rounds, two questions were asked. The questions asked were on the changes and the causes of change visible in adaptability of the stakeholders (for questions, see appendix XX).

The outcomes of the ‘World Café’ were documented in multiple forms. The written table clothes were collected and the presentations were documented on video-, audio- and written material. A summary of the analysis of all this data can be found in appendix XX. No difference is made between the opinion of the guides and sponsors, because the concept of the ‘World Café’ assumes that the results give a generalized opinion of the sponsors and guides. Furthermore no clear differences were noticed during the presentations and discussions and thus the results can be used directly in the analysis.

**Questionnaire sponsors:** The questionnaires for the sponsors give an insight in how the sponsors place their organization, team and themselves on the line from old to new thinking, based on the ten statements from the project (Table 7). In Figure 16 the ‘modus’ are shown for the eight respondents on the Organization, Team and the Sponsor.

Interesting insights from the questionnaire are that all sponsors ranked themselves relatively high. However, this can be expected, because they decided to participate in the program and thus have an interest and understanding of the project. Most sponsors, except 1, 2 and 7, positioned the organization low on the line between the old and new world. Also this can be expected, as it is known the libraries are stuck in the old situation and this project’s aim is to change that. Where the sponsors place the team differs; this may indicate that also the teams differ in how much they have changed towards the aimed situation. Unexpected is that in three case (Lib. 1, 2 and 7) the team scores lower than the organization. This is unexpected, because the team members are ought to be chosen to be open to the higher complexity level. Possible explanations are that the questions were unclear, since they have not been tested before, or a possible explanation might be that the sponsor did not rank the team and organization equally, because he or she was more aware of the specific work of the team than the whole organization.
Questionnaire guides: The aim of the questionnaire for the guides is to rank the teams to which extent the teams have been able to reach the higher complexity level. Out of the 24 teams, 23 completed questionnaires were received. The scores given by the guides are rather high; half of the teams score 15 or higher out of 20 with a ranking of ‘more B, little A’ and up. Therefore a ranking of ‘only B’ is used. The score per team and the ranking can be found in appendix XXI.

To choose the teams for interviews, the 2 teams with the highest total scores are chosen and the 2 teams with the lowest total scores. Those teams will be approached from an interview.

For the high-ranked teams the assumption is that all quadrants should be ranked in a mature state to reach a higher level of complexity. It can be seen in table ‘Scores per quadrant’ (Appendix XXI) that the two highest teams match this requirement. In case the assumption is made that also the score per quadrant should be three or more, only team O matches this.

For the lower ranked teams, six teams score 0 in the ranking ‘only B’. To make a selection the ranking ‘more B, little A’ and up is considered (see appendix XXI). Here appears that two out the six teams do score rather high. It can be concluded that either these teams show signs of change, but are not there yet. Or the guides of the teams have interpreted the questionnaire differently than other. So, these two teams are left out. To decide the final ranking for the lower ranked teams, the ranking of ‘More B, little A’ is considered. The final teams that selected are:

<table>
<thead>
<tr>
<th>Table 11: Ranking of teams based on questionnaire</th>
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</thead>
<tbody>
<tr>
<td><strong>High Ranked teams</strong></td>
</tr>
<tr>
<td>1 Team O</td>
</tr>
<tr>
<td>2 Team P</td>
</tr>
</tbody>
</table>
Mail Guides: As input for the fourth conference the organizing team has asked the guides a number of questions about the progress of the team and the needs for coming conferences at that point. The questions asked can be found in appendix XXII. These mails give a good indication on where the teams are halfway through the project. The findings might not directly be generalized; however they could be used as confirmation of the findings during the ‘World Café’. One can find the analysis in appendix XXII. Apparent is that a number of issues still apply during the ‘World Café’ evaluation, where other have evolved into a change in behavior or attitude of the participants.

Interview: Based on the ranking made by the guides, three teams were approached. It is chosen to interview one or two members of the team, because previous experiences with the ‘Babbelbox’ showed that team members largely agree on the learning process. One team was interviewed on their findings of the project; this team is one of the high ranked teams. An analysis of this interview can be found in appendix XXIII. The other two teams did not respond or did not have time.

Internet Research: On the online forum of the project, posts can be found that state opinions from the participants (websites are summarized in Appendix VIII). Most noticeable in those posts is the change over time. During the beginning of the project a lot of discomfort is shared. After the second conference a clear switch is visible when participants state literally: “If we want to change something, we should take control”.

Observation conferences: The researcher was present during the third, fourth and fifth conference as a spectator. Because so many things happened at the same time at different places during those conferences, it appeared to be impossible to structurally evaluate them. However, a number of general statements can be made; those statements will be incorporated in the evaluation.

Evaluation per stakeholder type

The findings in the different methods of data collection can be used to identify the evaluation of the project for each individual type of participants. As participants or stakeholders; team members, the teams, the guides, the sponsors and the libraries are distinguished. Per stakeholder the trends in the evaluation, statements that return in different parts of the evaluation, are summarized. Next, these evaluations per stakeholder will be discussed. The findings will be generalizations that will count for the majority of the group, but rationally not for everyone.

Sponsors: Three major findings can be stated about the sponsors. First, as all participants, also the sponsors needed to go through the change from old thinking and doing to the aimed complexity level. Although they scored themselves rather high on the ranking of the questionnaire, the evaluation indicated that they find this change difficult. Moreover, because the sponsors are an important factor in the progress of the teams, difficulties can occur if the sponsors’ own change interferes with the change of the team. To enhance the progress of the team a new style of leadership is necessary. When the sponsor does not understand this leadership style, it can have a negative effect on the team.

A second statement of evaluation is the type of leadership that is necessary. For the teams it appeared to be important that sponsors provided space, time and confidence in the team. The sponsors should let go of control, they should let the teams go through their own process and be interested in the team without interfering with the content. Remarkable is, that it seemed just as important to show interest as it is to stay away from the team every now and then, which the teams can feel as a sign of trust. However, the evaluation also shows that this new leadership style is hard for the sponsors to grasp and execute. The third finding is that the evaluation hinted that the
guidance by the organization might not have been completely sufficient. The sponsors in hindsight felt the need to have more interaction with each other, and also with their guides and teams: Interaction in the sense of exchanging experiences, to be able to understand the process and change better.

Guides: The main finding on the role of the guides is the fact that the team members felt that a guide can provide large advantage. The best role for a guide was specifically on guiding the process and not interfering with the content. ‘Asking the right question’ was often named as the most effective method for the teams. It helped the teams to reflect on their own work and to refocus when necessary.

However, the same goes for the guides, as for the sponsors, it is essential to understand the new complexity level themselves in order to guide the team from this perspective well. And more time for exchanging experiences with other guides is felt as an improvement for the future.

Team (members): The teams and team members were ultimately the participants the project is aiming for. Overall it can be stated that the project has caused an increase of enthusiasm of the participants. Furthermore changes have taken place in relation to the forming of a team, the behavior of the team and the attitude towards the project.

Team building appeared to be main focal point of the teams in the beginning of the project. The fact that the teams were multi-functional and often did not know each other, led to a new situation, outside the scope of their daily work, and led to a need to work on becoming a team. An important factor in this process was to be able to listen to each other, be open for each other’s ideas and moreover, be able to give each other feedback. Once the teams were settled down, team members often showed competencies that they had not been able to show before and the confidence of the team grew.

In the process of their search for innovations, the team members have shown an increase in initiative, creativity, interest in each other, to look out-of-the-box and to be critical to one’s own work. The most important causes for this change are stated as the ability to deal with the given time and space and the trust by their superiors. Although this did not happen without a feeling of discomfort at first. Especially, to be able to take the time that is given appeared to be a difficult issue. However, when they were able to take and use this time and took control of their own process, a large change was observed. Moreover, the learning curve of exchanging experiences with each other, other teams and other organizations led to a growth in inspiration and confidence.

The project itself gained a lot of skepticism at first; the participants felt that the goal of the project was unclear, which is enhanced by the project’s out-of-the-box effect. Moreover, they find the project a time consuming activity. However, during the process of the project, the team members have learned to take control and this discomfort is largely turned into taking action. Another issue of the teams was to find a balance between the product and the process. According to the team members there was too much emphasis on the product at first, which was caused by the project and by the natural attitude of the team members. Most team members agree that the process is the most important factor in the project and emphasis should be there. Guides appeared to be especially useful in this process, without intervening with the content; they can guide the team in the right direction. And lastly, the team members have shown an increase in understanding of the connection between organization renewal and innovation. They valued the thought that innovation should start with the library employees.
Libraries and library branch: The final aim of the project is to establish a change on level of the libraries and the branch. However, it is difficult to state anything on the achievement of this aim at the end of the first year of the project. It needs to be questioned whether it is not too early to see any real changes in libraries yet. Only the interest shown during the final conference, with more than 400 visitors is an indication that there is at least interest throughout the branch. Generally it is assumed that at least 20 percentage of a population needs to change in order for a population to change (Koch, 2001). The project has not reached that number yet, it covered 1,7 % of all librarians and 11% of the libraries (150 out of 9.080\(^7\) librarians and 19 out of 175 libraries, respectively).

**Conclusions on evaluation:**

To conclude some general statements can be made on the evaluation of this project. First of all, changes are visible with the participants towards the aimed innovative capabilities, for the team members, sponsors and guides. However, the project was too short to change anything on level of libraries. The participants seem at the end of the project interested and ready in transferring their new gained knowledge in the organizations, which indicates that the step towards change in the organization can be made in the future.

Another main conclusion is that everyone struggles with the same change, although everyone does this at their own speed and pace. For the team members it is very useful when their sponsor and guide help them in the right direction. It therefore can be questioned whether it would be necessary for the sponsors and guides to be ahead of the teams in terms of their development towards the new complexity level in order to be able to optimize the change of the participants.

And last, the goal of the project and the emphasis on the process instead of the product are not well understood. Participants felt like too much focus was laid on the innovation itself and on infecting others. Because this is one of the main learning issues for all participants, more attention could be paid.

5.3.2. **Analysis**

In the previous sections this research has described and discussed the organization renewal project as planned in concept, in interventions, the execution of the interventions and the evaluation of the interventions. The objective of this paragraph is to analyze whether the project is designed well and whether it is executed well according to the concept of the project and the Integral Theory. These three parts will provide a thorough examination of the comprehensiveness of the project. Since no clear distinction can be made between the planned and actual interventions, the analysis cannot go into the differences.

**Analysis of concept**

The concept of the project is shaped by the mind-map (Appendix XIII). In the following section it is analyzed whether the project is executed according the mind-map. But first it will be elaborated whether the concept itself is sufficient to reach its goals. The theory of four quadrants of a holon (see Figure 3) assumes that project should aim at all four quadrants to increase resources, so, an attempt is made (Table 12) to organize the concepts according to the Integral Theory and based on the streams of a teams and team members (Appendix V). Moreover, the mind-map is analyzed on any missing topics.

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\(^7\) Number of library employees excluding PSO employee in 2007 (CBS, 2009).
Although the ultimate goal it is mentioned to be to change the culture of the libraries into a more innovative one, Table 12 shows all quadrants are covered by more concepts, but that the cultural quadrant is less emphasized in the project. Moreover, the ‘role in relation to the inquisitive Dutchman’ is the goal of the project and as a result does not directly include on how to do this. The concepts of the mind-map that are not categorized in Table 12, can all be considered to affect the overall project.

When the mind-map itself is considered it is apparent that a number of issues is under exposed. Issues like the role of the sponsor and the role of guide miss in the concept. Although they are incorporated in some topics; the evaluation suggests that a clearer definition of the roles is wanted. Furthermore, another issue that is often mentioned in the evaluation, but does not return in the mind map is team building. Although team building is not directly related to the goal of the project, it is one of the more important underlying issues.

**Analysis in terms of mind-map:**

The mind-map contains the concept of the project. Irrespective whether the concept is the right one, to have a correct evaluation, it is necessary to examine whether the interventions did represent the concept of the mind-map. Moreover, this same mind-map can be used to see if the effects of the project can be seen in terms of the mind-map. In Table 13 both the interventions and the effects are discussed. The numbers correspond with the issues of the mind-map as discussed in section 5.2.1 (also in Appendix XIV).

In the project all issues of the mind-map seem to be incorporated into the project to some extent. If one takes a closer look at the interventions that are categorized to explain the concept, most issues are covered as well (see appendix XVII). The ones that are not specifically addressed are the learning curve (4), the integral project (9 and 10) and the unknown outcome (12) (numbers correspond with themes of mind-map, appendix XIV). An explanation might be that those issues of the mind-map are influencing the overall project and planning and should not necessarily be covered in individual interventions. To conclude, it seems that all concepts of the mind-map are covered. Now, it is questioned whether the attention per issue was sufficient.
In Table 13 one can see how the effects result in terms of mind map. Most effects are rather positive, although some of the issues might need some adjustments. Remarkable findings are:
- Time management is one of the major troubles for the participants
- The emphasis on infection seem to have been on the wrong time
- The selection of employees for the teams have not been optimal
- The participants had troubles understanding the emphasis on process instead of innovation

<table>
<thead>
<tr>
<th>MM</th>
<th>Interventions</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The levels of development are included in the project, mostly as underlying themes of interventions.</td>
<td>The five developments are included in the project.</td>
</tr>
<tr>
<td>2</td>
<td>The concept of using the undercurrent, of the libraries and team members who are enthusiastic while depending on the old flow is clear indication of the Sigmoid curve.</td>
<td>This is attempted, although it was found difficult to find a balance between old and new complexity levels, especially management teams did not always understood the aim of the project completely.</td>
</tr>
<tr>
<td>3</td>
<td>This new attitude is brought to the participants by a workshop on improvisation theatre.</td>
<td>This issue is specifically called useful and some change is visible as participants are more critical to their own work.</td>
</tr>
<tr>
<td>4</td>
<td>One main issue is that the project creates time for the participants to work on innovation, moreover, it is emphasized that the process is more important than product.</td>
<td>Time management is a big issue and the participants have had difficulties on how to deal with this.</td>
</tr>
<tr>
<td>5</td>
<td>On infecting others a lot of attention is given at one conference and several workshops.</td>
<td>Although participants want to infect their colleagues, it took to change themselves before they were ready to start infections others.</td>
</tr>
<tr>
<td>6</td>
<td>This concept returns in form of out-of-the-box thinking, to be able to see and act differently.</td>
<td>The issue is seen as very useful to everyone and led to many insights.</td>
</tr>
<tr>
<td>7</td>
<td>Although it was meant for all participants to have certain characteristics, this can be questioned. When the roles were explained to the sponsors most teams were already formed.</td>
<td>It is understood that it would have been better to focus more and earlier in the project on this issue.</td>
</tr>
<tr>
<td>8</td>
<td>How to serve the inquisitive Dutchman is the question in the team’s searches for innovations. Moreover, the project is part of the integral approach described in the ‘Agenda for the Future’.</td>
<td>It is too early to say if this goal is reached, because innovations need to be spread first.</td>
</tr>
<tr>
<td>9</td>
<td>The project covers the fact that it aims for enlarging the collective advantages of a secondary process as innovating.</td>
<td>This approach seems to work by the interest shown by the participants and number of visitors during the final conference.</td>
</tr>
<tr>
<td>10</td>
<td>The project did exist out of the teams following their own path and 5 integral meetings.</td>
<td>Interaction is seen as important, although conferences are still seen as time consuming and focus on their own project.</td>
</tr>
<tr>
<td>11</td>
<td>It is emphasized that the process is more important than the actual result during conferences.</td>
<td>The emphasize on the process is clear to most participants, although it led to discomfort at the beginning of the project.</td>
</tr>
<tr>
<td>12</td>
<td>The participants are let free to search for their own outcome.</td>
<td>There was too much emphasis on outcome at first; most participants realize this is an important issue.</td>
</tr>
</tbody>
</table>
**Analysis in terms of the Integral Theory:**

As said throughout this research the Integral Theory of a holon assumes that all four quadrants should reach maturity in order for the whole system to reach a higher complexity level. Here, as well, both the interventions itself and the effects of the interventions are considered. Moreover, the interventions are in the new, higher level of complexity itself. Only then the interventions can have the right effects. In Table 14 it is attempted to categorize the themes of interventions into the quadrants. Again, here the cultural quadrant seems less emphasized. The concept of the mind-map in ‘explanation project’ is elaborated on in the first part of this analysis, so, they cover multiple quadrants. However, the focus lays on changing the inner mind of the employees and the culture of the group.

<table>
<thead>
<tr>
<th>All</th>
<th>AIG</th>
<th>AEI</th>
<th>AEG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explanation project</td>
<td>Team building</td>
<td>Innovation</td>
<td>Team building</td>
</tr>
<tr>
<td>Out-of-the-box</td>
<td>Out-of-the-box</td>
<td>Out-of-the-box</td>
<td>Team meeting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Out-of-the-box</td>
</tr>
<tr>
<td>CII</td>
<td>CIG</td>
<td>CEI</td>
<td>CEG</td>
</tr>
<tr>
<td>Team building</td>
<td></td>
<td>Exchange of experience</td>
<td>Exchange of experience</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use of digital media</td>
<td>Use of digital media</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Team building</td>
<td></td>
</tr>
</tbody>
</table>

Legend: A = agentic, C = commune; I = interior (at 2nd place) and individual (at 3rd place); E = exterior; and G= group

Another perspective comes from the workshops; wherefore a survey is conducted among the workshop leaders. During all five conferences different workshops are given, however the third and fourth conference both had workshops specifically in the program. At both occasion multiple workshops were offered during multiple rounds, team members got to choose which workshop(s) they wanted to participate in. Together, during the third and fourth conference, 24 different workshops were given by 28 workshop leaders, mostly the guides of the teams. All workshop leaders received a questionnaire; only twelve were returned on 9 different workshops. Although this number is too low to draw conclusions, the findings do give some indications. The results are shown in Table 15. The Table 15 shows whether the workshop can be considered in the new complexity level, when it scores on the new complexity level of the goals and in the third level of interaction. It can be concluded that five out of the nine workshops match the criteria, which indicates that also part of the interventions does not reach the aimed level. These results count for different intervention themes as well. However, the results indicate that not all workshops are likely to promote the new complexity level optimally.

Also, from Table 15 can be seen that all quadrants both on individual as group level are addressed. Apparent is that focus lies on the communal aspects; 23 times to 10 for the agentic perspective. The division between individuals and the group is equal, which would be supported by the assumption that all entities should be addressed in the workshops.

Also the effects can be seen in the perspective of the Integral Theory, see Table 16. Table 16 shows that in all quadrants some change can be seen. Here again, it can be questioned if the changes in the cultural quadrant also took place on level of innovation. The attitude of the team members towards each other changed, but nothing really points at change towards innovation. It might be too
early to see any real cultural change, since this research aims at effects of interventions and not of execution of new learned ideas.

### Table 15: Summary questionnaire workshops

<table>
<thead>
<tr>
<th>No.</th>
<th>Goal</th>
<th>Interaction Quadrant</th>
<th>New level</th>
<th>AII</th>
<th>AEI</th>
<th>CII</th>
<th>CEI</th>
<th>AIG</th>
<th>AEG</th>
<th>CIG</th>
<th>CEG</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-</td>
<td>2</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>team building</td>
</tr>
<tr>
<td>2</td>
<td>x</td>
<td>3</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>concept</td>
</tr>
<tr>
<td>3</td>
<td>-</td>
<td>2</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>example</td>
</tr>
<tr>
<td>4</td>
<td>x</td>
<td>2</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>concept</td>
</tr>
<tr>
<td>5</td>
<td>x</td>
<td>3</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>concept</td>
</tr>
<tr>
<td>6</td>
<td>-</td>
<td>3</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>concept</td>
</tr>
<tr>
<td>7</td>
<td>x</td>
<td>3</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>concept</td>
</tr>
<tr>
<td>8</td>
<td>x</td>
<td>3</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>team building</td>
</tr>
<tr>
<td>9</td>
<td>x</td>
<td>3</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>concept</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>4</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend: A = agentic, C = commune; I = interior (at 2\textsuperscript{nd} place) and Individual (at 3\textsuperscript{rd} place); E = exterior; and G= Group

### Table 16: Effects of interventions vs. Integral Theory

<table>
<thead>
<tr>
<th>Agentic Interior</th>
<th>Agentic Exterior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team (members) did change</td>
<td>Team (members) did change</td>
</tr>
<tr>
<td>- more creative</td>
<td>- take more action</td>
</tr>
<tr>
<td>- more initiative</td>
<td>- take the time and possibilities given</td>
</tr>
<tr>
<td>- more critical on own work</td>
<td>- out-of-the-box thinking</td>
</tr>
<tr>
<td>- more confidence</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communal Interior</th>
<th>Communal Exterior</th>
</tr>
</thead>
<tbody>
<tr>
<td>More feeling for innovation with professionals</td>
<td>Team at end ready to start infecting</td>
</tr>
<tr>
<td>Team’s norms and values changed, but also on level of innovation?</td>
<td>Exchanging experiences with each other (interest in each other)</td>
</tr>
</tbody>
</table>

### Conclusions of analysis

The analysis of the project shows that the concepts of the mind-map are well covered in the project, although some concepts, as time management and infection, might need more emphasis. The mind-map does miss a number of concepts, such as team building, the role of the guide and sponsor and team building. About the interventions can be stated that they do seem to cover the concepts, but only half of them are given on level of the new complexity. And a last and most remarkable finding is that the cultural quadrant is underexposed in the project. No real change on this aspect can be found either.

### 5.4. Part IV: Redesign

In this research a description is made of the first year of the organization renewal project and moreover, the project is evaluated. Overall, the results suggest that the project does have the aimed effect, although optimization is possible. Intended is to repeat the project as held with a similar group of libraries and participants. The scale of the project will remain the same and the project will

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focus on libraries that have not participated before. Thus, it can be assumed that the participants form a similar group with similar characteristics. The redesign therefore focuses on improvements to the design of the project.

5.4.1. Redesign

First, the **objective of the redesign** should be determined. The redesign should aim to improve the effectiveness of the project in terms of its ability to guide participants towards a next level of complexity. That will say to change the innovative capabilities of the employees of the Dutch public libraries, and ultimately the libraries and branch as well, to become more innovation oriented. To shape this redesign, the requirements and parameters will be identified. Moreover, the design principles, which followed from the theoretical framework, will be translated and incorporated in the redesign.

The redesign should meet a number of **requirements** and is bounded by some restrictions.

<table>
<thead>
<tr>
<th>Functional requirements</th>
<th>User requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Make sure the right people are chosen</td>
<td>O</td>
</tr>
<tr>
<td>i. Make sure the right libraries are selected</td>
<td>I</td>
</tr>
<tr>
<td>ii. Make sure the right team members are selected</td>
<td>I</td>
</tr>
<tr>
<td>iii. Make sure the team members act as teams</td>
<td>I</td>
</tr>
<tr>
<td>b. Make sure the right interventions are held at the right time</td>
<td>I</td>
</tr>
<tr>
<td>i. Make sure all concept of the project are addressed</td>
<td>I</td>
</tr>
<tr>
<td>ii. Make sure all aspects of holon are addressed</td>
<td>I</td>
</tr>
<tr>
<td>iii. Make sure the right themes are addressed at the right time</td>
<td>I</td>
</tr>
<tr>
<td>iv. Make sure the changes are secured in the organization</td>
<td>I</td>
</tr>
<tr>
<td>c. Make sure the interventions have the right level</td>
<td>I</td>
</tr>
<tr>
<td>i. Control the level of the interventions</td>
<td>I</td>
</tr>
<tr>
<td>ii. Make sure the supporting participants (sponsors and guides) are at the right level</td>
<td>I</td>
</tr>
<tr>
<td>d. Make sure the communication is sufficient</td>
<td>I</td>
</tr>
<tr>
<td>i. Make sure the goal is clear</td>
<td>I</td>
</tr>
<tr>
<td>ii. Make sure the emphasis on the process is clear</td>
<td>I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boundary conditions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The project should focus on the libraries</td>
<td>O</td>
</tr>
<tr>
<td>i. Only teams enter that did not participate before</td>
<td>O</td>
</tr>
<tr>
<td>b. There is a limited amount of time that the participants can spend on the project</td>
<td>I</td>
</tr>
<tr>
<td>i. There is a limited amount of money that can be spend on the project</td>
<td>I</td>
</tr>
<tr>
<td>ii. Libraries should be willing to invest money</td>
<td>I</td>
</tr>
<tr>
<td>iii. The project should ideally be in line with the project of 2009</td>
<td>I</td>
</tr>
<tr>
<td>iv. The project should take about 1 year</td>
<td>I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Design restrictions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. There is a limited amount of money that can be spend on the project</td>
<td>I</td>
</tr>
<tr>
<td>i. Libraries should be willing to invest money</td>
<td>I</td>
</tr>
<tr>
<td>ii. The project should ideally be in line with the project of 2009</td>
<td>I</td>
</tr>
<tr>
<td>iii. The project should take about 1 year</td>
<td>I</td>
</tr>
</tbody>
</table>

Legend: O = original plan; I = improvements as described in the integrated redesign
**Design Parameters**: The project is not bounded by many limitations; money and time are the largest ones. Therefore many parameters can be changed. However, if the aim is to stay close to the previous project, than most likely the parameters would be: 1) Selection of participants; 2) Number of interventions; 3) Planning of interventions; 4) Themes of interventions; and 5) Level of interventions

**Design Rules**: In the theoretical framework a number of principles were discussed. To be able to base the redesign in literature a number of design rules will be deducted from the design principles (see section 3.4). The most important design rules that are of influence on the redesign:

1. Focus on the mind of the system (consciousness)
2. Address all aspects of a holon, all four quadrants, should be changed to be able to reach maturity (Connectivity)
3. Address all entities in the holarchy (Connectivity)
4. In order to change, set one step at the time in a certain direction (Indeterminacy)
5. Use many different interventions with a certain direction, as attractors to possible trigger the system in the direction (Indeterminacy)
6. Create environment in which it is possible and time is available to let go of old habits and embrace new ones (Dissipation)
7. Use the undercurrent of the new complexity level to start change (Dissipation)
8. Make sure there is time in order for revolutionizing and conservative effects to take place (Emergence)

**Discussion & Recommendations for an Integrated redesign**

Based on the requirements, parameters and design rules an integrated design can be made for the project. The CIMO-logic of this research illustrates that the used interventions did not trigger all the right mechanisms and/or the optimal outcomes. Although a change is visible in the right direction; part of the teams did not reach the next complexity level, which could be explained by certain concepts and focus that were underexposed. For the redesign it is a challenge to use the mechanisms, in form of design rules, to create the right interventions in the context of the libraries, which will lead to an optimal outcome. Firstly, it will shortly be discussed what will be kept in the project as described in this research. Secondly, a number of improvements will be suggested that would increase the success of the project. As might appear from the redesign, part of the given recommendations is still abstract. The improvements are not fully developed into processes and measures, but are recommendations that need to be adjusted to the specific situation in the project.

As stated previously, the project does direct the participants towards the aimed complexity level. Therefore the overall concepts of the project can be kept in the design; libraries can gain large advantages by bundling their strengths on secondary processes, where contact with the customer, the primary processes, need a more individual approach. Moreover, it is shown that some concepts of the mind-map might be expanded or added. However, none of the concepts have shown to have a negative effect, all concepts are covered in the project, and thus can be kept.

The lay-out of the design has also proven to be successful. As the individual track of the teams creates space for innovation, the gatherings enable the participants to exchange experiences and learn more about the concepts. Those two themes proved to be valuable. And lastly the selection of the libraries using the undercurrent, the early adopters of the change, is vital for the success of the
project. Because this is the second group, it needs to be evaluated whether the sponsors are just as open to the project as in the evaluated project. If not, the proposed redesign should be reconsidered. To summarize the concepts of the project that should be kept in the redesign are:
- The overall concept that libraries bundle their strengths on secondary processes as innovations.
- The concepts of the mind-map.
- The programming of the project in which the teams follow their own track and meet other teams several times a year.
- Selection of libraries on level of interest and enthusiasm of the sponsors.

The project as such does meet a number of the design rules, namely:
1. The project focuses in first place on changing the mind of the people. It does not focus on the innovations as results, but one the attitude and understanding of the people and the organization.
2. The project addresses the different entities from the holarchy, since the project itself aims for the teams and individuals; the end-goal is to change the organization and ultimately the branch.
3. The path the teams follow is taking one step at the time, starting with small innovations that will lead to larger changes in the unknown future.
4. The project uses panarchy developments; with focus on teams, team members have revolutionizing effect where the organization works conservative. Focusing on the libraries; the teams work revolutionizing and the branch has a conservative effect.

Although the project already covers a number of the requirements, some others are not met completely. For that reason a number of improvements can be suggested:

At the start of the project it is important to make sure that the right people are chosen to participate. The selection of the sponsors is previously discussed to be maintained, however, the selection of team members did not meet the requirements. To be able to use the undercurrent of the new complexity level, it has to be clear what or who this undercurrent is and how to select those. In order to do so, the type of team members should be clarified from the concepts of the mind-map into characteristics that an employee should have. Next, it is assumed that the sponsors select the team members. This indicates they need to be aware and understand the type of employees they need to select and they need to know this on time.

When the right participants are chosen; the planning of the project becomes a topic; and especially the selection of the right interventions at the right time. As repeatedly stated in this research, one of the underlying assumptions of the theoretical framework is that all aspects of an entity need to change, in this case all four the quadrants of the holons should be developed. The evaluation shows that the cultural quadrant is not much addressed by the interventions and not much visible in the effects, consequently the redesign should include more emphasis on the cultural aspects. An important factor here is management commitment (Schein, 1990). It is believed that communication by management on (new) cultural values is crucial for the success of a cultural change. When management carries out the norms and values, it also gives a sign of confidence that it is accepted to drop old habits and to embrace new ones.

Moreover, to select the right interventions, the interventions should contain the right themes. A theme that is often mentioned and appeared to be significant is the infection of others with the new complexity level. Most participants acknowledge the importance, but are not satisfied with the
execution. Infecting employees might be seen as revolutionizing effects the participants can cause on the organization. To be able to cause this, the participants need time to first go through change themselves and then affect their co-workers. Practically this implies that infection should be addressed later in the project, when the participants have gone through their own progress first. However, before any change can take place the theme of team building appeared to be crucial. Team building might not directly lead to the goal of the project; however, it is a crucial factor in creating the right circumstances for the project where the real creation can take place. For a large part team building will take place during the individual team meetings, though, because of its importance, it might gain more emphasis during the first collective interventions.

Next, for sake of the execution of the project it needs to be ensured that the planned interventions also have the right level. Only when the interventions are in the aimed complexity level itself, it might help to develop the resources into a mature level and it might be a trigger change. For this purpose more control on the level of the interventions is necessary. This can be done by selection the right intervention-leaders and clarification of the goal to the intervention-leaders. But also evaluation of the interventions can be valuable to ensure the right level of interventions. For the latter case, a possible method might be a short questionnaire as suggested in this research (appendix IX), improved by the findings. As a further point for the right execution of the project, the support for the teams should reach this level as well. Support that is largely given by the sponsors and guides, leads to confidence a team needs to drop old habits and embrace new ones. In order to be able to be of good support, the sponsors and guides need to understand the project themselves. It should be questioned whether it is not necessary for these supporting participants to go through the change towards the higher complexity level, before the teams. It could be suggested that these supporting participants have a parallel project that runs ahead of the project for the teams. So, they know beforehand the issues the teams will face and they will be prepared to support the teams optimally. A remark has to be made that the guides do not necessarily have to be new to the project; therefore some advantage can be gained from the experience of the guides, which may affect their process. This parallel track does fulfill the sponsors’ and guides’ need to interact with each other. And this might also positively affect management commitment; they will be more aware of how to communicate and know better how to carry out the right message.

So, communication is another essential aspect for the execution of the project. The clarity and intelligibility of the message is crucial for the participants’ understanding. Two elements that came forward to be inadequately addressed in the project are the message of the goal and the focus on the process. The evaluation concludes that the aim of the project could be clarified more during the start of the project. Because it is best to approach the project as a journey, taking one step at the time; it is not advisable to have a fixed program. However, a clear(er) explanation of the aim, the themes and the stages that will be addressed would benefit the participants. Additionally, the emphasis on the process is incorporated in the typology of taking a journey. The understanding of the significance of the process of change in relation to the outcome, the innovation, is seen as one of the main insights of the project. So, it needs to be ensured that also the interventions carry out this message, possible in terms of a workshop or assignment. Again, especially in the beginning of the project this topic should be dealt with.
The above discussion leads to the following improvements:
- Clarify the type of team member looked for and make sure the sponsors are aware of this on time
- Include interventions focused on the cultural quadrant
- Ensure management commitment
- The theme of infection should be addressed after the teams had time to develop themselves
- Include interventions on team building at the beginning of the project
- Clarify and control the level of the interventions needed
- The process of the supporting participants, as in the sponsors and guides, should be ahead of that of the participants
- Clarify and communicate the aim, themes and stages of the project to the participants at the start of the project
- Clarify and communicate on the significance of the process of change in relation to the outcome of the project

These improvements on the concept, planning and execution of the project shape the recommendations for an integrated redesign. They need to be further developed when issues as timing and money become clear. When all are incorporated in the project, under the assumptions as stated, the project will include a number of other design rules, namely:
1. The project addresses all facets of the holon, when also the cultural quadrant is incorporated in the design.
2. Also in the communication it is important to emphasize to take one step at the time and to communicate on the direction of the project instead of a fixed plan.
3. All the different interventions that might trigger change should have the right direction, which can be ensured by controlling the level of the workshops.
4. A right environment can be created by management commitment and an understanding of the project by the sponsors and guides. Then it is possible to let go of old habits and embrace new ones.
5. When the right team members are chosen, the project optimizes the use of the undercurrent
6. To create time for revolutionizing and conservative effects to take place, the right themes should be addressed at the right time.

This all together will likely lead the project to become more successful in achieving the goal to increase the innovative capabilities of the employees and the libraries.

5.4.2. Validation of Redesign

The proposed redesign will not be developed and implemented during the course of this research. As a result it will not be possible to evaluate and validate the redesign. However, to get some insights on the validation, the redesign is tested against the requirements, and by experts.

First the redesign is checked against the requirements. In Table 17 it can be seen that all the requirements are met in either the original concept (O) or the improvements (I). The only requirement that is partly met is ‘to secure the changes in the organization’. As can be derived from the results, this theme is not feasible within the year the project is planned. The topic is to some extent addressed in theme of ‘infecting others’ and ‘management commitment’, however, it has
increasing importance after the project as defined here. The redesign is not specific enough to include the user requirements and design restrictions; this question will be included in the expert’s opinion.

As the redesign uses a science-based approach, the redesign should be based on the design rules. Table 18 shows that all design rules are incorporated in either the original plan (O) or the improvements (I).

**Table 18: Design rules and implementation in integrated redesign**

<table>
<thead>
<tr>
<th>Rule Description</th>
<th>O</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Focus on the mind</td>
<td>O</td>
<td>I</td>
</tr>
<tr>
<td>2. Address all aspects of a holon</td>
<td></td>
<td>I</td>
</tr>
<tr>
<td>3. Address all entities in the holarchy</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>4. Set one step at the time</td>
<td>O</td>
<td>I</td>
</tr>
<tr>
<td>5. Use many different interventions</td>
<td></td>
<td>I</td>
</tr>
<tr>
<td>6. Create right environment</td>
<td></td>
<td>I</td>
</tr>
<tr>
<td>7. Use the undercurrent</td>
<td>O</td>
<td>I</td>
</tr>
<tr>
<td>8. Make sure there is time</td>
<td>O</td>
<td>I</td>
</tr>
</tbody>
</table>

**Expert opinion:**

Although the above section has shown that the redesign meets all requirements as intended, the validity is not completely proven yet. To gain some insights on the validity of the redesign experts are asked to give their opinion on the redesign. The three members of the organizing team have given their opinion as experts; those can be found in Table 19

**Table 19: Expert opinion of recommendation for redesign**

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The redesign fulfils all requirements</td>
<td>II</td>
<td>I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The redesign will improve achievement of project’s goal</td>
<td>II</td>
<td>I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The redesign does not threaten the original project’s concept</td>
<td>II</td>
<td>I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The improvements can be implemented reasonably</td>
<td></td>
<td>I</td>
<td>II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5a. The design can realistically be executed within time and money the organization can spend</td>
<td></td>
<td>I</td>
<td>II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5b. The design can realistically be executed within time and money the participants can spend</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>III</td>
</tr>
</tbody>
</table>

Table 19 shows the expert opinion on the recommendations for a redesign. It may be concluded that the experts agree that the proposed improvements are designed to fulfill it requirements and goals. Also the implementation of the recommendations is seen as a reasonable. The question whether the proposed recommendations can be executed within time and money available is debated. An argument given is that a separate track for sponsors and guides might bring extra costs that are not covered yet. On the other hand the experience of the project may lead to more efficient use and other improvements that might bring down the need for time and money.
6. Reflections:

In this research the primary year of a four year organization renewal project has been studied based on six objectives. It can be concluded that most objectives are met. An overall description has been made of the project’s context and the project, including an investigation of the underlying mechanism. Furthermore an evaluation of the project has been done which resulted in a number of recommendations for a redesign of the project. The following can be said on the objectives:

<table>
<thead>
<tr>
<th>Research Objective</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research Objective</strong>: a practical solution is made, that based on science-based design should improve the process of the project to change the employees’ innovative capabilities</td>
<td></td>
</tr>
<tr>
<td><strong>Research Objective A</strong>: a description of the problem’s context and analysis is made</td>
<td></td>
</tr>
<tr>
<td><strong>Research Objective B</strong>: a description of the project is made, although no clear difference could be made between the planned and the actual interventions</td>
<td></td>
</tr>
<tr>
<td><strong>Research Objective C</strong>: an evaluation is done on the project</td>
<td></td>
</tr>
<tr>
<td><strong>Research Objective D</strong>: recommendation for an integrated redesign are done</td>
<td></td>
</tr>
<tr>
<td><strong>Research Objective E</strong>: no generalization of the project is made; objective is not met</td>
<td></td>
</tr>
</tbody>
</table>

Three objectives are not completely met; objective B is not completely met because it appeared to be impossible to make a clear differentiation between the planned and the actual interventions. Moreover, the proposed redesign cannot be considered a complete redesign as it contains recommendations that need more development before implementation. So, objective D is only partly met. And a proposed fifth part of the research, objective E, to study the possible generalizations of the project, has not been executed. This will be elaborated on in the reflections in the next sections.

6.1. Reflections of Objectives of Research

6.1.1. Discussion

Overall the objectives are largely met, so, the results need to be reflected on the main goals of the project, as stated in the ‘Agenda for the Future’. According to the CIMO-logic the outcomes are dependent on the context, thus it also needs to be discussed whether the changes in the context might affect the redesign. Moreover, certain assumptions and choices are made in this research that had an impact.

The study on the history of innovations within libraries has shown that the foundations for the organization renewal project can be found in the ‘Agenda for the Future’. Here is stated that an integral approach using HRM, ICT and marketing the libraries should cause a cultural change in which the libraries are able to serve the inquisitive Dutchmen. For this end three goals are stated, namely 1) the aim for the libraries is to adapt to the changing needs; 2) to improve the supply and demand balance; and 3) to improve the infrastructure and availability of the services of the libraries. This project, being part of the HRM focus does mostly focus on the first goal, by preparing the library employees to be able to adapt their system to the changing needs. Furthermore the innovations, developed by the teams, and the integral approach that connects different libraries, might also enhance the other two goals.
Although the ultimate aim of the project is to make a change in the branch; it has not been feasible to include that in this research. The project studied had duration of 9 months, but within these nine months no changes on level of the branch could be noticed. Therefore this research focuses on the transformation of individuals and teams. The project and this research are thus largely based on the assumption that this change will eventually lead to change at level of the branch. And, although this assumption is grounded in literature, only time will tell if this assumption is valid.

During the course of this research it may be expected that the context of the project has changed. New researches and projects have been developed on the topic of the future of the library. For example a large research among users and non-users of the libraries (Van der Linden, 2010) has shown that the Dutchman is still interested in the library, though in a different form. Furthermore, this user-research explores the needs and expectations of the inquisitive Dutchman in relation to the library. This user-research and others might change the context for future projects.

One of the choices that is made in this research is the fact that the redesign is a replication of the project. The expansion of the range of the program is valuable; however, it does not focus on the participants who took part in the project and the continuation of their process. Continuation seems essential as the changing process of those participants is not completed yet and the possibility might occur that those employees fall back in their old habits. Moreover, they are largely responsible for expanding this personal change into a change on organization and branch level. A combination of the optimization of the process and a continuation of the process should lead to the best result.

Another choice made in this research is the focus on the C&C paradigm as trigger of change. In the theoretical framework, three other issues were assigned as triggers, only this research has not focused on them. These three triggers, however, can be recognized within the project. The external consultant with the focus on the C&C paradigm, change management that focuses on the human factor and the HRM processes to develop the innovative capabilities; all are existent in the project and can affect the success of the project. The choice for the focus on the C&C paradigm assumes this is the right trigger for change. This research does not question this assumption by comparing other approaches to solve this problem. However, the C&C paradigm does argue that it is better to choose a certain approach than to waste too much time on finding the right approach. Therefore the assumption might be considered valid.

### 6.1.2. Implications for Organization

This research, as it is executed, has a number of implications for the organization. First, this research gives a complete overview of the organization renewal project as executed. Because little documentation is available on the project, this research gives a rather detailed overview on the project.

Next to that, this research is strongly grounded in literature. Both the research itself as well as the theoretical background of the project shows the foundation of the project in theories. This will increase the possibilities to discuss the effects of such a project.

Also the description and the evaluation of the project can be used as input for discussion on continuation of the project. The project has been a first attempt to cause a change within the library branch. This research sheds light on what went right or wrong and what affect it has had. And therefore it forms an input for future plans. Furthermore, this research contains a solid base to start up a similar project again. So, in the following year it will be possible to focus more on details and improve the process.
And lastly, the redesign of the project suggests a number of improvements that can be used to optimize the process.

6.2. Reflections of Objectives within Research

The used methodology, methods and the execution of this research also have affected the research. First, the methodology used will be elaborated on, then the methods and finally the implications of this research for the literature.

6.2.1. Discussion of the Methodology of Research

The methodology of this research is done through a C&C lens, which affects the research in multiple ways. Furthermore, not all methodological steps have been executed, the most important causes can be found in issues of time and lack of documentation.

The C&C paradigm of this research is argued to be a valuable approach for research in an organization. However, at the same time, it leads to one of the main limitations. C&C is considered to be a paradigm and thus, a different view on the world than other research methods. Research in the beginning of the 21st century is still rarely done from a C&C paradigm and likewise this master thesis project is set up from a different perspective. This research therefore embodies the struggle between two paradigms, as the research methodology and methods are attempted to be C&C based, this final report and the research are largely influenced by the standards from a different paradigm. Similarly is the organization renewal project positioned in an organization that has not adopted the C&C paradigm (yet). However, it is accepted that the two paradigms can coexist at the same time; the struggle consequently is to find the right balance between the two.

Part 5 of the proposed methodology (the generalization of the redesign) misses in this research. One of the main causes for this can be found in time issues. Most important is that the dynamics of the organization renewal project and this research conflict. That is, because the pressure in the organization led to a continuous progress in the project; where a scientific research requires more time. The speed and timing of the interventions complicate conducting a scientific research that needs preparations, testing of methods and time for analysis. This especially complicates in methods like observing when the speed of the project complicates a thorough observation. Moreover, time was an issue, because the run time of the project and the research period differed too much. The project started half-way through the project and ended near the end of the project. This left little time for preparation of the evaluation of the interventions or for a large evaluation afterwards. Although it has been attempted to blend in the project and research as much as possible, it has affected the number of respondents in the questionnaires and interviews. And moreover, it has affected the decision to leave out the fifth part of the methodology.

Another issue that has affected the execution of the research is the lack of documentation. Documentation of the planning and execution of the project is scarce. A large part of this research included reconstructing those plans and interventions. So, it would be possible to evaluate the project. This may have given the following disadvantages: 1) the time it took to document the project hindered the timing of the analysis and evaluation; 2) the project description is in hindsight and therefore affected by the happenings afterwards; and 3) the project description is an interpretation by the researcher.
6.2.2. Limitations of Methods

The methods of data collection and analysis have some limitations that might affect the validity of this research. Here, the different types of methods are discussed.

In line with the C&C paradigm this research is mainly based on qualitative data and little on quantitative data. This gave the advantages that the data is very rich and detailed and it was possible to incorporate the aspect of time as well. On the other hand this data is not as precise as quantitative data would be and moreover, dependent on the interpretation of the researcher. It can be argued that for researches in management science, where the system is very context specific, it is more valuable to study qualitative data that is in-depth and detailed (Verschuren, 2009). Others argue (Fern, 2001) that quantitative data should always be founded in qualitative data. Moreover in an exploratory research as this one, where no previous research methods are known, qualitative data can give very valuable and detailed insights. However, even better would be a combination of subjective qualitative methods and the more objective quantitative methods.

The quantitative data in this research is collected with help of the three questionnaires (Appendix III, VI and IX). When the reliability is considered it is apparent that two out of the three questionnaires had high valued data. This could be explained by either optimism of the respondents or weakness of the statements. It would be interesting to test the questionnaire with a larger Likert scales to promote more nuances in the answers. The method used (two contradictory statements opposite from each other) did give some interesting insights; especially the ranking of the teams gave satisfying results. The reliability of the questionnaire for the sponsors can be questioned as too many cases did not fit the expected hypothesis. The third questionnaire did not get enough response and thus did not lead to definite answers. A main limitation of this research is that the questionnaires used were especially made for this research and could not be tested before, which results in a certain error.

6.2.3. Time Table

In section 4.4 a time table of the planned research was made. Now, a time table of the actual happenings of this research can be compared (see Table 20). Some differences can be recognized: Part 2 en 3, the project description en evaluation, have taken more time, as discussed above. As a result the redesign is moved backwards as well. Although the time table differs, no large implications for the research methodology are recognized as the C&C methods promote a continuous reflection on the different steps of research. And special attention was given to the order of steps in project description and evaluation.

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>Start</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Part 1</td>
<td>1-9-2009</td>
<td>21-9-2009</td>
</tr>
<tr>
<td>2</td>
<td>Part 2</td>
<td>1-9-2009</td>
<td>30-11-2009</td>
</tr>
<tr>
<td>3</td>
<td>Part 3</td>
<td>21-9-2009</td>
<td>15-1-2010</td>
</tr>
<tr>
<td>4</td>
<td>Part 4</td>
<td>1-1-2010</td>
<td>8-2-2010</td>
</tr>
<tr>
<td>5</td>
<td>Master thesis documentation</td>
<td>1-9-2009</td>
<td>22-2-2010</td>
</tr>
</tbody>
</table>
6.2.4. Implications for Literature

Next to a practical solution to a problem, this research is also based on scientific theory and methods. Consequently this research also has a number of theoretical implications, mainly related to the C&C paradigm.

Literature on the C&C approach is still very scarce and especially case studies done from a C&C perspective are very rare. Therefore this study is a valuable exploration of the possibilities and advantages the C&C approach gives. The methodology of this research is an attempt to relate the C&C approach with the more traditional research methodologies. It has shown how it is possible to use theories as the reflective and regulative cycle and the use of CIMO-logic from a C&C perspective. An important factor on this is to use the methodologies as a guide and continuously revise them. This research has shown that this approach enables the researcher to include transformations that happen over time.

Also the methods used in this research are an exploration of the C&C approach. Data collection methods as via ‘World Café’ principle and the video-assignment (‘Babbelbox’) are new methods to be used in a scientific research. Especially dialogue methods as ‘World Café’ appear very valuable to discover an overall opinion of a group of people and at the same time, get rich and detailed data. It needs to be stated that data analysis from a C&C perspective always is subjective to the interpretation of the researcher. Therefore it is a valuable adding to develop possibilities to collect more objective data as well.

Likewise, the quantitative methods used were also an exploration to translate the C&C methods in a more variable based approach. Although these methods require generalizations and ignorance of the context and the timing, it does give more possibilities for analysis and comparison. Of the quantitative methods used, the questionnaire to define the position on the line between two complexity levels seems promising. The method to put two statements of the different complexity level opposite from each other does give interesting insights. The exact measurements need some more exploration.

To conclude, this research has shown that a scientific research mainly based on qualitative data can lead to interesting results and a first exploration on how more objective data can be incorporated with a C&C approach.

6.3. Further Research

This research leaves a number of options for further research, both on level of developing research with a C&C approach and on the project itself.

As a first suggestion for further research the execution of the fifth part of the methodology could be valuable. It will be valuable to find out if the concepts can be translated and how they might be used in different situations.

For the VOB this research might lead to opportunities for further research of the project. A second evaluation of the same project that is more focused on the participating employees and from the perspective of a second researcher might add valuable confirmations and differentiations. Or a similar research of the second year project will also be valuable. It will provide the opportunity to compare both projects and study the possible improvements.

Another research could be on the development of the improvements suggested. How can those improvements be used in the project and what effect do the underlying mechanisms have? Moreover, as this research has focused on the effect of the interventions on the participants, it might
be valuable to add a research to focusing on the changes in actual thinking and working this effect has caused. That says how the employees use their new innovative capacity in their daily work.

Suggestions for further research to develop the C&C methods, directly lead from the implications. It could be interesting to further explore the methods used as the ‘World Café’ principle and the questionnaires. And it would be interesting to combine both qualitative and quantitative data from a C&C perspective.
References


Appendices

The appendices and corresponding page numbers can be found in: The Library for the Inquisitive Dutchman – Appendices (Van Raalte, 2010).

I Comparison of Methodological Lenses
II Interview Questions Initiators
III Questionnaire Sponsor
IV Culture of Libraries
V Integral Theory of Employee Holon and Team Holon
VI Questionnaire Ranking Teams
VII Interview Questions Teams
VIII Websites Related to the Organization renewal Project
IX Questionnaire Workshops
X Questionnaire Validation Redesign
XI Timeframe on Innovation within Public Libraries 1998-2009
XII History of Innovation Process Dutch Public Libraries
XIII Mind-Map
XIV Explanation Mind-map
XV Rhine Capitalism
XVI Timeframe of Interventions
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XVIII Summary of Findings ‘Babbelbox’
XIX Themes in Findings Babbelbox
XX Summary of World Café Dialogue
XXI Ranking Teams
XXII Summary E-mails Guides
XXIII Summary Interview with Team