NTNU
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Selvevalueringsprosesser

Hvordan de kan bidra til
organisasjonsutvikling

Mari Fauchald

Industriell økonomi og teknologiledelse
Innlevert: januar 2017
Hovedveileder: Jonas Alexander Ingvaldsen, IØT
Medveileder: Eirin Lodgaard, SINTEF Raufoss Manufacturing

Norges teknisk-naturvitenskapelige universitet
Institutt for industriell økonomi og teknologiledelse

Task description

Examine how self-assessments in companies can be performed.

Oppgavebeskrivelse

Undersøke hvordan selvevaluering i bedrifter kan gjennomføres.

Preface

To perform and write this master thesis has been an interesting and challenging experience. It has been exiting to learn about how self-assessments can be performed in practice.

I would like to thank SINTEF Raufoss Manufacturing and other members of the research project for giving me the opportunity to work on this project and include me in their meetings and sharing their thoughts regarding subjects related to the self-assessment process. Thank you for your patience and support during this project period. A special thank must be given to Eirin Lodgaard, one of the supervisors of this master thesis, for helping out with the case study.

I would also like to thank the case company of this master thesis for being open and willing to help me answering my questions regarding the self-assessment subject.

In addition, I would like to thank my family and boyfriend for the help and support they have given me in this period.

At last, but not least, I would like to thank my supervisor Jonas A. Ingvaldsen at NTNU for all help and support during the period of my master thesis. His input and facilitation has been of great importance for me when writing this thesis.

Abstract

In this master thesis, self-assessments and self-assessment processes are examined. The thesis is divided into two parts. In Part One, theory about self-assessments and self-assessment processes is discussed. In order to do so, organization development theory is also presented. The idea of this master thesis is that self-assessments can be useful if used in the right way, leading to organization development. Part One of this master thesis is therefore a theoretical evaluation discussing self-assessment theory against some characteristics of organization development theory, based on a literature review of these two fields.

One of the main findings from this examination is that the approach chosen for self-assessments must facilitate for involvement, broad participation, and provide communication, reflection and learning. Different variants of workshops are appropriate approaches to self-assessments contributing to organization development.

Another finding is that the model chosen for self-assessments must fit the organization's characteristics, resources and processes, and the problem or area generating the need of the assessment. Self-assessment models containing diagnostic components guide assessors to where to look for problems and solutions, increase involvement and participation, and contribute to reflection, discussion, knowledge generation and learning. The usability is also an important characteristic of the self-assessment model.

When it comes to the total self-assessment process, all relevant actors should be involved. Also, finding an agreed upon problem definition or improvement area, and choosing an assessment approach, are important preparation tasks. Other preparing tasks are to plan for appropriate learning arenas, adjusting the model to fit the context and problem, gather and train participants to perform the assessment, choose whether external actors are to be included, and gather data to be used in the assessment. Then the main assessment follows. An action plan is established and implemented, based on the assessment results. The actions are then performed, followed-up and evaluated. A new self-assesment cycle then follows.

In Part Two, a case study is presented. In this case study, a self-assessment model and the following self-assessment process is tested. Data presented from this case study follows from a research project in which I have taken part. Data has been gathered through observations, meetings and interviews.

One of the main findings from this part of the master thesis is that a clarification must be done in relation to the purpose of the model examined. If this is a self-assessment model, this must be evident in its name and in how the model and process is presented to future users. It is also found that terms and concepts regarding the model and process can seem confusing to new users. Some suggestions are given in order to clarify and ease the introduction phase. In this case, facilitators interacted a lot during the assessment. As these resources might not be present in future self-assessments, suggestions on how future users can manage the assessment more by themselves are given. The structure of the model tested in this case-study was found suiting to guide the approach to self-assessment.

Sammendrag

I denne masteroppgaven sees det nærmere på selvevaluering og selvevalueringsprosesser. Oppgaven er delt i to deler. I den første delen diskuteres teori om disse emnene. For å kunne gjøre det, presenteres også organisasjonsutviklingsteori. Tanken bak denne masteroppgaven er at selvevaluering kan være nyttig dersom det benyttes på riktig måte slik at det leder til organisasjonsutvikling. Del En er derfor en teoretisk evaluering som diskuterer selvevalueringsteori opp mot karakteristikker ved organisasjonsutviklingsteori, basert på en litteraturstudie av disse to fagfeltene.

Et av hovedfunnene fra denne gjennomgåelsen er at metoden som velges for selvevaluering må tilrettelegge for involvering, bred medvirkning og skape kommunikasjon, refleksjon og læring. Ulike varianter av workshops finnes å være passende for selvevaluering som bidrar til organisasjonsutvikling.

Et annet funn er at modellen en velger for selvevaluering må passe organisasjonens karakteristikker, ressurser og prosesser, samt utfordringer eller områder som genererer behovet for evalueringen. Selvevalueringsmodeller som inneholder diagnostiske komponenter guider de som evaluerer i forhold til hvor de skal se etter problemer og løsninger, øker involvering og deltakelse og bidrar til refleksjon, diskusjon, kunnskapsgenerering og læring. Brukervennlighet er også en viktig karakteristikk ved selvevalueringsmodellen.

Alle relevante aktører bør involveres i selvevalueringsprosessen. Å bli enige om en problemstilling eller et forbedringsområde og å velge en tilnærming til evalueringen er også viktige forberedelsesoppgaver. Andre slike forberedende oppgaver er å planlegge for passende læringsarenaer, tilpasse modellen til kontekst og utfordring, samle og lære opp deltakere som skal utføre evalueringen, velge hvorvidt eksterne aktører skal delta og å samle data som skal brukes i evalueringen. Deretter følger selve evalueringen. På grunnlag av evalueringen etableres og implementeres en handlingsplan. Handlingene utføres, følges opp og evalueres. En ny selvevalueringssyklus settes i gang.

I Del To presenteres en casestudie. I denne studien testes en selvevalueringsmodell og dens tilhørende prosess. Data presentert fra denne casestudien er hentet fra et forskningsprosjekt som jeg har deltatt i. Data er samlet gjennom observasjoner, møter og intervjuer.

Et av hovedfunnene fra denne delen av masteroppgaven er at det trengs en klargjøring av modellen som er testet. Dersom dette er en selvevalueringsmodell må dette komme tydeligere frem gjennom modellens navn og hvordan modellen og prosessen presenteres for fremtidige brukere. Det er vist at begreper og konsepter som omhandler modellen og prosessen kan virke forvirrende for nye brukere. Det er gitt noen forslag til hvordan en kan klargjøre og senke terskelen i introduksjonsfasen. I denne studien var fasilitatorene svært deltagende under selve evalueringen. Siden disse ressursene kanskje ikke er så tilgjengelige under fremtidige selvevalueringer er det gitt forslag til hvordan fremtidige brukere kan gjennomføre evalueringen mer på egenhånd. Det er også funnet at strukturen i modellen som ble brukt i dette studiet passer til å vise gangen i selvevalueringen.

Content

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1 Introduction

The emphasis of this master thesis is to examine how self-assessment processes can be conducted by companies in order to obtain organization development. The reason to examine this topic further follows from the assumption that, although there exist many writings and research on the topic of self-assessments, the method of use does not necessarily lead to organization development. Underlying this assumption there is an awareness of the usefulness and advantages that follows from the use of self-assessments, and, if used in the right way, it is assumed that the potential for organization development can be high.

Hillman (1994, p. 29) defines self-assessments as "(…) the process of evaluating an organization against a model for continuous improvement, in order to highlight what has been achieved and what needs improving." Self-assessments are conducted in order for the company to estimate their status, what strengths they have, and what areas need improvement (Ford and Evans, 2002, p. 25).

Often, what Ford and Evans (2002) call organizational models, are used as a framework for the assessment. The term self-assessment suggests more internalizing of the process rather than assessments being conducted by external actors like outside consultants (Ford and Evans, 2002). Figure 1.1 illustrates the process of self-assessments, containing the main evaluation process using a reference model, and the simultaneous processes supporting the main evaluation process.

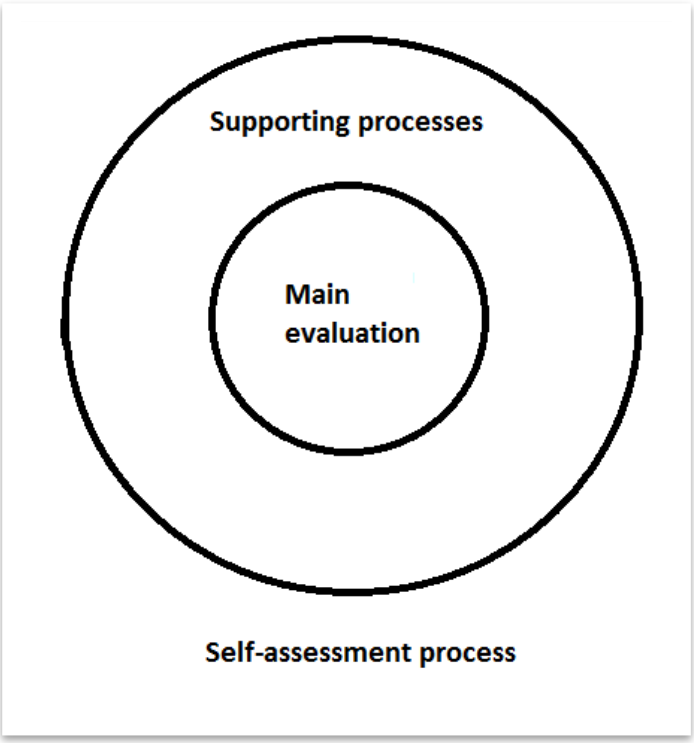

Figure 1.1: Illustration of the self-assessment process

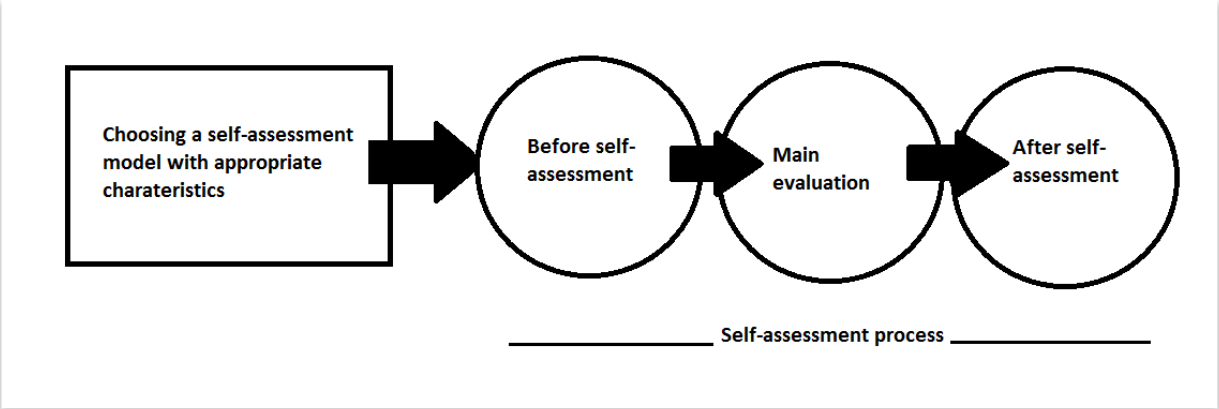

Figure 1.2: Illustration of the approach to self-assessment

In figure 1.2 the approach to self-assessments used in this thesis is illustrated, presenting the main evaluation process and its supporting processes, in addition to the self-assessment model. Here, a self-assessment model means the model used by the organization to evaluate itself, containing criteria and statements that the organization's standing are assessed against. The main process of self-assessment is defined as the process of performing the evaluation using a self-assessment model. Here, this process is described as the approach of the self-assessment. The approach is illustrated as the main evaluation in figure 1.1 and 1.2.

The master thesis is divided into two sections. First, existing theory on self-assessments and organization development will be presented, followed by a discussion on what characteristics self-assessment models should contain and how self-assessment processes should be conducted if contributing to organization development. This part of the master thesis is based on a literature review on self-assessments and on organization development.

The first research question of this master thesis can then be formulated as follows:

> *What characteristics should a self-assessment model and a self-assessment process contain in order to contribute to organization development?*

The second part of this master thesis is more practically related. A testing of a self-assessment model and a self-assessment process suggested by academics and applied researchers are described, and then evaluated using the findings from the theoretical discussion in the first part of the master thesis. Research for this purpose is related to an ongoing research project. In this research project, a self-assessment and implementation model for Norwegian SME's is to be developed and tested. In addition to create such a self-assessment model, to examine how self-assessments can be used in more developing ways are of interest. A process based on organization development theory is therefore sketched and tested as well.

The research question related to the more practical part of this master thesis then becomes:

> *How can the project team improve the self-assessment model and self-assessment process tested in this master thesis, in order for the self-assessment to contribute to organization development?*

The team developing the self-assessment model to be tested consists of both academics and scientists. Because of the influence by these academics, and because of the aim of a more developing self-assessment, organization development is used as a theoretical basis of the model. As already mentioned, organization development theory will also be used as a theoretical framework in this thesis.

The results of the more practical part of the master thesis are meant as a contribution to the more specific research project on self-assessments, and are therefore not of a general character. The second part in this master thesis is therefore not meant for general theory building on its own. Instead, it is meant as a contribution to the development of the self-assessment model and to the larger process that the research project represents. The contribution will later be part of the delivery of the research project, in addition to the self-assessment model developed, and research articles.

As this thesis follows a research project and its timeline, it is concentrated around the initial testing of the self-assessment model. In this master thesis, therefore, the focus will restricted to do a first examination of what process is appropriate when using the self-assessment model. Also, the main aspects of the self-assessment model, like its structure and user friendliness, will be examined. This does not include a deeper analysis of language or thematic content, as this is left to the group developing the model. The aim here is to establish what aspects a self-assessment model should contain, and which are not appropriate.

As this master thesis mostly covers the initial testing of the self-assessment model and the process of using it, there is a limitation concerning the debt of analysis possible when it comes to the process following the main evaluation. Among other, the long term use and long term effects of the self-assessment are not covered here due to this limitation. Although this is the case, information regarding short term effects and future expectations of the users is possible to gather in this initial testing phase. To a certain point, the part of the self-assessment process following the main evaluation, like the implementation phase and a short term evaluation, are therefore covered, while the long term aspects like future use of the model or a total evaluation of the process is not covered in this thesis.

The master thesis is structured in two parts connected to each of the research questions presented above. In the first part, theory regarding self-assessments is presented. In addition, organization development theory is examined. The literature review ends in a discussion and a conclusion chapter in which the first research question is answered. A method chapter is also included in order to explain how the literature review has been conducted.

After this literature review, the second part of the master thesis follows, in which the second research question is examined. Here, the case studied is explained in more detail. Following from this, the results of the research are presented. Further, a section explaining the methods used for the research conducted is presented. The case study results are then presented and discussed against more theoretical aspects discovered in part one of the thesis. The master thesis ends with a conclusion in chapter 16.

Part One: Literature review

As explained in the introduction, this part of the master thesis is provided in order to answer the following research question:

> *What characteristics should a self-assessment model and a self-assessment process contain in order to contribute to organization development?*

The first part of the thesis begins with an introduction to the literature review and an explanation to why it is relevant. Then a chapter of organization development theory follows, which ends with four main characteristics of the subject. Further, self-assessment literature is presented. In chapters 7 and 8, the two subjects are combined through a discussion in order to answer the first research question of the master thesis. The first part is then ended with a conclusion in chapter 9.

2 Introduction to the literature review

The field of organization development has evolved and been widely debated since the 1950's (Klev and Levin, 2009). The field of self-assessments, however, emerged in the late 1980's and 1990's, especially from quality awards and Business Excellence Models (BEM's), closely linked to the field of Total Quality Management (TQM) (Ford and Evans, 2002; Conti, 2001). The American Malcolm Baldrige National Quality Award (MBNQA) and the European Quality Award (EQA) are such awards, which have evolved to so-called Business Excellence Models. These models have been used by organizations in order to perform self-assessments of their TQM practice (Williams et al., 2006).

Literature about self-assessments is to some extent based on experience by the authors or analyses of cases (Hillman, 1994; Conti, 1997a; Teo and Dale, 1997; Ritchie and Dale, 2000; Jørgensen et al., 2004). As some of the literature of self-assessments is based on case-studies, it is found appropriate to comment on the generalization of the findings of such studies. It is important to keep in mind that such studies might not be representative to a complete population. As Bryman (2012, p. 406) puts it, "(…) the findings of qualitative research are to generalize to theory rather than to populations".

An example of case-study literature used in this paper is the ongoing, longitudinal study of Jørgensen et al. (2004), which they comment like this before concluding on their findings: "Based on a limited number of longitudinal case studies in one company and the use of one particular tool, the present article cannot obviously give any definite answer to this question" (Jørgensen et al., 2004, p. 349). Another example is the study done by Teo and Dale (1997) of four companies using self-assessments, which differed in their product offerings, TQM maturity, experiences with self-assessments and so on. This section is not written in order to criticize the results of these studies or the methods used. The point to be made here is to keep in mind that the results of the studies might not be general to all organizations or contexts.

Some of the literature of self-assessments is written by authors who have also been involved in developing the Business Excellence Models, made empirical research on the field or have had an advisory/consultancy role in self-assessment processes. An example is the article of Williams et al. (2006, p. 1288). Also, Blazey (1998), having among other a role as senior examiner for the MBNQA, uses his experience to examine different approaches to self-assessments. Another example is the article of Hillman (1994), who, as a Director of TQM International Ltd. and a member of the European Foundation for Quality Management (EFQM), writes a three-page article about self-assessments and the EFQM-model (the European Excellence Model updated and improved by EFQM) using only references from material provided by these two organizations and his own experience. This article is further sited by several other authors of the field of self-assessment (Teo and Dale, 1997; Ritchie and Dale, 2000). This shows how the field to some extent has evolved through use of literature based to some extent on experience of authors rather than research articles with high transparency of research methods and sequence of arguments.

The discussion above implies that the field of self-assessment is less theoretically developed than for example organization development theory. At the same time, the way the literature

has evolved is not necessarily negative, as experience in itself can be an important factor in developing the theory of self-assessments.

The emphasis of this report is to examine how a self-assessment process is to be carried out in order to obtain organization development. Therefore, the literature of self-assessments and self-assessment processes is reviewed. The idea is to establish a more theoretical approach, using the theories of a more evolved field, in this case the organization development field, to support the argumentation.

The literature of self-assessments also does not provide one clear approach to self-assessment and self-assessment processes. Therefore, one of the reasons to use organization development theory to approach the field of self-assessment is to establish what approaches and methods will serve the purpose of organization development, and which will not. In addition, organization development theory is not just used in order to discuss the main evaluation phase, but also the supporting processes before, during and after the self-assessment takes place.

Another motivation for examining the self-assessment process further is the author's assumption that self-assessments can be valuable when conducted in a manner that supports organization development. The idea is that it can contribute to learning about and within the organization, in addition to examining strengths, weaknesses and opportunities for improvement, if done in a way that supports organization development.

This paper deals with self-assessments meant for manufacturing companies, meaning that only self-assessments of manufacturing companies are reviewed. This is evident in the way the literature review and analyses have been conducted, for example not including literature about self-assessments in the school- or health care sector. Although this distinction has been made, some articles reviewing self-assessments which yield both for manufacturing and other industries have been taken into account.

The next chapter shortly presents how the literature review has been conducted.

3 Method

In order to write this paper a literature review on the field of organization development and on self-assessments has been conducted. Bryman (2012, p. 102-112) distinguishes between a systematic and a narrative literature review. A systematic literature review adopts a more explicit and transparent approach in order to sort out literature relevant to the research question, while a narrative review has a more wide-ranging scope, trying to provide a greater understanding of the research topic (Bryman, 2012, p. 102-112). The literature review of this paper has followed a narrative approach, as the field of self-assessments is less developed and was not known to the author. One of the aims of this paper is to uncover what literature exists on the field of self-assessments. Therefore, it was not applicable to plan and follow a systematic literature review.

This paper deals with self-assessments meant for manufacturing companies, meaning that only self-assessments of manufacturing companies are reviewed. This is evident in the way the literature review and analyses have been conducted, for example not taking into account literature about self-assessments in the school- or health care sector. Although this distinction has been made, some articles reviewing self-assessments which yield both for manufacturing and other industries have been taken into account.

Authors and themes of interest have been discovered along the searching process, both by using search engines on themes and authors and by examining references. References which appeared to be interesting or were mentioned in many articles have been examined. For example, Conti (1997), Conti (2001), Hillman (1994) and Ritchie and Dale (2000) are mentioned frequently in the literature of TQM self-assessments. In the literature of Lean assessments, Bhasin (2011) is frequently referred to.

In the review, search engines like oria.no and Google Scholar have been used. Here, I have used search words like “organization development”, “self-assessment” and “evaluating organizations”, combined with search operators like AND, OR, NOT and *, for example “self-assessment” NOT “health care”. Most of the literature found is in the form of books or journal articles.

The literature found has been registered in a literature matrix. Here, information like title, author, journal (if article), publisher (if book), time of download, relevance to the research question and a small summary have been stored. It has proved to be a helpful tool in the process of writing this paper, as it was easier to keep track on the literature and remember what was written in each text.

4 Organization development

Much is written on organization development since its origination. In this thesis, several definitions are presented and discussed in order to discover important aspects of organization development. Then the main historical contributions to the field are presented, before an organization development model proposed by Klev and Levin (2009) are introduced. Further, main elements of organization development are revealed. These elements are later used in the discussion chapter in order to evaluate the presented research question.

Klev and Levin (2009, p. 50) believe that the term of organization development was first used in the 1950's. Before that, several sources and development groups took part in establishing the term. Later, the field has constituted several organizational working methods aiming for improvement, development, learning, democratization, efficiency and so on. Klev and Levin (2009) describe organization development like this:

> A general aspect of organization development is that it to a great extent is about planned development processes in organizations where an academic analysis underlies what is conducted. It is not about acute, enforced actions. We could say that the generic features of organization development efforts is that they are based on revealing data about the state of the organization, do some kind of analysis, and initiate actions.(Klev and Levin, 2009, p. 51) (translated from Norwegian)

French and Bell (1990) define organization development as follows:

> Organization development is a top-management-supported, long-range effort to improve an organization's problem-solving and renewal processes, particularly through a more effective and collaborative diagnosis and management of organization culture – with special emphasis on formal work team, temporary team, and inter-group culture – with the assistance of a consultant-facilitator and the use of the theory and technology of applied behavioral science, including action research.(French and Bell, 1990, p. 17)

Cummings and Worley (2005) present this definition of organization development:

> Organization development is a systemwide application and transfer of behavioral science knowledge to the planned development, improvement, and reinforcement of the strategies, structures, and processes that lead to organization effectiveness. (Cummings and Worley, 2005, p. 1)

By organizational effectiveness, Cummings and Worley (2005, p. 3) mean that organizations are able to solve their own problems, focusing attention and allocating resources to obtain their goals, and at the same time having high performance and quality of work life.

From these definitions, organization development is not about short-term, imposed changes, but about long-term, planned development efforts based on some kind of analysis. They do not only include the initial implementation of change programs, but has "(…) a longer-term concern for stabilizing and institutionalizing new activities within the organization" (Cummings and Worley, 2005, p. 3). French and Bell (1990, p. 17) define organization development as a top-management supported effort, meaning that top-management not only should provide direction and support, but also be actively involved. Following the previous

discussion, organization development can be seen as a long-term development-effort supported by top management.

4.1 The emergence of the organization development field

According to French and Bell (1990) the emergence of organization development has mainly been influenced by three "stems" and the links between them. Although there are also other contributions to this field (Cummings and Worley, 2005, Klev and Levin, 2009), these three will be examined in this report. The first contribution is the T-groups evolving from group experiments at MIT in the 1940's, leading to "(…) participants learn from their own interactions and the evolving dynamics of the group (…)" (French and Bell, 1990, p. 24-25). Klev and Levin (2009, p. 52-53) find this important, as it contributed to understanding roles and relations between experts and what they call objects in development efforts, and how learning happens. They also state that it gave rise to the participation aspect of organization development.

The second stem of organization development is the survey research feedback (French and Bell, 1990, p. 32). It symbolizes the process of collecting data and feeding it back to the organization, which is essential in organization development thinking (Klev and Levin, 2009,p. 57-58). It provides an organization with an improved understanding of itself, which can be used as a basis for later improvements (Klev and Levin, 2009, p. 57).

The third influencing stem is the action research (French and Bell, 1990, p. 34). It contributed to the collaborative process between organization members and social scientists in order to create knowledge through change (Cummings and Worley, 2005, p. 8). In this way, both organization action and change guided by research and social scientist's knowledge creation were possible (Cummings and Worley, 2005, p. 8). Compared to the survey feedback, action research focuses more on internal processes of the organization (Klev and Levin, 2009, p. 58). Klev and Levin (2009, p. 54) explain the contribution of action research to organization development like this: "The action research is about facilitating action-oriented learning processes for other people, which is close to what organizational development is about" (translated from Norwegian). Following the discussion above, three main contributors to organization development are T-groups, survey feedback and action research.

In the next chapter, an organization development model provided by Klev and Levin (2009) is presented.

4.2 The co-generative learning model

Klev and Levin (2009, p. 70) criticize several authors for stressing the importance and advantages of involvement and participation in organization development, and at the same time excluding it in their organization development models. Further, they also claim that the organization development literature only to a limited extent presents a complete, academic conceptualization of what an organization development process is about (Klev and Levin, 2009, p. 71).

In order to integrate involvement and participation into a framework of organization development, Klev and Levin (2009) present the co-generative learning model, which is shown in figure 4.2.1. This model is further presented and used in this report as a framework of organization development. It is chosen because it includes many of the aspects of organization development discussed previously in this chapter, and also because it is a newer framework of an organization development process, taking the aspect of participation into account. As revealed later in this thesis, it is also suitable for comparison to self-assessment processes.

The co-generative learning model is developed from a conceptualization on participation based action research, having democracy and participation as fundamental principles. In their model of organization development, Klev and Levin (2009) assume organizations to be dynamic. Their organization development process is sketched as a learning process, structuring the interaction between those in need of changing practices and those who promote it to develop the work practices and organization. Often, external actors promote the organization development process, while internal actors define and conduct actions through their own work practice. These different actors represent different competence, positions and roles in the process. Therefore, the model includes two learning loops representing actors reflecting inside their own groups of interest, and a joint problem solving loop to ensure reflection between all actors, securing academic thinking and development. Through this process, action and knowledge creation is united in order to solve problems. This is how action research becomes present in the organization development model. (Klev and Levin, 2009)

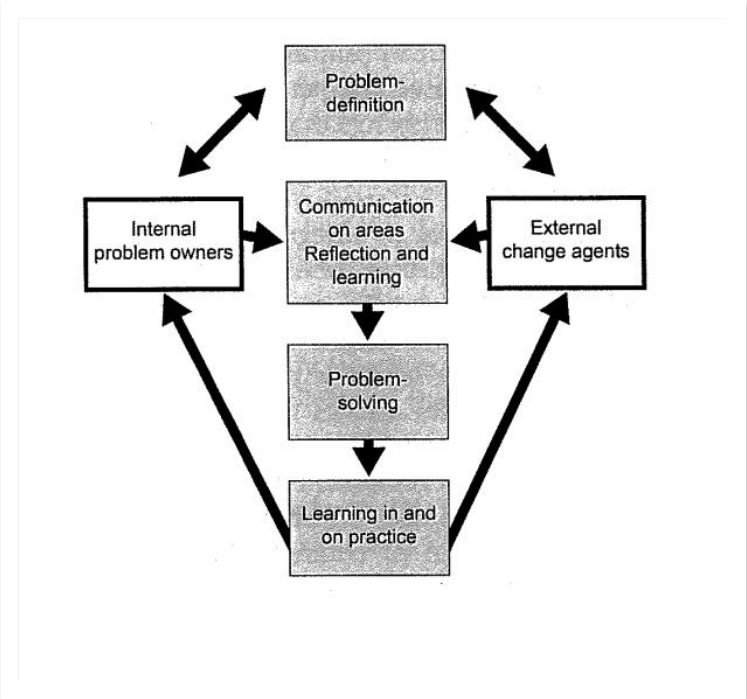

Figure 4.2.1: Co-generative learning model, (Klev and Levin, 2012)

4.2.1 Initiation phase

The first phase of the organization development model involves clarifying the problem and to establish what the activity to be performed is about. In this phase the actors also need to get to know each other and establish trust in order to create a foundation of a mutual learning process (Klev and Levin, 2009). Klev and Levin (2009, p. 76) state that: “The most rewarding problem clarification is established through a dialogue which enables points of views to be put up to each other” (translated from Norwegian). This can create interactions resulting in a topic question based on new, shared understanding. The actors might have different background, competences and interests, and as the process is to be run forward by participation, it is important that the goals set are legitimate and acceptable to all actors. In the initiation phase of an organization development process it is therefore important to build a consensus between the actors. In this phase it is also recommended to consider different solutions to the problem in order to find the best one. Further, Klev and Levin (2009) suggest to choose an area of consideration where quick fixes are likely to be generated, as this leads to motivation for further organization development. (Klev and Levin, 2009, p. 76-77)

4.2.2 Start-up and learning spiral

The second and third phases of the organization development process are incorporated in the model through the learning loops described earlier. In this model, planning is important in order to facilitate learning and development, and not to steer the process towards pre-decided results. Here, the external actor or the leader needs to develop learning arenas suitable to the context of the organization development process in order to generate learning through communication and participation. (Klev and Levin, 2009, chapter 3)

Klev and Levin (2009) also introduce the concept of a learning spiral. A learning spiral is described by the following processes; collective reflection to generate alternatives of action, experimentation through taking action, collective and individual reflection on results, and feedback to, and new learning on, the joint learning arenas. Also, there is an aim that the organization development process will be less dominated by external actors and end up being managed completely by the internal actors and problem owners after some time. (Klev and Levin, 2009, chapter 3)

Further, main characteristics of organization development will be discussed.

4.3 Involved and contributing participants

As seen previously in this chapter, participation is an important aspect in an organization development process. When it comes to who should be involved in an organization development process, Klev and Levin (2009, p. 76-77) state the importance of involving those being affected by the organization development work already in the first phase of the process, because this will provide local understanding of the problem. The leader of the development process must also participate, because otherwise he or she will not be able to understand the changes that have happened in the organization (Klev and Levin, 2009, p. 81). Klev and Levin (2009, p. 78) claim that one of the important tasks of a leader of the organization development process is to establish a learning arena that fit with the context of the

organization and the process. Learning arenas are further discussed in chapter 4.4. The actors contributing in an organization development process, both internal and external, are different in their positions, roles, the ownership of the problem and their possibilities for leading the process (Klev and Levin, 2009, p. 74).

Cummings and Worley (2005, chapter 3) distinguish between three types of organization development practitioners; those specialized in organization development as a profession (internal or external), those specialized in fields related to the organization development field, and managers and administrators with competence in organization development. Further, Cummings and Worley (2005, chapter 3) list the following competences that such a practitioner should possess: intrapersonal skills, interpersonal skills, general consultation skills and some knowledge of organization development theory.

Some of the most discussed organization development practitioners are for example the process leader, facilitator and consultant. In their definition of organization development, French and Bell (1990, p. 20) put an emphasis on the role of consultants and facilitators. Klev and Levin (2009, p. 81) speak of external actors taking part in the organization development process, suggesting that the external actor facilitates for change processes. They also claim that the external actor (or leader) needs to develop an understanding of the context and the organization (Klev and Levin, 2009, p. 76-77). This is in order to contribute to the discussion in the organization development process together with the problem owners of the organization (Klev and Levin, 2009, p. 76-77). French and Bell (1990, p. 20) claim that a consultant should be present in at least the early phases of the development effort. At the same time, they suggest that members of the organization are to increase their consultation skills as the development effort goes by. As mentioned in the previous chapter, Klev and Levin (2009, p. 81) also outline that the problem owners gradually should be able to control the development effort.

As shown by their definition, French and Bell (1990) focus on teams as an important aspect of organization development. Both French and Bell (1990) and Cummings and Worley (2005) make a distinction between individual, group (team) and organization level in order to make assumptions about organization development and to diagnose the organization, respectively, and when describing different change interventions. Klev and Levin (2009, p. 53) find groups to be a central aspect concerning organization development. Groups represent a level of the organization where it is possible to obtain action, learning and creativity. This is not the case of the other mentioned levels, as the individual level represents a chaos of initiatives, while the organizational level is a platform where it is hard to generate dialogue. Groups are therefore seen as an important part of organization development efforts.

4.4 Appropriate learning arenas

In their approach to planning an organization development process, Klev and Levin (2009) see this as an activity in which the goal is to create learning arenas more than planning for results. This is related to the participation-aspect of organization development. They further

claim that the choice of suitable learning arenas is the key to a successful organization development process. (Klev and Levin, 2009, p. 78)

The arenas are established in order to provide communication, reflection and joint learning. Such an arena comprises both tangible frames and the people communicating within these frames. There are several different types of learning arenas, ranging from simple meetings to group-based activities. The appropriate learning arena will depend on the participants, the problem of relevance and the context of the organization, meaning that there is no best learning arena for all occasions. (Klev and Levin, 2009, p. 78)

Because this is such an important aspect of organization development, it also imposes requirements on the leader of the process to be able to arrange for and know about appropriate learning arenas. This implies that the external actor must also know about the effects of the different learning arenas. Therefore, the most important challenge for the external actor of the organization development process is to choose and implement learning processes on such arenas. (Klev and Levin, 2009, p. 78)

4.5 Complete process contributing to organization development

In short, organization development can be characterized by collecting and analyzing data on aspects of the organization, and then take action (French and Bell, 1990; Cummings and Worley, 2005; Klev and Levin, 2009). As discussed in chapter 4.2, Klev and Levin (2009, p. 70-71) base their organization development model, the co-generative learning model, on participation and democratic ideals and outline the organization development process as a learning process. As shown in chapter 4.2, they state that the general organization development process can be divided into three parts: initiation, start-up and to create a continuous learning spiral. Here, the initiation phase includes a clarification of the problem and the objective of the development effort, carried out by internal or external actors of the organization, or by both, in order to uncover the point of views and motives of different actors. The start-up should prepare the organization for a long-term learning process, and the last phase acknowledge joint reflection of the solutions of the problems identified, which give rise to new insight and organization action, both improving the given problem area and discovering new ones. (Klev and Levin, 2009, p. 71-72)

The process of planning and implementing change is adaptive, making it less programmatic. This means that plans are flexible and can be revised as new information becomes available (Cummings and Worley, 2005, p. 3). Klev and Levin (2009, p. 71) support this by emphasizing the focus of planning of activities and ways of working instead of planning for results. Organization development, therefore, is more about planning and facilitating the development effort, rather than planning for wanted results.

4.6 Holistic approach to systems of the organization

Another aspect of organization development is emphasized by Cummings and Worley (2005), saying that one of the unique characteristics is that it involves the improvement of an entire

system, and not just one or a few aspects of it, distinguishing it from subjects like change management and organization change. By including culture in their definition, French and Bell (1990, p. 18) take into account both the formal and the informal system as important elements of organization development. This leads to another aspect of organization development; that it takes aspects like human potential, participation and development into account because of its behavioral science foundation (Cummings and Worley, 2005, p. 3). Organization development is about applying and transferring knowledge and skill to make the organization better prepared to make future change efforts (Cummings and Worley, 2005, p. 3).

French and Bell (1990, p. 87-88) also state that organization development views organizations from a systems approach: "A systems approach views and emphasizes organizational phenomena and dynamics in their interrelatedness, their connectedness, their interdependence, and their interaction" (French and Bell, 1990, p. 87). Further, they say that this has value and functionality for applying behavioral science to organization development, as phenomenon are not viewed as isolated, but occur in relation to others, events must be evaluated in terms of several causes, the relevant forces are those of the time of the event, and a change in one part will influence other parts of the system. The last point they make in this regard is: "(…) if one wants to change a system, one change the system, not just its component parts" (French and Bell, 1990, p. 88).

4.7 Summary

As seen by the discussion of organization development, it is a long-term, planned effort supported by top-management in order to collect and analyze data and then take action to improve the organization. The process is to be planned, while the results are not. Planning for and using learning arenas is important in this sense.

An important part of an organization development process is the participants, especially those being affected by the development effort, process leaders and consultants and/or facilitators, both internal and external actors. Further, it has been seen that an organization development process can be illustrated through the co-generative learning model. This model includes the three steps of initiation, start-up and the creation of a learning spiral. Through this model, action taken will be based on discussion, individual and collective reflection and interaction. One other important aspect of organization development discovered above is the emphasis of a holistic approach to systems of the organization.

In the further presentation of self-assessments and the following discussion of the research questions established, literature on self-assessments and self-assessment processes will be presented and then discussed in relation to these characteristics of organization development:

- Involved and contributing participants
- Appropriate learning arenas
- Complete process contributing to organization development
- Holistic approach to systems of the organization

5 Self-assessments

As mentioned in the introduction, the literature of self-assessments used in this review is to a great extent concerned with self-assessments conducted in accordance to Total Quality Management (TQM). Therefore, this part of the literature review will be mostly conducted on self-assessments of TQM, although the thesis is meant to concern all types of self-assessments that can be utilized by manufacturing companies.

5.1 What is a self-assessment?

There are several definitions of self-assessments. Hillman (1994, p. 29) defines assessment as "(…) the process of evaluating an organization against a model for continuous improvement, in order to highlight what has been achieved and what needs improving." Further, he indicates that there are three main elements related to the success of a self-assessment; a model used to evaluate the progress of the organization, a means of measurement against different elements of the model in order to see how well the organization is performing, and management of the self-assessment process. The author also explains the objective of self-assessments in the following way: "The objective of self-assessment is to identify and act on the areas of the improvement process that require additional effort, while recognizing and maintaining that which is already going well (…)". (Hillman, 1994, p. 29)

Brown et al. (1999) describes self-assessments in the following terms: "The notion of self-assessment refers to a regular and systematic process of evaluating an organization against a set of criteria such as a quality award."

Conti (2001, p. 231-232) distinguishes between two main types of organization-wide quality assessments due to their different aims. The first type is assessments used to estimate levels of excellence, like award-assessments, aimed to measure and compare results. According to Conti (2001, p. 231), this type of self-assessment model should therefore provide quantitative scores and clear, weighted requirements. In order to give as reliable results as possible, an independent assessor should conduct the award-assessment. The other type of self-assessment is what Conti (2001, p. 232) calls diagnostic self-assessment. These self-assessments have also emerged from awards, but aim at performance improvement, focusing at causes and diagnosis (Conti, 2001, p. 232).

5.2 Reasons for and benefits of conducting self-assessments

As already discussed above, the aim of self-assessments is to uncover strengths and weaknesses of the organization and find possibilities for improvement. In their study of four different organizations aimed at identifying management of self-assessment processes, Teo and Dale (1997, p. 366-367) uncover several reasons for undertaking TQM self-assessments using both literature and analyzes of the companies examined. These reasons are; finding opportunities of improvement, pursuing continuous improvement, monitoring and measuring improvement initiatives progress, create employees' quality awareness, acknowledge best practice, facilitate quality planning to help incorporating quality in strategic planning

processes, and winning an award (Teo and Dale, 1997, p. 366-367). The last reason is a result of the fact that the companies in this article adopted self-assessment models based on quality awards, as mentioned above. Not all the reasons were mentioned by all companies. This variation can, according to Teo and Dale (1997, p. 366), be explained by the fact that the companies had been engaged in continuous improvement for a different amount of time.

In their study of self-assessment practices in ten organizations which had already implemented TQM to a certain degree, Ritchie and Dale (2000, p. 245) also identify reasons to carry out self-assessments. These reasons are identified; the organization experiences changes in internal or external environment or changes in leadership and direction, or they are in need of developing quality based procedures, being part of a continuous improvement strategy, or affecting corporate culture in a positive way, making it more cohesive (Ritchie and Dale, 2000).

The literature also presents many benefits of self-assessments (Teo and Dale 1997; Hillman, 1994; Ritchie and Dale, 2000). In this report, only a few are discussed further.

5.2.1 Benchmarking

One of the mentioned benefits of self-assessments is that they facilitate benchmarking (Ritchie and Dale, 2000). Benchmarking means:

> A measurement of the quality of an organization's policies, products, programs, strategies etc., and their comparison with standard measurements or similar measurements of its peers. The objectives of benchmarking are (1) to determine what and where improvements are called for, (2) to analyze how other organizations achieve their high performance levels, and (3) to use this information to improve performance.(Benchmarking, 2015)

Teo and Dale (1997, p. 370) also find this to be a benefit of self-assessments, as they lay the foundation for, and identify areas in need of benchmarking. Hillman (1994, p. 31) mentions similar benefits of self-assessments related to the opportunity of organizations to apply best practice, by learning from others, have objective reviews of progress, and using a common approach at all sites and departments.

5.2.2 Employee involvement and ownership

Two of the other benefits of self-assessments identified by Ritchie and Dale (2000, p. 245-246) are that they encourage employee involvement and ownership and raise understanding and awareness of quality related issues. Hillman (1994, p. 31) also emphasizes the aspect of involvement, as everyone are enabled to contribute to the process, which brings ownership of the results and actions taken. He also states that it enables senior managers to drive improvement processes and empower employees to take initiatives at their respective levels. In addition, it enables employees to see how their efforts impact the improvement process (Hillman, 1994, p. 31).

5.3 Different kinds of self-assessments

There are several kinds of self-assessments, developed to assess an organization in accordance to different aspects. The area of self-assessments of TQM contains contributions from for example Conti (1997a), Teo and Dale (1997), Ritchie and Dale (2000), Conti (2001) and Williams et al. (2006). As mentioned in the introduction, the field of self-assessments emerged in the late 1980's and 1990's, especially from quality awards and Business Excellence Models (Ford and Evans, 2002; Conti, 2001). Examples of such quality awards are the MBNQA, EQA (EFQM), Japan's Deming Prize, UK Quality Award and the Australian Quality Award (Caffyn, 1999, p. 1140). Some examples of European national quality awards models developed from the MBNQA and EQA are the Swedish SIQ model and the Dutch excellence model (Samuelsson and Nilsson, 2002, p. 10).

There is also literature of self-assessments and quality which is not related directly to awards and Business Excellence Models. An example is provided by Caffyn (1999), which presents a self-assessment tool (referred to as a model in this paper) called CIRCA, which aims at helping users assess the continuous improvement in their company.

There are also contributions to self-assessments of Lean, so called Lean assessments. For example, Karlsson and Åhlström (1996) present a model used to assess the changes taking place in an organization when introducing Lean in the manufacturing function. The model is based on different Lean principles, further divided into determinants reflecting changes towards becoming Lean. In relation to these, there is also a measure column in which indicators are used to assess the organization's Lean progress, and a column showing the direction for the company to become more Lean. (Karlsson and Åhlström, 1996)

Pakdil and Leonard (2014) develop a Lean assessment tool called LAT by using both quantitative and qualitative dimensions to assess Lean implementation, and present a fuzzy method and radar chart to help identify strengths and needs of improvement. With the assumption that organizational culture reflects Lean Management progress on the Lean journey, Urban (2015) develops a Lean Management Maturity self-assessment tool.

A final example of tools developed to assess organizations' Lean journey is the audit developed by Bhasin (2011) in order to encapsulate the holistic approach to Lean. Bhasin (2011) criticizes other assessment tools and audits of Lean for not measuring the "Leanness" of a manufacturing firm. When judging the progress of the Lean implementation, he puts a larger emphasis on firms taking Lean as a philosophy and the total Lean journey rather than implementation of elements of Lean. He further claims that in Leanness, concepts of sustainability and culture must be emphasized, and not in the narrow sense of tools, techniques and practices. In order to measure this Leanness, an audit comprising 12 categories to be assessed is presented. These categories are made in order to comprise cultural and sustainability aspects of the Lean practice. The different criteria are to be rated from one to ten, where the meaning of a score of one and a score of ten is described. The total score following from the ratings on each criteria can be compared to a Lean assessment scoring system, reflecting the current stage of the organization's Lean journey.(Bhasin, 2011)

5.4 Self-assessments versus audits

This paper is on self-assessments, meaning that other types of assessment or evaluation tools are not discussed here. In order to define what a self-assessment is, a distinction is made between self-assessments and audits. Karapetrovic and Willborn (2001, p. 366) emphasize that both quality audits and self-assessments are meant to facilitate and support improvement, but question whether they are both the cause of such improvement. They find that the literature of quality audits provides different views on its capability to drive organizational performance improvement, while most of the literatures agree that self-assessments can lead to such improvement. (Karapetrovic and Willborn, 2001)

According to Karapetrovic and Willborn (2001), both audits and self-assessment are performed against a reference model. In audits, data collected are compared against a reference model (for example ISO9001) in order to find either compliance or noncompliance with given criteria. Self-assessments, on the other hand, aim at comparing achieved levels of performance against an "excellence performance" in different areas of the model. This allows the assessor to identify strengths, weaknesses and areas of improvement. The reference criteria in self-assessments are time-dependent, and not static reference standards as in audits. Thus, audits only evaluate effectiveness, while self-assessments also evaluate efficiency on the different areas of evaluation, meaning not only direction, but also the speed of improvement. In addition, self-assessments ensure that the results from the assessment are taken further to realize changes, whereas the process of audits stops with compliance or noncompliance, before such realization. Therefore, self-assessments provide an opportunity to incorporate assessment-results into the organization's business planning process. (Karapetrovic and Willborn, 2001)

5.4.1 Subjective or objective evaluation

Karapetrovic and Willborn (2001) claim that some advantages of audits compared to self-assessments is that it provides an objective evaluation, independence of evaluations and recommendations, and an assurance of an existing and operating quality system. They conclude that the results of the self-assessment can be less reliable than those of audits. An independent or objective auditor means that he or she must be "(…)free of any conflict of interest and be unbiased when making judgments, which is formally assured by his/her independence of the function being audited" (Karapetrovic and Willborn, 2001, p. 369). Audits can be performed by either a customer ("second party"), by an independent institution ("third party") or by auditors from another unit in the organization (internal audit) (Karapetrovic and Willborn, 2001, p. 370).

Caffyn (1999, p. 1148) claims that objectivity can be maintained in the self-assessment process by having assessors basing their ratings on facts rather than feelings, and the use of an "Evidence Box", which means recording the sources and nature of data which the assessment is based on.

5.5 Conducting self-assessments

In this section, different approaches to the main evaluation process of self-assessments mentioned in the literature are presented. Further, what the literature states about who should take part in the self-assessment process is reviewed.

5.5.1 Approaches to self-assessments

Based on the EFQM as a self-assessment model, Benavent et al. (2005) identify variables influencing the self-assessment application and the relationship among these variables. Through a case study of three Spanish "(…) outstanding examples of the use of self-assessment" (Benavent et al., 2005, p. 438), these variables affecting the self-assessment application are found;

- The approach chosen
- The importance of the area of improvement
- The degree of customization (called personalization) to the areas of improvement
- Where in the organization the assessment is taking place (centralized or decentralized)
- Ease of self-assessment
- The results of the assessment compared to the effort put into it
- Whether there is a fashion or a common way of doing self assessment within the organization or the surroundings
- The time period the company uses to employ its business activities
- The frequency of assessments
- How general the improvement is
- The implementation time of the improvement
- Invested resources
- The potential for improvement
- The goals of the assessment
- The TQM maturity of the company

As seen by this list, there are several variables affecting the self-assessment application. One of these is the chosen approach to self-assessments.

In their study of self-assessment processes of nine large organizations using the EFQM model, Samuelsson and Nilsson (2002) discuss what approach is most suitable to self-assessments. The conclusion by Samuelsson and Nilsson (2002) is that several approaches can be successful as long as they fit the organization, are used continuously, and foster participation.

The literature mentions several approaches to how to conduct self-assessments. For example, Teo and Dale (1997, p. 368) mention the award simulation, matrix method, workshop, peer involvement and questionnaires as the main approaches to self-assessments. In their study,

Ritchie and Dale (2000) explore this subject further. They identify three main categories of approaches to self-assessments: Award-based (for example award-simulation or reports), questionnaires and workshops. Ritchie and Dale (2000) find that the literature gives no "best" approach to self-assessments or guidance to what approach to use. Companies do not know what approach is most suitable to them. Further, Ritchie and Dale (2000) find that most of the respondents in their study had started with a simple approach and continued to a more technical one.

Based on the Malcolm Baldrige National Quality Award, Blazey (1998) also discusses different approaches to conduct a self-assessment of organizational performance and management systems. In the following chapters, some of the discussed approaches to self-assessments in the literature are presented, following the categorization by Ritchie and Dale (2000, p. 249) and Blazey (1998).

5.5.1.1 Award-application approaches

One widely debated approach to self-assessments, especially in the TQM-literature, is the award-application approach. For example, Blazey (1998) discusses the Baldrige Award application approach, which is both time-consuming, labor-intensive and detailed. The applicants must prepare a written narrative of 50 pages describing their processes and programs in order to drive performance excellence, assessing the seven categories of the model. According to Ritchie and Dale (2000, p. 253), an award-based approach following a Business Excellence Model (BEM) means writing a full application document using criteria from the model, followed by site visits. Scoring from this assessment, in addition to strengths and areas of improvement, are then used to develop action plans (Ritchie and Dale, 2000, p. 253).

5.5.1.2 Questionnaires

Ritchie and Dale (2000, p. 253) describe questionnaires as one of the main approaches to self-assessment processes. Questionnaires are used to carry out a quick assessment of the standing of the organization related to the criteria in the self-assessment model. The response scale can range from being in a yes/no format or graduated. They also mention matrix charts where statements are rated on a scoring scale as such an approach. (Ritchie and Dale, 2000)

In the same manner, Blazey (1998) presents the Likert scale as another option for approaching self-assessments. The Likert scale contains a scale for each statement, where respondents are asked to rate their degree of agreement. One of the disadvantages of Likert scales is that the respondents' interpretations are affecting their answers, which leads to less reliability of the data provided. In order to improve the results and the consistency of the response, the Likert scale sometimes contains clarifying descriptors for each point on the scale. (Blazey, 1998, p. 50)

5.5.1.3 Behaviorally anchored survey

Another approach used in Baldrige Award-based self-assessments mentioned by Blazey (1998) is what he calls "the behaviorally anchored survey". This approach also takes form of a scale, but instead of ratings or small descriptors, it contains lengthier behavioral descriptions (connected to the criteria and scores of the model) which make it easier for respondents to

understand what the different levels of scoring means, increasing the consistency of the ratings. Further, when using the behaviorally anchored survey, the assessors are asked to name two critical areas of improvement for each category of the model. In addition, Pareto charts are used to visualize the results and areas most in need for improvement, and a complete report is prepared and then utilized by examiners and organizational leaders for further improvement planning or site visits. It can therefore be seen that a behaviorally anchored survey contains elements of both a written narrative and a survey approach. (Blazey, 1998)

5.5.1.4 Workshops

Ritchie and Dale (2000, p. 253) also mention workshops as a possible approach to self-assessment processes. They describe this approach as follows:

> This is where managers are responsible for gathering the data and presenting the evidence to colleagues at a workshop. The workshop aims to reach a consensus score on the criterion and details of strengths and areas for improvement identified and agreed. (Ritchie and Dale, 2000, p. 253)

Another definition of workshops is: "A meeting at which a group of people engage in intensive discussion and activity on a particular subject or project" (Workshop, 2016).

Two other approaches, the pro forma and matrix approach used in the EFQM model, are here put under the category of workshops because of the categorization of pro formas done by Ritchie and Dale (2000, p. 249), and because of the process concerning reaching consensus in both approaches.

The pro forma approach follows from the EFQM model, and involves producing one form for each of the sub criteria of the model. For each criterion, strengths, improvement-areas and verification should be registered (EFQM (1999a), as cited by Samuelsson and Nilsson (2002, p. 12)). These forms are filled in individually or in teams in a so-called pre-assessment, before agreement is obtained in a consensus meeting. (Samuelsson and Nilsson, 2002, p. 12) In the matrix approach, the organization uses a matrix of performance consisting of statements being assessed on a scaling system on the y-axis and the criteria of the model (here: EFQM) on the x-axis. (EFQM (1999a), as cited by Samuelsson and Nilsson (2002, p. 12)).The matrix is filled in individually, before average grades and deviations are discussed in a consensus meeting (Linström et al., (1999), as cited by Samuelsson and Nilsson (2002, p. 12)).

In the same manner, Caffyn (1999, p. 1147-1148) recommends that when conducting a self-assessment, the assessment team members individually perform the assessment and gather supporting data, before meeting and discussing the results, and reaching a consensus. The author recommends that the process should involve genuine reflection, and be done in an open-minded way in order to learn about continuous improvement and gain insight into operations. (Caffyn, 1999, p. 1147-1148)

5.5.2 Participants of self-assessments

The further sections concern different types of assessors and actors mentioned as important participants conducting self-assessments.

5.5.2.1 The "self" in self-assessments

Conti (1997a, p. 7) states that a self-assessment is a "first-party evaluation". Here, this is assumed to mean that rather than costumers or independent actors (as in second- and third party assessment), the organization itself is responsible for performing the assessment. Conti (2001, p. 229) explains the "self"-notion of self-assessments in the meaning that the organization itself governs the assessment, focusing on the interest and goals of the organization. He claims that it is still possible that external personnel are involved in conducting the assessment, as long as the organization itself governs the process. Ford and Evans (2002, p. 25) on the other hand, explains organizational self-assessments as "(…) the evaluation of a firm's processes or systems using little or no outside assistance", emphasizing the internalizing of the activity.

5.5.2.2 Management

Traditionally, managers or small management groups have been the main participators in the self-assessment process (Jørgensen et al., 2004, p. 343).

The management commitment in the self-assessment approach is emphasized as an important factor of a self-assessment process (Hillman, 1994). Hillman (1994) puts it like this:

> It is also essential that the senior management is committed to the assessment process including acting on the results in a positive way rather than seeking to apportion blame for any lack of progress (Hillman, 1994, p. 29).

Top management commitment and support in the self-assessment process is also found important by Teo and Dale (1997).

5.5.2.3 Involvement of different levels in the organization

As seen in chapter 5.2.2, the self-assessment literature emphasizes employee involvement as a benefit to self-assessments (Hillman, 1994; Ritchie and Dale, 2000).

In their study of teams performing self-assessments of continuous improvement (CI), Jørgensen et al. (2004, p. 343) examine how self-assessments can be conducted with shop-floor teams. Their assumption is that this way of conducting self-assessments of CI not only is more compatible with CI, which is dependent on shop floor level involvement and participation in improvement efforts, but will also facilitate more learning and increase motivation to participate than with a management-directed approach. They therefore argue that the self-assessment should be performed by those whose performance is assessed (Jørgensen et al., 2004, p. 345).

During interviews, Jørgensen et al. (2004, p. 344-345) discover three reasons why shop floor employees are not more involved in the self assessment process; the management find the process too complicated for shop floor employees, employees would be away from production in the time period used for self-assessment, and that there is a lack of appropriate tools to be used for shop floor employees. Through their research, Jørgensen et al. (2004, p. 348) discover a need to provide the assessment in the "native language" of the team, as some terms in the self-assessment model used were not suitable for the shop-floor team of assessors.

5.5.2.4 Experts, consultants and facilitators

Experts and consultants can be important actors of a self-assessment process. For example, Conti (1997a, p. 13) claims that as you move from an award-assessment to what he calls third-generation models meant for diagnosis of organizational systems, a higher level of expertise is needed, suggesting the use of an interdisciplinary team.

A facilitator might also have an important role in self-assessment processes. For example, Caffyn (1999, p. 1147-1148) recommends a team of assessors with a facilitator to perform the self-assessment, without elaborating any further on why this is recommended. Jørgensen et al. (2004, p. 348), discussing continuous improvement self-assessments conducted by shop floor teams, also highlight the demand for facilitation in order to increase understanding of concepts and terminology.

5.5.3 Difficulties of doing self-assessments

In their studies, Teo and Dale (1997, p. 371-372) and Ritchie and Dale (2000, p. 246-247) also encounter some difficulties when doing a self-assessment. These are mentioned here in order to give a more neutralized view, showing that in addition to all gains of self-assessments there are also other aspects that need to be taken into account. The main difficulties found by Ritchie and Dale (2000, p. 246) "(…) were a lack of commitment at all levels, ignorance of what self-assessment involved and general resistant to change". The authors list several other difficulties discovered in their article, which are not mentioned any further here (Ritchie and Dale, 2000, p. 246).

The first difficulty found in the study of (Teo and Dale, 1997) is the scarcity of time to do the self-assessment because of, among other, the lack of integration between this activity and the daily business activities and other efforts. One other difficulty found in the study was the problem with focusing too much on scoring and measurements rather than improvement issues. In addition, the lack of communication between departments was seen as a difficulty when doing a self-assessment. The last difficulty encountered by Teo and Dale (1997) was related to the aspect of sustaining the self-assessment effort, concerning different challenges to the different case organizations, both in terms of resources, consent of senior management, attitudes and commitment of employees and increasing demands from customers. (Teo and Dale, 1997)

5.6 Models of self-assessment

In this chapter, different aspects of models used for self-assessment are presented.

5.6.1 Choice of model

Based on their research and consulting experience on the Baldrige framework, Ford and Evans (2002) define criteria that can be used to select an appropriate model for self-assessments (and also audits, in relation to the definition previously given in this paper). Organizational models often serve as reference-standards for the self-assessment, meaning that they identify process variables that the organization evaluates itself against, performance variables, and the relationship between these (Ford and Evans, 2002, p. 26). In relation to this,

Ford and Evans (2002, p. 27) mention the diagnostic component of the model, which signals where to look for problems and solutions. Further, they claim that there should be standards of "goodness" (good practice) present in the model, so that assessors can compare their organization and processes to these standards (Ford and Evans, 2002, p. 26).

According to Ford and Evans (2002), one of the factors to look for when choosing an appropriate model is the conceptual domain in relation to how well it fit with the area and scope of the self-assessment to be conducted. Another factor is the concreteness of the model, in order for the assessors to be able to use it and understand it at their level of competence. This is emphasized by the authors, as they see the self-assessment primarily managed internally and with less use of consultants. Also, Ford and Evans (2002) state that recognition, credibility and legitimacy of the model can be of importance. For example, models developed by academics might attract assessors because it reflects higher legitimacy. The last factor that can affect the choice of a self-assessment model is its validity, here described as formal validity and "face validity", the latter meaning that it should make sense in the practical setting of the organization. (Ford and Evans, 2002)

Conti (1997a, p. 10) presents what he calls third-generation models, or business models, as reference models being more fit for self-assessments, addressing improvement in the whole company and its strategic goals. These models should reflect the mission and goals of the company instead of results, and show systemic links between systemic factors, processes and results. In his proposal to such a model, he reverses the direction, so that the company is assessed first against missions and goals, followed by processes and then what he calls the enablers (systemic factors). In his book "Organizational self-assessment", Conti (1997b) argues more detailed for this kind of self-assessment model.

5.6.2 Validity of the model

During the 1990's and early 2000, self-assessments based on TQM using Business Excellence Models were widely used by organizations in order to improve their performance. In their paper, Williams et al. (2006) examine whether and why the relevance and usefulness of using such models have decreased. To do so, they question the degree to which criteria, weightings and predicted relationships of the business excellence model have academic validity, and whether changes in business environments since the origin of the model have affected the practical validity, taking the EFQM-model as the object of analysis.

Williams et al. (2006) point out that the unclear terminology of "business excellence" makes it difficult to know if the model actually measures such excellence. They find that the model leads to improved operational performance, but the relation to business performance and business excellence is not justified. The time between implementing the model and measuring the results are also unclear, and the success of implementation will not be easy to measure due to other situations affecting the company. In addition, they point out that there are other factors making the performance vary, for example the weaknesses of competitors or that a company's financial performance will vary naturally over time. (Williams et al., 2006)

Williams et al. (2006) also question whether the model is universally valid, as there is not decided on one best award structure, no proved ideal number of dimensions in such a model, and that weightings of the model might vary, for example across industries. Further, they use

the arguments of Conti (2001) to criticize the use of standard models for improvement in one organization, stating the need of a customized model to the specific company. For comparison with other companies, the move is from having highest scores against a standard model, to compare its own business to others in only relevant dimensions in the eyes of the customer (Williams et al., 2006).

Williams et al. (2006) further examine whether the practical validity of the EFQM model has decreased due to changes in the business environment. Some examples mentioned are higher competition due to globalization, more communication opportunities, increasing demand for innovation, more demands from governments, and merging and acquisition. Such changes have influenced the reason to use such a model, as conformance quality has less effect on financial performance and it is more difficult to predict future financial performance due to the past one. (Williams et al., 2006)

The conclusion to this examination is that validity has yet to be proven. The model is also seen to be less able to assess business excellence and value. They conclude that what is needed today is a more tailored approach to self-assessments with customized dimensions and weightings more suitable for the company's market, so that future performance against competitors can be predicted. (Williams et al., 2006)

5.7 The aggregated process of conducting and supporting self-assessments

Several authors provide proposals to how to perform a total self-assessment process (Hillman, 1994; Conti, 1997a; Caffyn, 1999; Conti, 2001; Samuelsson and Nilsson, 2002; Pakdil and Leonard, 2014). In the following, different examples of such proposals are presented before compared in relation to their similarities and differences.

It should be kept in mind that some of the differences between the process proposals can differ because they are based on different self-assessment models and assuming different approaches. It should also be noted that the suggestions in the literature presented in this chapter vary in terms of how well they are argued for, and the degree of explanation to what is meant by the different process steps. The examples provided here are chosen for comparison, and not to cover all existing proposals for self-assessment processes. Therefore, it is worth noting that there exist other proposals to self-assessment processes, in addition to those provided here.

The first example is provided by Hillman (1994, p. 30), who sketches the following process based on the EFQM flow diagram:

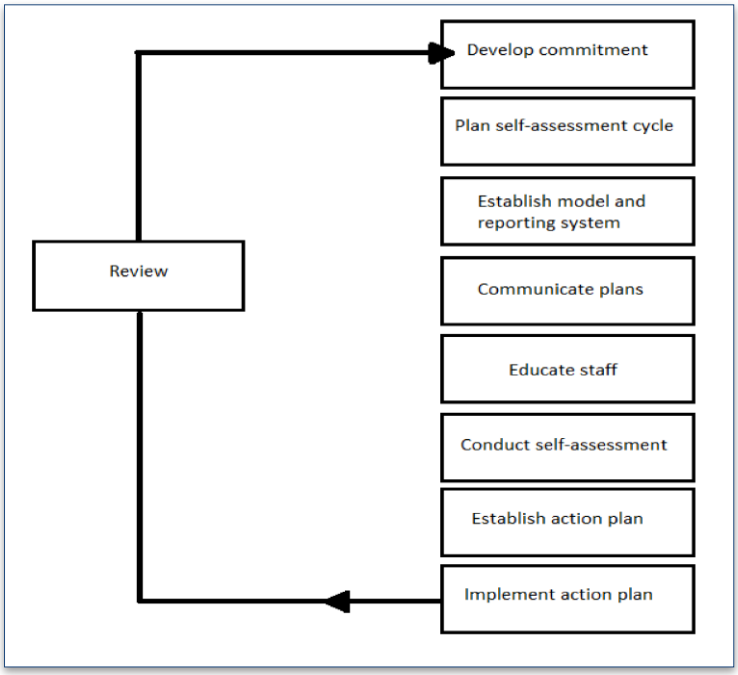

Figure 5.7.1: "The eight step approach", as given by Hillman (1994, p. 30)

In addition, Hillman (1994, p. 30-31) mentions several do's and dont's in order to make self-assessments successful. He emphasizes that the self-assessment should not be yet another audit. Further, he states the importance of planning, use managers as assessors of themselves and other, integrating the self-assessment into the organization, communicating intentions of the assessment before starting, creating measurements, continue to manage strengths, prioritize improvements, sharing results with the organization, and act on them. What should not be done according to Hillman (1994) is to just look for what has not happened, only use coordinators, facilitators and trainers as assessors, rush into the process, apportion blame, do it without senior commitment, use self-assessment as an excuse to stop the improvement process, or to only focus on the quality of the improvement process rather than the results achieved. (Hillman, 1994, p. 30-31)

Brown et al. (1999, p. 90), examining how self-assessment and quality award guidelines can be integrated with organizational planning, also mention different steps in a self-assessment process based on quality awards:

> The self-assessment process typically consists of several steps, e.g. training, data gathering, writing the self-assessment report, assessing the report by assessors, presenting the results to the management of the unit assessed, defining improvement goals and activities and linking these to the business planning. (Brown et al., 1999, p. 90)

Samuelsson and Nilsson (2002) discuss the complete process of self-assessments through a study of nine large organizations. They evaluate the processes used by the organizations through different process aspects. The first aspect is planning self-assessments, including the choice of assessment approach, planning implementation, gaining commitment, training and communication of objectives and purpose of the self-assessment. The second process aspect they use in their analysis is conducting the self-assessment. Here, different approaches, the

facilitation role, support to assessment teams, prioritizing improvement initiatives, whether to use scoring, and whether to apply for awards, are discussed. In addition, handling improvement actions, sharing knowledge and experience from the assessment, and to develop and improve work procedures continuously in order not to stagnate, where discussed in the analysis. (Samuelsson and Nilsson, 2002)

As mentioned in chapter 5.1, Conti (1997a) distinguishes between award-assessments and self-assessment as a diagnostic tool. As mentioned in chapter 5.6.1, he presents what he calls third-generation models, or business models, as reference models being more fit for self-assessments related to company planning. Further, Conti (1997a, p. 11) claims that the model, self-assessment and improvement planning are effective competitive and strategic factors if they are part of a strategic and operational planning cycle. The process proposed follows the structure of this model, as results are first assessed, then the processes that generated the results are analyzed in order to find weaknesses responsible for poor performance, and then the systemic factors (enablers) are assessed. (Conti, 1997a)

Further, Conti (1997a, p. 11) claims that self-assessments should be part of the PDCA (plan-do-check-act) cycle. In the "plan" phase, self-assessments are seen as a source of input, along with strategic goals and external scenarios. The "do" phase is characterized by measurements of processes, results and actions taken. In the "check" phase, self-assessments are the main operation, assessing performance gaps by diagnostic analysis. Conti (1997a, p. 12-13) claims that the input to self-assessments is threefold. These are the strategic planning, the results of the company, and the competitor's result. The output of the self-assessment should be taken into the strategic planning with suggested improvements that are either accepted or leading to adjustments in goals. (Conti, 1997a)

In his book, "Organizational self-assessment", Conti (1997b) presents in a detailed manner a self-assessment process against what he calls business models. The complete process, the recommended approach for the first self-assessment implementation and the total argumentation are not repeated in this thesis, but some relevant aspects are considered. Firstly, Conti (1997b, chapter 6) emphasizes the importance of ownership, presence and control from top management, at the same time as suggesting the quality function, or other suitable actors who report directly to top management, to act as the operating arm in the self-assessment process. He also emphasizes the importance of taking into account possible internal resistance when first introducing self-assessment to the company. Further, a communication plan is suggested, in order to in a clear and sufficient manner communicate the goals and what those involved are to do, in addition to secure follow-up communication. (Conti, 1997b, chapter 6)

Second, Conti (1997b, p. 151-153) highlights aspects like organizing surveys and interviews, informing stakeholders about the self-assessment, forming a steering committee, segmentation of the company for self-assessment purposes, decide what sector(s) to start the self-assessment and to decide upon the use of external consultants. The drawing of an activities plan is emphasized. Further, the drawing of a self-assessment guide to be used by assessors is emphasized (Conti, 1997b, p. 154). The next phase is to organize the interviews, focus groups and questionnaires to collect data. Further, the assessment teams are established.

Conti (1997b) also highlights the training of assessors, teams and top management. Following, the self-assessment should be done through data collection, following the structure of the self-assessment model. Some of the activities following the data collection and analysis are drawing a self-assessment report, adding scores and reviewing the PDCA-cycle. After the self-assessment (the check-phase), the act-phase is initiated. (Conti, 1997b)

In order to not only present what the literature of TQM find as appropriate self-assessment processes, two more proposals are mentioned below.

As mentioned, Caffyn (1999) presents the continuous improvement self-assessment tool CIRCA. She claims that the process followed after conducting the self-assessment is as important as the scores resulting from the assessment. She also claims that the way actors approach the use of CIRCA will be different according to their circumstances and individual preferences, including how many assessors there are, what part or parts of the organization are assessed, in addition to the assessors' relation to the assessment object. The author notes that before starting the assessment, decisions related to what unit to be assessed, how to use the assessment results and who to carry out the assessment, must be taken. Caffyn (1999, p. 1147-1148)

In her article, Caffyn (1999) presents a recommended process, but provides little explanation or argumentation to why these activities are recommended. As mentioned in chapter 5.5.1.4, she recommends a team of assessors with a facilitator to perform the self-assessment. This team needs to be briefed and agree on the process before starting the assessment. After the self-assessment has been conducted, the results are taken to those responsible for working with continuous improvement in the organization, which further establish an action plan from the given results. A repetition of the self-assessment later contributes to reviewing the effects of these actions. The author emphasize that the self-assessment tool described in the article only provides the CI-status of the company, and not guidance to further actions, and is therefore not sufficient in order for the company to increase the competence of continuous improvement. (Caffyn, 1999)

The last contribution to a self-assessment process mentioned in this paper is the one suggested by Pakdil and Leonard (2014, p. 4599). They sketch a process for using their Lean Assessment Tool (LAT) assessing Lean implementation, emphasizing that it should be integrated in a problem solving methodology. The process is sketched in figure 5.7.2:

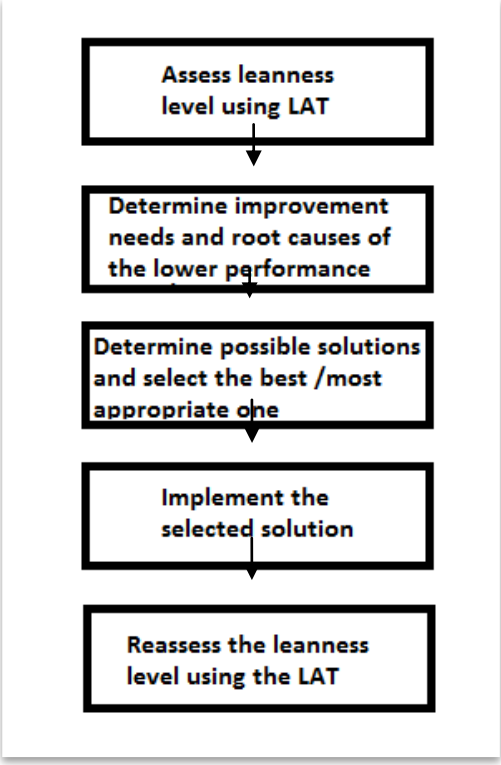

Figure 5.7.2: Flow chart of applying LAT (Pakdil and Leonard, 2014, p. 4599)

5.7.1 Main aspects of a self-assessment process

As described in chapter 5.7, there are many opinions and proposals to the complete self-assessment process, including supporting processes before and after conducting the main evaluation. Here, some of the most common aspects are highlighted.

Several authors mention the development of commitment of top-management as important (Hillman, 1994; Conti, 1997b; Samuelsson and Nilsson, 2002). Further, planning is emphasized in many of the proposals above, such as in the model provided by Hillman (1994) and in the process by Conti (1997b). What is emphasized in the planning phase varies by different authors. For example, Samuelsson and Nilsson (2002) include choosing an approach, gaining commitment, planning the implementation (of the self-assessment process) and communication in the planning phase. The aspect of communication is also emphasized by Hillman (1994). Before the main assessment, Caffyn (1999), on the other hand, focus on deciding what unit to assess, who to perform the evaluation, the establishment of an assessment team and how to use the results, while Brown et al. (1999) focus more on training and data gathering. Training, or education as he calls it, is also emphasized in the self-assessment model presented by Hillman (1994).

After conducting the main evaluation, the establishment of an action plan for improvements and implementing these improvements are important elements of the self-assessment process mentioned in all the proposals examined. In accordance with the proposed aspect of the self-assessment model being a business model, Conti (1997a) finds that the output of the self-assessment should be taken into the strategic planning. The aspect of taking results into

business planning is also mentioned by Brown et al. (1999). The aspect of prioritizing actions is also mentioned by several authors (Hillman, 1994; Pakdil and Leonard, 2014).

A final aspect of the self-assessment process included in several of the process proposals mentioned in chapter 5.7 is the cyclic approach. In his model, Hillman (1994) uses a review-process to initiate the next self-assessment process. Both Caffyn (1999) and Pakdil and Leonard (2014) suggest a reassessment. Conti (1997a) approaches the cyclic aspect of the process by including the self-assessment in the PDCA-cycle of the business.

6 Introduction to discussion

In the next chapters, the first research question of this master thesis presented in the introduction is discussed, using the presented theory on organization development and self-assessments. The main reason for doing this discussion is that there are many theories and approaches to how to perform and approach self-assessments in the existing literature, but whether they contribute to an organization development process remains unclear. Therefore this part of the thesis is used to examine what ways of doing self-assessments will contribute to organization development, and which will not.

The further discussion will take the approach sketched in table 6.1. For each chapter, the different research questions are discussed in relation to the characteristics of organization development revealed in chapter 4.

	Approach to self-assessment and characteristics of model	Aggregated process of conducting and supporting self-assessments
Involved and contributing participants	Chapter 7.1	Chapter 8.1
Appropriate learning arenas	Chapter 7.2	Chapter 8.2
Complete process contributing to organization development	Chapter 7.3	Chapter 8.3
Holistic approach to systems of the organization	Chapter 7.4	Chapter 8.4

Table 6.1: Structure of discussion

7 The approach to self-assessment and the characteristics of the self-assessment model

The different approaches to conducting self-assessments and the characteristics of the self-assessment models used for such evaluation will now be further discussed in relation to the defined characteristics of organization development theory in chapter 4.7; involved and contributing participants, appropriate learning arenas, complete process contributing to organization development, and a holistic approach to systems of the organization.

7.1 Involved and contributing participants

In organization development theory, involved participants contributing to the process is an essential part of an organization development process. As seen in chapter 5.2.2, the aspect of involvement and ownership is emphasized in self-assessment processes (Hillman, 1994, Ritchie and Dale, 2000).

Therefore, the approach chosen for a self-assessment process contributing to organization development must also facilitate for such involvement and broad participation. In the following discussion, the different approaches proposed to self-assessments presented in chapter 5.5.1 are discussed with regard to the degree of involvement allowed and the actors taking part in the process. The behavior anchored survey proposed by Blazey (1998) is not discussed further because it involves aspects of several other approaches, and therefore can be seen as being covered in the discussion although not discussed directly. After the discussion of approaches to self-assessments, a discussion follows regarding the required characteristics of a self-assessment model in relation to the degree of involvement and participation it provides.

7.1.1 Award-application approaches

How will an award-approach contribute to the participation and involvement emphasized in organization development theory? The “dangers” of keeping an award-approach to self-assessment mentioned by Conti (1997a, p. 7-8) is to retain the emphasis of scoring and an audit-like approach. Further, Conti (1997a, p. 7-8) states that the focus of high scoring will hinder openness, and an audit-like approach will hinder wide participation. Following this, it is argued that a self-assessment approach contributing to participation and involvement must contain less aspects of audits and awards, as it will allow participants to contribute with what they find challenging in their work-life and be allowed to make weakness of the organization visible. An important aspect here is not to seek to apportion blame, as Hillman (1994, p. 30) mentions as an important factor for a successful self-assessment.

In addition, award-application approaches implicate more use of external and/or objective actors. As those actors perform the evaluation to a larger degree, involvement and participation from a wide range of internal members of the organization decreases. This is evident with one of the dangers of keeping an award-approach to self-assessments mentioned by Conti (1997a, p. 7-8), as he claims that it hinders wide participation by organization members. As seen in chapter 5.7, Hillman (1994, p. 30-31) advices not to only use co-

coordinators, facilitators and trainers as assessors. By using external actors instead of internal, the long-term goal of organization development of the organization owning and driving the process itself will also be less possible to obtain. This does not mean that external actors like for example consultants and facilitators cannot take part in a self-assessment process aiming at organization development. In fact, Klev and Levin (2009) encourage such interaction in organization development processes. The point here is not to let single and/or external actors take control over and conduct the whole process, as it will decrease the broad participation and involvement that is an aim in organization development.

In chapter 5.4., the difference between audits and self-assessment are considered, with regard to whether the assessors are objective or not. Self-assessments are more subjective, as the assessors evaluate themselves and their organization, and therefore will not have the ability to be completely objective. Karapetrovic and Willborn (2001) claim that the results of self-assessments can be less reliable than those of audits. This is related to the principles of objectivity, independence and accuracy of the audits. Self -assessments are more subjective, affected by prejudice of individual assessors (Zink and Schmidt, 1998, as cited by Karapetrovic and Wilborn, 2001, p. 370). Self-assessment can provide less accurate and comprehensive data due to use of different approaches (Karapetrovic and Willborn, 2001, p. 370). Some authors try to contain objectivity in self-assessments. An example is provided in chapter 5.4.1, were it is referred to Caffyn (1999, p. 1148) trying to obtain objectivity in the self-assessment process by having assessors basing their ratings on facts rather than feelings, and the use of an "Evidence Box". However, the reasons to strive for objectivity in self-assessments leading to organization development is questioned here. Rather, the opinions and experience of participants will be of interest during the self-assessment in order to uncover strengths and weaknesses in the organization.

As participation and involvement are highlighted as important factors in organization development theory, it is found unnecessary to strive to keep the self-assessments contributing to organization development completely objective. This is because it will hinder involvement, participation and grounding in the organization, and therefore hinders necessary information generation as input to the process. This further hinders organization development in the self-assessment process.

As discussed in this section, the award-application and audit-like approaches are less suitable to self-assessment processes aiming at involving participants. What approaches, then, contribute to involvement and broad participation?

7.1.2 Questionnaires

The questionnaire-approach, including the Likert scale, has the advantage of being easy to use and less time consuming (Blazey, 1998). Therefore it also provides the opportunity of more participants taking part in the assessment process. At the same time, questionnaires are often done individually, and although it can be conducted by many, joint reflection and discussion, being important in organization development processes, is replaced by only individual reflection. Some of the effect of broad participation and involvement might therefore be lacking. This is further discussed in chapter 7.2.

Also, in questionnaires, people often tend to focus on the scale. Because the self-assessment has a subjective characteristic, different interpretations of the scale and backgrounds of participants can lead to the data gathered being less reliable. This is also a challenge when using the Likert scale approach. The scale-system causes room for individual interpretation, which contributes to problems concerning scoring reliability and the accuracy of the survey data (Blazey, 1998, p. 50).

In addition to the lack of reflection and discussion between the participants when using such approaches, it is also challenging that the results of the assessment is not visible after the process. Therefore an actor needs to gather the data provided by the assessment, and then communicate it to the organization. If such feedback is not provided, the participants will no longer be involved in the process, which will decrease the opportunity for organization development. One way of overcoming the challenges connected to the assessment being performed individually is that the assessors gather to discuss and agree after the individual assessment. This will not only ensure discussion and reflection, but also follow the argument by Klev and Levin (2009) on having both individual and joint reflection as contributing to organization development. Such approaches are further discussed in the following chapter.

7.1.3 Workshops

Workshops, whether started after data are gathered or used as a mean of gathering data, provides more opportunity for participation and involvement than the other mentioned approaches. The aim of reaching consensus implies discussion and reflection between participants. In order to secure participation, all actors with relevance to the subject of self-assessment should be involved. In order for all participants to be involved and get to contribute, a facilitator making sure everyone is able to share their opinions and experiences during the workshop might be of importance.

7.1.4 Characteristics of the self-assessment model

In this chapter, whether characteristics of a self-assessment model supporting participation and involvement in the self-assessment process is discussed.

7.1.4.1 Diagnostic components

In chapter 5.6.1, it is mentioned that Ford and Evans (2002, p. 27) state that diagnostic guidance is an essential part of a model used for self-assessment. This provides the assessors with guidance to where to look for problems and their solutions (Ford and Evans, 2002, p. 27). Such guidance will make the need of expert knowledge decrease, as assessors are more able to perform their evaluation themselves. This means that the use and need of external actors to control and perform the process decreases. As internal assessors are more able to conduct the self-assessment, the involvement and participation of several actors in the self-assessment process increases. As to what concerns consultants and other external actors, it is still possible, and maybe still important, to include these in the process. This will maintain the learning loops and interactions important in the organization development process discussed by Klev and Levin (2009). The point here is that the standard references included in the model provide the opportunity for several participants to be involved, and that the process is not solely driven by external actors or “experts”.

At the same time as the opportunity for involving more participants increases, so can the process of discussion and reflection before reaching agreement and finding solutions increase in time and complexity. In this sense, the model should also include some kind of guidance on what are possible solutions, so that it is possible for the participants to reach a consensus.

On the other hand, the guidance and model criteria might contribute to a less flexible self-assessment approach if they are too narrow. If the model provides strict guidance to what to look for, what is important and what topics to discuss, the participation and involvement might be hindered. Participants might not be able to express their opinion on what they consider as important aspects, or their perspectives and motives. The point of argument here is that the model must provide enough flexibility for such participation and involvement to take place.

7.1.4.2 Usability

As discussed in section 4.3, Klev and Levin (2009) argue that those being affected by the organization development work should take part in the process. This secures that a local understanding of the problem is provided. This means that a wide range of participants will engage in the self-assessment process, like internal participants ranging from production workers to managers, and external actors like for example consultants. In order to contribute to such a broad participation, the self-assessment model needs to be constructed and articulated in an intuitive and logical way that all participants can understand and relate to. Such usability characteristics are also important in order for the problem owners to be able to drive the process in the long term, which is mentioned by Klev and Levin (2009) as one of the goals of an organization development process.

As presented in chapter 5.6.1, Ford and Evans (2002, p. 27) emphasize the concreteness of the model as an important aspect in choosing a self-assessment model. They focus on this aspect as managers should be able to use the model and understand it without much outside assistance. Ford and Evans (2002, p. 27) find it important to make the model as concrete as possible and provide examples and real-life details, as it leverages empirical experience and hence encourage managers to learn it. In addition, they positively highlight the narrative of the Baldrige model which contains mechanisms in order to help users applying it in evaluation, like for example a glossary of key terms. (Ford and Evans, 2002)

In their discussion, Ford and Evans (2002) highlight the manager as the user of the self-assessment model, although saying that employees primarily manage the assessment activities. In order for allowing participation and involvement, there is a need for the self-assessment model to apply to a broad variety of actors, and not just to managers. These employees, like for example a production operator, might use less abstract language and terms than managers in their daily work life. As mentioned in chapter 5.5.2.3, Jørgensen et al. (2004) find that for teams of shop-floor workers performing a self-assessment, the model might need to be adjusted for a more “native language” to improve understanding. Following this discussion, it is argued that there is an even greater need to have a clear and easy-to-use model in order for employees at all levels to understand the model and the self-assessment procedure.

7.2 Appropriate learning arenas

The approaches to self-assessments and characteristics of the self-assessment model are now discussed against the element of having appropriate learning arenas in organization development processes. Klev and Levin (2009) highlight the planning of learning arenas, which provide communication, reflection and joint learning. In order to support organization development, the approach to self-assessment therefore needs to allow for such communication, reflection and learning.

7.2.1 Award-application approaches

In an audit, as presented in chapter 5.4 and 5.4.1, objectivity and confirming compliance are in focus. This implies that there are no room for joint reflection and discussion of a subjective character. Therefore, it is not appropriate for a self-assessment process to take an audit-like approach.

As seen in chapter 5.5.1.1, an award-based approach means writing a full application document using criteria from a quality award model and site visits, providing scoring that can be used to develop action plans (Ritchie and Dale, 2000, p. 253). As the focus will be on writing the report and finding strengths of the organization, there will be more resources used on writing the thorough report and less on discussion and reflection between the assessors. As participators contributing with their experience and point of view decreases, so will also the joint learning. The one or those few writing the report might reflect and learn, but it will be individually or in a small group and not be shared with the rest of the organization. Therefore, an award-application will not be appropriate for learning arenas contributing to organization development.

7.2.2 Questionnaires

As discussed in chapter 7.1.2, questionnaires are often done individually. The approach therefore does not take into account the joint reflection and discussion being important in organization development processes. A way of overcoming this challenge is to use the questionnaires as pre-assessments and then gather assessors to discuss, reflect and consent on the criteria of the self-assessment. This is in line with the workshop-approaches suggested in chapter 5.5.1.4, which opens for a more group-based learning arena. This leads to the discussion in the next chapter.

7.2.3 Workshops

The idea of pre-assessments is suggested by Caffyn (1999). This is also followed in the pro forma and the matrix approach presented in chapter 5.5.1.4. In workshops, whether following a pre-assessment or comprising the whole evaluation of self-assessments, discussion and reflection between participants are essential. This implies a need for learning arenas contributing to such activities.

As seen in chapter 4.3, the use of teams or groups is highlighted in organization development theory (French and Bell, 1990, Klev and Levin, 2009). Groups are appropriate when the aim is to obtain action, learning and creativity (Klev and Levin, 2009, p. 53), as is evident with the aim of learning arenas. Therefore, elements of group-based assessments are appropriate in a self-assessment approach, as is possible in for example a workshop approach.

A facilitator might be useful in order to steer the discussion in the right direction and letting everyone contribute. Samuelsson and Nilsson (2002) found that several of the organizations taking part in their study used internal facilitators to support assessment teams. Some used facilitators to guide and support the methodological aspects. It was also mentioned that the facilitator took part in motivating and challenging participants (Samuelsson and Nilsson, 2002, p. 18).

7.2.4 Characteristics of the self-assessment model

7.2.4.1 Contributing on learning arenas

With the right characteristics, the self-assessment model itself can be seen as contributing on a learning arena, in the sense that it can contribute to reflection and discussion. The criteria of the model and guidance characteristic described earlier will provide guidance and an object for comparison on each of the criteria to be assessed. This comparison can contribute to reflection and discussion to whether the organization complies with the criteria, and if they do not, a reflection of why this is the case can be performed. It may also be that participants have different views on where the organization comply and not, because of their different backgrounds and perspectives. Discussions concerning such aspects increase the sharing and generation of knowledge and experience between the participants. The reference standards can also contribute to learning, as participants gain increased knowledge in "best practice". The criteria and their references should therefore be included in the self-assessment model, as it contributes to reflection, discussion and learning.

In addition, it is proposed that the model can include a guidance of what learning arenas are appropriate and supported by the model. This will help the process leader to choose the appropriate learning arenas, leading to discussion and joint reflection, as is important in order for organization development to occur.

7.2.4.2 Obstacles for learning arenas

Some aspects of self-assessment models might hinder reflection and discussion. For example, if the model provides scoring systems, it is less likely that the participants discuss and reflect on the underlying reasons for process variables. Conti (1997a, p. 7) finds that scoring weakens the focus on diagnosing, as it absorbs management attention because of the desire to obtain high scores.

Scoring might lead the focus away from finding underlying causes of strengths and weaknesses detected in the sense discussed in chapter 7.1.1. At the same time, it can also be seen as guiding the reflection and discussion process as it forces the participants to agree on a common decision on the organization's level at each evaluation criteria. Therefore, no conclusive answer to the question regarding scoring in self-assessment models is found in this report.

7.2.4.3 Benchmarking

Self-assessments are performed by internal actors, thus having a subjective nature. Also, they take specific characteristic of the organization into account, for example the organization context. This decreases the ability of benchmarking. If organizations are to be compared

externally, at least they have to do it against other organizations with similar characteristics and context. In self-assessments, organizations may also adapt the reference model (here; the award model) to fit the situation of the organization and its goals (Brown et al., 1999). This means that results are organization specific, and therefore less suitable for external comparison. It is therefore argued that great care should be taken before using the results of a self-assessment for external benchmarking.

When it comes to internal benchmarking, some results of the self-assessment might be useable in other divisions of the organization as there can be more similarities between divisions than between organizations. Although this might be the case, it is argued that care should be taken anyway, as some aspects between divisions might also differ, making the results less valid for comparison to other divisions as well. If the organization is to obtain the benefits of benchmarking and comparison with other companies through self-assessments, it implies that the model must be much more general. This further implies less flexibility regarding contributions from participants, resulting in decreased involvement and participation, which further decreases joint reflection and learning.

7.3 A complete process contributing to organization development

In the co-generative learning model presented by Klev and Levin (2009), the process of finding an agreed-upon problem definition, planning the process and learning arenas, collecting data, making an analysis, taking action based on this analysis and then contribute to a learning spiral is important in order to obtain organization development.

7.3.1 Approaches to self-assessments

In relation to the total organization development process, only the activity of making an analysis is covered in the main evaluation phase of self-assessments. In addition, the problem definition and collecting data can be seen as taking place both before the main evaluation begins and during the assessment against the chosen model. The rest of the activities of the organization development process will be further discussed in relation to the supporting processes of self-assessments in chapter 8. Because of this, it is argued that discussing each of the different approaches against this organization development characteristic, as is done previously in chapter 7, contribute with little value to the overall discussion of what approach is most suitable to self-assessments in order to contribute to organization development. Therefore, in this chapter, only comments are made regarding choices of approaches in general.

The first aspect to be highlighted in this discussion is the observation that the main evaluation of self-assessments is part of a bigger process, as described in chapter 5.7. During the main evaluation, the assessors try to find solutions to problems or focus-areas already provided in the initiation phase of the process. The main problem definition or discovered area for improvement needs is what has generated the self-assessment process in the first place, and which has led to choices of self-assessment models and approaches. During the performance of the main evaluation, using the chosen approach and examining the areas of consideration more thoroughly, new problem definitions occur, as smaller, more manageable problems and

aspects are discovered. This illustrates the interdependence between the main evaluation and the total self-assessment process. This implicates that the chosen approach of the main evaluation must comprise elements that allow the main evaluation to be an integrated part of the rest of the process.

As discussed, the data collection phase of an organization development process is both part of the main evaluation and the complete self-assessment process. When conducting the self-assessment, data will be required in order to assess the organization against the criteria given. This data can take different forms. One type of data required can be in the form of numbers, like performance results or measures of key performance indicators. Another type of data used in self-assessments contributing to organization development is that generated from individual or joint reflection, sharing of knowledge and experience or through discussion. The approach chosen will provide different forms of data. For example, individually answered questionnaires provide no data from joint reflection and discussion, while workshops will.

One last comment related to the choice of approaches in connection to contributing to organization development regards the continuation-aspect of organization development processes. Through what Klev and Levin (2009) call the learning spiral, the organization should obtain new insight and organization action. When considering what approach to choose, this must also be taken into consideration. The cyclic nature of self-assessment processes will be discussed further in chapter 8.

7.3.2 Characteristics of the self-assessment model

The criteria and reference standards in the self-assessment models will provide guidance and an object of comparison on each of the criteria to be assessed. This will contribute to the organization development process' analysis-stage where the organization determines where they perform well and where there are opportunities for improvement. Further, more directed actions can be taken in order to gain improvement.

Like the approach, the self-assessment model must also be constructed in a way that supports a complete organization development process. This means that the model must also contain elements allowing the different phases of such a process to take place during the self-assessment.

7.4 A holistic approach to systems of the organization

In this section the approaches to self-assessments are not discussed, as it is claimed here that the focus of a holistic approach to systems of the organization has more implications on the self-assessment model than the approach.

7.4.1 Characteristics of the self-assessment model

As mentioned earlier, one of the main characteristics of an organization development process is that it concerns total systems of the organization, and not just one or a few aspects of it. This means that the self-assessment model must be concerned with all aspects of the system chosen for the assessment, and not just one or a few areas, in order to contribute to organizational development. Conti (1997b, p. 6) claims that self-assessments for diagnosis

purposes are used to assess both tangible and intangible aspects of the organization. Thus, the model must be adapted so that such assessment is possible. As intangible aspects of the organization are less possible to measure accurately, it follows that the degree of measurement in self-assessments are less applicable.

This further has implications on the scope and flexibility of the model. The model must have a broad enough scope in order to provide an assessment of the wanted system and area chosen. At the same time, the depth of the assessment must also be considered and maintained. This means that it must be possible for the assessors to detect strengths and areas of improvement of the organization, and their underlying reasons, in order to establish and prioritize what actions are to be taken. Therefore, the model cannot have a too wide scope.

Also, in order to have a holistic approach to the organization, the self-assessment model must take into account that actors from different levels and departments of the organization should take part in the self-assessment. This is already discussed in chapter 7.1 in relation to the participation aspect. In this regard, the model must include some considerations on how different parts of the systems will be affected by a change or an initiative of another.

In addition, the choice of the model must be affected by the organization's context, available resources, processes, and so on. There is little value for an organization to assess itself against a model that does not fit the characteristics of the organization. If the model chosen for self-assessment contains elements which does not fit the organization, they might need to be removed or replaced by more fitting variables in order to not to cause any confusion or create unnecessary work for the participants. The work of Sturkenboom et al. (2001) provides an example of such models not always fitting all organizations. They point out that most of the quality award models are too complex for small and medium-sized enterprises (SME's), and therefore develop a self-assessment model more suitable for SME's, using descriptions to different quality maturity levels for the assessors to place themselves instead of a strong focus on scoring (Sturkenboom et al., 2001).

7.4.1.1 Validity

Williams et al. (2006) find it interesting to examine the validity of self-assessments based on the EFQM model. They question the degree to which criteria, weightings and predicted relationships of the business excellence model have academic validity, and whether changes in business environments since the origin of the model have affected the practical validity, taking the EFQM-model as the object of analysis. This is an analysis of the model itself.

Ford and Evans (2002) mention that the choice of model can be affected by the validity of the model. They describe validity as formal validity and "face validity", meaning that it should ensure consistency with what is known about organizational phenomena, and make sense in the practical setting of the organization, respectively. These aspects of validity are appropriate in the setting of self-assessments contributing to organization development, especially face validity.

To what degree is it valuable to search for the academic validity of the results of the model? In order to gain high validity from a self-assessment model and the results generated when using it, very accurate measurements must be done. If the subjective and qualitative aspects of

self-assessments are to be maintained, such measurements are not possible. The consequence is that self-assessments must be used to uncover the situation in the organization and its underlying causes, rather than having high validity of measures and results.

8 The aggregated process of conducting and supporting self-assessments

8.1 Involved and contributing participants

As shown in chapter 5.7, top management involvement and commitment is emphasized as an important part of a self-assessment process. This is also supported in the organization development literature, as it is stated that organization development is a top-management supported effort (French and Bell, 1990, p. 17). The claim that top-management not only should provide direction and support, but also take part in an organization development process (French and Bell, 1990, p. 17) is also emphasized in the self-assessment process, as managers traditionally have been the main participators in conducting self-assessments (Jørgensen et al., 2004, p. 343). Following this discussion, management support and involvement is important in self-assessment processes contributing to organization development.

What is not always similar in the organization development literature and the self-assessment literature is the commitment and participation of all organization members being affected by the process. This aspect is emphasized as important in organization development literature (Klev and Levin, 2009). Although some authors mention the importance of involving those working in the company in the self-assessment (Hillman, 1994, Ritchie and Dale, 2000), the literature provides little clear advices about such participation. The study of Jørgensen et al. (2004) provides one of the exceptions in this aspect, as they examine how a team of shop-floor workers can conduct self-assessments. Nevertheless, a self-assessment process contributing to organization development should include broad participation and involvement. One important aspect in this sense is to secure that these participants are empowered to conduct the assessment. This means that they are given the support and resources needed to be able to perform the self-assessment.

This implicates that one of the preparing tasks before conducting self-assessment must be to gather appropriate participants to conduct the assessment, both from management and other actors being affected by or having an interest in the self-assessment process. Further, these participants must be trained for the self-assessment. As seen in chapter 5.7, training is mentioned as one of the preparing steps of a self-assessment process by both Brown et al. (1999) and Hillman (1994), although not discussed any further. In order for broad participation to take place, such training can for example be to be introduced to the model, gain understanding of the concepts and criteria being assessed and to learn about how to perform the self-assessment. Samuelsson and Nilsson (2002, p. 17) also support the aspect of providing training in self-assessment methodology, claiming that it is both a way of motivating people and gain understanding. Following this discussion, training of those taking part in the self-assessment is an important preparation task in a self-assessment process.

One other important aspect in order to obtain participation and commitment in the whole organization is to ensure that the organization is informed about the self-assessment effort. Therefore, communication is an important part in the early phase of the self-assessment process. As seen, communication of the intentions and objectives of the self-assessment is

emphasized by Samuelsson and Nilsson (2002) and Hillman (1994). One of the main difficulties in performing self-assessments detected in the study by Ritchie and Dale (2000) was the lack of commitment at all levels. This underlines the claim made here that communication contributing to involvement is an important part of self-assessments. In this aspect, not only communicating what will happen, but also why, is important in order to gain understanding.

The choice of whether to include an external actor must also be considered in the preparing phase of self-assessments. As seen in chapter 5.5.2.1, Conti (2001, p. 229) states that external actors can contribute in conducting the assessment, as long as the process is governed by the organization. At the same time, Ford and Evans (2002, p. 25) emphasize the internalizing of the activity. In an organization development process, a consultant should be present in at least the beginning of the process (French and Bell, 1990, p. 20). Klev and Levin (2009) emphasize the importance of the interaction between external and internal actors with different competences, positions and roles in their co-generative learning model. In self-assessments, therefore, the use of external actors like consultants can be a contributing factor in order for organization development to be obtained. Still, care should be taken so that external consultants do not take control of the process completely.

In addition to the choice of assessors and external actors, the choice of whether to use a facilitator must be made. This choice is related to what approach is taken, as discussed in chapter 7. Also discussed in chapter 7, a facilitator can contribute positively and even might be necessary, in order to conduct the self-assessment. The choice of whether to use a facilitator is not discussed further here.

8.2 Appropriate learning arenas

In order for the self-assessment to be conducted on the appropriate learning arenas, an important process before assessing the organization is to plan for and make arrangements for such learning arenas. For example, if the approach is to be group-based, arrangements for such group activity needs to be made. This requires knowledge of different learning arenas and the effect they will have on the self-assessment process. As discussed in chapter 7.2, the learning arenas must be compatible with the approach chosen.

As is evident by the discussion from chapter 7.2, the choice of approach to the self-assessment will be guiding in relation to how many assessors are needed, and what time and resources are required. As Klev and Levin (2009) mention as important in their organization development process, the process leader (manager or external actor) must facilitate and make arrangements for the aspects above. The task is to choose a learning arena which is appropriate in connection with the self-assessment approach chosen, the context and the problem area of interest.

8.3 A complete process contributing to organization development

Generally, the organization development process contains activities of collecting and analyzing data on aspects of the organization, and then taking action (French and Bell, 1990, Cummings and Worley, 2005, Klev and Levin, 2009). In the co-generative learning model presented by Klev and Levin (2009), the process of finding an agreed-upon problem definition, planning the process and learning arenas, collecting data, making an analysis, taking action based on this analysis and then contribute to a learning spiral is important in order to obtain organization development. The next sections discuss these activities in relation to the self-assessment and the process before and after the self-assessment have been conducted. The main evaluation phase (which corresponds to the processes of collecting data and making an analysis) is only mentioned when appropriate, as it was also discussed in chapter 7.3.

The process of finding an agreed-upon problem definition in organization development processes can also be seen as important in a self-assessment process. A problem or improvement area of interest will lead to the need of initiating a self-assessment process. Klev and Levin (2009) put an emphasize on building a consensus between actors and having legitimate and acceptable goals in the initiation phase of an organization development process if it is to be run forward by participation. In order for the self-assessment to have a strong base in the organization throughout, all participants must therefore consent on the fundamental problem definition and the need of making changes. Therefore, this must be considered as an important part of the preparing process for self-assessments.

As discussed in chapter 7, the self-assessment model must be chosen in relation to the context, conceptual domain, usability aspects, validity, and so on. Many aspects need to be considered. Therefore, the examination and choice of a self-assessment model are an important part of the self-assessment process. Further, there might be a need to adapt the model to fit the given problem, organization and assessors. This can for example be through adjusting the language and terms to fit the assessment team, as discovered as a need by Jørgensen et al. (2004) (suggesting the use of facilitators to solve this issue), or to remove criteria or aspects of the model which are not relevant to the given problem or organization.

The collection of data can, as described in chapter 7.3, happen both before and during the main evaluation phase, depending on what approach is chosen. For example, measurements like key performance indicators can serve as data to be used during the assessment. When having an approach that facilitates for joint reflection and discussion, these can contribute to new data gathering during the assessment as knowledge and experience are shared between the assessors. Also, the answers to questionnaires can generate data when conducting the self-assessment. The data gathered, both before and during the self-assessment, can be used further in the assessment.

Further, following an organization development process, actions are taken based on the previous analysis. In chapter 5.7, taking actions in order to reach improvements is also emphasized in the literature of self-assessment processes (Pakdil and Leonard, 2014, Samuelsson and Nilsson, 2002). According to the findings of Samuelsson and Nilsson (2002, p. 19), actions must be handled at the right level of the organization. The flow chart presented

by Pakdil and Leonard (2014) states that actions taken must be decided upon in order to choose the most important and appropriate. To sum up, the self-assessment conducted provides the organization with possible improvements, which are taken further in appropriate improvement actions. An action plan describing what to be done, when, and by who, can be a helping tool in this respect. Also, Samuelsson and Nilsson (2002, p. 20) claims that a routine to follow up the status and results of the improvement actions that are initiated must be established, and further to communicate these improvement actions through different channels.

As seen in chapter 5.7, the cyclic aspect of self-assessment processes and reassessments are emphasized in the self-assessment literature (Hillman, 1994, Caffyn, 1999, Conti, 1997a, Pakdil and Leonard, 2014). This can be seen as being in line with the learning spiral and the cyclic dimension of the co-generative learning model proposed by Klev and Levin (2009), meaning that such a cyclic approach is also supported by organization development literature. The results from the first self-assessment process should be reviewed and taken as input to the next self-assessment cycle.

When it comes to how frequent a self-assessment should be conducted, Samuelsson and Nilsson (2002, p. 16) find no strict answer. In their research, the cycle time varied among the case companies, from one to two years (Samuelsson and Nilsson, 2002, p. 16). In this manner, the nature of the organization and time needed for implementation of improvement actions might affect how often the self-assessment process is performed.

8.4 Holistic approach to systems of the organization

Most elements concerning this last characteristic of organization development in relation to the complete self-assessment process is already mentioned in the previous discussion of chapter 8. For example, the choice and adaptation of the self-assessment model must be done in a manner concerning the organization and its context. Also, the aspect of taking both formal and informal aspects of the system into account must be evident in the way self-assessment are planned for, performed and acted upon.

Both when conducting the self-assessment and taking improvement actions, interrelatedness and connections between different aspects of the system must be taken into account. For example, discussions and reflections must be open to this interrelation. In the same manner, actions taken in one part of the system might affect other systems.

9 Conclusion

In this part of the master thesis, how a self-assessment process can contribute to organization development is examined. First, theory of organization development and self-assessments are presented. Then a discussion follows, related to characteristics of organization development. Below, an answer to the first research question is provided.

9.1 Self-assessments approaches contributing to organization development

One of the findings related to the first research question is that the approach chosen for a self-assessment process contributing to organization development must facilitate for involvement and broad participation, and provide communication, reflection and learning.

Three approaches to how to conduct the main evaluation is examined. It is found that award approaches are less appropriate for self-assessment conducted in order to gain organization development, as it hinders wide participation. In addition, in an award approach, writing a thorough report is emphasized instead of reflection and discussion. This suggests that the award approach is not appropriate for learning arenas contributing to organization development. Also, the approach provides less opportunity to highlight weaknesses or areas of improvement (which is one of the aims of self-assessments) as the assessor's focus is more on revealing strengths and scoring.

The second approach discussed is the use of different types of questionnaires. These are easy to administer and less time consuming, and therefore provide possibilities for broader participation. At the same time, questionnaires hinder joint reflection and learning, and therefore also organization development. They can also provide less reliable data because of assessors' different interpretations of the scaling system. Also, results of the assessment are less visible to the participants and the organization if not communicated further.

The last approach, different variants of workshops, allows for participation, involvement, discussion and reflection, and is therefore seen as appropriate to contribute to organization development. The self-assessment approach should therefore take the form of some kind of workshop.

In addition, when choosing and conducting the self-assessment approach, it is important to take into account that it is part of a bigger self-assessment process, and therefore must be seen as an integrated part of it. It is also important to remember that data are generated and analyzed differently in the different approaches.

9.2 Self-assessment models contributing to organization development

In order for the self-assessment model to support self-assessments conducted in order to obtain organization development, the model must support a complete organization development process. Further, it must be constructed in a way that considers all aspects of a

system, both tangible and intangible. This implies that the model has a broad scope. At the same time, the model must allow for deeper analysis when conducting self-assessment, in order to discover strengths and weaknesses of the organization. The model must also be constructed in a way that takes wide participation when conducting self-assessment into account.

When choosing a self-assessment model, it is important that it fits the organization's characteristics, resources and processes, and the problem definition or area of consideration that generates the need of the self-assessment. Further, the validity of the model is important to some degree, especially in order to make sense in the practical setting of the organization. At the same time, the subjective and qualitative aspect of the self-assessment cannot be maintained if trying to obtain high validity of measures and results.

Self-assessment models containing diagnostic components that guides assessors to where to look for problems and solutions contribute to organization development, as participation and involvement are increased, decreasing the need for external experts. Such diagnostic components also contribute to reflection, discussion, knowledge generation and learning, which is important in an organization development process. At the same time, such guidance can hinder flexibility when conducting the self-assessment.

One important characteristic of the self-assessment model is its usability, in the sense that it has an intuitive construction and contains a language and terms that all assessors can understand and relate to.

When it comes to whether or not to include scoring in the self-assessment model, there is no conclusive answer. It is found that it hinders reflection and discussion, as the focus is on finding the right score rather than the underlying causes of each criterion assessed. At the same time, scoring force the assessor to agree on what level the organization is on each criterion, forcing a decision to be made based on discussion.

9.3 The total self-assessment process

In order for organization development to be obtained when conducting a complete self-assessment process, some aspects that such a process should contain are mentioned below. These are general, and it should be noted that this is a sketched process, and not the established "best way" being suitable to all self-assessment processes. The self-assessment process will vary according to the organization and its context, the self-assessment model and the approach chosen.

In a self-assessment process aimed at organization development, commitment and involvement of all relevant actors, including top management, employees and external actors, are important.

Further, finding an agreed-upon problem definition or improvement area of interest is found as an important aspect of such a self-assessment process. Following this, two important preparing tasks are to choose an appropriate approach and an appropriate self-assessment model to be used in the self-assessment process.

The planning phase involves planning for and make arrangements for appropriate learning arenas given the approach and problem definition. Further, adjusting the self-assessment model in relation to the given problem, organization and assessors is seen as important.

In order to prepare for the main evaluation phase, participants to perform the assessment must be gathered and provided with training on the self-assessment model and methodology. Communication and information about the self-assessment process, its intentions and objective, is also important in such a process.

Another preparation task is to choose whether to include external actors like consultants and facilitators, and then making this selection. Data to be used during the main evaluation phase must also be collected.

Further, the chosen participants conduct the main evaluation of the self-assessment, detecting strengths and areas of improvement. From these improvements, an action plan for prioritized improvement actions are established and implemented. These actions must be followed up.

The results from the self-assessment process are reviewed, and a new self-assessment process is initiated.

Part Two: Case study

As explained in the introduction, the second part of this master thesis is devoted to answering the second and more practical research question;

> *How can the project team improve the self-assessment model and self-assessment process tested in this master thesis, in order for the self-assessment to contribute to organization development?*

This question is seen in relation to the case study of a self-assessment model and process being tested by its developers and a case company.

In the following chapter, an introduction to the case study is provided in order for the reader to gain a deeper understanding of the project that has taken place, the actors involved, and the model and process to be tested. Following this, the research methods are presented and discussed. The results of the case study are then presented, first as more of a storytelling of how things happened during the research, and then in a more analytical way, taking the similar structure as in part one. The main reason to do so is for the reader to first get an overview of what happened, before presenting the more detailed analysis. A chapter then follows, where the main findings are discussed against the theoretical findings of part one. The master thesis ends with a conclusion in chapter 16.

10 Introduction to the case study

As described in the introduction, this master thesis is written in conjunction with a Norwegian research project, involving both research institutions and Norwegian industrial companies. Two of these institutions are Sintef Raufoss Manufacturing (SRM) and the Norwegian University for Science and Technology (NTNU). Actors presented in this master thesis are connected to these two institutions or the case company presented below.

One of the aims of this research project is to create an organization development model where self-assessment gives rise to reflection and organization development. The organization development model (will be referred to as the self-assessment model in this thesis) is to be used in Norwegian SMEs, focusing mostly on production companies. The group developing this self-assessment model consists of both applied scientists and academics, making sure that experience, science and theory are all taken into account. Another activity related to the research project is the testing of the self-assessment model in a Norwegian SME.

The results of testing the self-assessment model and the following feedback and analysis will lead to adjustments and further development to the self-assessment model and the process of using it. This master thesis is meant as a contribution to this analysis.

10.1 The self-assessment model of the project

The model developed through the research project is based on the idea that self-assessment will give rise to reflection and organization development. It is meant to be used by industrial SMEs wanting to assess and further develop their company. The fields of Lean and the ISO9001-standard are inspirations for suggested actions to challenges discovered by the users during the self-assessment. One of the challenges of the developers has therefore been to find a way to unite these two fields in the model. What is different from the original ISO-certification is that when using the model, the assessors themselves can choose what level fits the need of the company, as the needs do not necessarily involve completing the whole certification. It should be noted that the model developed here is not purely a Lean or ISO9001 implementation tool. Lean and ISO9001 are sources of actions to take based on a self-assessment performed against the model.

The foundation of the self-assessment model is organization development. The developers find the aspect of organization development depending on local ownership and competence as important to take into account. The developer group therefore base the self-assessment model on aspects like local ownership and local competence, meaning that it is formulated in such a manner that it can be used starting with a local foundation. Also, introduction of new systems and tools are limited because the developers recognize that organizations have existing systems and work methods that are functional and already well implemented. The self-assessment model therefore takes existing systems of the company as a starting basis.

Another aspect of having organization development as the foundation of the self-assessment model is that all activities started in a company will affect other activities. This was taken into

consideration when the self-assessment themes (also called modules) were developed. The self-assessment model consists of different modules related to production.

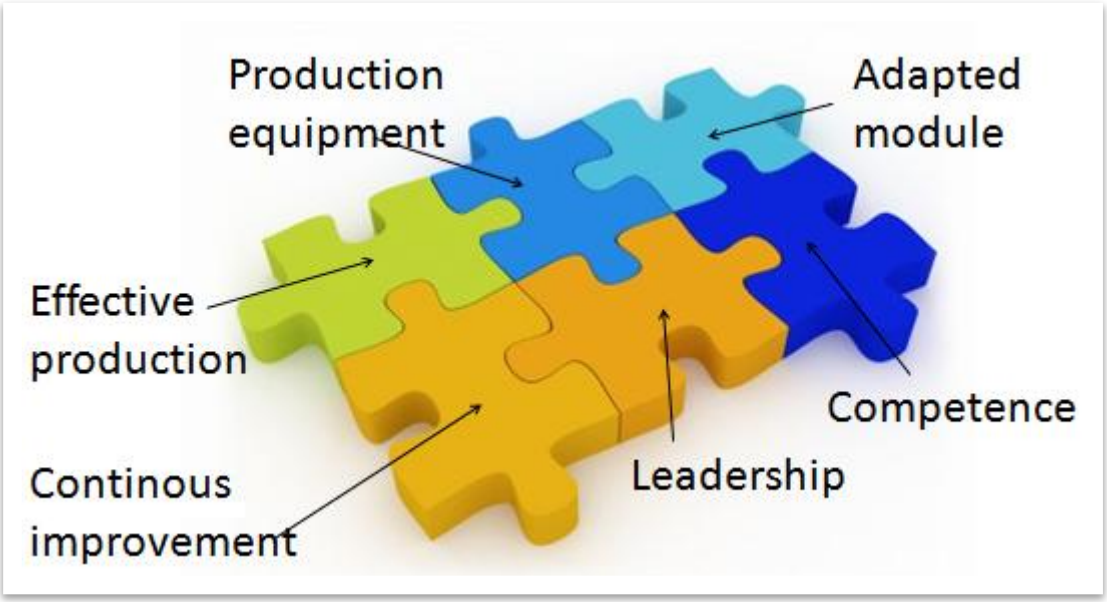

Figure 10.1.1: Modules of the self-assessment model, as drawn by the developers

As seen by figure 10.1.1, picturing the building blocks (called modules) of the self-assessment model, there are five already developed modules that each represent a self-assessment theme to be chosen by the assessors. These themes are;

- Production equipment
- Effective production
- Leadership
- Continuous improvement
- Competence

In addition, an adapted module is sketched into the figure, visualizing further development of modules as users find it interesting to assess themselves regarding other themes. Modules can also be adapted to fit the user company and/or its context. For each module, self-assessment schemes, as described in chapter 10.1.1, are developed. The model is computer-based, and formatted in Excel. Each theme and its sublevels are structured in a separate Excel sheet.

The self-assessment model and its schemes consist of two parts, directly related to the process of using it; for each sub-theme there is a self-assessment part and an implementation part. In the first one, the users are to assess themselves in relation to where they find themselves at the current point in time, before deciding on a desired future state. In the implementation part, the assessors are meant to decide on efforts to improve the company in order to reach the desired future state found in the self-assessment part. The two parts of the model are described in the following sections.

10.1.1 The self-assessment part of the model

As described above, the self-assessment model is structured as schemes, shown in figure 10.1.1.1 and figure 10.1.1.2. For each theme, there is a scheme concerning an overall assessment of the main theme. In addition, there are schemes for each subtheme. For example, for the theme "Effective Production", the three subthemes are "Flow of working procedures and product value chain", "Production planning", and "Management of inventory".

In the schemes below, those rows named "Current state and goals" are directly related to the self-assessment part of the model.

Theme (general)				
Current state and goals	**Theme**	**Lower level**	**Higher level**	**World class level**
	Description of theme	Description of lower level	Description of higher level	Description of world class level
	Description of the company's current state	*(The theme-group writes down the appropriate information here)*		
	Description of the desired state	*(The theme-group writes down the appropriate information here)*		

Figure 10.1.1.1: Self-assessment scheme of general level of the theme, as sketched by the developers

In figure 10.1.1.2, the structuring of the schemes for each sub-level is given;

Sub-theme				
Current state and goals	**Theme**	**Lower level**	**Higher level**	**World class level**
	Description of theme	Description of lower level	Description of higher level	Description of world class level
	Description of the company's current state: Why? If good, why so good? If not good, why not? Perform a "3*Why" on separate schemes *(The theme-group writes down the appropriate information here)*			
	Description of the desired state *(The theme-group writes down the appropriate information here)*			
Possible actions	Example of action 1	Description of why Description of how	To what degree are these actions taken today? Which effect will it provide? Should it be prioritized? *(The theme-group writes down the appropriate information here)*	How do we do this? Who follows up on the action? *(The theme-group writes down the appropriate information here)*

		ISO9001:2015 demand		
	Example of action 2	Description of why Description of how	To what degree are these actions taken today? Which effect will it provide? Should it be prioritized? *(The theme-group writes down the appropriate information here)*	How do we do this? Who follows up on the action? *(The theme-group writes down the appropriate information here)*
		ISO9001:2015 demand		
	Actions suggested by the assessors	Description of action. Why? How? *(The theme-group writes down the appropriate information here)*	To what degree are these actions taken today? Which effect will it provide? Should it be prioritized? *(The theme-group writes down the appropriate information here)*	How do we do this? Who follows up on the action? *(The theme-group writes down the appropriate information here)*

Figure 10.1.1.2: Self-assessment scheme of sub-theme, as sketched by the developers

10.1.2 The implementation part of the model

In addition to the self-assessment part of the schemes shown above, there are also rows labeled “Possible actions” for each scheme of the theme sub-levels. This is how the implementation part of the self-assessment process is included in the model; results of the self-assessment are used to decide upon further actions. For each sub-theme in the self-assessment model, there will be a short presentation of each suggested action, why it is suitable and appropriate, and how it should be implemented. This means that after each assessment of a sub-theme, challenges and future desired states are found. Based on these results, possible actions can be chosen from suggested suitable actions for the sub-theme. The actions then follow directly from the assessment results.

10.2 The self-assessment process developed in the project

In the next sections, an explanation of the process of using the self-assessment model will be given. The process suggestion explained here is how the developers pictured the process based only on theory and discussion. In chapter 12.2, how the process was planned for during the test-run is explained. The reason for this distinction is that the process suggestions are not

completely alike, and therefore give root to comparison. Also, in chapter 13 and 14 where results are presented, the process as it became during the test-run are presented, also showing dissimilarities to the two process suggestions presented below.

10.2.1 The original process suggestion

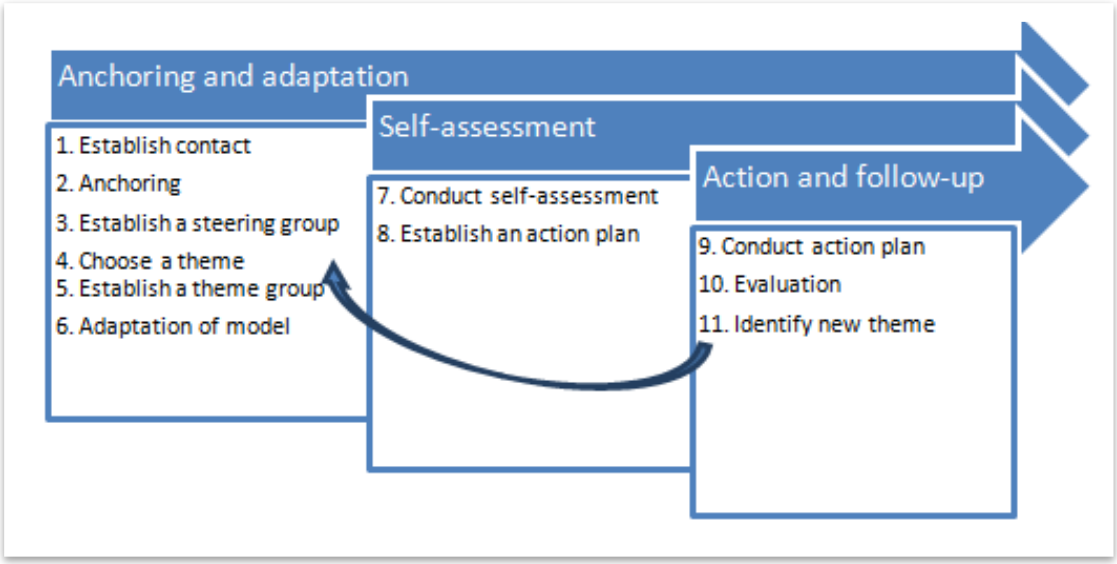

Figure 10.2.1.1: The original process suggestion, as sketched by the developers

The original suggestion to the self-assessment process is developed by the same group as has developed the self-assessment model. The process of using the self-assessment model is shown in figure 10.2.1.1. The developers pictured three main phases of using the model; anchoring and adaptation, self-assessment, and action and follow-up. In the following, each of these phases is described in more detail. It should be kept in mind that this is the suggestion to the total self-assessment process pictured by the developers before any testing or practical considerations were taken.

10.2.1.1 Anchoring and adaptation

In the first step of the process, the developers find it essential that contact is established and that there is an agreement on performing a self-assessment. This further involves a prioritization of resources in order to make it possible to conduct the process, as well as fitting the effort into the existing strategy.

Also, according to the developers, a steering organ to manage the effort is needed. In the self-assessment process suggested, a steering group should be established. It is preferable that the steering group includes the company board and management. Also, the developers suggest that there should be a link with the production workers in order to gain a wider anchoring and a wider competence and perspective of the company. This can for example be done by including the union representative in the group. The cooperation between union representatives and management also has a long tradition in Norwegian workplaces, and it is therefore seen as important to include these in such a steering group.

According to the developers, the steering group is established to make sure that there is a common understanding of the process, and to secure anchoring, support and enough resources to conduct the self-assessment. The main task of the steering group is to choose one or more self-assessment themes (modules, as described in chapter 10.1.1) that fit the company's current challenges, efforts and access to resources. The developers do not recommend that assessors do all themes at once, as it will be too much to handle. Also, the developers suggest that the theme should only be chosen by the steering group without any guiding, in order to keep the premise of local participation and local understanding of problems, rather than being told what to do by an external consultant. If the theme chosen proves to not be relevant to the company, the process of getting to that conclusion will still be valuable and generate learning, and is therefore in line with the organization development foundation of the self-assessment model.

Based on the chosen theme, the steering group chooses a theme group that is to perform the self-assessment. The members of this group must be chosen on the basis of competence and understanding of the theme. The developers of the self-assessment model and –process also put an emphasis on having a wide range of members with different competence and perspectives in order to see problems and challenges from different point of views. Those working closest to the theme chosen should also have a majority in the theme group. In order to have a link between the steering group and the theme group, one or two members of the first can take part in the theme group as well. Because discussion and reflection during the self-assessment are preferable, the developers suggest that the theme group should not be too big, preferably including between five to eight members. When using the self-assessment model, the steering group will always contain the same members, while the members of the theme group will vary according to what theme the steering group chooses to pursue.

During one of the developers' preparation meetings, several assumptions were made about the initial meeting with users of the self-assessment model. Among these, there were the assumption that the sales-pitch and providing a clear understanding of the model and why to use it, would be important in order to get the company on board. Also, the group assumed that the customer would ask questions and be critical to the model, and pointed out that those introducing the model to the company would have to be prepared to answer such questions.

One last important activity in the first part of the self-assessment process is to adapt the self-assessment model to the company's language, culture and existing structure. The developers find that this will hinder that assessors must work with unknown and difficult terms and structures, which in turn will decrease the degree of resistance to change. In addition, outside expertise needed might decrease, as the model can be better handled and understood by the company members. This will also increase the local ownership, which in turn will make the change process occur from the inside of the organization.

The original idea by the developers was that a goal for the self-assessment model is that it can be handled by only the company itself after introduction and adaptation is done. Another original idea of the developers was that an introduction of Lean or ISO-standards by internal

or external actors before using the model will not be necessary. Training in such fields is to come as a result of the self-assessment and actions chosen.

10.2.1.2 Self-assessment

The main self-assessment activity is the next step in the self-assessment process. The assessment follows the structure of the model shown in chapter 10.1.1. The developers of the self-assessment model find discussion and reflection to be important in order for the members to establish an understanding of the company's situation, meaning its challenges and opportunities for the theme given. A common understanding of the problem, as well as seeing it from different perspectives and experience, will lead to the choice of further actions. One assumption made by the developers was that facilitators would play an important part when dealing with the self-assessment process.

As seen in 10.1, suggestions of actions related to sub-themes are given in the self-assessment model. The theme group should discuss the different action suggestions in terms of what effect they will have on the challenges identified in the discussion related to where the company finds itself and the preferred future state. This discussion also follows from the structure of the model. It is also possible for the theme groups to make their own suggestions on what actions to be taken. Actions should then be prioritized and planned for in an action plan, what to be done, time frame and deciding who to be responsible for the implementation.

10.2.1.3 Action and follow-up

The actions can vary in terms of how much time and resources are required for implementation. Some smaller "quick-fixes" are recommended in order to make the results of the self-assessment effort visible. When it comes to more complex actions, it is recommended that those responsible communicate status and consult with other members of the effort so that they feel included and that their efforts have led to some value for the company.

After the implementation, it is recommended that the actions taken are evaluated in terms of whether they have led to the wanted results discussed during the self-assessment. Here, aspects like visibility of the results to the rest of the company, and whether chosen actions have affected other aspects of the company, are interesting findings. The results of the evaluation contribute to the decision of whether the theme discussed in the self-assessment needs further effort in a new self-assessment cycle, or whether the next self-assessment can concern another theme of interest to the company.

10.3 Summary and explanation

The purpose of table 10.3.1 is to summarize the main terms used in the self-assessment process and – model. The author recognizes that there are a lot of new and unclear terms and information given in this chapter, and that keeping track of all of it might be challenging. The table below is intended to clarify the terms and the connections between these. The explanation of different actors is given here for the same purpose. Some of these actors are already mentioned here, while others will be mentioned later and may not be interesting in the

immediate sense. Nevertheless, the explanation is seen as contributing in helping the reader to gain a clear understanding of the case.

Concepts	
Assessors	Those performing the evaluation.
Module, theme, building blocks	The self-assessment model consists of several modules in which the group of assessors (theme group) evaluates itself against.
Self-assessment scheme	Schemes in which the assessors follow when doing the assessment. There is one scheme for each general level or sub-level of the theme.
Sub-theme	The main theme is divided into several sub-themes to make the assessment more tangible.
Steering group	A group consisting of members from board, management and union representatives. Its main tasks are to choose the theme (module) to be assessed and the theme group members, and supporting the assessment process throughout. Permanent group.
Theme group	This group consists of members being able to contribute in the assessment. It performs the main evaluation of the chosen theme. The group is only chosen for one specific assessment cycle (one theme).
Actors	
Academics	These actors are some of the developers of the self-assessment model.
Applied researchers	These actors are some of the developers of the self-assessment model. The actors also took part during the testing of the self-assessment model and –process.
Consultant	The consultant works at the same company as the applied researchers. He usually helps companies implement Lean. In this project he contributed as a facilitator and as a consultant helping the company implement their chosen improvement actions.

Table 10.3.1: Clarification of concepts and actors

11 Method

This master thesis is based on social research. Bryman (2012, p. 4) denotes social research as "(…) academic research on topics relating to questions relevant to the social scientific fields, such as sociology, human geography, social policy, politics and criminology". He further states that the core of doing social research is to resolve an aspect of our understanding of what goes on in the society (Bryman, 2012, p. 5).

11.1 Research strategy

Bryman (2012, p. 35) makes a distinction between two research strategies; the quantitative and the qualitative. The main distinction comes from the presence or absence of quantification, respectively. Further, he gives a rough classification of the two. Quantitative research usually entails a deductive approach to theory and research (meaning that research is used for testing theory), incorporates practices and norms of positivism and the natural scientific model, and sees social reality as external and objective. On the opposite, qualitative research usually generates theory (inductive approach), emphasizes the ways individuals interpret their social world, and sees the social reality as a constantly shifting emergent property based on an individual's creation. (Bryman, 2012, p. 36)

The research following this master thesis is characterized by a qualitative research strategy. In qualitative research, most researchers see theory as something emerging out of data collection and analysis (Bryman, 2012, p. 387). Although it is already established that the master thesis does not directly generate theory, it is a contribution to a larger research project where some of the deliveries are theoretical contributions. In qualitative research, there is a focus on understanding the social world through examining the research participants' interpretations of it, rather than following a natural scientific model as in quantitative research (Bryman, 2012, p. 380). This is also the case in this master thesis, aiming at understanding different actors' opinions and understanding of what works well and what does not in a self-assessment process, and why this is the case. The different actors have different agendas which are important in order to understand how the self-assessment process should look like.

As mentioned above, qualitative research distinguishes itself from quantitative research in the way that qualitative researchers emphasize the importance of seeing events and the social world through the eyes of the actors in the research. This is because the research objects in social research usually are people, which have the ability to reflect and attribute meaning to the events and environment around them. This differs from the natural scientific model, where the research objects do not have these abilities (Bryman, 2012, p. 399). Following from this distinction between the two research strategies, several other distinctions is evident. While the qualitative researcher wishes to have a more close relationship with the research object and let those being studied drive the research, the quantitative researcher often desires a distant relationship and to do the research on their own premises and set of concerns (Bryman, 2012,

p. 408). The research of this master thesis is directly concerned with reflections and opinions of the actors and how they find the self-assessment process and model. The qualitative approach is therefore more appropriate in the research conducted.

Also, while in quantitative research the context and change and connections over time is less emphasized, the qualitative research often entails descriptions of details and an emphasis of the context (Bryman, 2012, chapter 17). Events and actions are explained in relation to the context, and the qualitative researcher is often concerned with the meaning of action rather than the action or behavior in itself (Bryman, 2012, chapter 17). In addition, the emphasis on process is higher in qualitative research compared to the more static focus in quantitative research (Bryman, 2012, chapter 17). As this master thesis studies a process in a specific social context, which is important in order to answer the research question, the qualitative approach is suitable.

This further leads to one of the critiques of qualitative research pointed out by Bryman (2012, p. 405), saying that qualitative research is too subjective, relying too much on the researcher's opinion on what are significant and important findings and the relationships with the people studied. Considerations regarding how not to be too subjective during this research are discussed in chapter 11.3.

In the following, research approaches used in the project and more specifically for collecting data for this master thesis are presented.

11.2 Action research

Greenwood and Levin (1998) introduce action research (shortened to AR) in the following way:

> AR is social research carried out by a team encompassing a professional action researcher and members of an organization or community seeking to improve their situation. AR promotes broad participation in the research process and supports action leading to a more just or satisfying situation for the stakeholders. (Greenwood and Levin, 1998, p. 4)

Bryman (2012, p. 397) broadly define action research as "(...) an approach in which the action researcher and members of a social setting collaborate in the diagnosis of a problem and in the development of a solution based on the diagnosis".

In the research process encompassing this master thesis, the use of action research is present. The actors both developing and testing the self-assessment model takes part as action researchers. As I have followed and contributed to the project, although not directly taken the part as an action researcher, the close connection to this requires some understanding of the subject.

Greenwood and Levin (1998, p. 6-8) state that action research is composed by three elements; research, participation and action. When elaborating on participation, they emphasize

democracy and control over one's life situation as important aspects. The action researcher is more like a facilitator or teacher. In this participatory process, the researcher, together with the local community or organization, establish an action research agenda, generate knowledge to transform the situation and act upon the results. The element of action means that there is an aim in action research to lead the community or organization to a more liberated and self-managing state. (Greenwood and Levin, 1998, p. 7-8)

The main distinction between action research and traditional social science is the question of whether to separate thought from action, as action researchers find action to be the only way of testing and generating new knowledge. This contrasts the view that social scientists should not be engaged in social action. (Greenwood and Levin, 1998, p. 6)

Further, Greenwood and Levin (1998, p. 6-7) rejects that action oriented work cannot be scientific and therefore not quantitative, and state further that action research can be both qualitative and quantitative research. Also, as long as the technique is appropriate for the situation, agreed upon and does not oppress the participants, there are no restrictions to what social research techniques to be used (Greenwood and Levin, 1998, p. 7).

11.3 Reflections regarding the role as a master student in this project

As a master student following the project, I have taken part both in the development of a process to be used when using the self-assessment model, and in the test-run in the test-company. Also, I have been involved in meetings concerning the self-assessment model, although I am not one of the developers. It should therefore be mentioned that loyalty and relations to the research team may have interfered with my ability to maintain an objective and distant research position. Because of the engagement with the group, common interests may have emerged and further interfered with my opinions and views on what is important in the research process and results. Also, a closer relationship with the actors in the research due to action research, not allowing me to be completely objective, may have interfered in this aspect. One example is that opinions of developers and members of the company have been hard to challenge, because of a wish to agree and please those in charge of the project I have been involved in.

In relation to the above mentioned aspects of loyalty and relations to the research team, it should be mentioned that two of the researchers engaged in the project are also my supervisors on this master thesis. Therefore, there is a chance that their opinions and assumptions might have affected my opinions or point of views. There is also a possibility that because of the loyalty and relationship to these actors I have generated a wish to please and agree with my supervisors. In order to not let this happen, I have tried to be aware of these possibilities, and considered other point of views as well.

During meetings with the researchers and developers of the self-assessment model, I have engaged in discussions regarding the self-assessment model and –process and contributed with opinions and comments when appropriate from my stand. In order to not affect the process too much and to still maintain some distance, I have tried to not engage directly in

decision makings. If such interfering has happened, it has mostly been done in order to make sure that all aspects and contributions to the discussion have been considered before making a final decision. In this regard I have also tried to maintain an overview of the discussion, seeing things from different perspectives, and not be affected too much on one aspect or one contribution to the discussion. Some of my interference in these meetings and discussions has also been in the form of me asking clarifying questions in order to gather as accurate information as possible, less affected by my prejudices and interpretations. Also, in meeting with the developers I have tried to understand how different opinions are related and clarify what are the underlying reasons for each opinion.

Before the observation of the test-run of the self-assessment process, I also took some action in order to maintain a more objective role. First of all, I tried to keep an awareness of being an observer and tried to be objective. Also, to gain as much information reflecting different aspects and point of views during the test-run was of importance. Although engaging in some activities during this test-run, to try to maintain an overview of the total situation was in focus. In addition, before the test-run, I sat down and tried to formulate some of my biases that would might affect the results of my observation. For example, I expected that members of the company management would be more dominating compared to other company members in terms of discussion and reflection in the self-assesment work. Also, I expected the company to evaluate themselves to be on a lower level than what they actually did during the test-run. In terms of my role in the test-run I expected the observation to be easier and give clearer indicators of how well the approach to the assesment worked, compared to how I felt during the assesment. After analyzing the results, I can see that some of my assumptions are similar to my results, while others are not. In those cases where the results are similar to the assumptions, I have tried to find solid support in the data analyzed in order to be sure it is not only my biases generating the results.

11.4 The timeline of the research

In this section, the timeline of which I was involved in the research project is summarized. This timeline is sketched in figure 11.4.1. The reason to present the timeline in more detail is because it clarifies my interaction with the project. It is also used when discussing the process to be tested, and are therefore used both in the method- and case-description, as well as when discussing results.

The first interaction with this project happened when I was introduced to the self-assessment model during a meeting with the developers. About a month later, the first contact with the testing company was established during a meeting at the test-company's facility. About one to two months before the test-run of the model, there was a meeting between the developers, master student and other scientists in order to discuss the process to be used during the test-run. Then, a new preparation meeting took place at the company facility in order to get a further understanding of the company, the company to gain further understanding of the model before the test-run, and to start the preparation for running the test of the model and its corresponding process. A few weeks later, following from some preparations done by the

developers, the test-run took place. The developers had a reflection meeting to sum up the most significant findings from the test-run shortly after it had been conducted. Interviews regarding the model, process and implementation of decided upon actions resulting from the test-run were conducted about one month after the test-run had taken place.

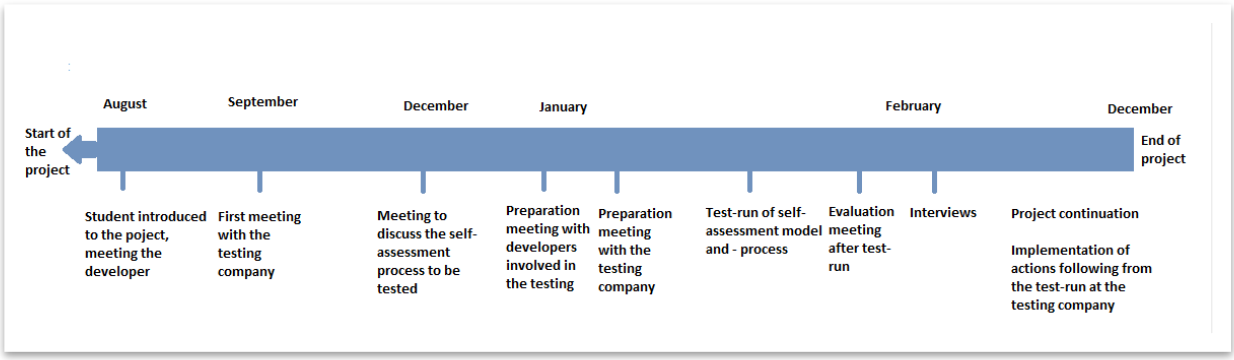

Figure 11.4.1: Timeline of the research

11.4.1 Main participants of the research

The table below is included in order to summarize and clarify which actors participated at what activities and events, and what were their roles during the different activities. It is meant as helpful for the reader, and it can be useful especially when reading about the results of the master thesis. For an introduction to the different actors, see table 10.3.1 in chapter 10.

Member / Activity	Academics	Applied researchers	Case company	Consultant	Master student
Developing the model	Contributed in developing the model and its modules. Organization development foundation.	Contributed in developing the model and its modules.	No.	No.	No.
First meeting with case company	No.	Two actors from this group attended the meeting. One of these presented the self-assessment model and process.	Three members from management attended the meeting. One of these presented the company.	No.	Contributed in discussion about the company and the self-assessment model and – process.
Meeting	Contributed	Contributed at	No.	No.	Contributed

developing the process	at the meeting discussing the self-assessment process. Organization development foundation.	the meeting discussing the self-assessment process. Practical and theoretical considerations.			as a referent and in discussion in general.
Preparation meeting with case company before test-run	No.	Two members presented the self-assessment model and the following process.	Members from management and union representatives were present and participated in the discussion.	The consultant had his first meeting with the company at this time. He also held a short presentation about Lean.	Contributed in discussion about the company and the self-assessment model and – process.
Preparation before test-run	No.	Sketched the final process for the testing. Gathered all modules of the self-assessment model. Gathered equipment necessary for test-run.	Management members gathered a theme group, including themselves.	Contributed to the preparations with applied researchers.	Contributed at one of the preparation meetings with the applied researchers.
Test-run	No.	The same two actors as earlier functioned as the drivers and facilitators to the self-assessment process.	Three management members and two staff members performed the self-assessment. Four additional staff members came to in the implementation part of the test-run.	Contributed as a facilitator in the assessment part and held a presentation of Lean before the implementation part of the self-assessment.	Main role as an observer. Contributed when natural.
Reflection meeting after test-run	No.	Three actors, including those participating in the test-run, contributed with their experience and/or questions.	No.	Contributed with experience and opinions.	Contributed with experience and observations.
Interviews	No.	One of the actors taking part in the test-run attended	Those taking part in the test-run were interviewed	No.	Asked questions related to the self-

		with questions related to the implementation part.	about their experience and opinions related to the self-assessment model and –process.		assessment model and –process.
Implement actions	No.	Have followed the implementation to some extent.	The whole company has been involved in learning and starting the implementation of Lean.	Is the driver of the Lean implementation and teaching the company how to do it.	Attended one of the sessions with the consultant to follow the implementation at the early stage.

Table 11.4.1.1: Paticipants of main activities during the project

11.5 Research techniques

Below, a discussion of the main research techniques used in the master thesis is provided. Table 11.4.1 can be helpful to the reader in order to keep track of what is elaborated upon below.

11.5.1 Taking part in meetings

I have used several research techniques in this study. Participation in meetings to introduce the self-assessment model and to prepare for the testing is one type of interaction that has taken place during the research. Some of the meetings have included only the developers of the self-assessment model, as well as a Lean consultant who has contributed with experience from introducing Lean to companies. Here, I have been able to obtain knowledge about the project and the self-assessment model, as well as to contribute with knowledge and ideas, both to improve the model, and also when developing the process to be tested.

Other meetings have involved the company in which the model and process are to be tested, as well as members from the developing group. Some of the developers of the model (applied scientists) introduced the model to the company and were also in charge of the testing procedure. In these meetings, I have been able to gain information about the company, as well as to contribute to introduce the model and the process to be tested. The company members have also been able to contribute with input and state their opinion about the model and the process. These meetings have not only been important in order to gain information about the company and the model, but also to gain a first look into the company's opinion of the model, and what they manage and what they do not in terms of the self-assessment model and its process.

During all of the meetings, I took notes in order to collect data, and at one meeting I acted as a referent as well.

11.5.2 Observation

During the main testing of the self-assessment model and its process, I mostly took the role as an observer, but chose to take part in the process when it was found necessary. The scientists who were responsible for introducing and running the test of the self-assessment model and its process took part in the process by facilitating the company members being assessors in the test-run. As these were highly involved in the testing, there was a need for me to take a more distant role as an observer in order to take notes and get a more overall view of the situations of interest.

When there were questions or situations where input was needed, I found it natural to engage and contribute. One example was during the test-run where one group had a question about what action was most suitable in terms of a specific challenge. The facilitator of that group was busy with another exercise, and therefore I helped them answer the questions acting as a facilitator. Also, during the observations I sometimes asked the contestants how they felt things were going and their thoughts about the situation. Taking these actions, I gained further insight into what difficulties the contestants experienced and a more direct feedback. During the observation, I moved between the groups instead of being passive or sitting down giving the impression of monitoring the activity. I also carried a little notebook instead of a computer, so that the contestants would not feel intimidated or like they were highly monitored.

Also, before starting the observation during the test-run, me and the other scientists involved presented ourselves and our role in the process in order to make the contestants less intimidated by the unusual situation.

11.5.3 Interviews

About a month after testing the self-assessment model and the recommended process, the contestants of the test-run were interviewed about the model, the process and the following results. This time gap may be too long concerning how well and detailed the interviewees would remember the testing. This is therefore mentioned as one possible source of error in the results given in chapter 13 and 14. This time gap was established through a consideration based on the time used for starting implementing actions resulting from the self-assessment model testing. It would also give the interviewees some time to reflect upon the test and its results.

Three interviews were conducted. All of these where group interviews with two, three or four interviewees on each group. These groups were already naturally divided because of position in the company and the degree of involvement in the test-process. However, in one of the groups consisting of only production workers, one of the members was closely related to the company management. This may have affected the answers given by this person, and also other members of the group, because some questions were directly or indirectly related to leadership of the company. Some interviewees therefore may have found it hard to criticize the leadership because of the relation mentioned. Therefore, I find it appropriate to mention this as a possible source of error. Although this might be the case, it is my opinion that the

members of the company seemed to manage to state their mind when they felt it was necessary, even if the person related to the leadership was present.

The interviews were formulated by the master student. During the interviews, one of the applied scientists from the project (and also one of the developers of the model) was also present. She approved the interview guide in advance, so that it would also be fruitful for her to take part during the interviews. She also asked additional questions during the interview when interesting topics were mentioned, especially about the process of implementing improvement actions.

The qualitative research process tends to be more flexible and less structured in order to see the social world through the eyes of the research object. Therefore it is desirable to contaminate the social world of the research object as little as possible, searching the natural environment of the research object, and to minimize the structure of the research process as much as possible. This is for example evident in that qualitative researchers often ask general and open questions rather than specific ones. (Bryman, 2012, chapter 17)

The interview guide took form of a semi-structured interview. Such an interview guide consists of questions or topics in which the researcher is interesting in covering, but it is not necessary to follow the exact order or to strict the way in which the interviewee responds (Bryman, 2012, p. 471). Below are some examples of the interview questions as they were formulated in the interview guide:

- Can you tell us about your overall impression of this process?
  - Your experience of it, what was good, what was not so good.
- What was your role during the process?
  - Time of involvement, how you got involved, areas of responsibility.
- How were you prepared for using the self-assesment model?
- How did you experience the use of a steering group and a theme group?
- How did the content and themes of the implementation part of the model fit your current situation?

The reasons to choose a semi-structured interview guide were many. First of all, it was seen as fruitful to the research to capture the interviewees' opinions and their point of view. When an interesting topic occurred that was not directly connected to the previous question, it was preferable to have a flexible interview guide in which the order of questions where not strictly given. Therefore, a more structured type of interview controlled by the interviewer was not appropriate.

Also, the interviewees were different in type of position and degree of involvement with the testing process, and it was therefore seen as important to have a flexible interview guide in which questions could be adapted or asked in different ways in order to have the best communication with each interviewee. Some questions were also only relevant to some of the interviewees, and therefore it was no point in having to follow a strict list of questions without being able to adapt or skip some of them. In addition, the need of formulating questions in

different ways to different interviewees considering their position in the company, their focus and how used they were to similar situations, where evident.

Although a strict structure was not appropriate for these interview settings, some structure was still needed in order to gain information about the topics interesting for the further research. The need for some type of structure also became evident during the interviews, as the conversations tended to fall out of track because of eager interviewees, and also because some interviewees tended to misunderstand some of the questions.

During the interviews, although questions were not formulated like yes/no or in a leading way, it still occurred. This was because the interviews took more form of a conversation rather than a strictly structured questioning, and questions were asked more when suitable in the conversation. Therefore, some of the answers by the respondents might have been affected by the way the interviewers asked their questions. Some examples of how questions were asked in a more leading way or more as a yes/no are given below;

- Would you have used the self-assessment model one more time?
- Don't you think it has helped in such a way that (..)?
- Has it been useful relative to the activities you are doing now?

When such questions were answered by yes/no, or in a way that the leading question might have suggested, questions following up and asking the interviewee to elaborate further on the subject were asked in order to make the data more credible. Also, in many cases the recipients elaborated further from the yes/no answers without being asked to. In some cases it was even necessary for the interviewers to interrupt such elaborations or other conversations as they got too far from the original topic.

11.6 Management of the data gathered

11.6.1 Transcription

The interviews and other notes have later been transcribed and structured in order to more easily gain access to the information and for ethical considerations like having interviewees anonymised. The interviews were performed and transcribed in Norwegian. Data used in this master thesis have later been translated to English.

The company to be researched is relatively small, and all employees know each other well. Although the sources are anonymised in the transcription, it is not difficult for other members of the company to understand who has said what if getting access to the transcribed interviews. Therefore, the transcribed interviews are not given in this paper due to ethical considerations. When presenting citations from interviews and observation in chapter 13 and 14, this ethical consideration has been taken, and citations are only presented when it is found ethically correct.

11.6.2 Coding and categorizing

The data following from transcription of interviews, meeting reports, notes and so on has been further processed and analyzed. A qualitative data analysis has been done, starting with coding. Coding "(…) entails reviewing transcripts and/or field notes and giving labels (names) to component parts that seem to be of potential theoretical significance and/or that appear to be particularly salient within the social worlds of those being studied." (Bryman, 2012, p. 568)

The coding was done by reading through the data and write marginal notes when the data was considered interesting or important in relation to the given research question and its related topics. The data was read several times in order to make sure that data of importance was reviewed. It was then seen in relation to each other and in more general terms. Later, the data highlighted was sorted into more general categories. It was then sorted into a structure that fitted with the structure of organization development characteristics.

In this master thesis, the aim is to do an evaluation of the self-assessment model and process tested. In this sense, an evaluation against the organization development characteristics is done, which tell how it should be done. Also, an evaluation concerning what did work in a practical sense and what did not is also performed. These two forms of evaluation contribute to the findings of this master thesis.

The data generated from the case study might not be as large as many other data collections following from qualitative analysis, as it was only one case to be studied here, and only three interviews. Even so, the data is complex, especially because of the many levels of examination; the theoretical level, the planned level and how things were done. Also, not only is the case company and its actors examined, but also the developers are examined, both as contestants in the test-run and as researchers. It has therefore been important to be aware of the different roles the contestant played, and at which level and at which context things were said or happened. As a researcher of both a case study and of other researchers and their process of developing the self-assessment, one of my tasks has been to manage to make a distinction between these two. To sort and analyze this data has therefore been challenging.

12 Introduction to the company and planning of the test-run

In the following, an introduction to the company in which the self-assesment model and process was tested is provided. Also, there is given an overview of how the process and approach to the self-assessment were planned for in the testing. These were the process suggestion and approach suggestion in which the researchers planned to test during the test-run, being more detailed and more practically related than the theoretical one presented in chapter 10.

12.1 The company

The self-assessment and implementation tool has been tested on a Norwegian SME which is also part of the research project. It is family owned, but has an independent board of directors. The company consists of two units with a total of about 40 employees. In the research project, only one of the units attended when testing the self-assessment model. The unit involved in the testing is the largest one, and is also where the management is physically present. This separation is seen as more or less unproblematic in conjunction with testing the model, as the units are not very attached to each other in their daily work, and are also separated geographically. The decision of only including one unit is made mostly by the management of the company, but also conferred with the researchers testing the self-assessment model.

12.1.1 Business culture, theme knowledge and motivation

The company is ISO9001:2008 certified. Before this project, the testing company also had some experience in working with Lean. Among other, board meetings were held each day and work descriptions for all operations had been created and stored in computers. The company management claimed that there was a culture for employees to make improvement suggestions, although not done in a structured and systematic way. Also, according to management, involvement and being able to give feedback was seen as positive among the staff. In addition, 5S had been introduced into the company, mostly as projects run by management, but not included in the business culture or structure.

When discussing previous 5S- efforts in the company, one employee said:

> *We have tried it before, but it was not any kind of fully committed effort from the whole company. And I think that is important if we are to make it happen. (Employee)*

In another interview, one recipient described previous 5S-efforts like this:

> *Well, we have tidied up, then it has slipped away, and then it is the same all over again. (Employee)*

One other recipient followed up on this, saying;

> *Then something urgent comes up, and it fails. (Employee)*

12.1.2 Company motivation

Before and during the project period the company experiences a crisis, as they are heavily affected by the downturn in the oil market. This means that the company has had to turn to layoffs and less work hours, affecting all employees. This situation has motivated the company to undergo a change process in order to maintain their production and keep being competitive.

12.2 The process as it was planned for in the test-run

12.2.1.1 Before the self-assessment (Anchoring and adaptation)

There were planned for several meetings in order to establish contact between the developers of the self-assessment model (who also took the role of action researchers) and the testing company, introduce the model and its purpose to company representatives, as well as getting to know the company. When introducing the model for the first time and getting to know the company, only representatives from the company management were to attend, as the reason for the meeting was to establish whether or not to run the process in the company.

A later introduction meeting, involving representatives from both management and production workers, was also planned for. Here, one of the main planned activities was a new and more detailed presentation of the self-assessment model. In addition, a steering group was to be formed, and the steering group was to choose one of the themes in the self-assessment model. It was decided that only one theme was to be assessed during the test-run. The theme was to be chosen by the steering group without any facilitators giving advices or guiding. Following the choice of theme, a theme group of about 6 members was to be established. It was desirable that members of this theme group were selected from the participants of the meeting, as they had already had an introduction to the self-assessment model.

In addition, an adaptation of the self-assessment model to fit the local context, users and language of the testing-company was planned for before the test-run of the main self-assessment. During their preparation meeting the developers had a discussion on whether to provide some training and information about Lean to the assessors before the assessment. They then suggested that training should not be done before the company itself asked for it and saw a need for it as a result of the self-assessment. In a later meeting, however, involving the developers to take part in the test-run and the consultant to be present, they agreed to do a small presentation about the subject in order for them to get to know some of the terms and thoughts on the subject.

12.2.2 The self-assessment

Two days were planned spent for testing the self-assessment model and the recommended approach to the self-assessment. The first day was meant for testing the self-assessment part of the model, and the second day was meant for testing the implementation part. This meant that self-assessment for all subthemes were to be done before discussing the implementation suggestions, which is different from the self-assessment model structure. The division of the self-assessment model is described in chapter 10.1.

During their preparation meetings, the developers discussed how to present the model during the self-assessment. There were several suggestions to how to make the model visible to the participants, for example for each contestant to perform an individual assessment before a discussion in plenum, or to have facilitators go through all the text of the model verbally. The solution decided upon was to have the Excel-based model printed into A3-format and hang it up on the walls so that each group would have their own wall and prints as their base for working with the assessment. In addition, a decision was made to include facilitators to each group helping out during the self-assessment work. The applied researchers (who were also part of the developer group) played the part as facilitators during the test-run.

The planned process mostly followed the structure of the tool described in chapter 10, except for the decision of first to do the self-assessment part for each theme-level, and then do the implementation part. The idea was to divide the contestants (members of the theme group) into smaller, mixed groups (in terms of position in the company). For the self-assessment part, the groups would first go through one point in the model individually, then in groups, followed by a plenary discussion including all groups. The groups would start with the general theme level as pictured in the model, before going through each detailed sublevel. For each level, the procedure was the same;

- Where does the company place itself in terms of the theme levels being described in the model?
    - First, each individual reads the different categorizations and develop its opinion on where the company is. The contestants then write down its statement(s) individually on a yellow post-it and place it on the A3-printed model. (10 minutes)
    - Then each group work together in order to agree on the current state of the company. The agreed state is written down on a yellow post-it and placed on the model. (10 minutes)
    - For each sublevel of the model, it is also desirable that the group answer the question of why the company is at the determined state. Here, the Lean-based tool 5*Why? is used to get a deeper understanding of the situation. (15 minutes)
- Where is it desirable for the company to be in terms of the theme levels being described in the model?
    - Each individual develops an opinion on where the company should be and writes these statements on a green post-it before placing it on the A3-printed model. (10 minutes)
    - Then the group works together and agrees on a desired future state of the company, and write the agreed statement on a green post-it before placing it on the model. (10 minutes)

Then, a discussion in plenum follows;

- Where does the company place itself in terms of the theme levels being described in the model?

    - Each group present their findings (2 minutes per group)
    - With the help of one of the facilitator, the contestants get to a common agreement. Another facilitator writes down the main findings. (10 minutes)
- Where is it desirable for the company to be in terms of the theme levels being described in the model?
    - Each group present their findings (2 minutes per group)
    - With the help of one of the facilitators leading the discussion, the contestants get to a common agreement. Another facilitator writes down the main findings. (10 minutes)

On day two, the implementation part of the self-assessment model was to be tested. First, a recap of the results from the self-assessment performed the day before should take place in order for everyone to remember what was said and what statements were important to focus on when choosing the further actions of the company. The plan developed for the implementation part of the test-run was as follows;

- Before starting the implementation part of the self-assessment model, the contestants themselves can contribute with their own ideas of actions taken to reach the wanted state previously agreed upon. (10 minutes)
- The contestants are now supposed to gain knowledge of all the possible choices of action by reading the descriptions of the different tools suggested in the implementation part of the self-assessment model. (5 minutes per each action suggestion)
    - Each contestant writes a statement on a pink post-it on to what degree the company uses this tool or action at this point in time.
    - Each contestant writes a statement on a pink post-it on to what effect he or she thinks the given suggestion of action will have on the company.
- After all the contestants have read about and evaluated the different suggestions of action, a voting to decide upon the five most suitable actions to be taken should take place. (10 minutes)
- The five actions decided upon should be written down on a flip-over. (10 minutes)

During the last day, the consultant taking part in the test-run would be more visible. After the five actions to be taken further had been chosen, the consultant would be engaged to help the company start planning the implementation of actions. The access of the consultant will not be this close in real life as it was in the test-run. In real life, an action plan would have been made by the groups, where if necessary, one point would have been to engage a consultant to help out with the implementation of actions.

12.2.3 After the self-assessment (Action and follow-up)

When actions were chosen as a result of the self-assessment process, the consultant was to be included in order to help the company get started implementing the actions.

The implementation of the actions chosen during the self-assessment will take much longer time than the previous parts of the process. This is because some actions chosen lead to larger

change processes that are both time consuming and where the results of the actions will not be seen immediately. As the period of the master thesis does not cover the complete period of implementation and evaluation of actions, the last part of the self-assessment process is less covered her.

In order to gain some knowledge in these aspects, interviews taking place at a certain time period after the test-run were planned for (see further information in chapter 11.5.3). Some of the questions asked in these interviews were made in order to get answers regarding how the implementation had been so far, and to have the interview objects to do a provisional evaluation in terms of whether the results of the implementation of actions had lead to resolving some of the challenges discovered during the self-assessment. Further use of the self-assessment model by the company has also been taken into consideration during the interviews.

13 Results presentation following the timeline of the research

In this section, results of the research are presented. Here, the presentation is more of a storytelling in order to give the reader an overview of the main results. In this chapter, therefore, more results regarding the overall process are presented, while more details and results regarding the model are taken into account in chapter 14. Chapter 14 contains a more structured analysis of the results, taking the structure from part one.

13.1 Before the self-assessment

In the following, it is suggested that the reader uses figure 13.1.1 (also given in chapter 11.4), as well as table 11.4.1.1, in order to keep track on what events is described in each sections.

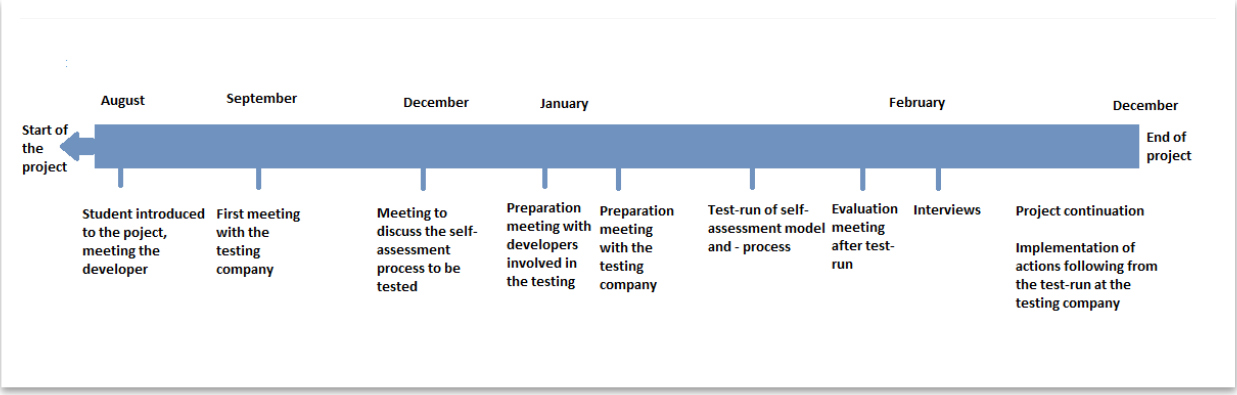

Figure 13.1.1: Timeline of the research

13.1.1 Introduction

In the initial meetings between the test-company and the researchers, time was devoted in order to get to know the company better. This included a presentation about the company and a guided tour in the production facility. Because some of the participants, including the consultant and some company members, were not present at the first of these meetings, the introduction and the guided tour were also carried out in the second meeting between the company and the researchers. This meant that most of the contestants on these meetings received the same information twice.

During the second meeting between the testing company and the developers and consultant, more representatives from the company were included. In addition to some of the members of the management that were present on the first meeting, six other employees including the leader, employees and union representatives were included. One of the reasons for doing so was for them to get to know the developers and the process in which the company participated before the test-run.

The self-assessment model was presented several times to the company. In these presentations, the model was presented as an implementation tool, focusing on ISO9001 and Lean. In the first meeting only involving the company management and the researchers, the model was presented briefly, both in terms of the intention for developing and using it, its

structure, its content and the intended process. The presentation was done by one of the developers. This was the first time anyone had presented the model to any user group, and the presentation did suffer a bit from this, as the information given was a bit unstructured. Also, this was the first time the company had been given any information about the model and the process. This lead to many questions during the presentation, which also disturbed its flow. Although the presentation was a bit unstructured, other researchers attended and gave information when something was a little hard to get, and a discussion that followed the presentation contributed to more clarity for the receivers.

During the first introduction meeting, other possible activities for the company to take part in during the project period were discussed. These activities were not connected to the self-assessment model or – process.

In the second meeting mentioned in the previous chapter, the self-assessment model was presented again, this time both to management and employee representatives. This presentation also became a bit unstructured. During both presentations of the model, it was clear that concepts and terms like steering group, theme group, puzzle pieces, theme and module were confusing to the recipients. This was due to much information and new terms were given in a short amount of time.

13.1.2 Anchoring

Before starting the test-run, the company management found it important to discuss the process during a board meeting. The board of the company consisted of only independent actors. It was important to the management to discuss the process with the board because they did not want to start the process not having the support and commitment needed to pursue the process. In relation to this, the management asked for a “sales pitch” including information about the self-assessment model, what a self-assessment means, and other relevant information. Before having the board onboard, the management chose not to include others in the process. The support and commitment from management was seen as given if the board gave the green light to start the process, which they did during a board meeting after the first meeting between the company and developers had taken place.

The rest of the company employees, here represented by the union representatives, were included in the self-assessment effort during the second meeting between the company and the developers. This was also meant as a preparation meeting in relation to the test-run of the self-assessment model.

13.1.3 Steering group

The steering group was formed during the preparation meeting between the company and researchers. The members of the steering group were selected on the basis of the researchers’ recommendations. The steering group was to include the main union representative, the company leader and two middle managers.

The steering group, (here; the management representatives), showed their surprise when they realized that they were not all to take part in the testing of the self-assessment model. They

would have liked to be members of the theme group and take part in the assessment and decision making themselves.

The steering group was given information about all the building blocks of the model in order to learn about the model and then decide what building block would be most appropriate to start with for the company. An exception was made for the quality module that were not fully developed at the time and therefore not considered a possible module to use in the test-run. When they saw the name of the modules for the first time, the company management immediately argued for choosing “effective production”. The developers did not fully support this, as their experience and knowledge implied that the best starting point would be “Production equipment”. When this was discussed later in the developers meeting, it was decided that the steering group itself was to choose the theme of the assessment, without any guidance by the researchers. If it proved out not to be appropriate for the company, they would learn from this, which could also be a result of the assessment, and in line with organization development thinking.

The steering group (in this case the management) sat down after the second meeting and decided which theme to choose. When the different themes were discussed during the second meeting including the company, one of the management members started to talk about the theme “Effective production” as if it was already chosen for the assessment, and presented what he saw as appropriate actions to implement after the self-assessment. Among other, he argued for implementing 5S several times. The management members chose the “Effective production” module for the assessment.

13.1.4 Theme group

The company management had several questions and comments about the theme groups when they were first introduced to the concept. First of all, one of the management members wondered how the composition of these groups would look like, suggesting one group for each department. When the researchers explained that there were only need for one cross-departmental group for each self-assessment theme (and therefore cycle), he pointed out that the selection of these few could have an unfortunate effect, as other employees would might feel like they were given differential treatment.

Before the test-run, the steering group was instructed to plan for the involvement of employees that they found suitable in an evaluation situation to take part in the theme group.

13.1.5 Company motivation and expectations

During the first meetings, it came clear that the company management found implementation of Lean and improvement actions to be the main expectation for this project. Already during the first meeting they asked several questions about the implementation process. For example, they wanted to know what was needed to implement before they could call themselves a Lean company, they asked questions about how to run a board meeting correctly, and how to explain to employees why long term improvement efforts must be done in favor of short term efficiency in production. Also, they pointed out what they found challenging and what they wanted help from researchers and the consultant to resolve. One example was the lack of space in their production facility.

During the second meeting where the consultant was also present, the interests of the company came even clearer. The management asked several questions about what could be done and should be done in their company. It was clear that their focus was on getting answers and results quickly.

Before starting the test-run of the self-assessment model, one of the researchers held a session with company management in order to examine their expectations of the self-assessment effort. The time perspective set for these expectations was within a year. After individual reflection and discussion in plenum, these four expectations were chosen as the most important ones;

- The company would have started using techniques for problem solving
- 5S was implemented and sustained
- Visible leadership
- Lean would be integrated in the everyday work life of the company

13.1.6 Information given about Lean and ISO9001

As described in chapter 10 and 12, one topic discussed thoroughly was whether or not there would be any training of the self-assessment participants before the self-assessment model was to be tested. As finally decided when preparing for the test-run, the consultant held an introduction presentation about the main aspects about Lean on the preparation meeting before the test-run of the model.

The consultant started the presentation by saying that it was meant as initiating the thinking process among the receivers. The presentation took 2,5 hours and included the reasons why to use Lean, the Lean House and the main aspects of Lean. Also, when elaborating on value stream analysis, the consultant claimed that you would have to do a value stream analysis if you want a more long term solution. The presentation also lead to discussions regarding the company and their challenges, as they saw connections between the presentation themes and company challenges.

13.2 The testing of the self-assessment model

The following sections describe in more detail the results of doing the test-run of the self-assessment model and process. The plan of the test-run is described earlier in chapter 12.2.

13.2.1 Day one: self-assessment

At the first day of the testing of the self-assessment model, several unexpected events lead to changes in the previously planned agenda. First of all, there was bad weather, which caused a late arrival of the research team. Second, the company had received a rush order, which meant that all employees had to take part in production. In addition, one of the union representatives was not present. This meant that only company management, meaning the leader and two middle managers, were ready to participate in the self-assessment. Because of these changes, the only participants that had been informed and prepared before the test-run were the

management representatives. The employees who had been given information about and prepared for the process during the preparation meeting were not present.

To do the self-assessment with only management members was a significant deviation from the way it was planned in relation to aspects like broad participation and involvement as is important factors in organization development and therefore also how the process was planned for. As the researchers and master student argued for broader participation, the management eventually managed to get hold of two people working in production to join the test-run. These worked with maintenance, and had not heard about the self-assessment model or test-run before. Before they arrived, the management informed the researchers that those employees now taking place in the test-run was not used to theoretical work and would might find themselves uncomfortable in such situations. Also, one of the maintenance employees had to leave the session for some while when he was needed in the production facility.

When the new participants arrived, the researchers and management had started their session on revealing the management's expectations of the process. Therefore, the newly arrived participants were not properly introduced to what was going on. They looked confused and uncomfortable with the situation. One of the management members then disrupted the ongoing activity and asked one of the researchers to involve the newly arrived participants.

The researchers decided to split the participants into two theme groups. The groups had two and three members, respectively, each being supervised by one facilitator (in this case, the researchers). The consultant, arriving even later because of the bad weather, took part as a facilitator/observer in both groups. The group composition was a mix of management and production employees.

As planned, the self-assessment approach followed the model structure. When working with the general level, the approach was exactly as described in chapter 12.2. Later, when working on the second sublevel in the model, the individual reflection before discussing in groups was not practiced anymore. The assessors started more directly with discussion in groups after reading the descriptions in the model.

One improvement suggestion to the self-assessment process was that it could have been performed in the production facility. The suggestion was based on the idea that it would be easier to point out challenges and interesting situations when physically present in the facility, and because of higher visibility. In the test-run, the self-assessment took place in the company meeting room.

In general, the groups managed to keep discussions and reflection going. In the theme group where one member had to leave for a period and come back later, the rest of the group made an effort to update the member and ask questions in order for the member to take part and be involved.

As described earlier, each theme group was supervised by a facilitator. The facilitators helped the theme members understand the model, read out loud and write for those in need, make the members and groups reflect on the situation of the company and keep the discussion on the

right trail. For example, one of the facilitators came up with examples to clarify what was meant in the description of different sublevels. Also, another facilitator corrected a theme group member having a discussion on today's state, but focusing on the preferred one, by reminding him that this could be a future state rather than the current. One final example is the facilitator explaining the different levels of expertise to the group members, leading to more discussion and reflection within the group.

In general, the facilitators interacted a lot with the groups. There usually was a need for this interaction, as described above. In one of the groups it sometimes came clear that one of the theme members turned to the facilitator for discussion rather than the other group members. This lead to other group members being more passive.

13.2.2 Day two: The implementation part of the model

At day two, the company experienced less pressure in the production department, and therefore had the opportunity to include more employees in the test-run. Four additional members were then invited to join in on the second day. These were all production workers.

The leader of the company held a short presentation about the project and its purpose for the newly arrived contestants, which had not been informed about the process taking place. A short presentation of the research team then followed. As planned, the consultant held a short presentation in order for the main aspects of Lean to be known to the contestants before starting the process of choosing appropriate improvement actions. In addition, a summary of the results from day one were presented, both in order to introduce the areas of improvement to the new contestants, but also as a recap for those joining both days.

As described in chapter 12.2, the original plan was that the contestant would now read about all 17 possible actions, and then choose those appropriate based on the results from day one. When the researchers started to explain this procedure, the company management clearly disagreed. They made it clear that the company members did not have the knowledge or the capacity needed in order to read and remember all possible actions. Instead, they wanted the consultant and researchers to choose appropriate actions.

After some discussion, the researchers came up with a suggestion that the consultant would hold a longer presentation describing those actions he found the most suitable for the company (about 13 actions). After that, the contestants would be divided into groups and then have to prioritize the 3 actions they found to be the most important concerning the challenges of the company. The presentation by the consultant was commended by the contestants. They found the consultant to be a great performer that shows examples, involves the listeners and make them start thinking about the company situation in respect to the subjects presented.

After the presentation, the contestants were divided into three groups with three members each. The company management wished to be in the same group, as they did not want to affect the other contestants' opinions on what action to be taken. One management member

said that if he was put in a group with production workers he would "(…) have to be silent" so that they did not just agree with his opinions.

Each group was supported by a facilitator (researcher or consultant). As described earlier, the main challenges discovered at day one were written on a flip-over so that the groups could discuss what actions were most suitable against these challenges.

The groups managed to get a discussion about what actions to choose. The group members still did not have full insight in the possible actions, which came clear through the questions they asked the facilitators; "If I have this challenge, what action should I choose?" After the discussion, each group presented their three choices of action in plenum. All groups found 5S to be a suitable action to take for the company.

After each group had presented their findings, the consultant took the role as a consultant. He mostly agreed on the actions chosen, and sketched a plan for implementing these actions. Before ending the test-run, the consultant and company started preparing and planning for implementation of one of the actions.

13.3 After the self-assessment

After the self-assessment session, the company, with help from the consultant, has started implementing one of the actions chosen on the basis of the self-assessment results. In this process, all employees have been involved and trained for the implementation during presentations of the subject and practical exercises.

The implementation process has followed the schedule as planned for in the action planning, followed up by the consultant and management members of the company.

14 Structured analysis of results

14.1 The approach to self-assessment and the characteristics of the self-assessment model

14.1.1 Involved and contributing participant

As shown in the previous chapter, time has been spent on getting to know the company, the self-assessment model and its planned process. My overall impression is that there has been a good tone during the project, and that the participants have trusted each other in the sense that they have felt secure enough to give their point of views and tell if they disagreed in occurring situations.

In the test-run in which the self-assessment approach was tested, there were many participants involved. There were researchers in which took the part as facilitators and leaders of the self-assessment effort. The consultant first took the role as a facilitator, before, on the second day, he acted more as a consultant in order to start the implementation of actions chosen by the theme groups. At the first day of the test-run, the theme groups consisted of both management members and employees working with maintenance, while in the second day other employees from production were also included. In addition, the master student was present as an observer. In this sense, many actors were involved and contributed with their knowledge and experience.

14.1.2 Appropriate learning arenas

Several learning arenas have been used in this process. First of all, introduction meetings have been held. Second, the self-assessment test-run included workshops in which the theme groups read, discussed and reflected on their current and desired future state in terms of the evaluation themes of the model. Also, several presentations have been held, both about the company, the self-assessment model, and about Lean.

14.1.2.1 Approach to the self-assessment part and facilitation

The approach to the self-assessment part during the test-run mostly followed the planned procedure as described in chapter 12.2, except for the individual reflection part that ceased as the test-run went forward. As seen, one suggestion to improve the approach was to be present in the production facility in order to better see and experience the subjects discussed during the evaluation.

The approach chosen was based on reflection and discussion between the participants in theme groups, in which overall did work well. Reflection and discussion were generated, but it also required the facilitator to participate, both by clarifying subjects and keep the discussion going. As discussed in chapter 13.2.1, the facilitators interacted a lot, and it is hard to say if the degree of reflection and discussion would have been that high without the presence of facilitators.

One employee describing what one of the facilitators did well, said:

She almost immediately saw what we found difficult, before it even became a problem. Yeah, we received good help. (Employee)

When asked what such difficulties could mean, the answer was:

It was these schemes. She saw that we kind of stopped and wondered; what do all these schemes mean? She explained them to us in a good way. (Employee)

When asked about the facilitation, and if they felt that they understood the procedure and the model, one of the management members said;

Yes, I felt so. I felt like.. (laughing) they definitively saw that we needed help. In any case, it was a good thing having you around us, helping us working through the schemes. So I definitely find that my group received good help, and necessary help. (Management member)

In the transcript below, another elaboration on the facilitators is given:

I also think that without the facilitators, I would have short-cut the process. I just have to say so. I think I would have done that. (Laughing) (Management member)

The purpose of the process is for you to reflect as well. (Interviewer)

Yeah, I get that, but... (Management member)

And together to find "where are we" and "where do we want to be". (Interviewer)

Yeah, but it came to.. It might have stagnated, in some kind of term-confusion or complexity, if I had not had that guidance along the way. So I think that was crucial too. (Management member)

When asked about whether they felt that there was reflection and discussion in the groups working on the self-assessment model, one management member replied:

Yes, I think there were good reflections and discussions in the group. But, again, it is difficult theory, which makes it easy to skip something unless you are facilitated. And I also think it would have been hard, it is hard, for us to find the time for this process internally, if there had been no external facilitators. (Management member)

The model also comprised a certain amount of text, which, for those who were not used to such type of work, could seem overwhelming. The facilitators therefore needed to help out in this sense. For example, one of the facilitators helped one of the participants with reading out loud, reflect on where the company was in terms of the different level descriptions, and to write down the conclusions resulting from the reflection.

As mentioned in previous chapters, for each group, the model was printed in A3-format and attached to a wall so that the group could work with the model at their own stations. The format and the font size were too small, as the theme group members had trouble reading it. This challenge got even bigger because all theme group members were to read the same text

at the same time. Some group members read out loud to the group or facilitators read the text to individuals having problems seeing or understanding the text. For example, in one of the theme groups, one of the middle managers read out loud to one of the other group members.

In general, the post-it systems worked fine according to its purpose. The theme group members used them to write down their opinions and pasted them on the printed model using the different color-system so that they knew what post it regarded what sub-level to be assessed. What did not turn out so good was the use of dark blue post-its, as writing with blue pen on each post-it made the text almost invisible. Therefore, other post-its were used instead of the blue ones.

During the self-assessment session, it came clear that the company sometimes rated themselves high on the range of each sublevel. From their point of view, they often found the company to be placed in the high level or world-class level. As the facilitators have experience with both Lean and ISO9001, they sometimes found that the ranking was a bit too positive. Instead of correcting them, they tried to ask more questions in order for the theme groups to reflect and discuss in more detail for each aspect considered.

As seen by the discussion above, the facilitation played an important part during the evaluation against the self-assessment model.

14.1.2.2 Understanding of concepts and terms

As described in chapter 13.1.1, the initial presentations of the self-assessment model and process were a bit unstructured. The receivers had many questions and got confused on several aspects of the concepts and terms used in the model.

During the interviews, one management member expressed the confusion related to terms and expressions in the model like this:

> *(…) Well, it is like when you start using terms like theme, and I call them pieces in a puzzle, then I am already lost. (Management member)*

The same interviewee elaborated on this by saying;

> *So it is a part of that use of terms that contribute to create some kind of a "woolen cloud" in relation to what we are really talking about. So to better structure some terms I think would have lowered the degree of difficulties in the introduction phase. (Management member)*

14.1.2.3 Changes from the planned approach

As described earlier, six additional company members participated on the second day of the test-run. These had not been informed about the process in advance except being told to participate earlier the same morning. This meant that a short presentation of the project and process was needed.

During the later interviews, when these new participants were asked what they knew about the process in advance, and how they were prepared for this day, one answered:

We had a meeting, one of these morning meetings here, where they mentioned that we were to participate. But even so, I did not understand any more of it. (Employee)

One other employee followed up by saying;

Yeah. It was kind of like; "You are to join in". Like that. (Employee)

As seen in chapter 13, the plan of day two of the test-run was not followed, as the company management found this to be unrealistic. They did not think the theme groups would manage to understand and decide upon all possible actions. The consultant therefore held a presentation about Lean and Lean actions before the groups discussed and decided upon actions. In this sense, actions were decided upon through discussion and reflection in groups as planned, but based on a Lean presentation rather than study of the different actions individually. It should also be noted that the original structure of the self-assessment model was not tested during the project, as the planned approach split the self-assessment and implementation part of the model instead of deciding upon actions after evaluating on each sub-level.

During one of the interviews, one member of the management said the following about the general impression of the self-assessment model and the process tested:

*I think.. If you consider those two days, I think I find the tool (*meaning the model*), in many ways it is ok, but it turned to be very comprehensive. It was many… As long as we had yellow post-its and focused on what we found challenging to the company, it was ok, but when we were to choose actions it got very theoretical and more difficult, because then you need some sort of background (Management member)*

One of the other management members followed up in this way:

That is what I felt too. Because, when we had presented our problems to you, or what we think are our challenges, I believed that you knew what tools can be used to solve our problems. I felt that I had too little knowledge about the different "Lean-buttons" to "push". (Management member)

14.1.2.4 Presentations of Lean

Although the consultant tried not to guide the contestants' choice of actions too much, he had some statements that might have affected the final choice of actions. For example, when explaining Just In Time, he said that "(…) this comes after a value stream analysis". Also, when explaining Heijunka, he said: "(…) 5S has to be in place before anything else". In a similar manner, when talking about SMED, he said that "(..) then you can forget to do this before you have 5S."

14.1.3 A complete process contributing to organization development

During one of the later interviews the group that only attended on day two was asked about their general impression of the process (in this case the choice of actions and implementation). Some answered that they thought it was good, while others agreed that it was too much to

process and understand at the same time. One of the employees came up with a suggestion as shown in the excerpt of the interview below:

> *Employee 3: It would have been better to have the process now, now that we have got started. To get that information now, in another round now that we have got a bit started, because now we understand some of what it is talked about.*
>
> *(...)*
>
> *Employee 3: Now it would have been easier to see which was what, because at that time it all seemed a bit Greek to me.*
>
> *Employee 2: It was many actions to choose from, but...*
>
> *Employee 3: Yes, but now we feel a bit more advanced, so we know some more. Maybe we do not know it all, but at least we know a bit more.*

When the same group was asked what they found most useful about attending the process, one said:

> *Well, I guess it has to be trying to highlight what main areas we struggle most with. (Employee)*

Another followed up by saying;

> *Yes. And in that aspect we strongly agreed. (Employee)*

The first one then replied;

> *Yes, we strongly agreed. And as far as I can remember, we also had time to get on track in order to decide how to work ahead. So that must have been useful. (Employee)*

These recipients had not taken part in the process of day one of the testing, but they still put an emphasis on the point of highlighting what challenges the company did experience.

14.1.4 A holistic approach to systems of the organization

In this chapter, main structural aspects of the self-assessment model are considered.

One of the first reactions from the company management when learning about the model concerned the absence of scoring. Their point of view was that the use of numbers would make the model easier to use because they found it easier to deal with numbers. Also, with the absence of numbers, how was it possible to measure the progress as a result of using it? The researchers pointed out that there are still scales in the model representing different levels of competence, but that these are not made for measuring purposes, but rather to contribute to discussion and reflection in order to decide upon a proper level for the company. Besides, the measuring of competence and improvement will not be seen directly in the self-assessment model, but rather in the measurable numbers connected to the company goals and strategy.

The management members, who had some previous knowledge and/or experience with Lean, had one main concern about the structure of the self-assessment model. One of the recurring questions from one of the middle managers has been how the self-assessment model and its building blocks are related to the Lean House. For example, they wondered how the ground pillars of Lean, as sketched in the Lean House, were taken into account in the building blocks of the model.

In the interview with the management members, this was further discussed as shown in the excerpt presented below:

> *(…) But I also think that the tool (*model*) should be clearer when it comes to the foundation of Lean. (Management member)*
>
> *In relation to the (Lean) House, or..?(Interviewer)*
>
> *In relation to the (Lean) House, so that you can't, so that you are not able to choose freely. You should look at it and say "Here you are lacking …". (Management member)*
>
> *Basis? (Management member)*
>
> *… a cornerstone, that causes the house to never stand steady no matter what. You will fail. You can learn to use a tool, but it will not make you Lean. (Management member)*

One of the implications for having the five building blocks in the model was that several possible actions (Lean tools) were mentioned in more than one building block. For example, 5S was mentioned as a possible action in both the Effective Production- and the Production Equipment modules. The company management found this confusing, and wondered why the model did not base the building blocks on the ground pillars of the Lean House instead. In addition, several feedbacks on the model concerned confusion on what the different building blocks entailed and what they would lead to in practice.

During the interviews following the test-run, one of the management members further elaborated on this issue:

> *Yes, because you should actually have started with the (Lean) House and written in parentheses at each of the four ground pillars. There you could have said that some are leadership, some are operation, some are effective productions, and some are more than one thing. 5S is both leadership and effective production, and so on (...) (Management member)*

Following this reasoning, the recipient asked questions regarding the results of the self-assessment using the module-system that was tested at the company;

> *Because one other question I get, then, is (…), if you go to the house (…), saying you want to reach a goal in relation to quality, effectiveness and so on, which you will using a foundation, pillars leading to something. But if you take these pieces of the*

puzzle; do you need all of them in order to reach the same? Can you have only one piece of the puzzle, or will you lack something? (Management member)

This elaboration shows an example of how the users found the self-assessment model structure to be confusing. At a later point in the interview, the same management member also said:

What I am saying is that I can not seem to get.. do not understand what each piece in the puzzle means and includes without using much time to figure it out. But, when I look at the Lean House, it is very clear to me what is needed. Still, it might be that you can use the criteria in order to decide where you are at each part of the Lean House. (Management member)

Following the previous discussion in the interview, one of the other management members followed up on this discussion;

It was that systemization and structure which I feel like is a bit hard to understand, especially when you are new and there is a new world of concepts in which you are to get to know, and preferably during a short amount of time. Because, in order to move forward you also have to decide upon a direction in an early phase, while things are still a bit blurry. That feels a bit demanding. (Management member)

In relation to this, another management member responded to this by leading the conversation into other discussions;

Yes, that is why I think it would have been better if someone with knowledge of the subject and the terms would have chosen for us, after finding where we are. Because it was good examples on the different (…) where we were to find ourselves. (Management member)

Later, the same recipient said:

There were good examples, so it was easy for us who do not know these things yet to find where we were. But after that, in order for us to start with the foundation before the roof, I felt that I had too little knowledge to make good choices. (Management member)

The first sentence in the citation above refers to the different descriptions of levels in the self-assessment model where the assessors were to identify themselves. Observations about this topic were also done during the test-run. When it came to the different levels of expertise on the sub-themes, the facilitators sometimes had to explain or elaborate what was meant by each level. In addition, one of the feedbacks regarding the model was that the users sometimes struggled to understand the difference between the higher level and the world class level.

As described in chapter 10.1, the self-assessment part of the model is separated into one general level and several sub-themes. One of the direct feedbacks from the contestants regarding the model was that they wanted the sub-themes to come first, and then have the

general level as a sum-up of the theme after each sub-theme had been evaluated. They found the general theme to be much to handle in the beginning of the self-assessment.

One of the feedbacks regarding the sub-themes was that sub-theme 2.1 could have been easier to work with if it was divided in two; One named “Flow of work processes” and the other named “Product value chain”.

14.1.4.1 The aspect of quality

During the first presentation, the company management asked where the quality aspect was found in the self-assessment model. Overall in the test-run, there was a minor focus on ISO9001 compared to the focus on Lean. This might have been related to the Lean implementation focus by the company and those in charge of the test-run, and that the company was already ISO9001 certified. Also, the use of a Lean consultant during the test-run might have contributed to such a strong focus on Lean implementation. In addition, the researchers spoke highly of the consultant and his work with Lean during the process, leading even more focus to the Lean aspect of the model.

14.2 The total self-assessment process

14.2.1 Involved and contributing participants

14.2.1.1 Introduction of different actors

As seen in chapter 13, broad participation during the self-assessment test-run was planned for and started by having a preparation meeting informing and introducing management and employees (including the union representative) about the process to be started. Some of these employees were also to take part in the test-run, but due to several reasons, most importantly a rush order, these actors could not participate. In this situation, the company was forced to prioritize a rush order instead of the planned effort. The researchers (including the master student) then argued for broader participation, and the company management managed to get two other participants to join the theme group.

Because of this, the evaluation of how well introduction and preparation meetings on beforehand had prepared the participants for the test-run was no longer possible. The effort of preparing the participants, except for management representatives, lost its main purpose. Instead, two other participants were included, which had not been prepared at all, and which might not have been the most relevant contestants in terms of the evaluation theme or how comfortable they were with the situation.

14.2.1.2 Support and commitment

As shown in chapter 13.1.2, support and commitment from the board was established by providing them with information about the process, so that they could make a decision on whether to pursue it or not. Support and commitment from management followed from the decision made by the board.

During the interview after the testing, one of the company management members said the following related to what must be done before starting an improvement effort in general:

> *I think you need an anchoring with the management. And the management here could be only the company management or including the board. You need the strategic anchoring because of the use of resources. You need something that is on a higher level before you jump into it, including operators, because, you must be completely sure that the management wants to do this before involving too many. I think the disappointment would be huge, then, if the ability to carry it out is not as expected. (Management member)*

This citation is taken from a conversation not comprising the subject of self-assessment, but more related to what must be done before starting an improvement effort.

14.2.1.3 Steering group and theme group

As seen in chapter 13.1.3, a steering group was discussed during a meeting in order to be formed as recommended. The management members, who were part of the steering group, got surprised when realizing they were not all to take part in the self-assessment and decision making. They all wanted to take part in the theme group as well. The company management chose the module called "Effective Production" in which the management favored straight from the beginning. The steering group was given information about all available modules in order to learn about each one before making the final decision.

When choosing a theme group, there were some confusion on how many were to take part, how others not being chosen would react, how permanent the groups were and so on. The management also pointed out that many employees working with production are used to physical work, and less interested or able in doing more theoretical work. For example, some might find meetings intimidating because of the unknown situation, and in this case, unknown participants.

14.2.1.4 Involvement of employees

As mentioned in chapter 13, employees not being part of the management were included during the second meeting between the company and the developers. One of the reasons for this involvement was to establish an anchoring among the employees, making sure that they would also be onboard with the self-assessment effort.

When the company management was interviewed after the test-run, one of the members said the following about the involvement of other employees:

> *No matter what, I feel that in a big process lasting one to three years or so, it is important for the involvement that they are included in an early stage. But no matter if we were to call ourselves operators, academics, and so on, what we had chosen was predestined (Laughing). (Management member)*

Here, the management member meant that the consultant would have lead the company in a suitable direction no matter what they decided to do during the self-assessment process. Further, the management member concluded;

But for the involvement and the engagement of the process that was about to happen I think it was good to include. (Management member)

Later, the same management member also commented on the value of engaging some leader characters among the operators early in the process. In these citations it is clear that the company management found including employees useful in order for them to be onboard in the process and present, and for contributing to engagement. It should be noted that in organization development theory the subject of involved and contributing participants is more encompassing, also focusing on the value generated when employees from different part of the organization contribute with their experience and expertise as well.

As seen in chapter 13.1.5, it was clear that the company had expectations to this project in which the focus was more on implementing Lean rather on the evaluation process itself. They were eager to get started and to get answers and results at once. The crisis experienced by the company might have been contributing to such a focus.

14.2.1.5 Consultant

During the interviews the interviewees were asked whether they saw any difference in having an external actor (in this case the consultant) rather than the company management to motivate and run the implementation process in the whole company (after the test-run). One of the employees interviewed answered that an external actor was very beneficial. He said;

Neither of the middle managers are listened to in the same way as those external to the company. That is for sure. (Employee)

When further asked about whether the company management could have introduced and started the implementation effort instead of the consultant, he said it would not have been the same, as it would not have been paid attention to in the same way.

Others employees agreed on this view. One said:

(…) It is not because I want to sound negative, but I think it would have faded away. Maybe we would have come as far as we are at this point, but.. It is about managing to keep it up, to maintain it and take it all the way. I do not think we would have managed that. Now we have a good chance of doing that, because, well, if we are ever going to do this, this is our chance. (…) (Employee)

The management members interviewed also agreed that having an external actor responsible for the implementation process was beneficial. One of the management members said he saw it as one of the main success criteria. Further, he elaborated on this statement by highlighting the practical background and experience of the consultant leading to higher credibility. Another management member highlighted the consultant showing examples as a way of increasing his own credibility. One management member further commented the role of the consultant like this;

> *And I think he creates a certain amount of expectations in the different groups* (5S-groups), *which makes them want to show that they can do this, more than if it was internal.(Management member)*

When asked whether the management could have done the same job as the consultant if they had access to his expertise, knowledge and examples, one answered:

> *I think the external actor is important in order to sell the effort to all levels. (Management member)*

One other management member then elaborated:

> *Yes. I also think that the position that the external actor possesses will be.. Because there is an approach and angle of the production and daily activity that might be a bit different from how we usually see it. So allocating that role to the consultant gives a strength and degree of authority that.. Considering that this can be challenging too, what each individual are disposed to, I think the authority he possesses is important, and he kind of turns into a forerunner compared to those of us being here all the time. We have received an external actor who has helped us see things like they are, (…). He manages to take that part* (shortened, rewritten), *and I think that has its own value (…)*

In addition, this respondent highlighted the personal characteristics, like personality, as valuable when taking such an external role.

14.2.2 Appropriate learning arenas

Overall in the total process examined in this thesis, there are several learning arenas. Some examples are presentations, meetings and workshop during the test-run. Some of these are already discussed in chapter 14.1.2.

As shown in chapter 13.1.6, the applied researchers and consultant agreed on having a presentation about Lean on the preparation meeting, unlike what was previously agreed by all developers in a previous preparation meeting. The presentation included an introduction to Lean and its main aspects. As it lead to reflection and learning among the company members, such a presentation in itself might have been fruitful. Even so, the point of testing how it would be like if the company tested the model without such knowledge, lapsed.

14.2.3 A complete process contributing to organization development

As many of the process steps of the self-assessment process sketched by the developers are already discussed in previous chapters, a summarization is given here in order to cover the complete process. The self-assessment process suggestion sketched by the developers is repeated here in figure 14.2.3.1 in order to keep track of the analysis.

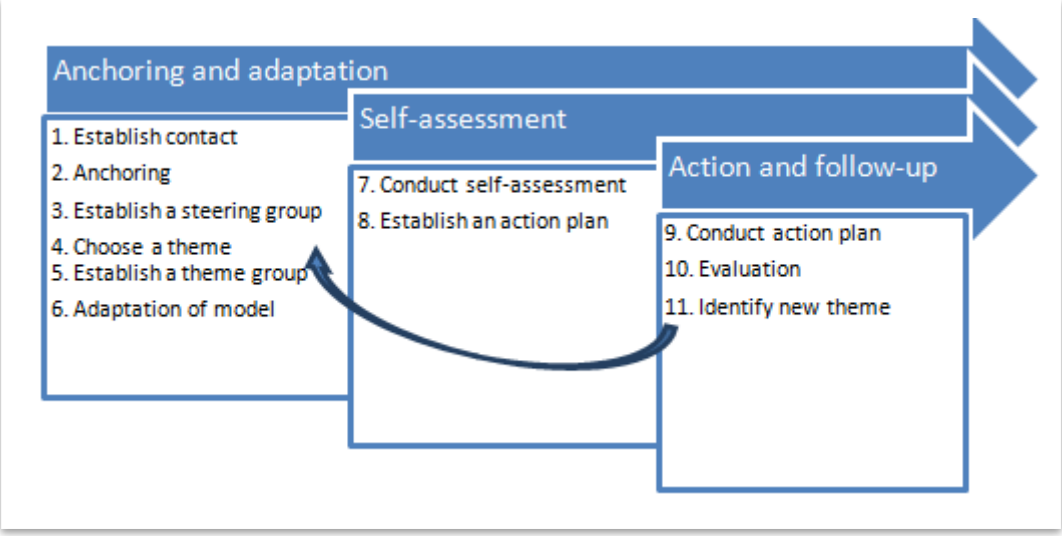

Figure 14.2.3.1: The original process suggestion, as sketched by the developers

The self-assessment process in this project started with an introduction meeting between the company, developers and master student. Here, introductions to the company and the self-assessment model and process were held. Anchoring was established through board acceptance and management representatives saying yes to the process. A steering group was established, where management representatives and union representatives were to be included. This group was to perform two important tasks; choosing a self-assessment theme and a theme group. In reality, management performed these tasks. Management members have also followed up and allowed for implementation of actions. The original idea was that a steering group would do these tasks, but in reality, management members have taken this responsibility.

The theme group choice did not work in practice, as the theme group could not be present during the assessment because of a rush order in the company. The theme group that engaged in the test-run included more management members than recommended, and employees that had not previously been engaged in the process or given any introduction about the process, also lacking the presence of a union representative. No adaptation of the model to fit the company or the theme groups was done.

The self-assessment was carried out by two theme groups. The model structure was not fully tested, as it was chosen to do all evaluation practices the first day, and then gather all action options and choose actions in the second day. An action plan was established with the help of a consultant. Actions have later been implemented and followed up. The longer term status of this implementation is not covered in this master thesis.

14.2.3.1 Challenges experienced by the participants

To the question regarding their general opinion about the process so far, one employee pointed out that there was too much paper work. Another employee said;

> *(…) it is not in our daily life to keep dealing with so much paper work. (...) (Employee)*

Here, the employees especially referred to the schemes used when working with 5S in Lean, meaning the implementation work of actions. One recipient suggested that the language used in the schemes could be more adapted to the users of it. For example, the improvement and action schemes could have been called "Actions I can do by myself" and "Actions which will cost money".

Many of the employees interviewed found the paperwork challenging, both in terms of understanding how to deal with it, and because it was different from their daily, more physical, work. Some also mentioned the challenge of prioritizing the paperwork instead of just doing the job.

When asked what they found challenging about the process in general, one employee answered;

> *Well, you know, the challenge comes immediately when we are asked to say something. To kind of speak up. That is not what we do, you know. (Employee)*

Another employee elaborated by saying:

> *(…) We do not have any problems with speaking, (…), but.. It is kind of not our job. We are not used to it either (…) (Employee)*

14.2.3.2 Further self-assessments

During the interview round, the management representatives were asked whether they were interested in doing another self-assessment cycle, using the self-assessment model and assess themselves in the same theme to check their progress, or a new theme. One of the management members then replied:

> *No, I would rather have read the book called "Lean for dummies; how to implement Lean"* (The title was made up by the management member to illustrate a point). *(Management member)*

One other management member said:

> *Well, I think that some of what was good about this thing was the exemplification of where we are in relation to low, high and world class level. I found it ok to find ourselves there. And also to see examples of the world class level. It was not impossible to reach at all points, at least. It is possible to get there. And that gives us, which were to be motivated for a long process, something to reach for. So I found those things to be very good. (Management member)*

One management member reflected further on the self-assessment process:

> *I do not know if we agree on the aspect of gaining so much value from those yellow and green post-its and all of that, because to me it is pretty clear that we are on lower levels, and therefore the potential must be large. But I think those post-its only confirmed that, because we found ourselves pretty low all the way. But, of course, maybe it gave us an opportunity for reflection and recognition that we might had not*

taken the time to do in another occasion. Because I think that in another.. If it was not for this process and project, we would have read the one "for dummies", and dived more directly into it. We are spending some more time now, and whether the reflection and anchoring resulting from it is worth the extra time used, that is what you ask me about, I guess. (...) And I try to reflect on it while I am speaking, or concluding while I speak, but I am not sure. To be honest, I doubt it. (Management member)

Later in the interview, the same recipient, talking about success factors, said:

(…) And then I think that what we do in this type of project, which has a certain time horizon, a building and anchoring, and these elements of reflection that we now have spoken a bit critically about. But that has to do with the fact that we are used to think about effectiveness and our use of time and the like. Now we are forced to do so. And it might be an upside there that we do not see immediately, but might be a success factor that we are allowed to take part in without being aware that we should want to do so. (Management member)

14.2.3.3 Is the process necessary?

During the interview with the management representatives, the necessity of having a self-assessment process before choosing the action to pursue was discussed. Below, an excerpt is given:

But in order to take the decision "we need to do 5S", how much do you need to review and find out your current situation of Lean and what you want to do further, including some anchoring and involvement? Do you find it necessary to have a process to do that, or could you have started on the part where.. The consultant showed you some Lean tools, among other a value stream analysis, 5S, boards.. Could you have started there, or..? (Interviewer)

Yeah, I think it would have been possible to, I almost said, "overbridged" and shorted some of the processes. Meaning, we would go from an introduction and more directly into 5S. Maybe we could have saved one or two days. I find it possible that those two days could have been one. (Management member)

15 Discussion

The discussion is based on the main findings from chapter 13 and 14. These results are discussed against the main findings in Part One, leading to suggestions on how the self-assessment process and model tested can be improved both in practical aspects and in terms of generating organization development.

15.1 The fundamental idea and purpose of the model

As seen in chapter 10 the original idea when developing the model was that it would be a self-assessment model or organization development model. During the project period it was also called an implementation model, highlighting the aspect of implementing Lean and ISO9001. This might cause confusion on what is the main purpose of using the model. Is it that the company performs a self-assessment and then chooses actions based on the findings of the assessment, or is the main purpose to implement Lean and actions based on ISO9001? If the developer groups still find the self-assessment to be the main purpose of the model, then the name should also address this purpose.

In relation to this I would also encourage the developers of this model to agree on what is the main purpose of the model. Because of different backgrounds, the developers might find different aspects of the model interesting to highlight. If the developer group agree on the main purpose of the model, it will also be easier to present the model to future users.

This subject is also interesting because the self-assessment model comprises Lean as one of the elements of the model. Still, it also comprises ISO9001, in which was in much less focus during the test-run. The absence of focus on ISO9001 is mentioned here as it is related to the previous discussion; the original self-assessment model to be tested was not a Lean implementation model, but an organization development model (or, as seen in this thesis, a self-assessment model). The focus on Lean might have been too high during the process compared to the ideas in which the original self-assessment model was based on.

As is also elaborated upon in earlier chapters, the company's main motivation for this process was to implement Lean in their organization. They were aware that before implementation they were to do a self-assessment, but their main goals were to implement changes. Mentioning this is not meant as a criticism to the company. Their motivation and focus on implementing Lean are legitimate. Also, as mentioned earlier, they were affected by a crisis, meaning that the need and time for change was highly relevant to them. The reason to mention these expectations of the case company is a further discussion of how they were met by those presenting the self-assessment model.

During the presentations of the self-assessment model and its process, there was also a high focus on Lean. This might have been because those presenting the model wanted to meet the expectations of the company. Also, both those presenting the model and the consultant involved during the process have a background with working with Lean and Lean implementation. Therefore, it can be said that it was natural for them to meet the company

expectations and focus on Lean implementation. Because of this, Lean was highlighted to a large degree. During a self-assessment process, the self-assessment is the main activity, in which leads to benefits exceeding the implementation activity. One point to be made here is therefore that the self-assessment must be highlighted as the main activity, instead of being seen as just a step leading to a more important implementation process. When selling the self-assessment model and process to future users, this must therefore be taken into account. The first recommendation is that those presenting the self-assessment model to companies wondering whether or not to do such an assessment should explain the values in which such a process generates, like sharing of experiences, learning, anchoring and involvement of the entire organization and so on.

Related to this discussion is the aspect of providing companies wondering whether to use the self-assessment or not with relevant information. It should be clarified that such a process is demanding in terms of resources, time and involvement if the process is to be done in a way generating value to the company. Also, the benefits of doing the self-assessment must be highlighted. The future users should be ready and committed to spend resources on such a process. This is a general recommendation, not related to how this was done in the test-run. The point is made because such a process is demanding in terms of resources and commitment, and it is found important that future users are aware of this.

With their expectations, how was it for the company to do the "detour" that a self-assessment might seem like, compared to hiring a consultant that tells them what changes to implement at once? Were there any additional benefits of doing this process? As seen in chapter 14, some of the management members believed that no matter what process to make them get there, 5S would have been one of the chosen actions to implement. During the interview later on, they were skeptical about the extra value of doing this process. Making these points is not meant as a criticism to the company in which the self-assessment was tested. It is meant as highlighting the issues on how self-assessments can be seen as valuable by those performing them. If the process is not seen as valuable, why should it be performed in the first place?

This also implicates the need of presenting the benefits resulting from self-assessment to future users. Also, if future users are expecting, or have already decided on, future actions, the self-assessment might feel like a "detour" hindering the start up of implementation. In such cases, expectations must be clarified and an evaluation must be made of whether they still find self-assessment as valuable to them. If they are still motivated to do a self-assessment before starting on any actions resulting from the assessment, instead of those expected in the first place, a self-assessment should be performed.

As shown in chapter 14, one of the clearest feedbacks related to the self-assessment model was related to its construction compared to the construction of the Lean House. The management members found it difficult to understand what each piece of the puzzle, or module, in the self-assessment model comprised. If they chose one of the modules, would they become Lean, or would they lack some of the ground pillars as illustrated in the Lean House? This is also related to the focus on Lean implementation. If this model is meant as an implementation tool, it might be an interesting topic to discuss further.

However, in this thesis, the model is seen as a self-assessment model, where Lean is seen as one of the contributors to suggested actions resulting from the assessment task. As the purpose is to find fitting actions based on discovered weaknesses or possible improvements, the ground pillars of the Lean House are less relevant. The point is to find suiting actions rather than "being completely Lean". This reasoning must also be communicated to possible users in order for them to understand the model better. As the content of the model was a clear concern of the assessors, the logic of the different puzzle pieces and why it is divided into these pieces in the first place might be of interest to elaborate upon to users of the model. Then they can understand both the total model, but also what the different parts of it comprise, and therefore make qualified decisions on which module to choose for their assessment.

15.2 Complicated and comprehensive model and concepts

This chapter contains a discussion of different concepts and terms connected to the model and process tested. In addition, some considerations are given about the content of the model and more specifically the module used in the test-run.

As already discussed, there were two introduction meetings in which some content were repeated. One of these repeated activities was the introduction to the self-assessment model and process. Was this repetition necessary, or could these two meetings have been combined to one? In the first meeting the management members of the company were present in addition to the researchers. In the second meeting, more employees from the company and the consultant attended in addition to those present in the first meeting. It is seen valuable to have two different meetings. In the first, the point is to get the management on board. This anchoring is important before including others. If management chooses not to go further with it, and others are already included, it would be both a waste of resources and a confusing and disappointing experience to other members of the organization. The second introduction meeting is important in order to involve more employees and provide an introduction and training, as is further elaborated upon in the following chapter.

15.2.1 Steering group and theme group

As seen in the previous chapters, the plan was to establish a steering group in charge of choosing a module and a theme group and to secure support and anchoring in the self-assesment process. Also, a theme group performing the self-assessment was to be established. In this process, a steering group was chosen, but in practice, only members of management performed the tasks of the steering group, and the notion of such a group was not used throughout the process. A theme group was discussed, but in practice this group was established just before the assessment took place, including management members and two employees picked out for the assessment because they were available at that time. This means that many of the ideas behind the steering group and theme group did not function in practice.

If these groups are to be used in the self-assessment process, there must be a stronger focus on the steering group. The notion of these groups was used in both introduction meetings, but

was not used in practice. One of the reasons why the steering group did not function could have been related to the confusion of terms in which appeared during presentations, as many new terms and concepts were introduced, creating confusion among the recipients. The recipients might not have understood the reasons, notion and who to take part in the steering group, or misunderstood what it meant in practice. Even so, the management members did function as a steering group and chose a module and supported the process. It can therefore be said that the main function of such a group was still maintained.

The theme group notion was not maintained during the self-assessment process either. The gathering and training of employees to perform the self-assessment was done during the second introduction meeting, but failed as these employees were not able to take part at the time of the self-assessment to be performed. The theme group that performed the self-assessment therefore ended up as a composition of management members and two employees in which had not been prepared for the effort on beforehand.

If a steering group and a theme group are to function in a self-assessment process, one of the main tasks by those introducing the self-assessment to the company is to explain in a clear manner why these groups are established and what are their main tasks. Also, separating the groups are important, not having all members from the steering group to take part in the theme group. In this case, the management members expressed their wish to take part in the self-assessment and decide for actions. It is reasonable and a good thing that they wanted to participate and take part in the decision making, but the point of including a broader range of employees in the process then vanishes. These aspects should therefore be explained to the company management so that they understand why this distinction is made and, while some of them can still participate, all of them can not because there will be less room for broader participation. At least, if three management members are to participate, the majority of members of the theme group should still be other employees from a wide range of divisions in the company, having different views on the assessment theme. This will secure a broader participation in the organization and create ownership of the process, not only among management, but also among company employees.

In Part One of this thesis it is concluded that training of theme members are of importance in the preparing stage of the self-assessment. In the case studied, the only members both performing the assessment and getting an introduction to the concepts and approach to the self-assessment model were the company management. Some other employees were given an introduction, but could not be present during the test-run. Those two employees that could be present had not had any introduction to the process or self-assessment model, and did not know what was happening when they started the assessment. In this case, the employees still managed to contribute in the self-assesment, highly guided by facilitators and a researcher keeping track of the process following a planned schedule on how to do the assessment against the model. In order to hinder confusion and feelings of being unprepared, future assessors should have some sort of introduction and training before starting the assessment. It is assumed here that such a preparation will not only hinder confusion, but also start reflections among the assessors in which can be fruitful in the future assessment.

15.2.1.1 Unclear concepts and terms

As shown in the presentation of results in the previous chapters, some concepts and terms have been confusing to the receivers. For example, terms like puzzle pieces, modules and themes, describing the same thing, were confusing to the participants being part of the test-run. The presentations held during the introduction meetings also suffered from this, and might have contained too much information for the recipients to take in at once. To ease some of this confusion, some terms could might have been named differently. Another idea is to decide on one term to be used instead of three, as was the case of the modules of the self-assessment model. Also, a word list explaining different terms and the connection between them could have helped reducing the confusion. In addition, some information could have been given to the recipients in advance of the introduction, so that they could be more prepared and had seen it before the presentation.

It is shown that management members, which is used to academic and technical terms in their daily work, found it challenging to understand the model- and process terms. It should therefore also be noted that production workers, which might not be used to such type of work (reading, writing and/or taking part in meetings) can find it even harder to understand. The language used might therefore be altered so that it is easier to receive by all recipients. Both during presentations and the main assessment activity, more adaptation must be done in order for all assessors, no matter how used they are to such type of activity, to be able to contribute. Adaptation of the model to better fit the company and its context is also suggested here.

15.2.2 Facilitation

In the test-run the facilitator role was taken by the applied researchers/ developers, which are highly competent in terms of both the assessment theme and the self-assessment model and methodology. As seen, the facilitators interacted a lot, both in terms of explaining and driving the assessment methodology, but also in terms of creating discussion and reflection. One of the facilitators even read the descriptions of each theme level. This was possible in the test-run because of the presence of the applied researchers. When companies are using this model in the future, this type of resources in form of a facilitator, having in-depth knowledge about both the assessment theme and the self-assessment model and methodology, may not be available. If internal actors were to play this part, it would require a lot of training.

How can companies using this model in the future without such resources available manage to do the assessment? One of the solutions to this problem lies in the preparing phase of the self-assessment process. By being given a proper introduction to the self-assessment model, process and methodology, the theme group will be more prepared to perform the assessment themselves. The methodology must be available and explained in simple terms so that each contestant can understand how it is to be performed. One idea is to establish a handbook for facilitators, so that the company can use an internal actor to make sure that the procedure is followed during the assessment. Also, internal facilitators or even chosen members from the theme groups can be responsible for reading the description of each theme level and writing statements that are revealed during discussion and reflection in groups.

If these aspects are covered, only the theme knowledge, which in this case was possessed by the researchers, remains. Such knowledge and information is partly covered in the model by descriptions showing the lower or higher levels for each theme. This should be enough information in order to assess the company, and it therefore should not be any need of any more in depth knowledge of this theme at the point. Still, if needed, a consultant being a specialist on the assessment theme could be hired, or if it is seen as a need for the company to get more knowledge of the theme, this could be one of the actions suggested in the implementation part of the assessment.

15.2.3 The content of the model

During the test-run, some feedback was given about the content of the Effective Production module of the model. One idea was to separate the sublevel called Flow of work processes and Product value chain into two different sublevels. This would make the assessment easier to comprehend. The other feedback related to the model was to move the general level from the beginning of the module till the end of it. The assessors found that it was too much to evaluate if they were to begin on the general level covering the whole theme at once. If moved, the general theme level would work as a summarization of the assessments done earlier.

15.3 The approach to the self-assessment

In this chapter, a discussion evolving the approach to the main self-assesment is provided.

15.3.1 Approach mainly following the structure of the model

The approach to the evaluation activity mainly followed the self-assessment model structure. Its descriptors, teaching the assessors what to look for during the assessment, contributed to discussion, reflection and learning. Also, it helped the assessors learning what are lower and higher levels of expertise on each theme or subtheme. The model did not provide any requirement of scoring or measurements, but forced the assessors to agree on a current and future level of expertise through reflection, discussion and comparison against the descriptions given.

In Part One it was found that the diagnostic component of a self-assesment model can contribute to higher involvement and participation, as more participants are able to understand the subject in which the company is assessed against. Such diagnostic components are included in the self-assessment model of this case, in which description are given of what characterizes lower and higher levels for each assessment theme. In this matter, the descriptions helped clarifying to the assessors what to look for and think of during the evaluation. Also, it was something tangible to lean on and base their assessment results on. Such descriptions are therefore seen as preferable to include in the self-assessment model.

The descriptions of lower and higher levels for each sub-theme, was commended by the users. The researchers pointed out that the scales of the model represent different levels of competence, not made for measuring purposes, but rather to contribute to discussion and reflection in order to decide upon a proper level for the company. The measuring of

competence and improvement will not be seen directly in the self-assessment model, but rather in the measurable numbers connected to the company goals and strategy.

The approach chosen for the self-assessment at day one of the test-run was based on reflection and discussion in groups, working through the different theme levels of the model. The approach facilitated for learning through sharing of experiences and point of views, and discussion to agree on a current and a future desired state of the company. Overall, the detailed approach to self-assessment with the time-schedule for each activity, as described in chapter 12.2 worked well. This might have been because many facilitators and the master student kept track of the overall plan, and because of the power point presentation showing what tasks the contestants were to perform at each time. Still, the plan of activities was followed by the contestants and there were few changes to the plan except for individual reflection only being practiced in the beginning. This fell naturally, as the groups only contained two or three members, and there were no hinders from having all contestants contributing or reflect. The post-it system also worked well, as the assessors could take notes on their findings and remember for later reflections between groups. It was also useful that the post-its could be attached to the printed model at their "station" so that each post-it was placed in the right columns of the model. In this way they would know what post-it belonged to each column to be answered.

As described in chapter 14.1.2.1, the company sometimes evaluated themselves to be on a higher level than what the consultant or researchers would have. Is the point of the assessment to find the exact level in which the company is at the current state, or is the process itself and the reflection and awareness it generates of most importance? Of course it is essential that the company do not evaluate themselves to be on a much higher level than it really is. Then they might not prioritize actions of improvement in those areas where it is really needed. At the same time, if the company manages to learn, share knowledge and experiences, discover strengths and areas of improvement and reflect upon their situation, this might be just as valuable as placing themselves in the exact level on each theme.

As described in chapter 13.2.2, the management members clearly objected to the planned way of choosing actions on the second day of the test-run. It was planned for all actions to be chosen and read at the same time, but the company management found this to be impossible for the contestants to manage both because they would not have the capacity to remember all of it, and they did not think they had enough knowledge about the implementation actions (in this case Lean tools). Instead, the consultant held a presentation of different suitable actions to choose between, before the assessors decided upon actions in groups followed by making decisions in plenum. The choice of actions was based on a summary of the assessment results from the previous day and what the actors had learned through the presentation by the consultant. This presentation in itself was popular and contributed to learning and helping the assessors make their choice of actions, but at the same time this meant that choices of actions were not completely made by the assessors and more influenced by the presentation. For example, the claim of the consultant that you would have to do a value stream analysis if you wanted to have a more long term solution, can have been guiding in the sense that the

company chose such a solution based on what the consultant said more than getting there using the self-assessment model, its implementation part and reflection.

Which approach to choosing actions is suitable in the future? The planned way of choosing actions also differed from the original model structure, in which actions were to be chosen for each theme level of assessment. This means that the two activities of evaluation and choice of actions would not have been separated, but followed each other for each sublevel. This way of doing the assessment was not tested. It would have been interesting to see if the assessors had found this way of choosing actions more tangible. For each sublevel there are fewer actions to choose from, in which the reading and learning about the tools before choosing the appropriate one(s) would have been less demanding from the assessors. Also, the choice of actions would have followed straight after assessment of each theme level, making it easier to remember and to see the connections between the results of the assessment and the choice of actions. It is therefore recommended that the original model structure is tested.

15.3.2 Group composition

The first day of the test-run, in which the main assessment was performed, the theme group consisted of three management members and two other employees. In the second day, where actions were to be chosen based on the findings from day one, four more employees from production joined the process. In this way, participation and involvement of a broader part of the organization increased. As seen, the group compositions were mixed during the day of the assessment, while in the second day, when actions where to be chosen, management wished to be in one group separated from other employees so that their opinions did not affect others choice of actions. This was a legitimate reason for not mixing the groups, as it contributed to hearing all actors opinions on what actions to be chosen. Still, mixing the groups during the assessment activities was also a good idea, as actors with different opinions and experiences related to the assesment theme could share and learn from each other through discussion and reflection.

15.3.3 Workshop

The approach used in the self-assessment test-run was a type of workshop approach, in which individuals were gathered in groups in order to interact, share their experiences and work together to evaluate the company in terms of where the company is at the current state, where it should be in a future state, and how to get there through some kind of actions. The original idea, and which was tested to some extent, was that the group members were to have different background and experiences in order to gain knowledge on different aspects of the theme to be evaluated. In the test-run, management members and employees took part in the self-assessment, in which worked fine in terms of their sharing and knowledge. They took part in the group work and contributed with their point of view. Also, because this was a small company, management had a good overview of the production, so that many aspects of the theme evaluated were highlighted. Still, the diversity of participants in terms of company employment could have been higher, so that different angles and point of views could have been included in the assessment. Also, the involvement of more employees would have provided a broader anchoring of the process throughout the company. It is therefore suggested that a more diverse group of company members are included in the self-assessment process.

The second day of the test-run, in which the aim was to choose improvement actions based on areas in need of improvement as discovered during the first day of the test-run, more employees were included. It was good to involve more people in the process, creating anchoring in the company and in the following actions to be implemented. Therefore, such high involvement is also preferred during the process of choosing actions to be implemented.

15.3.4 Model visibility and usability

During the test-run, the writing in the model were found difficult to read. It was found that the typing in which the model was printed was too small, especially when more than one actor was to read at the same time. If the way of having the group "stationed" around the model is to be maintained, the printing of the model must be in a larger format so that it is easier for more participants to see and read the text. Also, having one member reading out loud can be favorable, making sure that all participants work on the same subject. Still, it can be hard for the assessors to take in all oral communication of the descriptions at once, and it may be preferred that the contestants have access to the text so that they can have a look at it if they miss some of the information. This could be either by having the model printed and attached to the wall as in the test-run, or a copy of the assessment could be handed out to each assessor.

15.3.5 Further self-assessments

As seen in chapter 14.2.3.2, the company members interviewed were not sure whether they would continue the assessment cycle and start a new self-assessment after implementation of action was done. A new self-assessment is recommended, both in terms of evaluating the last assessment and whether the actions implemented have provided the wanted effects, and for assessment related to another theme.

16 Conclusion

This master thesis covers the first testing of a newly developed self-assessment model and its recommended process. It should be noted that the master thesis is meant as a contribution to improving the model and process rather than contributing to create theory in general.

The testing has been done in a small, Norwegian industrial company. This gives clear restrictions in terms of generalization. Still, it is assumed that some of the findings in this master thesis are similar to other possible test-runs of the self-assessment model in Norwegian SME's.

One of the main findings in this master thesis is that a clarification must be made when it comes to what is the main purpose of the model. If the purpose is self-assessment generating organization development, this must be highlighted more clearly, both in terms of the name of the model and in the way it is presented. It must be clear to the developers and the users that Lean and ISO9001 are only contributors when it comes to actions following from the assessment, and that implementation of Lean is not the main purpose.

This must also be evident in the way the model is presented to future users. This means that focus must be on self-assessment, and a clarification of what is needed in terms of effort and resources must be provided to future users. If future users expect implementation of for example Lean and are motivated to start implementation straight away, self-assessment might not be appropriate, as it is not in line with the company expectations, and therefore might be seen more as a "detour" before starting with the wanted activities.

In this case, a steering group securing anchoring and support throughout the process was to be established. In practice, the company management performed the tasks of the steering group, securing that its main tasks was carried out. If, in the future, such a steering group is to exist, there must be a stronger focus on why this group is important, what are its main tasks, who should take part and why. In the case studied, a theme group was also established, performing the assessment. In the future it is recommended that theme group members are introduced to the assessment theme, model and approach before the self-assessment, and trained for this activity. Also it is recommended that the composition of such a group is wider, securing broader participation and sharing of different experiences and knowledge during the assessment.

It is also recommended that some concepts and terms connected to the self-assessment model and process are clarified and simplified. To new users, the model and its process might seem confusing and hard to understand because of all new terms and information. Other ideas to ease the introduction phase to new users might be to have clearer presentations, handing out a word list explaining new or difficult terms, or providing some of the information in advance. It is also found useful to adapt language and terms in the model according to who is to use it.

In the case of this master thesis, facilitators with great knowledge of the assessment themes and – approach interacted a lot during the self-assessment effort. In future self-assessments, these resources might not be present. Some suggestions in order to compensate for these resources not being present are to provide future users with a handbook for facilitators, proper

introductions to the model and process and use of internal actors helping out during the assessment. The descriptions of theme levels found in the assessment model are also helping the company perform the assessment themselves.

To follow the model structure when performing the main assessment task was found to be a good approach. Mixed groups to perform the evaluation are found suitable in order for sharing of broader knowledge and experience. Also, the workshop approach was found appropriate for the self-assessment. It is suggested in this thesis that testing how it would be to follow the structure of the model in terms of choosing appropriate actions is also of interest. It is found that the approach of choosing actions as it was done during the test-run is not suitable.

17 References

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