ANALYSIS OF THE COMPANY’S AND ITS SUBSIDIARIES’ OPERATIONAL DEVELOPMENT PROCESSES

MASTER THESIS

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A Master Thesis Report at the program Master of Science in Engineering and Education in the field of technology and education written in collaboration with the Department of Industrial Information and Control Systems Royal Institute of Technology, Department of Mathematics and Science Education Stockholm University and The Company Stockholm, Sweden

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Abstract. Operational development is a frequently used term within organizations nowadays. The term refers to organizations that continuously strive to achieve better results by increasing the efficiency, improve the safety, expanding the customer base etc.

This study investigates what is determining if an organization is successful in operational development and what is needed in the organization on order to improve the performance in an efficient way. It also investigates how operational development should be conducted in companies consisting of a parent company and a number of subsidiaries in order to be successful. The main question of the study is whether there are any synergies in common strategies for operational development at subsidiaries or if operational development is more efficient if it is conducted separately. The study also investigates whether subsidiaries can take advantages of each others experiences of operational development by working more closely together with it. This is investigated through examining how learning occurs within and between organizations.

The study’s aim is also to identify which factors are essential for organizations in order to succeed with development of their operation, according to theories on operational development, different quality systems and a case study at The Company. “The Association’s” recommendations on how operational development should be performed by organizations in the type of business in which The Company operates are also examined. The recommendations are examined in order to identify crucial key factors and organizational attributes for operational development.

The project has been executed in cooperation with The Company and its five direct subsidiaries. As a basis for this investigation a number of qualitative interviews, a workshop and a literature review have been performed.

The results of the investigation argue in favour for the existence of synergies in subsidiaries working in common with operational development. Cooperation may even stimulate the work with operational development in respective subsidiary. One possible strategy to work in common with operational development is to establish an operational development network where the organizations have the opportunity to discuss and exchange experiences. The literature also shows clearly that there are great opportunities for subsidiaries to learn from each other as long as the willingness to share knowledge is present.

The study also indicates that it exist at least eight key factors that affect how successful the work with operational development is in an organization. These key factors are; management commitment, employee involvement, communication, customer orientation, process orientation, continuous improvements, cultural changes and decisions based on facts.

Keywords. Operational development, continuous improvements, subsidiary, learning organizations, learning within organization, learning between organizations
Sammanfattning. Verksamhetsutveckling är en vanligt förekommande term inom organisationer nuörtiden. Termen syftar till att organisationer ständigt strävar efter att nå bättre resultat genom att öka effektiviteten, höja säkerheten, utöka kundbasen etc.


Projektet har utförts i samarbete med The Company och deras fem direkta dotterbolag. Som underlag för studien har ett antal kvalitativa intervjuer, en workshop och en litteraturgenomgång legat.

Resultatet av studien talar för att det finns synergi i att dotterbolag jobbar gemensamt med verksamhetsutveckling. Ett samarbete kan till och med stimulera arbetet med verksamhetsutveckling i respektive dotterbolag. En möjlig strategi för att arbeta gemensamt med verksamhetsutveckling är att upprätta ett utvecklingsnätverk där organisationerna får möjlighet att diskutera och utbyta erfarenheter. Litteratursstudien visar även tydligt att det finns stora möjligheter för dotterbolagen att lära av varandra så länge viljan att utbyta kunskaper finns.

Studien indikerar också att det finns åtminstone åtta nyckelfaktorer som påverkar hur framgångsrikt arbetet med verksamhetsutveckling är i en organisation. Dessa nyckelfaktorer är engagerat ledarskap, arbetslagarnas delaktighet, kommunikation, kundorientering, processorientering, ständiga förbättringar, kulturella förändringar och faktabaserade beslut.

Nykellord. Verksamhetsutveckling, ständiga förbättringar, dotterbolag, lärande organisationer, lärande inom organisationer, lärande mellan organisationer
Preface. This report is the result of a master thesis project conducted during spring 2012. The master thesis is performed in collaboration with the Department of Industrial Information and Control Systems at the Royal Institute of Technology, the Department of Mathematics and Science Education at Stockholm University and The Company.

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1 INTRODUCTION

As a final assignment at the program Master of Science in Engineering and Education a master thesis project is performed. The project is conducted in behalf of and in collaboration with a big Swedish company. According to a request from the company, the company’s real name will not be disclosed in this report. Instead it will be referred to as The Company. It is neither disclosed in which type of business The Company operates. Therefore “The Association’s” real name is not used.

This project combines the author’s interest for continuous improvements and learning within organizations with a need of an investigation of The Company’s subsidiaries’ work with operational development.

The Company has as owner of its five subsidiaries a mission to find value adding approaches and ways of supporting the business with common working methods where relevant. The five direct subsidiaries, Subsidiary 1, Subsidiary 2, Subsidiary 3, Subsidiary 4 and Subsidiary 5, are currently organizing and operating their operations, according to the goals and directives of the board and management. This means that The Company is currently not across all processes detailing and controlling how its subsidiaries should run their operation.

Thus, the subsidiaries are working separately even with operational development. This results in that none of the subsidiaries, neither The Company, have knowledge about all the subsidiaries’ strategies and experiences from operational development. The Company therefore wants to investigate whether there are any advantages for the direct subsidiaries in working more in common with operational development in the future. They want to understand if the operational development will be more efficient by a cooperation between the subsidiaries and make sure that The Company is able to support the subsidiaries where needed.

The investigation examines how the direct subsidiaries currently are working with operational development and how they want to work with operational development in the future. Similarities and differences in their current strategies and future desired state are identified and analysed. The study also investigates whether it is preferable for the subsidiaries to have common, or partly common, strategies for operational development or if they should continue to work separately with it.

The subsidiaries work with operational development is also compared to how “The Association” recommends organizations in the type of business, in which The Company operates, to work with operational development in a gap analysis. “The Association” is a non-profit, international organization with the purpose to unite every company and country that operates in the type of business. The goal with “The Association” is to cut across political barriers and interests and to achieve the highest possible standards in the type of business [32].

This report describes the approach of the project and the analysis of the results of the investigation, based on relevant research literature.

1.1 Background

The Company has worked with a program to improve their performance for a numbers of years and is currently in the final stage of it. The program consisted of a number of projects with the purpose of making sure that The Company is in the upper quartile in their business. As a way to make sure that the company will be in the upper quartile even after the program is finished different teams were created. The teams’ tasks are to control selected processes and support the subsidiaries in their operation in order to make sure that The Company can continue to be world class.

Mrs. R is the process owner of the support process for the teams and supports them with methods and tools for working with operational development and continuous improvements. As a part of this work Mrs. R was assigned by the management team at The Company to investigate whether it is of
value to have common, or in parts common, processes in the operational development at the direct subsidiaries.
1.2 Purpose

The purpose of this project is to gain understanding of if, and in that case how, cooperation on common operational development strategies at The Company’s direct subsidiaries can contribute to collective learning between the subsidiaries and more efficient operational development strategies.

1.2.1 Research questions

- What is needed in an organization in order to succeed with operational development?
- Is it preferable to have common, or partly common, strategies for operational development at the direct subsidiaries of The Company?
- How can the subsidiaries take advantage of each others’ experiences by working more in common with operational development?

1.3 Delimitations

This master thesis is delimited in some aspects. The literature review focuses on key factors for operational development that are occurring regularly in literatures in regards to operational development and quality. The description of the key factors in this master thesis is a summary of different literature sources’ definitions.

The “parent company-subsidiaries”-relationship which The Company has with its subsidiaries is not exhaustively described in the literature about learning and operational development. Therefore, literatures concerning both learning within organizations and between organizations have been studied during the literature review. The case has been analyzed from both perspectives since learning within this “parent company-subsidiaries”-relationship is somewhere in between learning within and between organizations.
2 METHOD

In this section the approach of the master thesis is described and methods used during the project are argued. The validity and reliability of the investigations is also discussed in this section.

2.1 Project model

The project is divided into six phases (see Figure 1). The first phase is the Establishment Phase which implies finding a project at a company, which is applicable as a master thesis project. It also includes making an agreement with the company and the supervisors about the purpose and the research questions and determining the approach of the project.

The second phase is the Theory Phase where relevant research literature is studied and required knowledge about the subject is assimilated. Interview questions are formulated based on the literature review and a study of interview techniques. During the theory phase an investigation plan is developed that describes the studied literature and how the empirical data is to be collected and analyzed.

The theory phase is carried out in parallel with the third phase, the Empirical Phase, where the empirical data is collected. This is done through interviews and a workshop with representatives from each of The Company’s five direct subsidiaries. The empirical data is also compiled during this phase.

The theory phase and the empirical phase are overlapping the fourth phase, the Analysis Phase. Here the collected data is analyzed, based on the literature review and “The Association’s” recommendations. The final report is written during this phase.

The next phase is the Presentation Phase where the project is presented, both to the management team at The Company and to supervisors, opponents and other audience at the Royal Institute of Technology, and an opposition is held.

The last phase is the Closure phase where the master thesis is completed, handed in and approved.

Figure 1 – The project model visualized.

2.2 Literature review

The literature studied during the theory phase is selected through recommendations from the supervisors, both from the Royal Institute of Technology, Stockholm University and The Company, and by searches at libraries and subject-related databases. References to the studied literatures do also serve as inspirations to further reading. See section 12 for the reference list.
2.3 Empirical data

This section describes how the empirical data is collected and analyzed. It also depicts which actions have been taken to increase the validity and reliability of the investigation.

2.3.1 Interview

The collection of empirical data is done through qualitative interviews. This method is chosen since, according to Mogens Kjær Jensen [17], the purpose of qualitative interviews is to get the respondent to describe a phenomenon and its properties as thoroughly as possible. It is thus a suitable method when the attitude towards a phenomenon will be investigated [20]. Since the purpose of the study is to investigate how the subsidiaries currently work with operational development it is desired that they describe their strategies as thoroughly as possible. Therefore qualitative interviews are considered to be a useful method. The aim with the study is also to investigate whether the subsidiaries believe that it is preferable to work more in common with operational development. Their opinions towards common, or partly common, processes are gathered through the qualitative interviews.

What characterize the qualitative interview, according to Jan Trost [29], that the interviewer asks uncomplicated and straightforward questions which the respondent responds to with complex and comprehensive answers. As a way to encourage the representatives to explain as much as possible and talk freely about how the subsidiaries are working today and how they want to work in the future the interviews are semi-structured. This means that the interviewer does not have a number of prepared questions that should be asked in a certain order. Instead the interviewer has an interview guide consisting of themes that should be discussed during the interview, without any particular order. The interview is then more like a dialogue with answers and follow-up questions instead of an interrogation [20].

The interview guide is developed through discussion with Mrs. R and based on the purpose of the investigation. The interview guide is attached in the appendices at the end of this report (see section 13.1). During the interviews a checklist is filled in to easily ensure that all the themes of the interview guide are discussed. The checklist is also attached in the appendices (see section 13.2).

The interviews take place at the subsidiaries offices and each interview last for one to two hours.

2.3.2 Workshop

After the interviews are performed, compiled and analyzed in an as-is analysis the representatives from the subsidiaries are invited to a workshop where the results from the interviews are presented and discussed. In this way the representatives have the possibility to object or comment the results from the interviews and the analysis.

The workshop also include a discussion on how the subsidiaries would like to work with operational development in the future and whether common, or partly common, strategies at the subsidiaries are preferred or not. The representatives from the subsidiaries also develop a possible to-be scenario of the future work with operational development which is presented to the management team at The Company. The workshop is of the form that Jacobsen [14] refers to as a group interview. Jacobsen writes that group interviews are preferable when pros and cons with a particular product will be discussed. A group interview can help to initiate thought processes of the participants that would not occur in individual interviews [14]. These thought processes can help to develop the to-be scenario deeper than individual interviews had done.

The leader of a group interview can act in three different ways, according to Jacobsen [14], passive, active or intermediate. The passive leader starts the group interview with an open question and during the rest of the interview he or she is only focusing on listening and registering the conversation. The active leader, on the other hand, asks many well defined questions during the group interview and only allows each discussion to continue for a certain time before he or she asks a new question. The intermediate leader, the one that is practiced in this project, is a combination of the passive and the
active leader. The intermediate leader starts the discussion with an open question and lets the participants discuss freely. The leader interrupts the conversation when needed, for example if a subject is discussed too briefly, for too long or if one person is dominating the discussion [14].

No certain questions are developed for the workshop, instead the participants discuss the result from the interviews, analysis and if they want to work more in common with operational development or not.

2.3.3 Sample

Since the project’s purpose is to investigate how the five direct subsidiaries work with operational development today and if it is preferable or not to have common strategies for operational development it is desirable to interview representatives from all five direct subsidiaries. The representatives from the subsidiaries are elected through contacting the management at the subsidiaries, which then appointed the representatives. The representatives are persons that are involved in the work with operational development in respective subsidiary. Since the structure of the subsidiaries organizations vary and the operational development department is located at different parts of the organisations, the positions of the interview respondents vary. Some of them are representatives from the management at the subsidiaries while others are not. Also the CEO of The Company is interviewed in order to gain an understanding of how he believes that operational development should be performed in the future.

All representatives from the subsidiaries are invited to the workshop, but unfortunately illness with short notice prevent two of the representatives from attending and no stand-ins are found.

2.3.4 Analysis of empirical data

To document the interviews notes are taken during the interviews. Right after each interview a summary of the interview is compiled based on the notes and the memories from the interview. Patel and Davidsson [20] mean that it is convenient to analyze the interviews continuously, both because it can create ideas for the remaining interviews on things that could be changed but also since the living relationship to the material is harder to establish as the times passes [20]. Therefore, the interviews are analyzed ongoing from the first interview. After the first interview it is also decided that the following interviews should be recorded to make sure that all information is documented. To record the interviews also make it possible for the interviewers to focus on the dialogue instead of focus on taking detailed notes. However, one of the respondents does not want the interview to be recorded and therefore it is not, instead more detailed notes are taken to document the interview.

The analysis is carried out through reading the summaries of the interviews a number of times, highlighting sentences or words that are interesting in different colours and writing notes in the margins. Trost [29] considers this to be a useful method since during the reading ideas (both good and bad) that can be useful in the analysis will emerge. The highlighted sentences and words are then sorted in an Excel sheet according to the order of the themes in the interview guide, which makes it easier to find similarities and differences in the representatives’ answers. The interesting parts of the interviews are then analyzed in connection to the theories studied during the theory phase of the project. The interview results is also analyzed through a gap analysis of “The Association’s” recommendations compared to the subsidiaries’ current work with operational development, which is described in section 9.

The workshop is also documented through notes which are compiled in a summary right after the workshop. The analysis is carried out through reading the summary a number of times and highlighting interesting sentences and words. The workshop is then analyzed based on the results of the individual interviews and the literature review.
2.4 Validity

The validity of the interviews can be determined from different perspectives. The first is to assess whether the elected persons for the interviews are the right persons to interview [14]. Since this project investigates how The Company's five direct subsidiaries currently work with operational development it is desirable to interview representatives from all five subsidiaries. It is also desirable that the representatives are involved in the work with operational development at respective subsidiary. All the subsidiaries are represented in this study and all the respondents are involved in the work with operational development. Seen from this perspective, the validity of the study is high due to knowing and comprehensive respondents.

The fact that the sample of respondents is elected by the management of the subsidiaries may affect the validity of the investigation. It is likely that the result of the interviews would have been different if other representatives from each subsidiary had been interviewed. To avoid this problem more representatives from the subsidiaries could have been interviewed to get a combined picture of the situation at the subsidiaries. Interviewing more representatives would have been extremely time-consuming and result in a large amount of data to analyze and is therefore not done.

The second perspective is to assess the possibilities to get good information from the respondents, by assessing their ability and willingness to respond to the questions [17]. The ability to answer the questions can be evaluated by determining how closely related the respondents are to the phenomenon that is investigated, if it is a primary source or a secondary source [14]. Since the representatives from the subsidiaries are directly involved in the work with operational development at each subsidiary they are considered to be primary sources and thereby reliable. The willingness to respond to the questions can be evaluated by assessing if the respondent has any interests in lying or excluding information [14]. Since the purpose of this project is to develop a concept for working with operational development that aim to be useful for all subsidiaries and increase their efficiency, the suspicions that the respondents are lying or excluding information during the interviews are not high.

There is a risk that the representatives from the subsidiaries refined their answers to the questions in order to appear good or to make the interviewers believe that they are performing operational development in a better way then they are actually doing. That risk is however not considered to be high since the subsidiaries are not reviewed or assessed during this investigation. Another risk is that the respondents do not want to change their way of working with operational development and therefore lie about how they are performing operational development today. To reduce this risk, the interviewers emphasize the fact that the purpose of the interview is to investigate whether it is useful or not for the subsidiaries to change their way of working with operational development. No changes will be done if no value is found.

The information in an interview can appear in two ways, according to Kjær Jensen [17], either as a direct result on stimuli from the interviewers or spontaneously from the respondent. Information that appears spontaneously from the respondent is considered to be more valid than information that is a result on stimuli from the interviewers [17]. To increase the amount of information that appeared spontaneously from the respondent the interviews are semi-structured which means that the questions are open-ended and the interviews have more the nature of a dialogue instead of an interrogation.

A problem with qualitative interviews is that the interviewers in all likelihood affect the respondent and the answers to the questions in some way [14]. To reduce this problem, the interview guide is put together so that there are no leading questions. Also, the interviewers attend the interviews with as opened minds as possible and with as few prejudices as possible. This does probably not eliminate the problem totally and considerations to this are taken in the analysis of the results from the interviews. There is a discussion in the end of this report about whether the results are affected by this fact or not (see section 10.1).

Another perspective in the evaluation of validity is to consider the ability to document the interviews in a satisfying way. Jacobsen [14] means that no matter how good information that is received from the respondent, the data will never be better than what is managed to be registered. The first interview is registered through the interviewers taking notes, without recording the interview. It is
obvious that all data could not be registered in this way which lowered the validity of the interview. Therefore, the following interviews, except one, are recorded.

2.5 Reliability

The reliability, the ability to iterate the study with the same result, of qualitative interviews is criticized by many researchers. The fact that the interviews are performed as discussions without specific questions makes it complicate to perform the interviews in a similar way over again [14]. Also the fact that the interviewers unintentionally interprets the answers during the interview and asks follow-up questions as a result of the interpretation decreases the reliability. In order to increase the reliability of the study an interview guide is used to make sure that the same themes can be discussed if the interviews would be performed again. The interviewers are as objective as possible during the interviews, both when asking questions and interpreting the responds as a way to make the investigation more reliable.

To increase the reliability of the study the chain of evidence is maintained. This means that an external observer of the study should be able to follow the derivation of any evidence, from internal research questions to the final conclusions of the study. The external observer should also be able to follow the steps in the other direction, from conclusion to research question [31]. The chain of evidence is maintained through sufficient citation to relevant documents, interviews and observations and all original evidence is stored throughout the project.

Even during the analysis of the interviews the validity and reliability of the study can be affected by the interviewer’s preconceptions and prior knowledge [14]. When the answers from the interviews are compiled and structured according to the order of the themes in the interview guide, the results are probably affected by the person compiling and structuring it. As a way to avoid this, the compiled and structured results from the interviews are reviewed by both interviewers to increase the validity and reliability.
3 OPERATIONAL DEVELOPMENT

In order to answer the research questions and fulfill the purpose of this master thesis, literatures concerning operational development and learning, within and between organizations, are studied. This section summarizes the reviewed literature regarding operational development.

3.1 Quality systems

Quality has always been important for customers, and companies with a systematic approach for working with quality improvements have often achieved good results at the market. Systematic approaches for working with quality improvements have also resulted in lower internal costs and shorter lead times for products and thereby increased profit for many companies [4].

Many researchers mean that companies should work continuously and result focused with quality improvements. It should be a natural, everyday work task in organizations’ operation and it should be as naturally integrated in the company as working with economics [4]. In companies that work continuously with quality improvements the term quality development is often not used; instead the term operational development is used. The purpose of operational development is to increase the quality of produced products but also the quality of the company’s performance [23].

It is not a novelty that companies control the quality of their products; it has been done for long time in history. Traditionally quality has mainly been seen as relating to products and production. Nowadays, the term quality more often also refers to the quality of all of the internal processes and functions in a company. The definition of quality has moved from a narrow, manufacturing-based discipline to a broader discipline involving all business functions and employees in the company [2], [12]. The broader discipline is often referred to as quality management since it requires a planned quality operation that covers all functions in the company.

There is a long row of different methods or quality systems that could be used for operational development and quality management, for examples quality circles, quality function deployment (QFD), benchmarking, ISO 9000, TQM, Lean and Six Sigma [23]. These quality systems are quite similar in many ways and differ in some ways. Andersson, Eriksson and Torstensson compare the quality systems Lean, Six Sigma and TQM and conclude that they have similarities in methodologies, tools and effects but differ slightly in some areas, especially concerning main theories and approaches [1].

Despite all available quality systems, combinations of quality systems and self invented methods for operational development, many companies are not successful in improving their performance. The problem is that the quality systems or methods are insufficient; the problem is how they are applied in the companies [3], [24]. They are used as general methods for improving the quality without any preceding analysis of the business. When the methods are used in this way, there is a comprehensive risk that they will only result in marginal improvements of the quality [12]. It is not sufficient to adopt only individual methods or apply only few approaches of the quality systems. Instead, to reach superior results, companies have to deal with quality questions in a structured and long term way [1], [3], [12]. Otherwise there is a risk that the work with operational development will only improve the quality level at the company for a short time and then interrupt or vanish.

To succeed in implementing the quality systems the companies has to work with both the formal and the informal parts of the quality system. The formal parts include analytical and result focused tools used in the quality system. The informal parts focus more on the management’s and the employees’ engagement and commitment [16].
3.2 Key factors for success with operational development

During the literature review a number of critical factors for successful operational development were identified; management commitment, employee involvement, communication, customer orientation, process orientation, continuous improvements, cultural changes, decisions based on facts. These factors are described in this section of the report.

3.2.1 Management commitment

It has been shown that one of the most important aspects for successful operational development is management commitment. The management of the organization has to be engaged in operational development in order to establish a culture for successful and sustainable quality improvements [1], [2], [3], [4], [11], [12], [13], [16], [22], [24], [28]. Henderson and Evans [13] mean that working with operational development demand an ironclad commitment from management at all levels of the organization, even from the top management.

The management's commitment to operational development must be clearly and unequivocally understood throughout the whole organization [22]. Without a clear commitment and involvement from the management, no good results of the quality work will be reached. The management has to demonstrate that he or she operates the operational development with sincere conviction [2], [3], [11], [24]. If the management is not involved and committed to the work with the operational development the employees will be doubtful and the energy behind the work will be weakened [3].

The management in a company is expected to reinforce the culture of operational development everyday in the company and encourage the employees to constantly work with continuous improvements. The management should also authorize the employees to identify improvement suggestions and develop continuous improvements by giving the employees responsibilities and mandate [4], [11], [16].

Operational development requires a management that is visible in the daily operation and supports its employees in problem solving [2], [3], [16]. By contributing to the daily work in the company, asking questions, listening and acting the management will receive trust and confidence from the employees. The management will also understand the organization and its performance in a better way [16]. It is also important that the management communicates with the employees about the company's critical issues, problems and the management's expectations in order to find improvement opportunities [19]. The management should also participate in the improvement processes [4], [11], [13], [28]. They should include quality aspects in the company vision, and support quality activities financially, morally and with management resources [4].

Performance improvement involves a new kind of management that permits that problems, mistakes and failures are made visible and converted into mutual learning opportunities. The management should also enable a systematic approach for implementing continuous improvements. This kind of management is focusing on both humans and performance and not only results. It also supports and stimulates actions that improve the way the employees are performing their jobs [16].

3.2.2 Employee involvement

Another key factor for successful operational development is that all employees are involved in the improvement of the operation [2], [4], [8], [11], [12], [13], [16], [19], [24], [28]. The employees must be given the right conditions to be able to perform their everyday work in a good way and to continuously search for improvement possibilities in their performance. This is important since the employees are directly affecting the quality level of the final product and the organization in their everyday work [13], [24]. The employees can also serve as a source of improvement suggestions by reporting problems or failures in the operation that need to be solved and thereby improve the quality level in the organization [24], [28].
The employees' involvement, motivation and their continuous search for better way to perform their assignments are thus essential for successful operational development [19]. It is therefore necessary to create opportunities for all employees to be involved in the work with operational development and continuous improvements in their daily work [28]. To achieve involvement and commitment from the employees, responsibility and authority must be delegated from the management [4], [11], [16].

To be able to do a good job it is important for every employee to feel commitment and responsibility to the organization and the operation. It is also essential that every employee feel professional and pride over their job. If the employees feel professional pride and are given recognition after performing well they will also be committed to their job, which in turn leads to improved quality both in the products and in the company [4].

It is important to involve the employees in an early state of improvement activities since they have experience of working in the operation and may see consequences with planned activities which the management cannot predict [15]. The involvement of the employees in an early state may also reduce eventual resistance towards different improvement activities.

It has been shown in a number of studies that problems and failures that occur in the daily work is a potential source for learning new things. It is also a possibility to redesign approaches or working areas and develop the technologies that are being used. Therefore it is important to encourage employees to continuously report problems, failures or other improvement opportunities and to allow them to take part in the problem solving processes [8].

All personnel in the organization must be trained in operational development to be able to participate in the continuous improvement [3], [11], [24], [28]. The amount of training depends on the positions of the employees and should be decided on in regards to the costs of the training [2]. The management in the organization should get training in how to manage for quality and how the quality affects the results of the organization. Some of the employees should be assigned as specialists in quality and trained in what influences the quality at their positions. They should, after the training, be able to set up effective methods for operational development in their respective area and act as agents of changes in the organization. The rest of the employees in the organization should also be trained in general operational development tools and methods in order to be able to contribute in the performance improvement [5], [13], [24]. To train all personnel in the organization will also establish a common language in the organization which will facilitate the work with operational development and make it easier for everyone to contribute in the improvement [13].

It is important that all employees, involved in the work with continuous improvements, have the confidence that improvements will not result in redundancies. Otherwise the employee will obviously not contribute to the improvement work to make the company more efficient [19].

Many people feel that participating in improvement activities offers an important contribution toward a beneficial work improvement. By learning and using different methodologies and tools for improvement, meaning and responsibility can be created at work which increases the job satisfaction. Thereby the quality of the daily work in the company may also be increased [4]. Studies show though, that creating opportunities for the employees to be involved in the daily improvement work is one of the greatest challenges for the management.

3.2.3 Communication

Communication is a prerequisite for an organization to be able to exist and develop at all. It is likewise an important success factor for organizations working with operational development and continuous improvements [11], [15]. It is important to communicate both why and how different changes and improvements are planned in an early state. This in order to provide the opportunity for the employees to improve their comfort level of the changes before they are implemented [13].

According to Johansson and Heide [15], internal communication is one of the major factors to why improvement actions in an organization fail. With clearer and more frequent communication and with an initiated dialogue between the management and the employees, more changes would have been successful [15]. In communication between the management and the employees it is possible for the management to inform the employees about operational development actions. The employees are as
well given the possibility to describe their view of the operational development, concerning both risks and opportunities [15].

A common waste of recourses in many companies is that there exists disconnects within the companies, or between the companies and their customers and suppliers. It can inhibit the flow of knowledge, ideas and creativity, and create frustration and missed opportunities. With disconnects between companies and their customers, it is practically impossible to completely satisfy the customer. With disconnects between companies and their suppliers the collaboration between them will be inefficient and non beneficial [19].

Operational development will only be successful if the management’s vision and plans with the operational development is clearly communicated to the employees and the shareholders [22], [24]. It is important to establish a communication plan in order to involve the employees in the improvement initiatives and to relate their work, and the benefits from it, to the improvement activities [3]. The communication plan should also describe what should be communicated, by whom, to whom and how often.

It is not sufficient to only spread more information about improvement activities in order to reach a collective understanding among the employees. The same event may mean different thing to different people, which may lead to misconception. It is essential to establish an environment where it is possible to argue and collectively develop new alternative actions that consider the different interpretations that are present in the group. This can only be achieved in meetings face to face and requires the management to meet the employees and show their commitment towards the employees [15].

Communication between the employees is also important for operational development since it is in the lateral and informal communication the employees’ understanding occurs. The communication between the employees creates a collective view of the different improvement activities in the organization and their advantages and disadvantages. This collective view can result in better understanding of the activities, decreased anxiety about them, and a wider spread of positive views of the activities [15]. To succeed with operational development the management has to understand the importance of communication and the employees’ significance in the implementation of improvements [15].

### 3.2.4 Customer orientation

A central aspect in operational development is customer orientation, to understand and reach the customers’ needs and expectations [1], [3], [4], [11], [12], [23], [24], [28]. Most companies’ core goal is to provide the highest quality of a product, at the lowest cost and shortest time in order to satisfy the customers [19], [24].

Customer orientation includes systematically work to fulfil customers’ needs and expectations. It also implies activities for follow-up the customers’ experience of the product and activities for continuously studies of the customers’ attitudes [24], [28]. Not only are the already existing customers important to satisfy, but also the potential customers. It is therefore fundamental for the company’s success and existence to find out the needs and expectations of existing and potential customers by means of market research [3], [24]. One of the goals of the quality work should be to reduce the gap between the company’s actual performance and the customers’ requirements [4].

In operational development it is common to talk about internal and external customers. The term external customer refers to those who buy the final product and the one who the whole organisation strives to satisfy. The term internal customer, on the other hand, refers to all employees in the company who are affected by the product in some way. An organisation can be seen as a chain of internal customers and suppliers who are supplied by external suppliers and aims to satisfy external customers [4], [23].

Customer orientation does not only imply external customers but also internal customers. If an internal customer receives a product with high quality from an internal supplier, he or she is provided with better opportunities to perform a good job. In this way a stable ground for external customer satisfaction and high quality level in a long term is formed [4].
3.2.5 Process orientation

In operational development it is common to talk about processes and process development as important key factors for successful performance improvement [4], [12], [16], [23], [24], [28]. A process can be described as "a network of interrelated activities that are repeated in time, whose objective is to create value to external or internal customers" [4]. The processes transform inputs, like material or information, into outputs like products or services [28]. The purpose of the processes is to link the past with the future and to satisfy the customers with the end result, by using as few resources as possible. Improving the processes is an efficient way to implement improvements in the operation of the company [24].

The processes in a company can be divided into three types of processes, main processes, support processes and management processes [4], [28]. The purpose of the main processes is to fulfil the needs and expectations of the external customers and to increase the quality of the products produced in the company. The support processes provides resources to and supports the main processes and they have only internal customers. The management processes’ purpose is to make decisions about the goals and strategies of the organization and to implement improvements in the main and support processes [4].

To develop the company and make it more efficient the company’s processes have to be improved. By identifying, mapping and analyzing the processes in the company improvement opportunities can be identified [1], [24], [28]. Improving the processes means improving the value flow from start to end. The production of a product is just a small part of the whole company. All processes, from marketing to distribution, need to be identified, mapped and analyzed [5].

An organization is based on a large number of interactions. An event in one part of the organization may affect and have consequences in a completely different part of the organization. The inability to perceive such interaction invariably leads to sub-optimizations and considerable losses to the overall organization. An organization is built up on a system of processes, and therefore it is important to think of the organization as a system of processes on a long-term basis in order to succeed with operational development. System thinking, or the ability to view things holistically, and see how the various integral parts affect one another, is an important element for successful quality improvements [4].

Traditionally, companies are organized with respect to specialized functions like product development, purchase, marketing, production and service. This is called a vertical or hierarchic organization [23]. The products, on the other hand, are following flows that go horizontally through different departments in the organization. This way of organizing a company may lead to unclearly defined responsibilities of the processes. It may also result in territorial divisions between the different functions with sub optimizations, ineffective processes and risk of unsatisfied customers as a consequence [23], [28].

The idea with process orientation is to convert a vertical oriented organization to a horizontal oriented and to see the company as a value chain, where all values are seen from the eyes of the customers. When the company’s operation is visualized as processes whose purpose is to create value for the customers, the whole value chain is observed from the customer needs. This may lead to higher customer satisfaction and increase competitiveness [16], [23].

3.2.6 Continuous improvements

One important success factor for operational development is to work continuously with improvements [4], [12], [16], [19], [24]. It is essential to be patient and always focus on long term rather than short term improvements. The work with operational development should not be seen as a campaign or a project to create a rapid effect on the quality to reach a short term saving target. It should be seen as a long term change in the everyday work in the company that continuously strives to improve the performance [3], [16]. Operational development is a continuous, ongoing process that has to be implemented in the daily work with the purpose of remaining there. It is not a one-off project that is finished when the desired result is achieved, but it continuously seeks new things that may be improved [4].
To work continuously with improvements also means that the quality level of the products continuously should increase [24]. The demand of higher quality of products increases constantly with new technological solutions and the customers’ needs likewise. New types of business activities also require continuous improvement both of the products and of the organization. Even the best processes in a company suffer from failures and inefficiencies, and have to be improved continuously [19]. The foundation of continuous improvements is that it is always possible to improve products or processes while using fewer resources. Even small changes can result in major improvements of the quality and reduce the total costs [4]. In order to identify these small changes that can be improved in the daily operation, it is important to involve all employees in the organization in the constant search for improvement possibilities. It is also important to ensure that the employees report problems and failures and that the problems and failures are seen as improvement possibilities. Continuous improvements should be seen as a culture that should be present in the company. If every employee constantly searches for opportunities to improve the performance, the quality will increase and the total costs will decrease. The improvement opportunities can either be in the sense that it may satisfy the customer or in the sense that it will reduce the amount of resources required [4]. It is important to ensure that both enforced and passive improvements as well as major and minor improvement suggestions are evaluated and implemented if possible [5].

It is important that the continuous improvements lead to continuously good results and successful projects. This creates even more motivated and engaged management and employees, which keep the work with operational development ongoing [2], [3], [28].

3.2.7 Cultural changes

To reach success in the work with operational development it is necessary for most companies to obtain a changed mindset throughout the entire organization. When a new strategy for working with operational development is implemented in the company new values enter the organization and this implies a cultural change [3], [4], [19], [24]. Sandholm means that if an organization shall start focus on quality in a genuine way, major readjustments of the internal company cultural must be done [24]. Both the employees and the management’s attitudes and mindset towards operational development and quality must be changed in order to success with the improvements.

It is not easy to establish the deep and thorough cultural changes that are needed to achieve success in working with operational development. It is important that the company’s culture is based on values such as openness, mutual trust, teamwork, customer focus and training [19].

To succeed with operational development the view of operational development must change from a reactive “fire-fighting”-mentality, which is common in many organizations. Instead a concept built on systematic planning, problem prevention and continuous improvement of all processes must be established [4]. Also the view of problems and failures must be changed. Problems and failures should be seen as improvement possibilities, which can increase the quality of the organization and the products, instead of something negative, which must be solved as fast as possible [4].

In many companies employees feel insecure and afraid of asking questions and pointing out mistakes. It is also common that employees are afraid of the management or the work environment and have a fear of losing their job if the company becomes too efficient due to the improvement work. An employee that is afraid will never perform a good job and will not contribute in the improvement activities. It is therefore important to change the culture in the company, so that making mistakes are acceptable and pointing out improvement opportunities does not risk ones job. The environment in the organization should be open and safe. Reported problem should be seen as improvement opportunities instead of something that may risk the employees’ jobs, [3]. It is also important to change the culture of improvements and make the employees understand that the improvements will not result in redundancies [4].
3.2.8 Decisions based on facts

In history, many improvement investments have been based on opinions and beliefs, with the result of less good solutions, sub-optimizations and conflicts [28]. Thus, it is important to base decision on facts that are well-founded and not let random factors base the decisions [2], [4], [12], [24], [28]. This means that factual data, of both numerical and verbal character, needs to be collected, analyzed and decide upon. Information about customer needs, requirements and opinions has to be gathered so that no products that will not satisfy the customers are produced [2], [4], [28]. The information could be in the form of data from deficiencies or failures, customer complaints, poor quality costs, etc. [24].

It is not only important to gather information about what the customer expects, but also to have a strategy for making decisions based on facts in relation to manufacturing. Measurement should be taken to evaluate and improve the manufacturing processes. Basing decisions on facts implies continuously searching for relevant information, making measurements, analyzing the measurements and drawing conclusions in order to find opportunities to improve the performance [4], [24], [28].

Even the verbal information, for instance opinions and feelings, has to be structured and analyzed if the work with operational development should be successful [4].

3.3 Resistance against changes and operational development

It is common that there is a strong resistance in companies to implement changes and work with operational development. People are often afraid of the unknown, new approaches and they sometimes do not understand the need for changes [2], [4], [15], [28]. It is also common that the employees are of the opinion that they have always performed a task in a certain way and want to continue to do it in that way [3].

A common reason for resistance against changes may be that the employees have become used to unsuccessful changes and improvement activities and therefore choose to ignore new suggestions and continue to work as normal [15]. The employees may also be afraid of loosing something they value due to the change or they might have misinterpreted or misunderstood the change and its impacts [15].

The change itself can also affect the employees’ attitudes towards the change. Some changes are naturally perceived as exciting and attractive while other are perceived as threatening and negative. Therefore it is necessary to clarify what the change implies and strive to make the change as positive as possible. A clear vision for the change often has positive impact on the employees [28].

To tackle the resistance towards operational development it is important to increase and sustain communication, motivation and education in operational development [22]. It is also important to listen to feedback from the employees, plan the improvement activities in detail, delegate responsibilities when it is possible and empower the employees to take their own decisions [3]. If the employees feel involved in the changes they will probably be more positive to the work with operational development [28].

To let changes take time, avoid rapid and surprising changes and allow time for discussion, evaluation and acceptance can also decrease the risk of resistance. The changes should be adapted to the current situation in the company and the changes should start at a smaller scale before eventually greater changes are implemented [2], [23].

A way to reduce the resistance towards implementing changes can be to visualize clear result and achievements from previous changes. A good strategy can be to start with small changes that will deliver success quickly that are then visualized in the organization to motivate the employee to approve further changes [2], [3], [28].
3.4 "The Association's" Performance Improvement Model

In order to achieve the highest possible standards in the type of business that The Company operates in, "The Association" continuously publishes reports and guidelines to their members. In a document "The Association" gives recommendations for how to work with performance improvements and operational development at companies in the type business.

"The Association" describes performance improvement with a model consisting of a cycle with three phases (see Figure 2). The first phase is the Performance Monitoring phase where the current performance is assessed and gaps between current and desired level of performance are identified. The second phase is the Analyzing, Identifying and Planning Solutions phase where actions needed to close the gaps are determined. The last phase is the Implementing Solution phase where the chosen solutions to close the gaps are applied. For each phase there are a number of activities or elements useful for executing respective phase. The model can be applied to a variety of performance improvements scenarios and the organization's performance improvement is a result of applying the model systematically to a big number of individual problems. The performance improvement model should rest on three organizational attributes; leadership and oversight; knowledge and skills; and culture, which are essential for successful operational development according to "The Association" [30].

![Figure 2 - "The Association's" Performance Improvement Model visualized](image)

3.4.1 Performance Monitoring

The purpose of the Performance Monitoring phase is to identify gaps between current and desired levels of performance. This phase contains both proactive actions for identifying precursor-level problems before they become large and reactive actions, such as problem reporting and reviewing the effectiveness of former corrective action [30].

To increase the likelihood of identifying shortcomings in the performance, multiple and diverse monitoring approaches need to be used. "The Association" considers the following elements and activities to be useful in the performance monitoring phase [30]:

1. **Standards.** Standards are recommended to be used as a baseline for identifying gaps between current and desired performance and to identify improvement opportunities.
The standards should be realistic and achievable but nevertheless challenging and they should be incorporated in the business goals.

2. **Self-assessment.** Self-assessment activities are recommended to identify shortcomings in the performance and occasionally also to identify activities to eliminate the shortcomings. The self-assessments can either be focused on a certain problem in the organization or on an ongoing part of the daily operation.

3. **Performance indicators.** Indicators can be used to oversee and monitor current and past performance in order to identify deviations in the operation.

4. **Performance Assessment and Trending.** Information collected in documents such as corrective actions data, self-assessment or benchmarking results, performance indicator information, etc. should be analyzed. The analysis of this information helps detecting problems before they become large, identifying the most risk-significant or important problems, identifying issues that need further analysis and actions, etc.

5. **Benchmarking activities.** Comparing the performance with other organizations that are successful in the area, both within and outside the type of business, are recommended to be done periodically in order to find different and better ways to achieve results.

6. **Organization and industry operating experiences.** An efficient element in proactively improving the performance is to analyze organization and industry operating experiences. By learning from both internal and external mistakes and failures, the likelihood of recurrence of events can be reduced.

7. **Behaviour observations.** Behaviour observation can be used as a performance improvement tool that increases the management presence with the workers in the field. The management can better understand challenges and concerns in the organization if the actual performance is observed. Behaviour observations can also make organizational weaknesses, which may not be obvious, visible.

8. **Problem reporting.** A strong problem reporting culture should be established in the organization and problem reporting should be a part of the daily business since problem identification is essential in improving the organization’s performance.

9. **Effectiveness review.** It is important to review the effectiveness of previous improvement actions to determine if they have been successful and achieved the desired results.

10. **Independent Oversight.** Internal groups, that have sufficient organizational independence, or independent external groups can perform independent oversight of the organization, which should be seen as a performance monitoring tools. The independent oversight may result in identification of improvement opportunities, which a manager who is dealing with day-to-day performance challenges does not recognize.

### 3.4.2 Analyzing, Identifying and Planning Solutions

The second phase of the performance improvement cycle is the *Analyzing, Identifying and Planning Solutions* phase. The purpose of this phase is to develop actions to resolve the performance gaps that were identified in the performance monitoring phase. The components and activities that “The Association” considers to be appropriate to use in this phase are the following [30]:

11. **Problem analysis.** It is important to understand the underlying causes of problems and failures in relation to their significance and therefore, a problem analysis should be done. Based on the problem analysis, prioritization of the problems can be done and needed cross-disciplinary coordination and support can be applied. Actions to prevent recurrence of the event are determined during the problem analysis.

12. **Action planning.** The corrective actions that are identified to resolve the performance gaps should be selected and planned. The actions should be focused on solving the problem, be assigned to responsible individuals, specific, measurable, realistic, etc.
13. **Management review and approval.** A management team, special review board or individual managers should review problem statements, identify causes and contributors for significant problems and identify correction activities to prevent reoccurrence of the problems.

14. **Business planning considerations.** Important business and strategic planning considerations should be integrated in the daily corrective action program activities that involve problem analysis, corrective action identification, self-assessments and benchmarking.

### 3.4.3 Implementing Solutions

The third phase in the performance improvement cycle is the **Implementing Solution** phase, which purpose is to carry out the developed actions in order to improve the performance. The essentials to successful solution implementation are the following [30].

15. **Task assignment.** It is important that tasks are assigned to people with the right knowledge and skills. When it is needed, the management should be involved in task assignment to ensure that the personnel assigned tasks are qualified, talented and skilled to fully understand and carry out the actions.

16. **Resource management.** To ensure that improvement actions have the right resources and are coordinated with all the involved groups, the management should consider the availability of suitable resources before implementing the solutions. If the resources are insufficient, the management may reschedule, supplement with external resources or do both.

17. **Action tracking.** Methods for tracking the status of the improvement actions and measuring the progress of the implementation should be established by managers. The results should be shared with other managers.

18. **Management oversight, involvement and reinforcement.** The management should frequently monitor the corrective actions to make sure that the right resources are available and that the schedule for the corrective actions is reasonable.

19. **Organizational accountability.** A strong culture of accountability should exist in the organization to ensure that needed support is available and well coordinated, and that the organization work towards the same goal with the same prioritizations.

### 3.4.4 Company attributes

To be successful in working with the model and in performance improvement “The Association” points out three attributes of the organization that are required; **leadership and oversight, staff knowledge and skills, and organizational culture.** Effective performance improvements require strong leadership and oversight and a management that establish an enthusiasm for organizational learning. The management should set high standards for performance excellence and encourage the employees to be interested in and contribute to the performance improvement [30].

Another important aspect in performance improvements is the knowledge and skills of the employees. It is important that the persons implementing performance improvements activities are knowledgeable, skilled and trained in their particular supporting roles. Likewise, the workforce selecting solution alternatives and implementation strategies and defining areas for focused oversight and performance monitoring should be knowledgeable and skilled. To implement improvement activities effectively new knowledge and skills may be needed [30].

When activities for performance improvements are implemented it is important that the management understand the culture of the organization and how things are done in the organization. By customizing the improvements activities to the organization and the culture in the organization, cultural strengths can be utilized in an efficient way. Problems caused by reliance on cultural attributes that are not as strong as believed can also be avoided. Another important aspect of the culture of the
organization is the problem reporting. It is important that the management understand the importance of a strong problem reporting culture and that the employees are encouraged to report problems. It is also important that the organization values lessons learned from previous internal and industry operating experience and use it for performance improvements [30].
4 LEARNING WITHIN ORGANIZATIONS

Operational development and continuous improvements are closely related to learning. Some researchers even mean that learning is the key factor for successful operational development [7]. An effective work involves not only producing a certain result in forms of products or services. It also involves learning and development of knowledge, competences and resources that promotes individual and organizational development [8]. To make continuous improvements become a natural part in an organization, Bergman and Klefsjö [4] consider it necessary to establish a learning organization. A learning organization is, according to Bergman and Klefsjö, "...an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behaviour to reflect new knowledge an insights" [4]. This section summarizes the studied literatures on how learning occurs within organizations and what is needed for learning to take place.

4.1 Individual learning

At an individual level, Stein [25] defines learning as changes in the individual memory that is constituted of experienced and genetically determined conceptions. Piaget did also use the term learning in this meaning, as development of an individual's thinking. He also defined learning as development of cognitive structures that are used by individuals to understand their environment [21]. Piaget describes the relationship between an individual and its environment with the adaptation process; an individual is adapting to its environment. The individual perceives circumstances in the environment and actively processes these impressions in order to understand the environment. Piaget called this process assimilating; the individual assimilates the environment through mental structures to understand it. If the individual's mental structures are not sufficient for assimilating certain new impressions the mental structures within the individual are changed through accommodation; the individual's way of thinking is changed. Accommodation creates new opportunities for assimilation, new ways to understand the environment [21]. Granberg describes this process as when an individual receives information from the environment the content and meaning are weighed against the individual already existing knowledge or experience. If the new information does not conform to the individual's former knowledge, new knowledge has to be developed if the environment should be comprehensible [9].

4.2 Social learning and learning within organizations

At a social level, learning comprises of changes of socially shared conceptions, so called social memories. The social memories are over individual in the sense that the knowledge is carried by individuals but it is not necessarily dependent on individuals for its development and survival [25]. Social knowledge consists of a symbol system that makes it possible for individuals to share experiences and take part of each other's thinking. The social knowledge is carried by each individual and is reconstructed through the person's experiences [9].

Although the term social memory comprehends that at least two persons are sharing the knowledge, the development of the social memory can be affected by one individual. Learning within defined collectives, like organizations, includes changes of the individual memory of anyone in the collective. Thus, collective learning includes changes of knowledge as conceptions both as a cognitive dimension, in terms of human memory, and as a social dimension, in terms of social memory [25].

The social impact from rules, routines, values etc. makes people develop a certain type of knowledge and some researchers considers the social impact so big that the individuals will not develop knowledge that differ from the social forces [25].
4.2.1 Linear and revolutionary learning

It is possible to distinguish between two types of learning: linear learning and revolutionary learning. Linear learning is the development of knowledge that is based on already established knowledge while revolutionary learning is knowledge development that is not based on already established knowledge. Research shows that the development of an area of knowledge usually is a combination of linear and revolutionary learning within different areas. Therefore it is relevant to talk about the degree of linear and revolutionary learning based on a scale with linear learning as one extreme condition and revolutionary as the other [25]. Learning that is close to linear learning is far more common than revolutionary learning. An important base of the linear learning is that the knowledge can be accumulated in the social memory and the linear learning is effective when the knowledge development do not deviate from the principal of accumulation. Revolutionary learning, on the other hand, is efficient when it the knowledge development is deviating from accumulation [25].

The already established knowledge can vary from time to time and between different collectives with the result that a linear knowledge in one collective can be perceived as revolutionary in another collective. From a socio-cognitive perspective, knowledge is established when it is socially shared i.e. when it is a part of the social memory of a collective. If an individual of a collective develop a knowledge that is not established in the social memory it is revolutionary learning for the collective [25].

4.2.2 Explicit and tacit knowledge

Knowledge can be more or less communicable and therefore some researchers distinguish between explicit knowledge and tacit knowledge. Explicit knowledge is knowledge that is possible to describe, express and store in terms of information and it includes everything from simple instructions to complicated mathematical equations. Tacit knowledge is knowledge that is not expressible but is a prerequisite for the obtained results [7], [9], [10], [15], [25].

Knowledge can be tacit since individuals often know more that they can express with words, signs or motions, or sometimes the individuals are not aware of the knowledge they possess [25]. When individuals are not used to reflect on their knowledge, they may have difficulties in expressing the knowledge to others. Another reason why knowledge may be tacit is when people know more than they want to communicate, due to for example censor or taboo [25].

The two types of knowledge has different requirement on the relationship between the individuals sharing knowledge. Explicit knowledge can be shared through "weak" relationships while tacit knowledge requires a stronger relationship to be spread [7]. Tacit knowledge has properties that make the result of the knowledge dissemination more sustainable than the result of explicit knowledge dissemination. Thus, collectives that manage to spread tacit knowledge and not only explicit knowledge are likely to outperform collective that only spread explicit knowledge [7].

According to Johansson and Heide, the distinction between explicit and tacit knowledge is useful when studying organizational learning since organizations too often only focus on the communicable knowledge. The organizations are not interested in the tacit knowledge or assume that it can be shared between people in the same way as the explicit knowledge [15].

4.2.3 Collective learning

According to the cognitive psychology, social collectives like groups or organizations, cannot think on their own. All learning within a collective occurs through individuals but under impact of the social environment. This means that social collectives are learning indirectly from individuals [25]. On the other hand, some researchers mean that organizations cannot avoid learning, that learning is an inherent property of organizations [25].

The purpose with collective learning is to utilize the competence of the members in a team to create new and deeper understanding in the organization. Collective learning occurs in a context where
specific experiences are generalized, private conceptions are made official and the individual's ways of understanding and acting are made common for the group members [9].

Collective learning can be achieved by members of a team when building up common views and thoughts by developing common understanding of assignments. These views and thoughts can form networks of thoughts within the members of the team. These networks are unique for each member, since every individual is thinking in their own way, but with a similar directed readiness to act. This readiness to act has the nature of an action strategy that is common for the team's members in their efforts to solve the assignments. If the team members have developed strategies for the actions, which are based on the members' aggregate and different competences, there are possibilities for each of the individuals to make assessments, decisions and act based on the collective's competence. This competence is then bigger than the individuals' own competences [9].

The team members learn from each other and together with each other in the development of common understanding of their assignments and common strategies for actions. The learning processes, through which the individual team member's learning is related to the team, are developed through the group members' interaction [9], [25].

To make this possible the team must be a team that is supposed to perform commonly assigned tasks. It is not sufficient that individuals within an organization only create a unit without commonly assigned tasks. The members in the team must identify and accept the assignments together and get a common understanding of the tasks. The members of the team must identify themselves as team members with specific tasks and not as individuals with individual functions. The team also has to allow and encourage social interactions such as discussions, dialogues and collective reflection [9]. If the team is an identified organizational unit one can talk about a learning organization (described in section 4.2.5), otherwise it is individual or collective learning within the organization [9].

To optimize the collective learning it is important to search for the root causes of occurred problems. Johansson and Heide mean that problem solving often prevents organizational learning since it is focusing on fixing the problem quickly instead of learning from the situation and preventing reoccurrence. It is important that the discussion and reflection of problems is a part of the employees' work tasks and that time is dedicated to this if collective learning should occur. It is also important to establish a culture in the organization where mistake and failures are allowed and seen as learning opportunities [15].

Svensson et al. considers development oriented learning to be a process containing the following phases; to break a pattern of habits, to define the problem, to analyze the problem, to establish a comprehensive understanding, to test in practice, to evaluate and to operate development processes. The results of such a process is that the problem gets solved and learning occurs, which may result in further learning processes [26].

Learning occurs in processes of change since all interaction between people entails that knowledge, values and skills are passed on. Since organizations continuously changes in order to adapt to a continuously changing environment, learning occurs constantly in organizations [15].

### 4.2.4 Groupthink or Teamthink

As in all types of processes, learning processes can result in both added values to what was inserted in the process or reduced value. This is called positive or negative synergies. If more comes out of a process than what was inserted, i.e. if the total effect results are more than the sum of the individual effects, it is a positive synergy. Similarly, if the total effect results are less it is a negative synergy. In teams, both positive and negative synergies in learning processes can occur. In teams that perform commonly interpreted and assigned tasks and the members learn from each other positive synergies may occur. This collective thinking within a team is called teamthink [10]. If the team members use the specific cognitive strategies that are based on the individual's internal dialogue, mental picture, assumptions and thinking pattern it is possible for the team members to work successfully together and perform an efficient work. When the team members clarify and interpret the team's assignments in a dialogue the team can create shared constructive thinking patterns, which are based on the relationships and interactions in the team [10].
In contrast to teamthink the term groupthink describes negative synergies in team work. If the ideology within a team is strong and if the members identify themselves strongly with the team there is a risk that values and rules develop and define what is accepted and not in terms of behaviour. The team then risks isolating itself more and more from the rest of the organization. This may result in reduced critical reflection and the team might become isolated from values, thoughts and discussions from the rest of the organization, which in turn might result in a negative synergy of the team work [10].

4.2.5 Learning organization

The term learning organization was developed in the 1980s. There is a long row of descriptions of what a learning organization is, but no clear and distinct definition exists. Senge, defined the learning organization as an organization where the employees continuously increase their ability to achieve their desired results, new and developing patterns of thinking are created and the employees continuously learn from each other [10]. Bergman and Klefsjö [4], on the other hand, describe a learning organization as an organization that is good at creating, obtaining and relocating knowledge and modifying its behaviour to reflect new knowledge and insights. Further, they also describe a learning organization as an organization that is skilled at systematically solving problems and experimenting with new approaches. The learning organization learns from own experience and history, from experiences and best practices of other organizations and transfer knowledge throughout the entire organization.

Granberg and Ohlsson [10] discuss the ambiguity in the definition of a learning organization and reproduces Jones' summary of the definition of learning organizations as organizations where questions from all employees are allowed and encouraged, critical reflection is a part of the development of the organization and there is a continuous search for learning opportunities in the daily work [10]. Granberg and Ohlsson's [10] own definition of learning organization is that a learning organization is an organization that creates good opportunities of learning for the employees and utilizes it in the organization’s efforts to influence and adapt to the rest of the world.

Granberg and Ohlsson further indentify four different orientations within the literatures about the learning organization, dialogue, system thinking, look thinking, and socio-cultural and social constructionist perspectives. These orientations are described below [10].

Dialogue

Bolms means that there is a difference between a dialogue and a discussion. In a dialogue people freely express their thoughts and opinions while in a discussion people try to convince each others [6]. The importance of the dialogue for individual and organizational learning is emphasized by many researchers. If the team members learn to conduct a dialogue instead of a discussion, they will expand their way of thinking. The individuals in the team will broaden their understanding of how they are thinking and stop competing to impose their own views and ideas [10]. Without dialogue the team members cannot develop an efficient communication since they do not know if they are thinking in the same way and if they understand each other's way of using words and concepts.

System thinking

Another important element for a learning organization is system thinking. An organization should be seen as a system with underlying system parts that directly or indirectly affect each other. If a fault occurs in one part of the system it will result in faults in other parts of the system as well and maybe even larger faults in the whole system [10]. Even if an employee is performing its task correctly and in an intelligent way it might have negative consequences for other employees in their performance of their tasks. A problem in a system generally expresses itself in the relationship between different assignments and different employees in the organization. Often it is not individual employees that make mistakes, it is structural faults in the organization that result in that the common task cannot be identified and handled in a good way. Thus, competent handling of individual tasks in the organization does not necessary imply a competent handling of the organization's common task [10]. In order to create a learning organization which fertilizer collective learning it is thus essential to
establish a system thinking in the organization and visualize how different parts of the organization affects one another.

The whole system must also be paid attention to if changes in the organization should be achieved. There will be no changes in the organization just because some employees are attending a course during a couple of weeks, since when they return they will most likely fall back into old habits and behaviours [10]. To achieve sustainable changes and lasting competence development, it is required that the attempts of change are directed towards the entire organization.

**Loop thinking**

A common way to describe organizational learning is with the terms single loop learning and double loop learning [4], [9], [10]. Single loop learning and double loop learning has many similarities with Piaget's terms assimilation and accommodation. When an employee solves current problems without any solution to the underlying root cause of the problem single loop learning occur. Single loop learning is closely related to assimilation since it does not change anything in the employee's way of thinking. If instead conclusions are drawn from the experiences of the problem and the underlying problem is corrected in a way that makes the solution sustainable, double loop learning occurs [9]. Double loop learning requires reflection and implies learning through changes of the knowledge structures. Thus, double learning and accommodation are closely related to each other [9]. In other words, single loop learning implies changes of behaviour, rules and strategies, while double loop learning implies changes of the fundamental and governing values [4], [18].

Experiences do not give any new knowledge, but learning can occur through experiences. When reflections are done and conclusions are drawn from the experiences, learning may occur [9]. Swieringa and Wierdsma mean that collective learning includes even a third loop [27]. The triple loop involves learning about learning and results in changes of principles or conceptions that are the foundation of the organization. The triple loop learning takes long time to achieve since it covers fundamental existential questions in the organization, which is an extensive project to change [4], [10], [27].

**Socio-cultural and social constructionist perspective**

Vygotsky and Leon'tjev, two representatives of the socio-cultural perspective, means that human learning is always related to the social and cultural environment in which the human exists. The language has a mediating function in the relationship between the human and its environment. The language is also both a tool and a possibility for the human to understand and create meaning to what she experiences [10]. The language is socially and culturally constructed which affects how the employees look on knowledge within the organization. Thereby, the knowledge in the organization becomes socially and culturally constructed.

In the social constructionist perspective learning is defined as changes in the humans' participation in social practices. A social practice can be described as a social connection of action where values, rules and identities are established based on humans' both conscious and unconscious interaction and communication processes. When individuals are socialized into such a practice it is called situated learning. In situated learning a beginner learns from a master and becomes a part of the ingrained context of meaning and action [10].

**Criticism towards the learning organization**

The vague definition of what a learning organization is and the fact that it cannot be described in detail since it has to be adapted to each individual organization's unique qualification has caused a lot of criticism towards the term. Nevertheless the vague definition and non detailed description of the learning organization can be beneficial, it can give rise to dynamical and critical thinking [10].

There is also criticism towards the learning organization since factors like power and conflicts in organizations are sparingly concerned in the literatures about learning organizations. Often there is no deeper problematization of the relations between the organization's various actors [10].
Another criticism towards the term learning organization is that the collective base of knowledge in the organization is controlled by persons at key positions in the organization. These persons give access to information and important contacts within and outside the organization. They influence the organization, performance of assignments and feedback from lessons learned which decreases the independence and participation in the organization for other actors. This results in that the learning within the learning organization is controlled by the discourses and power relationships that are present in the organization [10].

4.2.6 Relationship structures

The distribution of knowledge and information affects the individuals’ possibilities to develop knowledge and is therefore important to study. The social environment can affect the interaction between individuals and consequently also their learning. Interaction stimulates learning since individuals are taking advantages of each other’s knowledge. It can also result in individuals establishing a new view of their own knowledge, which can contribute to knowledge development [25].

The physical and psychological distance between individuals and collectives is a critical dimension of knowledge development. It is therefore important to observe what can affect the extent at which knowledge and information can be communicated [25]. By channelizing learning into different types of relationship structures, so that people know how, when and to whom they should communicate, the effectiveness of the knowledge dissemination can be increased. The relationship structures in an organization can be categorized on the basis of the extent to which they are centralized, specialized, formalized and permanent [25]. Learning between organizations can also be channelized through these relationship structures.

The degree of centralization describes to which extent the dissemination of knowledge is channelized to a centre. This centre does not need to be comprised by the management of the organization, but can be a separate unit, e.g. the product development department. The degree of specialization describes to which extent the employees' relationships are focused at a certain area of knowledge. A high degree of specialization means that the distribution of knowledge concerns a highly specific area. The degree of formalization focuses on which extent the knowledge is distributed according to established conceptions and established representations of conceptions, like rules and routines. The degree of permanency describes how stable the relationships are [25].

Relationship structures within organizations

A high centralization degree of the knowledge dissemination within an organization can result in that the system knowledge is developed and the number of exchanges of information are be decreased. A risk with high centralization is that the communication is indirect, i.e. from the local to the centre and then back to the local, which may result in lost knowledge. There is also a risk that the centre obtains more knowledge than it is capable of processing if the centralization is too high [25].

A high degree of specialization can contribute to a more effective dissemination of knowledge, in both quantitative and qualitative terms, within one knowledge area since the individuals are skilled in that area. The knowledge dissemination between different areas can however be complicated by high specialization. Individuals may have difficulties in understanding each other because of the special language evolved within each specialization and thereby the knowledge dissemination may be prevented [25].

Linear learning is stimulated by a high degree of formalization, while revolutionary learning is not. If the knowledge dissemination follows already established conceptions and representations of conceptions there is a risk that learning that is based on new connections between different knowledge areas is displaced. Less formalized structures and greater flexibility has been shown to stimulate both revolutionary and linear learning [25].

Permanency is relevant to learning. If relationship structures are changed to often there is a risk of people not getting to know and understand each other, which is essential for the quality and quantity
of the knowledge dissemination. A high degree of permanency, on the other hand, can be negative since variation may be necessary for people to obtain new impressions [25].

**Relationship structures between organizations**

Relationship structures in networks can also be assessed based on the degree of centralization, specialization, formalization and permanency. One organization can have a more central role in the dissemination of knowledge within cooperation between organizations than the other organizations. When knowledge is channelized to one organization there is a risk that this organization does not distribute the knowledge further. Then the other organizations do not get the chance to develop knowledge that can contribute to the system integration. The organization that does not distribute the knowledge further may be affected in long term itself [25].

If the relationship structures between organizations are highly specialized there is a risk of reduced responsiveness for other knowledge areas. On the other hand, low specialization can result in knowledge not being distributed sufficiently rapid and the parties may have difficulties understanding each other. Specialists within a certain area from different organizations may bring about a more smooth exchange of knowledge than specialists from different areas within the same organization [25].

Relationships between organizations are often more formalized than relationships within organizations. An explanation to this can be that organizations often fear that knowledge that is the core of the organization is spread to existing and potential competitors. Rules and routines for exchange of knowledge are therefore used to minimize this risk. The freedom to spread knowledge can also be limited by another company in the cooperation. For instance a subcontractor can prohibit that the company exchanges knowledge with other suppliers and in this way secure its monopolistic position [25].

The permanency of the relationships can have the same results in cooperation between organizations as within organizations. Short term relationships may complicate the ability of parties to get to know each other [25]. The permanency of the relationship and the repeated social interaction in the cooperation also affects the possibility for tacit knowledge to be spread or not [7]. As the relationship gets more permanent the responsiveness towards alternative impressions may decrease as individuals over time reflect less on the impressions they receive. Emotional bonds may reduce the propensity to establish new relationships to obtain knowledge [25].
5 OPERATIONAL DEVELOPMENT AND LEARNING BETWEEN ORGANIZATIONS

Cooperation across organizational boundaries can provide opportunities to develop and exploit knowledge beyond what is possible within a single organization [25]. Interorganizational learning, when organizations learn by collaborating with other organizations, observations or benchmarking, has been shown to be an essential factor for competitive success [7]. This section describes how learning occurs between organizations and how organizations can cooperate with operational development and exchange experiences through participating in networks.

5.1 Learning between organizations

It is possible to conclude that generally the same factors that affects learning within organizations also affects learning between organizations. The major difference is that there is not the same willingness and openness to disseminate knowledge between organizations as within organizations. This may be due to the social pressure within organizations. It may also be due to contractual obligations that inhibit employees from spreading knowledge in a way that may have disadvantage effects on the organization’s goal achievements [25].

Similarly as collective learning can occur in teams within an organization, it is also possible that it occurs in collectives between organizations, according to Granberg. The interlacing of many individual’s problem based learning processes by question-answer-activities is the logic behind collective learning outside the organizational boundaries [9].

To work together with representatives from other organizations in a collective creates engagement and a desire to experiment among the participants. The participants’ different experiences and perspective may open the participant’s minds and increase the learning possibilities [20]. To see that other organizations suffers from similar problems as the own organization supports and stimulates continued learning and development [26].

Depending on the purpose of the network, it can be more or less preferable that the participants in the collective normally work within different businesses. The participants’ experiences from organizations with different operation can create a more dynamic learning process in the collective than if the participants’ organizations have similar operation. Big differences between the organizations’ operation may also result in new perspectives, insights and concepts for the participants. Similarities between the organizations and a common reference frame may be beneficial and facilitate the cooperation [26]. Regardless of whether there are major differences or not between the collective participants it is important to establish common definitions and terms early in the cooperation.

5.2 Networks

One way to stimulate and support the work with operational development can be to cooperate with other organizations in the form of networks [2], [26]. According to Svensson et al., researches have showed that networks can be an important method for operational development. At least half of all development work in organizations, including new products and new production methods, takes place in interaction between different companies [26].

A network can be a way for a number of organizations to establish a common external development organization if the organizations do not have an own functioning department for operational development. If the network should work as an external development organization it is important that it is based on a long term, systematic and action oriented learning [26].
The meaning of the term network is vague and unclear and is more of an expression for a perspective, a way of looking at things, rather than a defined term. A network can be said to mean a number of units that has a connection to each others. The content of the relationship between the units is not defined by the term network. Neither does the term tell if the connections are loose, temporary, formalized or long term [26].

Svensson et al. distinguish between two types of networks, production networks and development networks. In production networks a number of organizations cooperate in order to make the production more efficient and to perform their businesses in a smarter way. In development networks on the other hand, the purpose is to strengthen the organizations’ capability for strategic development. This makes it possible to handle a long term conversion of the organizations in order to fulfil new requirements from the rest of the world. Thus, the purpose of development networks is to strengthen the organizations’ development departments [26]. In practice, however, networks are often a combination of these two types.

The basic principles of networks are cooperation, contacts, relationships and flexibility. Networks distinguish from traditional organizations since they are not based on control, hierarchy, routines and stability. The difference between teams and networks is the fact that teams are a part of the formal organization while networks are not. The units in a network are coequal and the network is based on confidence, reciprocity and common interests between the members [9].

5.2.1 Successful development networks

To succeed with development networks it is important that the experiences from the network are reconnected to the participants’ respective organizations. Ideas and suggestions from the network must be received in a supporting development environment in the own organization [7], [26]. It is also important if tacit knowledge should be able to be transferred between organizations that the receiving organizations have a strategy for assimilating the transferred knowledge [7]. In order to connect the networks with the own organization, the networks must be prepared in advance and worked with afterwards. The management must support the network, ongoing evaluations must be performed and resources must be created in the participating organizations [7], [26].

A development oriented learning process in a network will not initiate itself; there must be certain conditions for such a process to take place. The relationships in the network are important for the organizations’ motivation and willingness to participate in the network. The network should therefore rest on a stable platform, built up on four building blocks; confidence, coequal relations, time and resources, and external support [26].

A prerequisite for creating an open and critical climate in a network is that the relationships are perceived as safe and confidence. The participants in the network must feel that they can trust each others [7], [26]. To learn from each other implies both revealing one’s strengths and one’s weakness and to let others judge and criticize one’s work. It also involves critical reviewing the other participants’ strengths and weaknesses. This requires that the network participants are aware of that the criticism being expressed is for their own best [26]. It is also important that the network is perceived as confident since the participating organizations may also fear that the information spread in the network can reach competitors. This fear may decrease the willingness to disseminate knowledge [7]. It can take a while to establish confident relationships, and in some networks this will never be established. To facilitate the establishing of confident relationships confidentiality can be applied [26]. In a confident network the participants get opportunities to learn and grow, which stimulates curiosity and questioning.

Networks must be a voluntary activity for the participants and to ensure that the participant will participate in the network the relationships must be coequal. None will participate in a group where someone is dominating and has a superior attitude. Coequal relationships can be achieved if the participants are selected so that they have positions at the same levels in the own organizations. If the organizations have completely different operations this may not be a problem. The person that acts as the leader of the network, regardless of if it is a network participant or an external resource, must also have a coequal relationship to the rest of the participant. All ideas in a network must be considered in the same way regardless of who brought them up [26]. In coequal and confident groups, the
differences between the participants, concerning personality, experiences and the organization's operations, may promote development.

To participate in networks require time and resources and to make participating worthwhile it is important that someone ensures that the meetings are focused on real problems and challenges found in the organizations and characterized by a certain work discipline. The participation in a network can be a way for employees to allocate time for reflection about the organization's performance and operation. This may not have been done without the network. Therefore it is essential that the time and resources are utilized in an efficient way in the networks [26].

It can be useful to have an external resource in the network that establishes the structure for the network and is the driving force in the cooperation. The process leader's task is to bring out the best and the most valuable, for the context, from the participants. It is also to establish a process that is characterized by openness, curiosity and a desire for learning new things [26]. An external process leader may also be a resource for effective methods or useful material to work with, which the network participants would not have used on their own.

5.2.2 Difficulties with networks

A number of intractable dilemmas may occur in cooperation between different organizations, which often are rooted in that the organizations having different views on the purpose of the cooperation. The organizations may have different opinions on the level of ambitions or which objectives that should be prioritized [25].

A shortcoming with networks is that they are of a representative character; it is often a few persons representing an organization at the network meetings. Due to that, there is a risk that the information that has been dealt with at the network are not brought back to and implemented in the own organization. There is as risk that the network becomes a closed group with strong cohesion that increases its knowledge and establishes contacts while the distance to the own organizations grows bigger. In this way, the work with development is performed outside the organization and will therefore be difficult to reconnect back to the operational development department in the own organization [26].

There is also a risk that the result from a network is limited to an individual level instead of an organizational level. It is important that the work in the network does not focus on the individual development of the participants, but the experiences from the network must be implemented in the own organization. To be able to implement the experiences from a network in the own organization a strong self confidence, clear professional identity, experience in expressing opinions and new knowledge is required [26].

The informal and voluntary form of cooperation that networks are may complicate the essential control and focusing on achieving specific results. Often a number of meetings are organized, committees are established, working groups are appointed, but without an important coordination and delimitation [26]. This may lead to that the discussions result in ideas and suggestions that are not taken advantages of. It may also result in that no specific assignments or tasks are being defined since the responsibilities in the network are not distributed.
6 INTERVIEW RESULTS

Representatives from The Company's five direct subsidiaries and the CEO of the parent company are interviewed within this study. The results of the interviews are presented in this section. See section 13.1 for the interview questions. The results are a summary of what was mentioned during the interviews, which means that it is not a complete description of the respondents' beliefs and opinions or of the subsidiaries current work with operational development. This will be taken into account in the analysis of the results in sections 8 and 9.

The results are presented according to how the affiliates currently work with operational development (as-is), how they want to work with it in the future (to-be) and their views and opinions on a common, or partly common, concept in the future.

6.1 As-is

The respondents' answers on how they currently work with operational development are presented in the following text. Some keywords recurred in the interview respondents' answers during the interviews and the following diagram visualizes the results from the interviews according to the recurring keywords (see Figure 3). Each colour in the diagram corresponds to one subsidiary.

![Figure 3 – Visualization of the answers on how the subsidiaries currently work with operational development.](image)

6.1.1 CEO

The CEO defines operational development as development of methods and approaches to make it possible for an organization to reach its results in a better and more balanced way. He thinks that it is important to see the results of the operational development in balance with the rest of the organization and the invested resources [33].

6.1.2 Subsidiary 1

Subsidiary 1 is organized as a line organization, but is working with processes and project. They are working with operational development by structuring and developing their processes and developing the management system. For structuring and improving their processes a process tool, that only two
of the employees have access to, is used. Processes improvement is not a part of the two employees' daily work, but they are doing it when they have time [34].

As a part of operational development Subsidiary 1 has regular follow up meetings. Every week there are meetings where all managers at two or three levels present what has happened in the organization and want will happen in the future. They also have executive management team meetings every second week [34].

Beyond the process tool-none specific tools for operational development are used; just their heads to come up with improvement suggestions and better ways to perform their operations [34].

6.1.3 Subsidiary 2

Subsidiary 2 focuses both on formal and informal parts while working with operational development in order to reach the ambitions of the organization. With formal parts they mean, goals and visions, action plans, etc, which they are handling with different tools and methods like housekeeping, reviews, audits etc. With informal parts they mean the mindset, both of the management and of the employees, values and cultures etc. The informal parts are handled with coaching, both at individual and group level, and tools like CTT (Culture Transformation Tool) [35].

One major part of their work with operational development is development of their processes. They are using tools as Value Stream Mapping and QPR (Quality, Processes, and Results) to map and analyze their processes in order to improve the performance and make the organization more efficient [35].

The operational development department is a separate department in the organization, which acts as a centre of excellence that supports the rest of the organization in operational development. The department handles questions at individual, group, business and organizational levels and tasks concerning group development, management development and process development. The department is also providing training in improvement work, process development and continuous improvements to process owners in the lines. There are also a number of "change coaches" at some other departments, which are working with operational development at their respective department [35].

6.1.4 Subsidiary 3

Subsidiary 3 defines operational development as an evaluation of the own operation and an analysis of what needs to be done in order to improve the performance of the organization. They also emphasize the importance of having strategies for handling the results of the evaluation and analysis in order to achieve improvements in approaches, processes and other continuous improvements [36].

The department for operational development works as a catalyst for the other departments' work with operational development and they train process managers about the difference with line responsibility and process responsibility. They are handling questions concerning company development, organizational questions, process questions and external questions like operating experiences and benchmarking [36].

The organization is organized according to the lines, but they have recently made a decision to insert their processes in the management system in order to make the organization more horizontal. In order to map and improve the processes they are using QPR (Quality, Processes and Results), which is a tool for process documentation and measurements [36].

In the work with operational development some tools and methods are used. For example Plan-Do-Check-Act-cycle, improvement plans, scorecards, problem lists, spider (in order to break down problems into smaller problems), indicators, coaching, etc [36].

Meetings where the operation is followed up and further development is discussed are convened at a regular basis, 4 to 5 times per year. They also have a process for operating experiences follow up in order to learn from mistakes and avoid doing the same mistake again [36].
6.1.5 Subsidiary 4

Subsidiary 4 is undergoing a major re-organization at the moment, from a strongly line focused organization to a more horizontal organization. Their processes have recently been implemented into the management system as an effort to achieve a horizontal organization [37].

In the work with operational development indicators, reviews, audits and a strategy that is similar to the Plan-Do-Check-Act-cycle are used. Also the QPR (Quality, Processes and Results) tool for process documentation and measurements will be used when the re-organization is finished [37].

They have a project handbook, which includes a number of methods and tools for operational development, and they are regularly performing self assessments and self monitoring in order to assess the performance of the organization and to find improvement opportunities. They are also participating in peer reviews with other organizations within their type of business on a regular basis [37].

Furthermore, meetings where their processes are described and followed up are held on a regular basis in order to establish common goals and approaches within the organization to improve their processes and operation [37].

6.1.6 Subsidiary 5

The purpose with subsidiary 5's operational development is to create an operation that is secure, efficient and well-functioning. It involves different things, from re-organizations and developing processes to continuously improving things in the daily work [38].

Previously, it has decided not to work with processes but instead to work with routines, with the nature of checklists, but recently this decision was changed and they have started work with processes. A project has been initiated to map their processes, which in the future will be described in the management system [38].

They are working continuously with improvement suggestions and deviations as a living tool in the daily business, not as an extra activity. Internal audits, gap analysis, reviews and networks are used to identify improvement opportunities in the performance of the organization. All problems and deviations that are identified through these methods are inserted into an excel sheet. In the excel sheet the problems and the planned actions are described, responsible for corrective actions are assigned, time plans are included and the statuses of the problems are indicated [38].

There are also quality council meetings on a regular basis where represents from all business in the organization are gathered in order to find synergies and needs for improvements at a general organizational level [38].

6.2 To-be

The respondents' answers on how they want to work with operational development in the future and what they want to improve with their operational development are presented here. Some keywords occurred in the interview respondents' answers during the interviews and the following diagram visualizes the results from the interviews according to the recurring keywords (see Figure 4). Each colour in the diagram corresponds to one subsidiary.
Figure 4 – Visualization of the distribution of the answers on how the subsidiaries want to perform operational development in the future.

6.2.1 CEO

The CEO thinks that the operational development should be goal oriented and that the first step in operational development is to identify how the organization currently is performing and then continue working from there. This should be done through reviews, benchmarking and audits. He also emphasizes the importance of continuously monitoring the operation with audits, standards, trends and metrics [33].

The CEO means that a major problem in the affiliates' operation of today is that some of their organizations are not designed for such large projects as they have been working with the last years. This problem must be handled in the future either by re-organization or by re-designing of the projects. He also thinks that the processes in the subsidiaries need to be evaluated in order to determine the responsibility for each process, how the processes are implemented, how robust they are and if they are running smoothly [33].

In the future, the CEO wants to have a portfolio with tools that the subsidiaries can use while working with operational development. He wants the subsidiaries to work with processes but he does not want them to set up and work with internal customer relationships. According to him, the only customers they should have are the external customers, the owners and the stakeholders. He also wants the main processes to be clear and well-defined [33].

He would like the Operating Experience Program to be used at the affiliates and risk analyses to be performed. He also would like to develop methods for business follow up and tools for how the processes should be controlled [33].

6.2.2 Subsidiary 1

Subsidiary 1 does not see any major shortcomings in there current way of working with operational development but they think that the handling of information, both internally and externally, can be improved. They do not believe that any more tools or methods are needed to be able to improve their operational development [34].

In the future they want to discuss and review their processes and continue to constantly develop the management system since new things constantly occur [34].
6.2.3 Subsidiary 2

In the future, Subsidiary 2 wants to change the values and culture in the organization and establish a culture where follow up activities are a part of the daily operation. Previously there has not been any culture in the organization for follow up and monitoring the operation or the effects of improvement activities. They also want to change the mindset about efficiency in the organization since many employees are afraid that improved efficiency may result in redundancies or reduced resources for maintenance. There is also a resistance against measurements since the employees are afraid of doing wrong and they take bad measurement results personally instead of seeing them as improvement opportunities [35].

The operational development department wants to emphasize their role as a centre of excellence that supports the rest of the organization with both resources and knowledge and they want to train more “change coaches” at the other departments. The centre of excellence should handle both the formal and informal parts of operational development and it should have an external network to receive new influences and to evolve [35].

Subsidiary 2 has recently established a portfolio management to make it possible to coordinate different improvement investments that are affecting the whole organization, which they want to develop further and work with in the future. Moreover, they want to visualize the improvement activities that are being performed in the organization and show results from successful improvement activities to the rest of the organization. This in order to show what operational development can result in and why they should work with it in the future. Also where resources saved by improvements are invested should be visualized in the future in order to encourage the employees to work harder with continuous improvements [35].

Additionally they want to talk more about waste and inefficiency in the whole organization and train more employees in general knowledge about different quality systems, tools and methods. They want to focus more on small everyday things in the operation which each employee can change in order to improve the performance. To make the employees more committed to the operational development they want to start talking more about indicators and long term goals, which is easy for the employees to understand and follow [35].

6.2.4 Subsidiary 3

Subsidiary 3 considers the major shortcoming in their work with operational development to be the fact that the work with operational development has not been requested form the management in the past. Operational development has previously been seen as a cost and process management has been seen as a risk. Therefore, the organization has not focused on operational development earlier; they have only focused on quality and safety. In the future, Subsidiary 3 would like its management team to be interested in the need of processes development and continuous improvements. They also want the management team to take their responsibility and make sure that the organization works with continuous improvements and process development in the future [36].

Also their way of analyzing problems and seeking the root causes of the problems can be improved in the future and the “fire-fighting”-mentality as currently exist in the organization can be reduced. The organization should also start thinking in terms of processes and continuous improvement and start to use the whole Plan-Do-Check-Act-cycle, not only the Plan-Do parts as they are doing today. In order to do this they need to train more employees in general knowledge about processes, root cause analysis, continuous improvements and follow up actions [36].

They also consider themselves to work insufficient with questions concerning behaviour, approaches, efficiency and other informal parameters which they, in the future, need to be better at [36].

Subsidiary 3 also wants to visualize the operational development to the rest of the organization in order to engage all the employees in the improvement activities. The operational development needs to be integrated in the ordinary operational follow up to make it possible for the employees to participate in the development [36].
In the future, complete analyses, with associated actions, should be performed to all their indicators so if an indicator signals that something is wrong it should be easy to analyze the problem and assign the right actions [36].

6.2.5 Subsidiary 4

Subsidiary 4 will continue to work with the re-organization they are performing at the moment and continue to develop their management system in order to get a horizontal organization. They will also publish their management system and the processes on the intranet to get transparency in the organization and continue to develop their processes to improve their performance [37].

In the future, they want the operational development department to be more visible to the rest of the organization and to improve the communication with the other departments to ensure that the employees know where to go with problems or improvement suggestions [37].

It would be helpful for the affiliate to learn more tools for operational development, train more employees at other departments about methods and tools and coach the other departments in their work with operational development [37].

6.2.6 Subsidiary 5

Subsidiary 5 considers the mindset in the organization to be the major shortcoming in their work with operational development. The employees are used to unsuccessful improvement investments or that improvement suggestions are not even evaluated or analyzed and therefore they do not search continuously for improvement opportunities. Hence, the mindset in the organization must be changed in the future and the employees must be encouraged to be involved in the operational development [38].

In the future the development of their management system will continue and the processes will be described in it. One goal with the improvements of the management system is to make it easy and accessible so that more employees can better follow the system [38].

They also feel like they have grown too large for the excel sheet and therefore need to find a new tool for handling and documenting problems and improvement suggestions. It would be preferable if the new tool has an alert function, which pushes and reminds the organization of the operational development work. Even tools and methods for investigating the root cause of a problem are needed in the future work with operational development [38].

Subsidiary 5 also wants to change their view on reviews and audits, not to see them as inspections from someone who is searching for problems and failures, but to see them as a resource for finding improvement opportunities. The handling of the results from the reviews and audits can also be improved in the future and used as a way to identify areas that may be developed [38].

All improvement activities in the organization should be connected to each other in order to make it possible to see how the different activities are affecting the whole organization so that the improvement activities become a part of the daily operation, not an extra activity [38].

6.3 Opinions on a common, or partly common, concept for operational development

The respondents' answers on what they think about a common, or partly common, concept for operational development are presented in the following section. Some keywords recurred in the interview respondents' answers during the interviews and the following diagram visualizes the results from the interviews according to the recurring keywords (see Figure 5). Each colour in the diagram corresponds to one subsidiary.
Opinions on a common, or partly common, concept

![Bar chart showing opinions on a common or partly common concept](image)

Figure 5 – Visualization of the distribution of the answers on the subsidiaries opinions on a common, or partly common, concept for operational development.

6.3.1 CEO

The CEO believes that there are advantages with a common, or partly common, approach for operational development. Before a common, or partly common, approach is developed and implemented he wants to understand the need for it. He wants to see this as-is analysis of how the subsidiaries currently work with operational development before he discuss further how a more common approach would look like [33].

6.3.2 Subsidiary 1

Subsidiary 1 thinks that the affiliates have too different operations in order to work together with operational development and that it may be difficult to design a common strategy that is suitable for all of them. Some document may be common between the subsidiaries but not a whole strategy [34]. However, it would be interesting to have a forum, together with the other subsidiaries, where it is possible to learn which tools and methods are available and can be useful. Different types of networks are considered to be useful and interesting and may be a way to cooperate with operational development in the future [34].

6.3.3 Subsidiary 2

Subsidiary 2 thinks it is obvious that it would be useful to work more together with the other subsidiaries in operational development, they can always learn from each others. The fact that they do have different operations does not need to inhibit them from exchange experiences about operational development and work more closely together [35]. It would be useful to exchange experiences with the other subsidiaries, about how they perceive the work with operational development, what problems they are facing, how they are handling the problems, etc [35].

6.3.4 Subsidiary 3

Subsidiary 3 thinks that they are not ready to cooperate with the other subsidiaries yet. They are working hard on implementing common approaches for operational development at the different departments in the organization at the moment. They must finish that work before they are able to work more closely with the other subsidiaries [36].
Nevertheless, benchmarking and networks are encouraged, but the problem of how the new knowledge is implemented in the organization afterwards is emphasized. Often new knowledge and solutions are not implemented at all [36].

6.3.5 Subsidiary 4

Subsidiary 4 believe that they have a different operation than the other affiliates, which could complicate cooperation. They though think that it would be interesting to see which tools and methods the other organizations are using for operational development. It could also be useful to see how other companies, operating in the same business as them, work with operational development. [37].

6.3.6 Subsidiary 5

Subsidiary 5 think it could be good to exchange experiences from each other's approaches of working with operational development in order to sort out the best parts, which could be used in the own organizations. A completely common approach for operational development for all subsidiaries is though not preferred because it would probably make it slower and harder to improve the organizations and their operation in the future [38].

They do think that there are advantages in having the same nomenclature and methods and having networks together with the other subsidiaries in order to exchange experiences and approaches. It could be a forum for highlighting best practices [38].
7 WORKSHOP RESULTS

In order to present the results from the interviews, the analysis and the drawn conclusions to the interview respondents a workshop is held. The result from the workshop is presented in this section.

7.1 Reflections on results from interviews, gap analysis and literature review

During the workshop the results from the interviews (see section 6) and analysis of the interviews based on the literature review (see section 8) are presented to the representatives from the subsidiaries. Also the gap analysis of "The Association's" recommendations and the subsidiaries work with operational development (see section 9) is described. The representatives agreed with the overall pattern and trends of the results but they emphasized the fact that if a key word or key factor was not mentioned during the interviews it does not necessarily mean that they are not working with it. The reasons to why it was not mentioned may also be that they did not come to think of it during the interviews or that they consider it so natural that they work with it so they did not mention it [39].

They also believe that the to-be state reflects what they experience right now that they have to work with and need to be better at in the future. It does not reflect how they want to work with operational development for all future. If the same question had been asked in a few years the to-be state would probably not look the same [39].

Even though they feel that they are performing more of the activities that "The Association" recommends than this gap analysis visualizes they think that the gap analysis shows a good picture of how they are working. They do not have any troubles in identifying problems and failures nor in developing and planning solutions. Their major problem is to implement solutions and make sure that everyone works according to the new solution in order to avoid re-occurrence of problems [39].

7.2 Future strategy for operational development

The workshop also consists of a discussion about how the representatives from the subsidiaries want to work with operational development in the future. Do they want to work more in common with it or shall they continue to work separately?

The representatives from the subsidiaries that attended the workshop believe that there are advantages in working more in common with operational development. They do not want it to be decided on a specific approach with certain methods and tools that all of them have to use in their work with operational development. Instead they want to be able to share experiences about operational development with each other and discuss problems that occur in their organizations [39].

They believe that a development network with focus on learning and exchange of experiences instead of requirements on implementation of solutions can be a useful way to cooperate with operational development. The Company has already a network with its nine (direct and indirect) subsidiaries, called Quality Network, where they discuss the process for managing requirements and how requirements from The Company to its subsidiaries are being handled. The representatives at the workshop think that it could be preferable to convert this quality network into an operational development network, which is broader than the quality network [39].

They think that the new network, the operational development network, should be thematic. The themes of the network could alternate every year, or more or less frequently if needed, in order to ensure that the discussions are relevant for the subsidiaries at the moment. They think that the first theme for the network should be processes and process development since it is currently a relevant topic for all subsidiaries. All of the subsidiaries are developing with their processes and want to continue to develop them in the future. Also the CEO of The Company and the CEOs at the subsidiaries want the subsidiaries to work with and develop their processes [39]. The results from the
gap analysis of "The Association's" recommendations and the key factors from the literature review may serve as inspiration for following themes for the operational development network [39].

The members of the quality networks are currently the quality managers at the subsidiaries. The workshop participants suggested that the quality managers should represent the subsidiaries in the operational development network too. There should also be a possibility for them to invite colleagues from the own organization who are involved in work tasks related to the current theme of the network. This to ensure that someone at each subsidiary is responsible for participating in the network but also to ensure that knowledgeable and informed persons from respective organization are included in the network. To have two participants from each subsidiary may also facilitate the critical reflection of the own organization and the implementation of new ideas in the own organization [39].

If it is decided to implement the operational development network it should it be evaluated after a year to ensure that it functions in a desired way [39].
8 ANALYSIS

In this section the results from the interviews and the workshop are analyzed based on the literature review and similarities and differences in the subsidiaries' answers are presented.

The Company's and its five subsidiaries' "parent company-subsidiaries"-relationship results in that they are neither one single organization nor six completely separate organizations. This relationship is not exhaustively described in the research literature about operational development and learning. Therefore this analysis is done through two perspectives, within organizations and between organizations.

8.1 Similarities and differences in the subsidiaries' current and future strategies for operational development

There are both similarities and differences in the subsidiaries' current strategies for operational development, which are described in the following sections. Even how the subsidiaries want to work with operational development in the future involves similarities and differences, which are presented in these parts.

8.1.1 The subsidiaries' as-is states

How the subsidiaries define operational development differs slightly between them. Subsidiary 1, Subsidiary 4 and Subsidiary 5 currently work with operational development according to the traditional definition (described in section 3.1). They consider operational development to be development of processes, methods or approaches in order to make the organizations' daily work more efficient. Also continuous improvements and re-organizations are considered to be important aspects of operational development. Subsidiary 2 and Subsidiary 3, on the other hand, use the newer definition of operational development. The newer definition involves not only improving the production and products but also improving all business functions and all employees' work and attitudes towards their work and the company [2], [12]. Subsidiary 2 and Subsidiary 3 are, among other things, focusing on changes of the employees' cultures and mindsets and can thereby be said to be using the newer definition. They perform coaching and training of some employees on operational development as a part of their performance improvement in order to engage more employees and change their attitudes and mindset about operational development.

There are significant differences in how the subsidiaries are working with operational development today. Some of them are highly tool focused while others mostly use reflection and discussion to develop their operation. Subsidiary 2 uses different tools and methods for mapping their processes, keeping the work area neat and tidy, identifying root causes to problems and failures, assessing the own operation, etc. Subsidiary 1 and Subsidiary 4, on the other hand, mostly focus on reflection and discussions in order to develop their processes and performances. Subsidiary 3 and Subsidiary 5 use a combination of these two strategies; they use different tools and methods in addition to reflections and discussions in order to improve their operation. One similarity between the subsidiaries work with operational development is though that none of the subsidiaries have completely implemented a quality system. All of them have however used some quality systems as inspiration while developing their strategies for operational development.

Further, there is a difference between which activities the subsidiaries consider as operational development and sources for improvement suggestions. For example, all of the subsidiaries must participate in reviews and audits, but only Subsidiary 2, Subsidiary 4 and Subsidiary 5 mention that they use the results from the reviews and audits as a tool for identifying improvement possibilities.
There are also similarities in the subsidiaries’ work with operational development. All of the subsidiaries work with processes and process development which is an efficient way to implement improvements in the company’s daily operation [24]. However, it varies how well defined and described the processes are at the subsidiaries. Some of them have just recently started working with processes while some have worked with it for a while. Larsson [16] means that it is useful to describe the organization’s operation in processes. When the operation is visualized in processes, whose purpose is to satisfy the customers, the efficiency and competitiveness of the organization will be increased.

Most of the subsidiaries are currently organized as vertical line organizations. They do however express a desire to describe their processes in the management system and thereby begin to structure the organizations according to their processes and establish more horizontal organizations. To convert the organizations from vertical line organizations into horizontal organizations according to the processes may reduce unclarity defined responsibilities and ineffective processes. Instead the efficiency and customer satisfaction may be increased [16], [23], [28]. The representatives from the subsidiaries mean that the management has previously opposed the establishment of horizontal organizations, which they believe has been a major shortcoming in their operational development. The organizations are strongly line focused and it has therefore been difficult to integrate the processes in the management systems in order to establish horizontal organizations. According to Bergman and Klevsjö [4] this opposition may be due to the fact that it is common that people have a fear of changes and the unknown. Banuelas [3] means that people often are of the opinion that if they have always performed the operation in a certain way they want to continue to do it in that way. Nevertheless, most of the representatives consider that the resistance towards the establishment of horizontal organizations has decreased recently. They are now working with process mapping and in the future they will be able to describe the processes in the management systems.

8.1.2 The subsidiaries’ desired to-be states

The fact that all of the subsidiaries have developed own strategies for operational development that they want to continue to work with in the future results in some differences in their future desired state. They want to continue to work with the tools and methods that they have developed on their own and the changes they have started to implement in the organizations. Some of them do also want to focus more on cultural questions and learn new tools for operational development while others want to develop the management system further.

There are also similarities in how the subsidiaries would like to work with operational development in the future. All of them want to work with processes and to develop their processes, both with different tools and methods and with reflection and discussion. To work with processes and process development is an efficient way to improve their performance and implement improvements in their operations [4], [12], [16], [23], [24], [28]. Some of them also mention that they want to integrate the processes in their management systems and establish horizontal organizations, as described above (see sections 3.2.5 and 8.1.1).

Subsidiary 2, Subsidiary 3 and Subsidiary 4 also want to increase the organizations’ general knowledge about operational development, tools and methods in order to engage more employees in the work with performance improvements. For the same purpose they also want to start visualize the improvement activities and the results of previous operational development activities to the rest of the organizations. Ellström [8] means that one important aspect of operational development is to encourage employees to continuously report problems, failures or other improvement opportunities. Most of the subsidiaries do not have a defined strategy for that. A way to do that can be to increase the employees’ knowledge about operational development or to show results from previous operational development activities [2], [3], [22], [28]. To show results from previous improvements and to train more employees on operational development can also decrease resistance towards implementation of improvement activities which may increase the effectiveness in the organization.

Furthermore, several subsidiaries mentioned that they need to improve the communication in respective organization and they need to improve how they handle information. Pascal [15] means that it is common that information is not managed in an efficient way in companies and Johansson
and Heide [19] means that a functioning communication is a prerequisite for an organization's existence and essential for successful operational development. If the management communicates frequently with the employees about operational development activities the employees have possibilities to express their view, concerning both risks and opportunities, on the activities. They may also be more engaged in the development of the organizations.

### 8.2 Key factors

The literature review indicates that there exist a number of key factors that are crucial for how efficient and successful the operational development is in an organization. These key factors are; management commitment, employee involvement, communication, customer orientation, process orientation, continuous improvements, cultural changes and decision based on facts (see section 3.2). In order to evaluate the subsidiaries current work with operational development and to identify improvement areas and areas where cooperation between the subsidiaries may be suitable, the interview results are analyzed based on the key factors in this section.

How well the subsidiaries fulfil the key factors from the literature review varies between the subsidiaries. Most of the subsidiaries are fulfilling most of the key factors to a certain extent, but none of them can be said to completely fulfil the key factors.

#### 8.2.1 Management Commitment

The first key factor that organizations working with operational development should strive to fulfil is management commitment (see section 3.2.1). If The Company and its five direct subsidiaries are seen as one big organization this key factor can not be said to be fulfilled. The Company has, as the owner of the subsidiaries, previously not been engaged in the subsidiaries work with operational development. Neither has The Company encouraged the subsidiaries to work with operational development and continuously strive to perform better. This investigation is though a way for The Company to show its commitment to operational development for the subsidiaries and emphasize that it is important to work with it.

If The Company and its affiliates are seen as separate organizations the management commitment is fulfilled to various degrees. At some of the subsidiaries, representatives from the management team are a part of the operational development department while at others they are not. This may indicate that the management's commitment to the work with operational development is larger at the subsidiaries where representatives from the management team are a part of the operational development department than at the other subsidiaries.

Even between the subsidiaries where representatives from the management team are a part of the operational development department the commitment varies. One of the interview respondents means that the management's lack of commitment is one of the major shortcomings in their current operational development even though representatives from the management are in the development department. Without a committed management the employees become doubtful about the operational development and their energy to work with continuous improvements will be weakened [3]. At the subsidiary that pointed out the lack of management commitment as the biggest shortcoming in their operational development. Some engaged employees have performed some operational development activities on their own, but since it is not requested from the management team other assignments have been prioritized instead.

None of the representatives mentioned that the management is visible in the daily operation and supports the employees in solving problem, which is important in order to succeed with operational development [2], [3], [16]. The management should be visible in the daily operation, asking questions and listening to the employees in order to receive trust and confidence from the employees and better understand the operation and what needs to be improved.

In the future it is important that the managements at the subsidiaries are committed to the work with operational development and encourages the rest of the employees to work with it. It is also
important that the managements take part in the daily operation and show their commitment to the organizations [2], [3], [16]. In order to succeed with operational development it is also essential that the management allocates time and resources for operational development and critical reflection of the performance. Also The Company as the parent company must clearer show its commitment to operational development and encourage the subsidiaries to continuously strive to perform better.

8.2.2 Employee involvement

At most of the subsidiaries the work with operational development is done by a separate department and not as an everyday task for all employees, which the literatures emphasize is an essential part for successful operational development (see section 3.2.2) [2], [4], [8], [11], [12], [13], [16], [19], [24], [28]. The operational development departments at the subsidiaries are supporting the rest of the organization when a problem already has occurred. Their job is mostly reactive, with a "fire-fighting"-mentality, instead of proactive with activities to prevent the occurrence of problems. The rest of the employees at the subsidiaries are not involved in the work with operational development or continuous improvements, except for in Subsidiary 5. Subsidiary 5 "...tries to work with operational development as an everyday work task for all employees" [38] which the literature review indicates as important for a successful operational development.

It is important to create opportunities for all employees to be involved in the work with continuous improvements in their daily work in order to succeed with operational development [28]. If the employees at the subsidiaries are encouraged to continuous search for improvement opportunities and are given recognition for the work they are performing they will also be committed to their job. This in turn leads to improved quality, both concerning the products and the company [4].

All of the subsidiaries want to engage more employees in the future work with operational development by training more employees in different quality systems and operational development tools. The studied literatures mean that training all employees on operational development is an efficient way to engage them in operational development and give them the right conditions to contribute to the performance improvement [3], [11], [24], [28]. The affiliates also want to visualize the results from previous improvement activities to encourage the employees to continuously search for improvement opportunities. To visualize results from previous operational development activities may also reduce the resistance against operational development [2], [3], [28]. Some of the subsidiaries also mention that they want the operational development department to disappear. The operational development should instead be driven at all of the organization's departments so that all employees can contribute in the continuous improvement.

For the future, it is important that the subsidiaries manage to involve all the employees in the future since it is the employees that are directly affecting the quality level of the products and the organizations [13], [24]. It is also important that the employees are given possibilities to identify and report improvement opportunities since they are familiar with the operation and know how changes will affect their part of the operations. In order to ensure that the employees have the right prerequisites to contribute to the operational development it is important to continue to continuously train the employees, which some of the subsidiaries already do [3], [11], [24], [28].

8.2.3 Communication

The Company and its subsidiaries communicate a lot with each other and spread a lot of information between one another. They do however not communicate sufficient about operational development. It is not sufficient to only spread information to the employees instead it is essential to establish a culture for argumentation and collective development of new approaches [15]. This investigation is one step towards the fulfillment of this key factor for The Company and its subsidiaries seen as one major organization.

Most of the subsidiaries mentioned during the interviews that the communication and information management is a shortcoming in their organizations and their work with operational development. According to Johansson and Heide [15] is it common that communication within organizations does
not work in a desired way and that the lack of efficient communication is one of the major reasons why improvement activities fail (see section 3.2.3). Some of the interview respondents mean that it is easy to make changes in instructions as a result of operational development. It is however hard to make sure that the employees assimilate the information and start to work according to the new instructions. In order to make it possible for the employees to assimilate information and work according to the new instructions it is important that the employees have possibilities to take part in the development of new approaches. It is important that the environment at the subsidiaries encourage the employees to discuss and reflect over their current performance and collectively develop new alternative actions [15]. None of the subsidiaries mentioned during the interviews that the employees can allocate time to critically reflect over their performance and that the management discuss operational development with the employees to collectively develop improvement actions.

For the future it is crucial that the subsidiaries start to communicate about operational development with the employees. It is important to communicate why changes are done, how they will affect the employees and which are the benefits from the changes [11], [13], [15]. It is also important that the subsidiaries learn to listen to the employees and take their opinions on the current performance and improvement activities into account while working with operational development. Even the communication between employees is significant for successful operational development. The subsidiaries must allocate time for interaction and communication between the employees in order to establish a community between the employees.

8.2.4 Customer orientation

None of the subsidiaries mention that they are, or want to become, customer orientated, which the literature review indicates is a key factor for successful operational development (see section 3.2.4) [1], [3], [4], [11], [12], [23], [24], [28]. The representatives from the subsidiaries do not even mention the final customers' satisfaction as an objective for working with operational development which the literature means is one of the main goals with operational development [4], [19], [24].

The CEO The Company explained that he does not want the subsidiaries to build up internal customer relationships in the organizations. The external customers, the owners and the stakeholders should be the subsidiaries' only customers, according to the CEO. Bengman and Klefsjö [4] though mean that defining internal customers in the organizations may be a way to increase the quality in every step of the processes and to establish a stable ground for external customer satisfaction in long term.

In the future the subsidiaries should be more customer oriented. They should start talking about customers and systematically work to fulfil the customers' needs and expectations in order to succeed with operational development [24], [28]. In order to increase the quality level and efficiency throughout the whole organizations it could be useful for the subsidiaries to start working with internal customers. The studied literatures mean that defining internal customers is an efficient way to establish a stable ground for high quality and high customer satisfaction [4], [23].

8.2.5 Process orientation

All of the subsidiaries are working with processes and are improving their performance through process development, which is an important step towards becoming process oriented (see section 3.2.5) [4], [12], [16], [23], [24], [28]. It is important to continuous map and improve the processes in order to continuous improve the performance of the organization [1], [24], [28]. Some of the subsidiaries use different tools in order to map their processes and identify improvement possibilities while others discuss during meetings how to improve the processes.

Some of the subsidiaries also explain that they have decided to describe their processes in the management system and structure their organization according to their processes in order to establish a more horizontal organization in the future. The establishment of a more horizontal organization may reduce sub optimizations and increase the efficiency in the organization [16], [23], [28]. Hence,
the subsidiaries are currently not completely process oriented but they are heading in the right direction for the future, according to the literature review.

The Company and its subsidiaries have a number of processes in common. Changes in these processes will mean changes in many parts of the organization. It is therefore important for The Company and its subsidiaries to be able to see the whole system of processes in a holistic way and to clearly define the processes and how they affect one another [4].

8.2.6 Continuous improvements

One important key factor in order to succeed with operational development is to continuously improve (see section 3.2.6) [4], [12], [16], [19], [24]. The subsidiaries have to constantly improve the quality level of both their products and their operation. In order to constantly be able to increase the quality, both of the products and the organizations, the subsidiaries need to encourage all employees in the constant search for improvement possibilities [4]. Currently most of the subsidiaries are not involving all of the employees in the constant improvement which need to be changed in the future. They also need to establish a strategy for taking care of improvement suggestions from the employees, evaluate the suggestions and implement them if possible.

The affiliates must change their mindsets about operational development and start seeing it as a continuous, ongoing everyday activity that should constantly be presented in the organization in the future [3], [16]. They should not see operational development as a time-limited project or campaign which expressions like “We worked a bit with operational development in the beginning of the 2000’s” indicates that they have done previously.

8.2.7 Cultural changes

In order to be successful in their work with operational development, it is important for the subsidiaries to stop solving problems with the reactive “fire-fighting”-mentality as many of the interview respondents describes. Instead they need to see operational development as systematic planning, problem prevention and continuous improvements of the performance which is one key factor for successful operational development (see section 3.2.7) [4].

Most of the subsidiaries consider the management’s and the employees’ mindsets to be the biggest shortcoming in their work with operational development. They are not used to working with continuous improvements and constantly search for opportunities to become more efficient or to perform their work in a better way. It is important, in order to succeed with operational development, that operational development is seen as a culture that is constantly present in the company and that the employees continuously search for improvement opportunities [4].

Some of the subsidiaries are also mentioning resistances against working with operational development in the organization. Some employees have a fear of losing their job if the organization becomes too effective or if it is pointed out that they are doing something wrong or in an inefficient way. It is therefore important to change the culture and values in the organizations and to allow mistakes and failures and see them as improvement opportunities instead of something negative. Otherwise the employees will not contribute in the continuous improvements [4], [19].

8.2.8 Decision based on facts

Sörqvist [28] means that decisions concerning operational development and improvement investments should be based on well-founded facts and not on opinions and beliefs (see section 3.2.8). The subsidiaries base many of their decisions on fact from reviews, audits, indicators, etc. but a lot of their decisions are based on opinions and discussions from different meetings. To let opinions and beliefs base decision may result in sub-optimizations and conflicts. It is therefore important to continuously collect and analyze information and draw conclusions from it in order to make decisions [2], [4], [28].
In order to be successful in operational development in the future the subsidiaries should base all of their decisions on facts [4], [24], [28]. This means that the subsidiaries must perform more measurements and collect more data about the performance more frequently. The subsidiaries should also use the results from audits and reviews as suggestions for improvements in a better way.

### 8.3 Learning within and between organizations

Most of the representatives believe that it could be beneficial to work more closely to the other subsidiaries with operational development. They want to have some kind of forum where they can exchange experiences and learn from each others’ work with operational development. Even the literatures about learning, both within and between organizations, indicate that the subsidiaries can learn a lot from each other [9], [10], [25]. It also indicates that there is no reason for them not to cooperate in their work with operational development, but some factors may complicate the dissemination of knowledge between the subsidiaries.

In the following section the possibilities and barriers for learning and exchange of knowledge between the subsidiaries are analyzed from the two perspectives within organization and between organizations.

#### 8.3.1 Learning organization

None of the subsidiaries, nor The Company and its subsidiaries, seen as one organization, can currently be said to completely fulfil the requirements to be called learning organizations. Even though the definition of learning organizations is vague it includes that the organizations systematically solves problems, learn from own and others experience, encourage questions and critically reflect on the performance [4], [10]. The subsidiaries solve problems when they occur but often they do not have any specific strategy for it and most of them do not investigate the root causes of problems in a systematically way. The cultures in the organizations do not encourage questions and most of the subsidiaries point out that they do not systematically reflect on their performance in a critical way. Hence, they are not completely learning organizations.

The subsidiaries way of solving problems without any analysis of root causes can be described by the term single loop learning (see section 4.2.5), which is related to Piaget’s term assimilation [10]. When the subsidiaries solve problems without reflecting on the root causes of the problems they do not change their way of thinking and they do not create any new ways to understand why the problems occurred. If they instead reflected over the problems and searched for the root causes double loop learning, which is related to accommodation, could occur [9]. Their knowledge structures could then be changed and in the future they would have known how to avoid reoccurrence of the problems [4], [10], [18].

One of the orientations in literatures about learning organizations emphasizes the importance of system thinking (see section 4.2.5) within the learning organization. If something is changed in one part of an organization it will most likely also affect other parts of the organization [10]. When the subsidiaries perform operational development through a special department that supports the rest of the departments in problem solving there is a risk that there are no analyses on how the changes and solutions implemented in one part of the organization affect other parts. Some subsidiaries also mentioned that the improvement activities are not coordinated in an efficient way. This results in that similar things can be done at several places in the organization without any cooperation or even knowledge about one another. To see the organization as a system of interacting processes is also an important factor within the operational development literature [4]. In order to succeed with operational development it is essential to see the organization holistically and see how different parts affect each other, which is a difficulty for the subsidiaries.

The subsidiaries’ future desired state is quite similar to learning organizations (see section 4.2.5). They want to change the mindset in the organizations and establish question encouraging and problem allowing cultures, which is important for successful operational development [4]. They also want the
employees to participate in the work with continuous improvement and search for learning opportunities in their daily work. To become learning organizations it is also important that the subsidiaries learn from own and others’ experiences [10]. Most of the subsidiaries have an operating experience process where problems and failures are documented in order to make it possible to learn from mistakes and prevent reoccurrence of problems and failures. Some of them also mentioned that they are performing different benchmarking activities in order to learn from others’ experiences. To cooperate with each other through operational development may also be a step towards becoming learning organizations.

8.3.2 Possibilities for learning between the subsidiaries

Within organization teams collective learning may be established, through interactions between individuals. The collective learning creates new understanding within the collective that is deeper than the individuals’ respective knowledge [9]. In the same way cooperation across organizational boundaries result in opportunities for development and exploitation of knowledge that is greater than the opportunities within a single organization [25]. This indicates that it could be profitable for the subsidiaries to work together in some kind of collective, across the organizational boundaries with operational development.

According to Granberg [9] and Svensson et al. [26] interactions between individuals, both within the own organization or between organizations, stimulate learning. Learning occurs when individuals discuss and collectively reflect over problems, regardless of if the individuals belong to the same organization or not. Further Svensson et al. [26] mean that cooperation with other organizations in operational development may both be a way to learn from each others’ experiences but it may also stimulate the operational development in respective organization. To see that other subsidiaries have same problems and difficulties in their work with operational development can encourage and inspire to work more with operational development in the own organization. Even the interview respondents believe that it could be useful to discuss generally about operational development across the organizational boundaries. They want to discuss which methods and tools they are using and which problems they are dealing with in their work with operational development.

Subsidiary 1, Subsidiary 3 and Subsidiary 5 believe that it might be hard to find a common strategy for operational development that is suitable for all subsidiaries, since their operations are very different. Subsidiary 2, on the other hand, means that most of them are working with process development, development of their management systems, continuous improvement etc. and therefore it is absolutely possible for them find common strategies for operational development at the subsidiaries. Svensson et al. [26] do not believe that the differences in organizations’ operations prevent cooperation between them. Instead they mean that when organizations cooperate with operational development it may be an advantage that they normally operate in different businesses. The subsidiaries can then create a more dynamic learning process and their different experiences may result in new perspectives, insights and concepts for the representatives [26]. In order to succeed with the cooperation it is though important to establish common definitions and terms early in the cooperation.

The subsidiaries think that it could be useful to collectively discuss how they work with operational development and share experiences of tools, methods, courses in operational development, problems and failures. During the workshop the representatives from the subsidiaries agreed that an operational development network could be a way for the subsidiaries to establish a future cooperation. The operational development network could make it possible for representatives from the subsidiaries to interact with each other and thereby learn from each other and share experiences about performance improvements. To cooperate with operational development through development networks is also suggested in the literatures as a way to stimulate the work with performance improvements and spread knowledge between the participating organizations [26]. Svensson et al. mean that in development networks organizations cooperate in order to strengthen the organizations’ capability for strategic development and the organizations’ work with operational development. Thus, an operational development network could be beneficial for The Company and its subsidiaries [26].
In order to be successful in exchanging experiences and sharing knowledge it is important that the participants in the network establish a teamthink (described in section 4.2.4) by interpreting and performing tasks collectively [10]. If the network should be a learning network it is important that the participants learn to conduct a dialogue (described in section 4.2.5) about operational development instead of a discussion about it [10]. If they succeed in having a dialogue instead of a discussion the participant will expand their way of thinking. They will also stop competing to impose their own views and ideas and instead start to learn from each others.

Moreover, Svensson et al. [26] mean that if a development network should be successful it must rest on a platform built up on four cornerstones, confidence, coequal relations, time and recourses, and external support (described in section 5.2.1). Since the organizations have this “parent company-subsidiaries”-relationship, the cornerstone confidence is easier to fulfil than in other networks. The participants probably feel that they can trust each other and the amount of information that is confidential between the subsidiaries is less than between other organizations. It is though important that the relationships are ensured to be coequal and that the time in the network is used in an efficient way. The Company may serve as an external resource with additional knowledge about operational development and useful methods and material for operational development which the subsidiaries maybe would not have used by themselves.

8.3.3 Barriers for learning

There are however some factors that may complicate the learning and the knowledge dissemination between the subsidiaries. Regardless of from which perspective, learning within organizations or between organizations, the analysis is done, tacit knowledge (described in section 4.2.2) may complicate the learning between the subsidiaries. It is important to make sure that even tacit knowledge, not only explicit knowledge, is spread since tacit knowledge is more sustainable in the receiving organization than explicit knowledge [7]. The representatives from the subsidiaries might not be able to spread all their knowledge in an efficient way due to the fact that some of their knowledge may be tacit [7], [9], [10], [15], [25]. Stein means that knowledge can be tacit for different reasons, due to censor or taboo for example or the fact that the individuals are not aware of that they possess the knowledge. Stein also believes that if the individuals are not used to reflect on their knowledge they may have difficulties in expressing it to others [25]. Since the subsidiaries are affiliates to the same parent company they do not have as much censor or taboo to one another that will prevent them from spreading knowledge about operational development. However the fact that some of the subsidiaries work with operational development without clearly defined strategies may imply that the representatives are not able to describe their work with operational development in a good way. Therefore it might be hard to spread knowledge to the other subsidiaries in an efficient way. The subsidiaries do not seem to reflect much over their knowledge about operational development and hence they may have difficulties in expressing it to the other subsidiaries. The fact that some knowledge is tacit may result in information, which is a prerequisite in order to succeed in transferring the knowledge to the other subsidiaries, is not being expressed and the desired learning does not occur [7], [9], [10], [15], [25].

Another factor that may complicate the learning between the subsidiaries is, according to Stein, the physical and psychological distance between them [25]. The fact that the subsidiaries are spread over big parts of Sweden and one of them is located in Germany may complicate the interaction between the subsidiaries and thereby also the dissemination of knowledge. Also the psychological distance may be a problem since most of the subsidiaries believe that they have too different operations to be able to have common strategies for operational development and thereby will not contribute in spreading their knowledge in a good way.

Some of the respondents mean that usually when the organizations perform different benchmarking or network activities they have difficulties in implementing the new solutions and approaches in their own organizations afterward. Either there is no time for implementing new things or there is a resistance in the own organization towards the implementation of new solutions. Svensson et al. [26] consider this fact to be one of the major shortcomings with networks. They mean that to make sure that the network experiences are implemented in the own organizations the network must be
prepared in advance and worked with afterwards. They also mean that the management in respective organization must support the network and ongoing evaluations of the networks must be performed to make sure that the cooperation is beneficial.

Another factor that may affect the knowledge dissemination between the subsidiaries is what Stein [25] refers to as the degree of formalization. Stein means that relationships between organizations are often more formalized with rules and routines for knowledge dissemination than relationships within an organization. This in order to reduce the risk that knowledge which is crucial for the organizations is spread to competitors [25]. Highly formalized relationships between organizations may result in reduced knowledge dissemination and thereby also reduced learning possibilities. Since the subsidiaries do not compete with each others and they belong to the same parent company they will probably not spread information about the other subsidiaries to competitors. Therefore, their cooperation does not need to be formalized with rules and routines in the same way as cooperation between organizations without this “parent company-subsidiaries”-relationships must be. The formalization shall thus not affect the knowledge dissemination between the subsidiaries in a significant way.

Also the degree of permanency of the relationships between cooperating organizations affects the dissemination of knowledge. If the network is too short term the participants will not get to know each other sufficient to spread knowledge in an efficient way and if it is too long term the responsiveness towards alternative impressions may decrease [25]. The workshop participants suggested that the operational development network should consist of the former quality network’s members and relevant representative from each subsidiary which may be alternated depending on the network theme. This composition of representatives from the subsidiaries may be a way to sustain the responsiveness towards alternative impressions while the foundation of the network remains permanent.

One thing that needs to be considered if a network will be established between the subsidiaries is how it can be ensured that the relationships between the participants are coequal. Svensson et al. [26] mean that coequal relationships can be achieved if the participants have positions at similar levels in the own organizations. Since the subsidiaries have organized the organizations differently and since the operational department is located at different levels in the organizations there is a risk that the representatives from the subsidiaries do not have similar positions in respective organization and coequal relationships will not be achieved. Svensson et al. [26] write that this problem may be reduced if the participating organizations have different operations, which the subsidiaries have. It is however important to consider whether this will be a problem or not and how to handle it in that case. If The Company will serve as an external resource, it is also important to reflect on how they can achieve a coequal relationship with the subsidiaries even though they act as the leader of the network.
9 Gap analysis of “The Association’s” Performance Improvement Model and the subsidiaries’ operational development

Since “The Association” is an international, non-profit organization that strives to increase the safety standards at organizations operating in the type of business, it is interesting to assess how the subsidiaries are working with operational development compared to “The Association’s” recommendations. In this section a gap analysis of the subsidiaries operational development and “The Association’s” recommendations is presented. This gap analysis is done based on the interviews and what were mentioned during them. The subsidiaries are doing more than what is shown in this gap analysis but the overall picture shows where the subsidiaries focuses are and what they think is important in operational development.

None of the subsidiaries mention that they are working with “The Association’s” Performance Improvement Model. Some of them said that they are familiar with a similar model called the Plan-Do-Check-Act-cycle which is commonly used in quality systems like Six Sigma and Lean. The idea with both “The Association’s” model and the Plan-Do-Check-Act-cycle is to continuously seek improvement opportunities, identify solutions, analyze and follow up the solutions, identify new improvement solutions and implement them [4], [30]. The representatives from the subsidiaries said though that they are only working efficient with the parts Plan and Do in the Plan-Do-Check-Act-cycle and not sufficient with the parts Check and Act.

9.1 Performance Monitoring

All subsidiaries, except Subsidiary 1, mentioned during the interviews that they use some of the activities or elements that “The Association” recommends for the performance monitoring phase (see Figure 6). Performance assessment and trending, which helps detecting problems and issues that need further analysis, and independent oversight, which also is a source for identifying improvement opportunities, are performed by three of the organizations, Subsidiary 2, Subsidiary 4 and Subsidiary 5. Two of the organizations, Subsidiary 3 and Subsidiary 4, mention that they are working with performance indicators to identify improvement opportunities. Subsidiary 3 and Subsidiary 5 are utilizing organization and industry operating experiences to avoid reoccurrence of problems and Subsidiary 2, Subsidiary 3 and Subsidiary 5 use some type of problem reporting which “The Association” means are essential activities in operational development.

Only one of the subsidiaries, Subsidiary 4, says that they are performing self assessments to evaluate their operation and only Subsidiary 3 describes that they are performing benchmarking activities to get improvement suggestions from other organizations. None of the subsidiaries mention that they are working with standards, behaviour observations or effectiveness reviews to assess the performance which “The Association” considers to be an important part in monitoring the performance [30].
9.2 Analyzing, Identifying and Planning Solutions

“The Association” recommends four different activities or elements in the Analyzing, Identifying and Planning solutions phase. From these four only two are fulfilled by any of the subsidiaries (see Figure 7). Subsidiary 2 and Subsidiary 5 mention during the interviews that they are working actively with problem analysis, which “The Association” points out as an important activity during this phase [30]. They try to identify the root causes of problems and prioritize how the resources should be divided between different problems. Some of the other subsidiaries instead describe how they are solving problems without searching for root causes with a “fire-fighting”-mentality and that there are no strategic prioritization between the problems. Most of the subsidiaries are planning corrective actions that are identified to resolve the performance gap in some way.

None of the subsidiaries mentioned that the management reviews problem statements or identifies root causes or contributors in order to identify correction activities to prevent reoccurrence. Neither do any of them mention that important business and strategic planning considerations are integrated in the daily corrective action program that “The Association” considers to be important in order to succeed with performance improvements [30].
9.3 Implementing Solutions

The representatives from the subsidiaries did not mention much about how they are implementing solutions to problems during the interviews (see Figure 8). One of the organizations, Subsidiary 5, pointed out that they are appointing responsible persons for corrective actions to problems and Subsidiary 3 and Subsidiary 5 are tracking their corrective actions in some way. “The Association” recommends that the management in the organizations should ensure that improvement actions have the right resources available and frequently monitor the corrective actions. They also recommend that there is a strong culture of accountability in the organization. None of the subsidiaries mention any of these two activities during the interviews [30].

![Implementing Solutions](image)

Figure 8 – Gap analysis between the subsidiaries work with operational development and “The Association’s” recommendations in the Implementing Solutions phase.

9.4 Company attributes

One organizational attribute that “The Association” points out as important for successful performance improvement is leadership and oversight (see section 3.4.4) [30]. This key factor is also mentioned in the reviewed literature about operational development as important (see section 3.2.1). As described before (see section 8.2.1) the management’s commitment to operational development varies between the subsidiaries. Some of the subsidiaries describe that the management in the organization does not encourage work with operational development and that operational development previously has been seen as a risk and a cost. In some of the organizations, on the other hand, the management seems to be committed to and engaged in operational development. Most of the subsidiaries also mention that there previously has been resistance, both from the management and from the employees, towards working with operational development and implementing improvement suggestions. “The Association” means that the management has to encourage the employees to work with operational development and set high standards for it if the performance improvement shall be successful [30].

“The Association” also emphasize staff knowledge and skills as an important organizational attribute (see section 3.4.4) which also is described as a key factor in the literature review (see section 3.2.2) [30]. In the subsidiaries the operational development department consists of employees that have knowledge in operational development, both from courses and from own experiences. This department supports the rest of the organization in their work with operational development. In some of the subsidiaries the operational development department is training process owners and process managers on operational development. All the subsidiaries think that they need to learn more about operational development and increase the overall general knowledge about operational development in the organizations.

“The Association’s” last organizational attribute for successful operational development is organizational culture (see section 3.4.4) which is also represented in the operational development literature (see section 3.2.7) [30]. Many of the subsidiaries point out the mindset or the culture of the
organization to be one of the biggest shortcomings in their work with operational development. They are not used to work with continuous improvements, seeing problems as improvement opportunities and the employees are afraid of pointing out or reporting mistakes. Some of the subsidiaries have an operating experience follow up process to learn from mistakes and reduce the risk of recurrence. It is important that the management at the subsidiaries is aware of the culture in the organization and organize the operational development according to it.

9.5 Summary

Figure 9 – Total fulfillment of “The Association’s” recommendations

In total, there is a gap between “The Association’s” recommendations and the subsidiaries work with operational development (see Figure 9). The biggest gap seems to be in the implementing solution phase, which the subsidiaries almost did not talk about at all. This reflects the answers in the interviews in a good way. The respondents point out that they are good at monitoring and reviewing their performance and developing activities in order to solve the problems. When it comes to implementing solutions, working according to the solutions and following up the implemented solutions they are not as good.

There is also a difference between the companies in how well they are fulfilling “The Association’s” recommendations (see Figure 9). Subsidiary 5 fulfils slightly less than half of the activities and elements that “The Association” recommends while subsidiary 1 does not fulfil any of them, according to the results from the interviews. Subsidiary 2, subsidiary 3 and subsidiary 4 are fulfilling approximately one fourth of the recommended activities and elements.
The subsidiaries fulfil the company attributes that "The Association" recommends to a certain extent. The leadership and oversight varies between the subsidiaries, from fairly high in some organizations to low in other. All subsidiaries work with operational development through a separate department, which result in that the employees working with operational development is knowledgeable and skilled. They do however need to train more employees in operational development in order to engage more in the continuous improvement. The last company attribute is culture, which all of the subsidiaries need to change in order to be successful in operational development.
10 DISCUSSION

In this section the validity and the reliability approach of the investigation is argued. Also the author’s interpretation of the results of the investigation is discussed here.

10.1 Validity and reliability of the investigation

The fact that the studied literatures does not exhaustively deal with this "parent company-subsidiaries"-relationship as The Company and its subsidiaries have may decrease the validity of the investigation slightly. Literatures concerning operational development and learning within and between organizations is studied instead. This to make it possible to analyze the research questions from two perspectives, within and between organizations. Both the within organizations perspective and between organizations perspective indicates that there are great possibilities for the subsidiaries to learn from each other. The two perspectives also show that cooperation between organizations could be beneficial. With this in mind it is considered that there are no reasons to believe that the results should not be applicable even in the "parent company-subsidiaries"-relationship. Therefore the validity and reliability of the investigation is assessed to be high from this point of view.

The use of interviews and workshop as methods for data collection during the investigation is considered to have worked well. However, the results from the interviews may not reflect the complete truth. The interview respondents may have forgotten to mention things they are working with during the interviews or considered some activities to be so natural that they did not bring them up. The analysis and conclusions of this master thesis project is based on the assumption that the interview answers reflects what the subsidiaries focus on and think is important in their work with operational development. They are not considered to be complete descriptions of how the subsidiaries are working with performance improvement. If the respondent did not mention some things during the interviews it has most likely not affect the overall outcome of this investigation since only the overall patterns and trends have been crucial for the analysis and conclusions.

Also the fact that the respondents have different positions in the organizations may have affected the results of the investigation. The interview respondents may focus on different things depending on their positions in respective organization. Respondents with a higher position in the organization answered the interview questions with a broader organizational view while the respondents with lower position answered the questions more department specific. Since the CEOs at respective subsidiary selected the interview respondents, this possible source of error could not be eliminated. It is however not assessed to have affected the result of the investigation significantly.

Whether the result is influenced by the interviewers’ prejudices and preconceptions is difficult to determine. The interviewers tried to enter the interviews with as open minds as possible, but it is impossible to be completely objective and entirely disregard previous knowledge. As a way to ensure that the prejudices and preconceptions did not affect the results, the interviewers discussed the interviews afterwards to ensure that they had understood them in the same way. The interview results were also presented to the workshop participant so that they had a chance to express their views of the results. With this in mind it could be said that the results are likely affected by the interviewers’ prejudices and preconceptions, but the impact is not considered to be large.

Since two of the representatives were not able to attend the workshop they were not able to express there thoughts and opinions about the results and analysis during the workshop. Nor were they able to participate in the discussion about how to cooperate in the future with operational development. To let them express their opinion, the material presented during the workshop and the result from the workshop where sent to them afterwards. None of them expressed any opposition towards the material and they are therefore considered to agree with it.
10.2 Discussion of the results

10.2.1 The subsidiaries' operational development

The author's perception is that none of the subsidiaries work with operational development as an everyday task that is as natural to work with as working with for instance economics, which the studied literatures mean that it should be [4]. This may be due to the fact that the organizations are not used to work with operational development since they previously have only focused on quality and safety. To work with operational development and continuous improvements are fairly new to the organizations and thereby not fully implemented in the whole organizations. The reason for this may be that The Company's type of business is highly traditionally bounded and changes take long time to implement. Nor do the mindsets in the organizations support changes which may also be a motive. The fact that the affiliates are operating in a business that is highly controlled by rules and regulations may also affect the work with operational development. This results in that changes in the subsidiaries way of working take longer time to implement than for companies operating in other businesses. That the subsidiaries do not work effective with operational development may also be due to lack of management commitment. The management has probably not understood the importance of operational development and has thereby not initiated work with it in the organizations.

Furthermore, none of the subsidiaries have completely implemented any of the available quality systems (see section 3.1) to improve their operation. Instead they choose tools and methods from different quality systems that they believe will be applicable for them. This way of working with operational development is not supported by the studied literatures concerning operational development and is seen as one of the major reasons to why operational development falls in many organizations [1], [3], [12]. However, if the subsidiaries have a clearly defined strategy when choosing the tools and methods for operational development, it is the author's opinion that it can be at least as good as implementing a complete quality system. The author's perception is though that the affiliates' strategies for choosing tools and methods are not well defined as could be and it needs to be improved in the future. How well defined the strategies for choosing tools and methods for operational development are can be seen a matter of maturity. If the subsidiaries become more used to working with operational development in the future they will probably develop more clearly defined strategies for choosing which tools and methods they should use onwards.

The fact that Subsidiary 1 does not work with as many activities for operational development as the other subsidiaries do not necessarily mean that they do less then the rest. It might be better to focus on fewer things, work hard with them and perform them in a good way instead of working little and insufficiently with many things. Even the fact that the subsidiary 1 does not fulfill any of the activities that "The Association" recommends does not automatically mean that their work with operational development is insufficient. The recommended activities are activities that "The Association" thinks are good and useful but they are not exclusive. In addition to the recommended activities there exist a lot of different methods and tools for operational development that also are useful and functioning. The importance with "The Association's" Performance Improvement Model is not to fulfill all the activities as they are describe in this report. The importance is that the subsidiaries work with all phases in the model. That they monitor their operation, plan and analyze solutions and implement the solutions.

It is probably not possible for an organization to completely fulfill the key factors for successful operational development that are described in section 3.2 but they could always be improved. The key factors are management commitment, employee involvement, communication, customer orientation, process orientation, continuous improvements, cultural changes and decisions based on facts. It should however be a goal in every organization to constantly strive to fulfill these key factors. Moreover the key factors should not be seen as exclusive, there are endless amounts of useful tools and methods for operational development. The key factors are nevertheless those that are identified as crucial for successful operational development.

The key factors are also related to one another which result in if one key factor is not sufficiently fulfilled the others will be affected in a negative way. Some of the subsidiaries point out that their
previous work with operational development have been driven as projects or campaigns and not as continuous, ongoing activities in the organization. These projects or campaigns may have been initiated as a short term saving project or since a quality manager has participated in a course and become inspired. The fact that the operational development does not remain in the organizations as a permanent activity might be a result of low management commitment. If the management is not committed to the work with operational development and emphasize the importance of it to the rest of the organization it will soon become vanished. One interview respondent mentions that some employees have tried to work with operational development on their own but since the management does not encourage them to work with it, other tasks have been prioritized instead. This shows the importance of a management that is committed to operational development.

The fact that the subsidiaries has an operational development department which work with performance improvements on demand with a “fire-fighting”-mentality may also be a reason to why the operational development is driven as short term improvement actions. The author’s opinion is that if not all employees are involved in the work with operational development it cannot be a continuous, ongoing activity in the whole organization. To be that, an operational development department that is big enough to support all the other departments at the same time is required, which is not reasonable. Therefore it is important to involve and train all employees in continuous performance improvements and abolish the operational development departments as they are functioning today. This is also consistent with what the representatives from the subsidiaries want in their future work with operational development.

To work with continuous improvements and constantly strive to advance the performance requires that all the employees are involved in the work with operational development. The employees are the one that are most familiar with their part of the operation and thereby also the one how know what needs to be improved. The author believes that there is a risk when the subsidiaries let the operational development departments solve problems in the other departments since they are not that familiar with that part of the operation. If operational development should be done in this way it is essential that the communication between the operational development department and the supported department is sufficient and of high quality.

The lack of employee involvement may also be due to lack of communication at the subsidiaries. If the improvement changes and the benefits from them are not communicated to the employees the employees will most likely not contribute and work according to the changes. If the employees are not given possibilities to participate in the development of changes and express their opinions on them there is also a risk of resistance to the changes. Also, if the importance of and benefits from operational development are not communicated to the employees they do not have the right conditions to participate in the operational development and continuously report improvement possibilities.

One way to involve all employees in the operational development can be to be more customer oriented. If the goal with operational development is to increase the customer satisfaction instead of only increasing the efficiency of the operation, more employees may be engaged in the work with operational development. To define internal customers at the subsidiaries can be a way for the employees to understand the importance of carrying out their duties in the best possible way. If all employees carry out their duties in the best way and continuously identify what needs to be improved, the quality of the products and the organizations will be increased.

The subsidiaries mean that they need to change the cultures in the organizations in order to be successful with operational development. They mean that they are not used to work with operational development and the cultures in the organizations is not allowing failures and does not encouraging problem reporting. The author means that in order to be able to change the culture at the subsidiaries, the communication about operational development must be improved. The result from previous operational development activities must be visualized and the employees must be encouraged to constantly search for improvement possibilities. Problems should not be communicated as something negative that they want to avoid but as something positive from which they can learn and base improvements on. In order to change the cultures at the subsidiaries it is also important to ensure that the management is committed to the operational development. If the managements do not contribute to the improvement of the operation and do not show their engagement to the employees the cultures will probably not be changed at the subsidiaries.
If the subsidiaries manage to change the cultures in the organizations they will probably become better at working with continuous improvements and to involve more employees in the operational development. This will in turn decrease the risk that upcoming works with operational development are be driven as campaigns or project and they will most likely be residual in the organizations.

A management that is engaged to the work with operational development will probably understand the importance of fact based decision and not let random things, believes and opinions determine important decisions. If the management base decision regarding operational development on facts and communicate that to the employees, the employees will in all probability be less resistant towards changes. They may even be stimulated to participate in the work with operational development if they know the underlying causes for it.

10.2.2 Future cooperation between the subsidiaries

The author's perception is that the knowledge on operational development is large within The Company group and it is unfortunate that the knowledge dissemination is currently not structured in a better way. It is a bit surprising that the subsidiaries currently are not working together with operational development at all, since they all believe that they can learn much from each other. It is even more surprising that some of the subsidiaries work together with other organizations with operational development instead of the rest of the subsidiaries. This may be due to lack of communication between the subsidiaries and lack of competence management. It may be easier for the subsidiaries to search for support at external organizations where they know that the knowledge is available instead of trying to find out if the knowledge is available at the other subsidiaries. In a successful cooperation between the subsidiaries a competence mapping need to be done. This investigation may serve as a beginning for it.

The subsidiaries believe that they can learn a lot from each other and that it could be useful to see which tools and methods the other subsidiaries use for operational development. However, they do not want to develop common strategies or processes for how operational development should be performed. The author's opinion is that since most of the subsidiaries believe that it can be difficult to find common strategies that are suitable for all of them it is probably good that the subsidiaries cooperate under softer and more voluntary forms initially. The author therefore believes that the establishment of an operational development network can be a useful strategy for cooperation on operational development. An operational development network may even result in that the subsidiaries see that they have a lot of operational development activities in common (for example process development) which they could have common strategies for in the future. If the subsidiaries use the same nomenclature in the network and develop a common toolbox with useful methods and tools from which they can pick out the best and implement in their own organizations, it is most likely that they will have quite similar approaches for operational development in the future.

The fact that the subsidiaries have both similarities and differences in their work with operational development is by the author considered as an advantage in future cooperation between the subsidiaries. The similarities may facilitate discussions, make it easier for the subsidiaries to understand each other and to comprehend the meaning of the cooperation. The differences, on the other hand, may stimulate the discussions and serve as possible subjects for the operational development network. Also the fact that the subsidiaries both have similarities and differences in their to-be state is interpreted as that there is much to cooperate with and to collectively search solutions for, but also things that will give thrust to the discussion.

It is also seen as an advantage for learning that the subsidiaries are related to each other in this “parent company-subsidiaries”-relationship. The author's perception is that the transparency between the subsidiaries is high and the amount of confidentially information between them is low, which facilitates the knowledge dissemination. Since the subsidiaries belong to the same parent company they are affected by each others' work with operational development which might stimulate cooperation with operational development. Both to ensure that all improve their operation in an efficient way, but also since there are no reasons for not supporting each others.

The major risks or obstacles for a future cooperation is, according to the author, tacit knowledge, psychological distance and difficulties in reconnecting new knowledge in the own organizations. The
subsidiaries do not seem to reflect much on their work with operational development, which can result in high amount of tacit knowledge. The fact that the interview respondents pointed out during the workshop that they are doing much more than what was mentioned during the interviews can be an evidence for that they have difficulties in describing how they work with operational development. The tacit knowledge can result in that sufficient knowledge is not spread in the operational development network and the desired results from the network will not be achieved.

The subsidiaries' opinions that their operation is too different to have common strategies for operational development can indicate that the psychological distance between them is big. This may complicate the cooperation between the subsidiaries and result in less spread knowledge. The author's belief is though that if the subsidiaries learn to have a dialogue in the network, exchange experiences from operational development and learn from each other the psychological distance between them may decrease in the future.

The studied literature also mention the physical distance as a barrier for knowledge dissemination but the author's perception is that this should not be a problem for the subsidiaries even though they are spread out over Sweden and one is located in Germany. With today's available technology with video conferences and so on, the physical distance is not seen as a preventing factor.

The difficulties to reconnect the experiences from the operational development network to the own organization is pointed out by both the interview respondents and the studied literature. The author's opinion is that this problem can be reduced with a management that is committed to operational development and sees the significance of implementation of new knowledge or solution in the organization. Likewise, if the employees in the organizations are involved in operational development and continuously strive to improve the performance the implementation of new solutions will be easier.

### 10.3 Further research

The suggestion for further research is to investigate more in detail how operational development should be performed in organizations with this "parent company-subsidiary"-relationship in an efficient way. This investigation analyzes the situation at The Company and its subsidiaries from two perspectives, within organizations and between organizations. It would though be preferable to perform a larger investigation with numerous companies with this relationship. This in order to gain an understanding of if there are any differences in how operational development should be performed and how learning occur within organizations with this relationship compared to single organizations and a number of separate organizations.
11 CONCLUSIONS

From this investigation some conclusion may be drawn in order to answer the research question of the master thesis (see section 1.2.1). These conclusions are described in this section. A recommendation, concerning future cooperation with operational development, is given to The Company and its subsidiaries.

11.1 Answers to the research questions

One of the research questions for this master thesis is "what is needed in an organization in order to succeed with operational development?" The literature review and the case study at The Company indicate that in order to succeed with operational development it is important that organizations ensure that they are striving to fulfil a number of key factors. These key factors are: management commitment, employee involvement, communication, customer orientation, process orientation, continuous improvements, cultural changes and decision based on facts (see section 3.2). In addition to this "The Association" recommends that organizations operating in the type business should follow their Performance Improvement Model consisting of three phases with a number of activities in order to be successful with improving the operation (see section 3.4). "The Association" also emphasizes three organizational attributes, leadership and oversight, staff knowledge and skills and organizational culture that should be fulfilled to ensure that the performance improvements succeed. These organizational attributes are reflected by some of the key factors in the literature review.

The purpose of this project was also to investigate how The Company's five direct subsidiaries currently work with operational development, if there are any similarities or differences in their strategies and how they want to work with operational development in the future. This investigation shows that the subsidiaries currently have completely separate strategies for operational development with both similarities and differences. Some of the subsidiaries use different tools for improving their performance while others are mostly discussing and reflecting over their operation in order to find areas where they can improve their operation. This investigation also reveals that none of the subsidiaries are completely fulfilling the key factors that the literature review indicates are important for successful operational development, like management commitment or customer orientation. Nor did any of them fulfil all the activities that "The Association" recommends in their Performance Improvement Model.

The subsidiaries' future desired states for operational development have both similarities and differences (see Figure 4). They want to continue to work with what they are already doing which results in some differences in their to-be states for operational development. The fact that the subsidiaries have a lot of similarities in their to-be states indicates that they are heading in the same direction for the future. Several of the subsidiaries want to learn and start to work same things which may be a good place to start cooperation between them.

It may also be concluded from this investigation that the knowledge and competence about operational development is high within The Company's group. However, the knowledge is spread out between the subsidiaries without any coordination and strategies to make sure that the knowledge and competence is utilized in the best way.

Another research question in this master thesis is whether it is preferable or not for subsidiaries to have common, or partly common, strategies for operational development. It can be concluded that it is not preferable to decide on specific tools or strategies that the subsidiaries must follow in their work with operational development. It is however preferable to work in common with operational development and share knowledge or experiences between the subsidiaries but in a more voluntary way. A way to cooperate with operational development is to establish an operational development network with opportunities to discuss generally about operational development and share experiences. In the operational development network the subsidiaries would also have possibilities to select good ideas from the other subsidiaries' strategies and implement them in the own organization.
It is though important to adjust the strategies to the own organization and its needs and not copy it straight off. Even the reviewed literatures mean that an operational development network is an efficient way to cooperate with operational development and disseminate knowledge between organizations.

Whether the subsidiaries can take advantages of each others’ knowledge and experiences from operational development by working more in common is also a research question for this project. Both the interview respondents and the studied literatures mean that there are great opportunities for the subsidiaries to learn from each other about operational development and from each others’ problems and failures. To work more in common with operational development may also stimulate the operational development and facilitate the critical reflection in respective organization. There are though a number of factors that may complicate the cooperation and knowledge dissemination, but as long as the willingness to cooperate exists the possibilities are larger than the obstacles.

11.2 Recommendation to The Company and its subsidiaries

The recommendation to The Company and its subsidiaries is to work with operational development in a more structured way. They need to find strategies to involve all, both the management and all employees, in the work with operational development and to make sure that everyone see the importance of it. They also need to stop working with operational development with the “fire-fighting”-mentality as they doing today and start working with it in a planned and well thought-out way. If operational development should be successful at the subsidiaries it is also important that they have defined strategies while choosing which tools and method they use for operational development. Either they should choose a quality system and follow it unhesitatingly or they should make up a clearly defined strategy with clear goals for which tools they pick from different quality systems.

It is also a recommendation that the subsidiaries strives to fulfil the recommendations of “The Association” and at least some of the activities in each phase should be fulfilled. The subsidiaries should focus extra on improving how they implement solutions to problems. This since both the gap analysis indicates and several of the interview respondents mentioned that implementation of solutions is one of their major weaknesses in operational development.

To succeed with operational development and to become a learning organization the subsidiaries must ensure that the cultures in the organisations are problem allowing and question encouraging. The employees must have time to reflect on their work, continuously search for improvement opportunities and feel confident in reporting problems or failures. There must also be possibilities for the employees to interact with other employees since it is, among others, in the interaction between individuals learning occurs.

In order to utilize all competence and knowledge about performance improvements that is available in the The Company group in an efficient way the subsidiaries should cooperate with operational development. If the subsidiaries should be able to cooperate in an efficient way a competence mapping must be done. It should be possible for the subsidiaries to know which resources are available within the The Company group and to use these resources instead of searching for the resources outside the group.

The recommendation to The Company and its subsidiaries is also to convert the already existing quality network into an operational development network. The operational development network should be thematic with themes that alternate approximately each year according to what is relevant for the subsidiaries to discuss at the moment. The first theme should be processes and process development since it is currently relevant for all the subsidiaries. The key factors and “The Association’s” activities described in this master thesis should serve as inspiration to further themes.

The purpose of the operational development network should be to learn from each others and exchange experiences about operational development. The participants in the network should be the members of the already existing quality network plus relevant representative from each subsidiary that may alternate according to the theme of the network.
To succeed with the operational development network it must be reconnected to the subsidiaries own organizations. Before each network meeting the subsidiaries should prepare questions or problems that should be discussed during the meeting. After the meetings the subsidiaries should evaluate good ideas and solutions from the network and implement if possible in respective organization and follow them up afterwards.
12 REFERENCES

12.1 Published sources


[30] "The Association’s" guidelines of how to work with performance improvement


12.2 Internet

[32] "The Association’s" homepage, March 5 2012

12.3 Verbal sources

[33] CEO, The Company, 2012-02-06

[34] Interview respondent 1, Subsidiary 1, 2012-02-13

[35] Interview respondent 2, Subsidiary 2, 2012-02-15

[36] Interview respondent 3, Subsidiary 3, 2012-02-16

[37] Interview respondent 4, Subsidiary 4, 2012-02-17

[38] Interview respondent 5, Subsidiary 5, 2012-02-17

13 APPENDICES

13.1 Appendix 1 – Interview guide

The following themes are discussed during the interviews.

1. How the subsidiary defines operational development.

2. How the subsidiary currently works with operational development, which tools and methods are they using.

3. What they consider to be the major shortcomings in their work with operational development today.
   i. Do they miss any tool or method?

4. How they want to work with operational development in the future.
   i. Which tools and methods they want to use.
   ii. If they see any advantages or disadvantages in a common, or partly common, approach for operational development between the subsidiaries.
### 13.2 Appendix 2 – Interview checklist

This checklist is filled in during the interview to ensure that all themes are discussed.

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<tr>
<th>Question</th>
<th>Interviewee</th>
<th>CEO</th>
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<td>3) What they consider to be the major shortcomings in their work with operational development today.</td>
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<td>4) How they want to work with operational development in the future.</td>
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