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Trust, organizational climate and team
learning enabling a communicating
learning organization

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Tämän opinnäytetyön tarkoituksena oli tutkia luottamuksen, organisaation ilmapiiriin ja tiimityön välistä suhdetta. Viime vuosina monet yritykset ovat tunnistaneeet tiimityön tärkeyden kilpailuetujen saavuttamisessa. Myös niin sanottu oppivaorganisaatio mahdollistaa yrityksissä entistä tehokkaamman työskentelyn ja samalla yksittäiset resurssit voivat toimia rennommassa ja mielenkiintoisemmassa työympäristössä.

Tähän tutkimukseen osallistui noin 53 tutkittavan organisaation johtoryhmien jäsentä. Projektien hallinnan ja suhde-pohjaisen viestinnän teorioiden avulla tutkimuksessa ehdotettiin neljä hypoteesia ja tiedot tutkimukseen kerättiin web-pohjaisen kyselylomakkeen avulla.

Tulokset paljastivat, että luottamus on organisaation ilmapiiriin vaikuttaja, joka vuorostaan on tärkeä oppimisen tekijä. Toisin sanoen organisaation ilmapiiri vaikuttaa välillisesti luottamuksen ja tiimityön väliseen suhteeseen. Lisäksi tulokset osoittivat, miten erilaiset luottamukset organisaatiossa voivat vaikuttaa organisaation yleiseen ilmapiiriin.

Tässä opinäytetyössä tutkittiin globaalin yrityksen 53 johtajan vastaukset, joten yleistettävyyttä koskeva huomautus on tarkoituksenmukainen, kun otetaan huomioon suomalaisen kilpailukyvyn suuri globaali arvostus.

Käytännössä ensimmäisenä tehtävänä, johdon täytyisi jatkossa kiinnittämään enemmän huomiota epäviralliseen kommunikaatioon etenkin kokouksissa, koska se mahdollistaa tiimin luottamuksen kehittymisen ja avoimemmat suhteet, jotka johtavat laadukkaaseen ryhmätyöskentelyyn, mikä on elintärkeää innovatiivisuuden ja uudistumisen kannalta.

Avainsanat: Luottamus, organisaation ilmapiiri, tiimissä oppiminen, kommunikaatio

ABSTRACT

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The purpose of this thesis is to investigate the relationship between trust, organizational climate and team learning. In recent years, many companies have come to recognize the important role team learning plays in achieving competitive advantage. Also the learning organization status enables the case company to be more effective and at the same time individual resources can operate in more a relaxed and interesting working environment.

About 53 managers from the case company participated in the study. Using project management and relationship-based communication theory, four hypotheses were proposed in the study. Data were collected from managers using a web based questionnaire.

The results revealed that trust is a determinant of organizational climate, which, in turn, is a determinant of team learning. In other words, organizational climate plays a mediating role in the relationship between trust and the team learning. In addition, the results show how different types of trust can influence organizational climate. This paper describes the responses of 53 managers in a global company in Finland and consequently a caveat about generalizability is appropriate notwithstanding the high-global esteem of Finnish competitiveness.

Practically, the management should also pay more attention to their informal communication particularly during meetings, because that enables trust and relationships within the team's that can lead to team learning which is vital for team innovativeness.

Keywords: trust, organizational climate, team learning, relationship based communication

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ABBREVIATIONS

RDE	Research & Development and Engineering
MPS	Marine Power Solutions
MT	Management Team
BoK	Body of Knowledge
e.g.	For example
RQ	Research question
I.e.	In other words
SPSS	Statistical Package for the Social Sciences
TT	Total Trust
T1	Trust within colleagues
T2	Trust between superiors and subordinates
OC	Organizational Climate
TL	Team Learning
LO	Learning Organization

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1 INTRODUCTION AND OBJECTIVES OF THE THESIS

The role of project management appears strongly in modern world business and it is recognized as an obligatory element of many companies including Wärtsilä. Project management contains processes where for example repeatability, manageability and controlling is strongly presented. By following the set of project management processes, the company can serve the customer needs more effectively and in that way improve for example customer satisfaction /5/. The project manager is generally the main single point of contact in the project team and at the same time accountable for achieving the set objectives. The role of a project manager is not only that he / she manages their teams, but also leads the team: leading by example, with the trust and respect from their team through motivation, coordination and maintaining morale /5/. As a result, project management requires multiple skills leading the group and maintaining the climate of trust in the project, since the team members are most important assets and are those who deliver effort towards set targets and achievements, not just the application of methods and tools /5/. The main objective of the thesis was to highlight the importance of relationship-based communication in organization and explore the variables are required to be a learning organization. If the communication chain is not intact and unobtrusive some vital information will land in no man's land between the sender and receiver. This causes e.g., misunderstandings, lack of confidence or even distrust towards others. The main focus in this study was to concentrate on three main variables: trust, organizational climate and team learning. What is the linkage between the variables and how do these affects the organization communication and organization learning?

In this study, the global technology Industry Company Wärtsilä Marine Power Solutions R&D and engineering organization management's two highest levels were studied and future recommendations were given to improve the overall communication methods using trust, organizational climate and team learning as bridge towards answers. The purpose of this study was twofold: First to build an understanding of what kind of relationship based communication factors can be found in literature and secondly to contribute the organization management based on literature findings and start to develop better knowledge about the relationship based communication and its variables that include organization learning using trust, organizational climate and team learning. The next two sections described a bit the differences between management team and leading teams. In this context MT is categorized to be the organization's highest management level and leading teams as -1 level down.

In this organization highest level team members are more differentiated and interdependent compared to the group members /2/. The management team is a good example of bona-fide group and normally has fluid boundaries and multiple memberships /2/. MT members are not only members of the top team, but also leaders of different functions in the organization and might participate in the work of other MT's or lower level leading teams /2/. Consequently, they might need to manage with multiple and even contradictory expectations and objectives, which might not be clear. This can become a resistance to effective outcome: sometimes, the role specific objectives of a MT member can come into conflict with the team's shared objectives /2/. Conflicts might become crucially visible when the MT has to make strategic decisions e.g. budgets, investments, or organizational structures /3/. Trust is in this case important because its strong desire to understand how to create effective co-operation within organizations and how trust enables co-operation /9/. Also team learning enables all teams to learn how to work together effectively /25/.

MT members have complementary skills, being committed to common goals and holding themselves accountable for achieving the set objectives /2/. Distinguish management team from other groups two clear factors can be pointed out /2/. First, the MT is responsible for making strategic decisions, which are “more complex” as lower level decisions. Secondly, the MT usually operate in a political and power-laden environment /2/. MT members often have strong power and achievement needs and an individualistic orientation /2, 3/. When MT operates in a complex and demanding environment, the concept of competent communication becomes crucial. Communication has a relational context that affects the way how team members communicate with each other /8/. Open, qualitative and determinate communication supports effectiveness decision making in the team, so this effective, discipline based well embedded communication can be seen as interrelated and understood as a well-functioning system /7/.

Implementation of a strategic decision made in upper MT level will be handled in the leading team level to secure common goals and target settings in this and lower organization levels. Also strategic decisions create the need to develop an overall framework to the whole organization coverage. To avoid problems, clear roles, responsibilities and follow-up procedures must be set /4/. Together with upper subjects, emphasis, knowledge, trustful relationships will become fundamental elements of the organization competitive edge /4/.

According to the newest studies regarding approaches to internal communication, a set of interactive processes must be seen as knowledge and allegiance generator, definitively abandoning a systemic perspective that refers to organizational boundaries /4/. With openness, trust, and mutual support communicated at all levels, teams recognize, access, and develop emergent opportunities as they arise /7/.

1.1 Research objectives and questions

The objective of this quantitative study was to explore possibilities to strengthen communication using a learning organization as an enabler. What is the relationship between trust, organizational climate and team learning and how do these variables affect communication and maintenance of the learning organization? To get answers to these, a research question was created to collect answers which will be presented in section five.

RQ1. What could be done in a research & development and engineering organization to enhance the development of trust, organizational climate and maintenance of the learning organization?

1.2 Structure of the thesis

To get a better understanding of the research topic and to form a basis for the qualitative research, chapter 2 provides theoretical literature review related to project management, relationship based communication that contains, trust, organizational climate and team learning.

Chapter 3 introduces the research method, collection of the data and other variables that was used during the data processing. Chapter 4 focuses on the empirical analysis and results of the thesis.

Chapter 5 provides the conclusion, recommendations and limitations connecting theoretical review and empirical part together.

2 LITERATURE REVIEW

The literature presents the five parts of the topic covered: project management, relation-based communication in organization that includes trust, organizational climate and team learning. The first part provides the literature view and definitions of project management and briefly describes linkages to programs and portfolios. The second section is related to relationships between research variables and reviews more in detail regarding, trust, organizational climate and team learning. At the end of this chapter hypothesis development and three hypotheses are provided to support the research model, method and analysis.

2.1 Portfolio, program, project

The relationship between portfolio, programs and projects is such that portfolio refers to projects, programs, subportfolios and operations which are grouped together as entities /6/. These groups are piled, so that programs includes several projects and the portfolio gathers several programs and other operations under same umbrella /5/. Programs and projects delivers benefits to organization, by generating business or other values, enhancing existing capabilities, facilitating changes or offering new products and services to the market /6/. In order to understand similarities in these disciplines, relationships should be opened more in detail.

Portfolio

A portfolio refers to projects, programs, subportfolios and operates as a high level group in organization to achieve the strategical objectives set for example by corporate /5/. Portfolio management also ensures that programs and projects are selected, prioritized and staffed, so than all are aligned with organization strategies /6/. When projects or entire programs of the portfolio no longer satisfy given requirements, they may be cancelled /6/.

Program

Program is a group of related projects, subprograms, managing its activities in coordinated way obtaining benefits that would not be accomplished, if they were be a managed individually /5/. Programs are comprised of various components where individual projects are normally the largest group /6/. Programs include also other work related to the projects such as trainings, operations and maintenance of activities /6/. The primary mission of program management is to plan and perform activities against organization strategy /6/. Also as one part of organization communication channel, program serves and aligns work and other activities within the organization following selected objectives /6/.

Project

Projects, within program and/or portfolio, are a means of achieving organizational targets and objectives /5/. Normally strategic planning contributes indirectly to projects via programs and portfolios /5/. This means for example that the strategic plan becomes the primary factor guiding investments in project level /5/. Very often projects and project management take place in an environment which is broader than the project itself, meaning holding accountability beyond the boundaries /5/. As nature projects are temporary endeavors, undertaken to create a unique product, service or result /5/. This status gives indication that a project must have a beginning and end, so than the end is reached when the set objectives have been achieved or the project is terminated /5/.

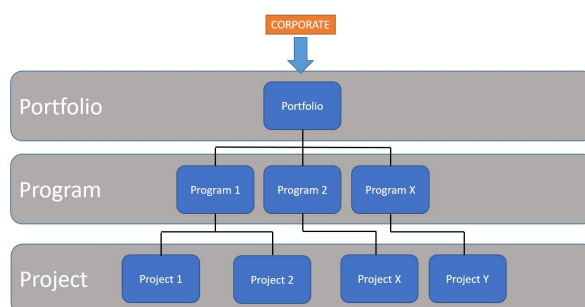


Figure 1. Relationships portfolio, programs and projects

2.2 Project management

Project management is the application of knowledge, skills, tools and techniques to support and meet the requirements /5/. Project management is accomplished through processes which are categorized into five groups' /5/.

- Initiating*
- Planning*
- Executing*
- Monitoring and Controlling*
- Closing*

Managing a project typically also requires the next variables.

- Requirement identification*
- Various need, concern and expectation planning and execution with stakeholders*
- Communication channel setups, maintenances and carrying out the activities with stakeholders, actively, effectively and collaborative way*
- Requirements and deliverables development and maintenance meetings with stakeholders*
- Balancing the competing project constrains*
 - Scope*
 - Quality*
 - Schedule*
 - Budget*
 - Recourses*
 - Risks*

* NOTE: Project management or/and projects are not limited to these factors.

The relationship between the factors which are mentioned earlier influences the project constraints and that way if any one of the factors changes, at least one other is also affected /5/. Due to the nature that project management is an iterative process, collaboration within all affected parties must be continuously and progressively maintained through the whole life cycle of the project /5/. Progressive elaboration allows the project management team define required activities and manage those with greater level of details as the project evolves /5/. If project management is not well maintained the result could be catastrophically bad. Examples can be, schedule delays, loss of reputation, cost overruns or continuous rework need /5/. On the other hand, well defined and managed projects often meet the objectives delivering required outcomes as planned.

Project success can also be illustrated in many ways due to the large variation of platforms where project management can be used. According PMBOK® Guide 5th edition (2013), project success commonly includes the following competing demand factors /5/. (See figure 2)

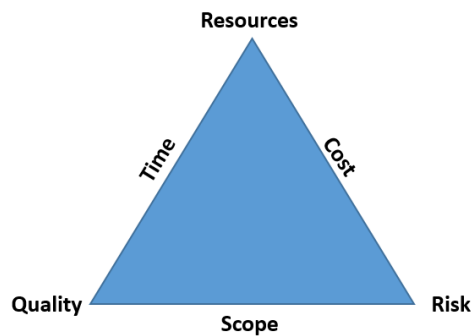


Figure 2. Project competing demands

Dr. Harold Kerzner have narrowed these competing demands to the triple constraints that includes time, cost and performance and if project is accomplished outside the company, a fourth constraint should be implemented which is the good customer relations /8/.

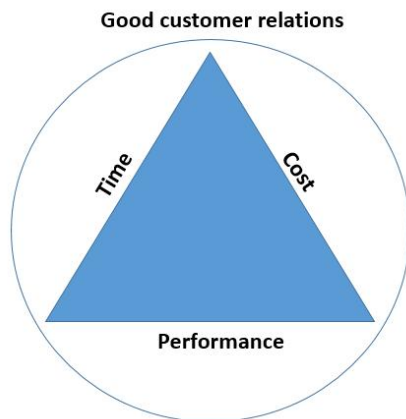


Figure 3. Project success priorities

As a continuation from what was earlier described and illustrated in success variables, the next logical step is to check the project management interfaces and how the process is visualized as big blog view /5/.

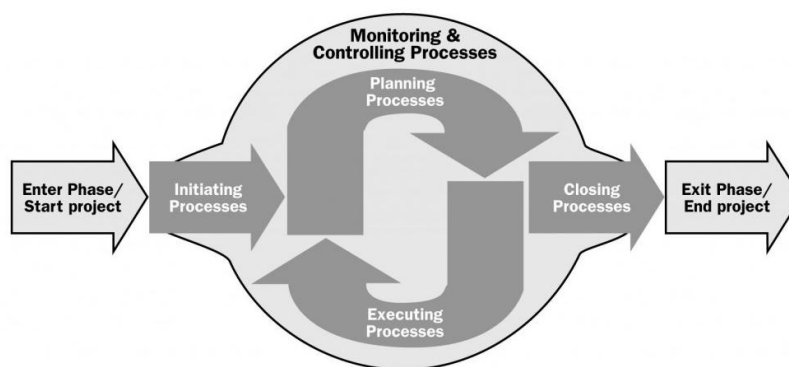


Figure 4. Project management process groups

Figure 4 is illustrating project management temporary endeavor beginning, end and standard process which circulates during whole project lifecycle /5/. This project management process circulation is accomplished through integration of 47 logically grouped project management processes categorized into five process groups as mentioned already earlier: Initiating, planning, executing, monitoring and controlling, and closing /5/. The processes are overlapping activities that occur throughout the project life cycle as illustrated in figure 5.

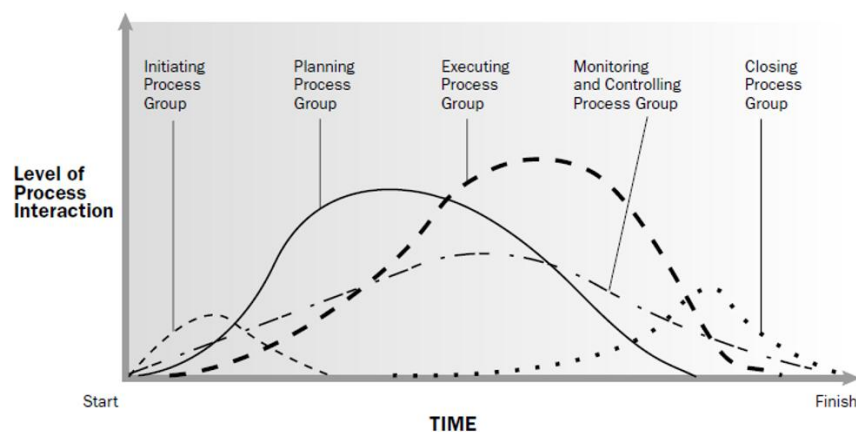


Figure 5. Process Groups Interact in a Phase or Project

These process groups are linked by the outputs which are produced and delivered according the plan /5/. If a project is for example divided into phases, process groups interact within each phase until the project is ended /5/.

2.2.1 Role of project management knowledge areas

PMBOK® Guide 5th edition (2013), described that from 47 logically grouped project management processes can be future grouped into ten separate knowledge areas /5/. In this study communication management and variables which are affecting it was selected. Study was not just concentrating on project communication; the view point was selected to be on organizational level, but in that way also touching selected organization projects indirectly. According to literature, project managers are spending most of their time on communication within the team, stakeholders or

others which are interested in the project /5/. Effective communication is the bridge towards stakeholders which have different cultural and organizational backgrounds, different experiences, and perspectives, which impacts or influences project /5/.

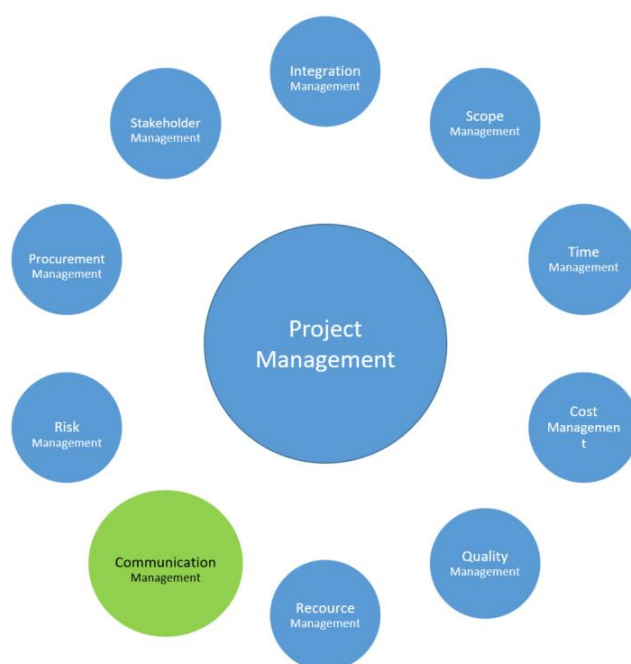


Figure 6. Project management processes and knowledge areas

In the next section communication in the organization and variables affecting it are described more in detail.

2.3 Communication in organization

According to the literature communication is process of acquiring relevant information, interpreting this information and effectively disseminating it to persons who might need it /1/. Communication in other words can be described as “*data which have been processed and presented in a format which gives them meaning*” /1/. The term communication is as origin Latin word *communicare*, which means ‘to make common’, so when communicating a common understanding is created /1/. Communication can be seen also as essential in working relationship, connecting people and enabling organizations to achieve their purpose /19/. For instance

employees' perception of supervisory communication and value addition to overall organizational communication impacts to the job satisfaction /19/. It sounds simple, but when going forward many obstacles must be exceeded to secure qualitative well defined communication which last disturbance coming from multiple directions.

Let us first split communication into three basic ingredients, a transmitter (sender), a transmission channel and a receiver. As a principle, the communicated message flows from the sender, encodes the message through the transmission channel by a verbal or non-verbal method, to the receiver that decodes the message /1/. To ensure effective communication, all components must function to prevent misunderstanding /1/. Sender always has a purpose why to communicate and hunch which kind of cycle should be used /1/. Success of communication mainly depends on the sender's ability to speak, write and listen competently /1, 5/. Also the receiver of the message should confirm the understanding of the message, because without understanding, communication cannot be effective and qualitative /1/.

When going forward from the simplified transmitter, receiver concept the organization structures gives possibilities to adjust communication slightly, remembering basics described earlier. In a project oriented organization, a few best practices can be used to set the minimum level of communication i.e. communication baseline /1/. Also in a project oriented organization the communication channels are many, so when the transmitter starts sending information, receivers are normally more than one and the possibility to become misunderstood grows /1/. Next questions helps members of an organization build up the minimum communication baseline /5/.

- Who (channels of communication, sender and receiver, responsibility and authority)
- What (scope, format)
- When (schedule)
- Feedback (confirms message received and understood)
- Filing (retrieval, storing, recovery)

- How (face to face, email, document, telephone, meeting, presentation)

The communication plan should focus on facilitating the process of keeping the key stakeholders informed of the progress and to promote the topic by making it visible at all times /1/.

In a competitive environment, communication becomes vital for organizational learning. Barker and Camarata suggest different types of communications and proposed a relationship based communication model that can lead to maintaining learning organizations /7/.

2.4 Relationship based communication

Research shows that the preconditions for developing the relationship based communication for developing team learning are trust, organizational climate, commitment and perceived organizational support /7/.

In this research assignment we explored the relationship between trust, organization climate and team learning. We studied how these are linked together, what is the relationships between the entities and in the end what could be done in order for that the organization to be called a communicating learning organization. According Randolph T. Baker and Martin R. Camarata a learning organization is not simply about making good decisions /7/. It is also making sense of our perceptions and interpretations of our environment /7/. Organizational learning is either adaptive or generative /7/. Adaptive means that the organization holds itself and its environment and generative gives the ability that organization can question their perceptions of both their internal and external relationships /7/. Communication emerged again as one vital component which holds these variables in control.

In a simple and predictable environment where relationships are also simple and predictable communication and preconditions need trust, commitment and organi-

zation support, but when the environment gets complex / changing and the relationship also get more and more complex, the organization must also take into account the organizational environment and team learning as examples /7/.

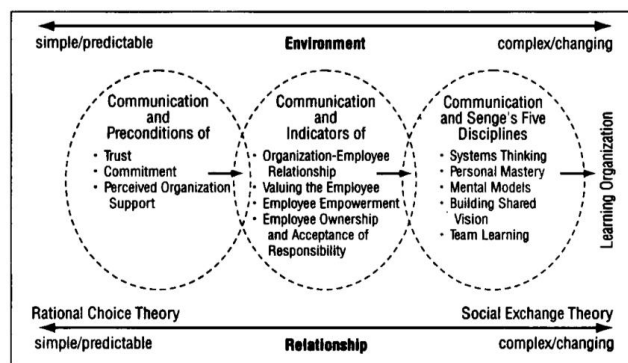


Figure 7. The role of communication in creating and maintaining the learning organization

In this research, we propose the following communication issues such as trust, organizational climate and team learning. We suggest that trust can be achieved through effective communication which can also contribute to favourable organizational climate which is critical for team learning.

2.4.1 Trust

During the last several years, issues of trust have become increasingly central in the research of organizations /9/. Terms like willingness to be vulnerable or willingness to rely on another are tightly connected to trust /22/. But why has trust emerged as such an important issue in these studies? /9/. According Tom R. Tyler trust is important because it is a strong desire to understand how to create effective co-operation within organizations and how trust enables co-operation /9/. Also according Randolph T. Barker and Martin R. Camarata trust is cognitive and based on past experiences/expectations /7/. Trust is also broad and encompasses varied approaches which most commonly focus on trust as psychological phenomenon /20/.

This means also that trust has strong influence on the organization coordination and control /7/ and that way organization must trust that people are making an effort to work well /9/. In addition, trust is not a simple “either/or” matter or “conditional” and “unconditional” or “strong” and “weak” /10/. It needs variables of managerial trust as availability, competence, consistency, discreetness, fairness, integrity, loyalty, openness, promise fulfilment and receptivity /13/. Internal motivations facilitate co-operation in organizations because the organization does not need rules and authorities who is taking care of monitoring and react to people’s behavior /9/. Also transparency provides a number of outcomes that are beneficial for relationship /21/. Rebuilding of trust, transparency can be viewed as a relational condition or variable that promotes accountability, collaboration, cooperation and commitment /21/. Further, the organization doesn’t need to use resources to provide attractants for desirable behavior to maintain a credible system of deterrence /9/. Although trust is also usually conceptualized as a multidimensional construct /21/. When people are motivated they act co-operatively for personal reasons /9/. Work relationships have also become more horizontal and team centered and as well defined as in terms of roles, tasks, and procedures as in vertical structures /22/. These kinds of reasons drive organizations towards value-adding motivated co-operation. In addition, people can more effectively manage their own behavior /9/. The desire of followers to follow rules and help the group is a more reliable way to secure desirable co-operation /9/. As now we have spectrum of trust, the following figure is relevant to implement and explain in more detail.

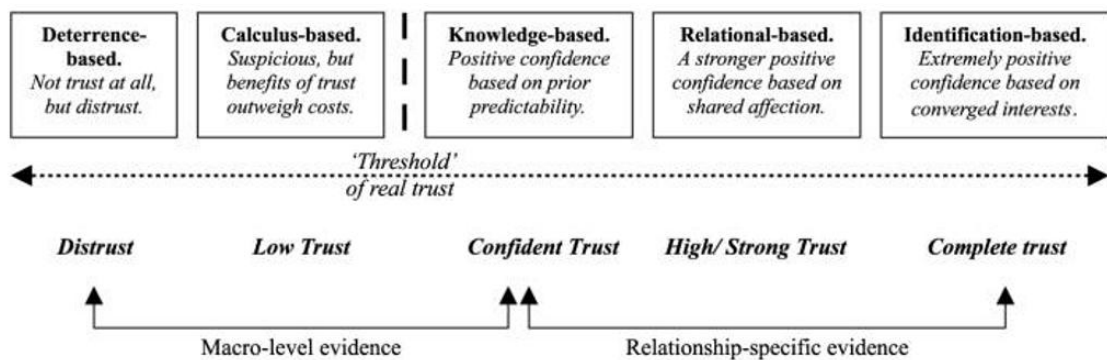


Figure 8. The continuum of trust

The figure illustrates several levels of trust so that the much desirable levels are in the relationship-specific side, or in other words, relational-based trust side /10/. The degree how to trust another varies along a continuum of intensity /10/. In figure 8 five degrees of trust can be seen. These five degrees can usually be used to depict trust being derived from different sources /10/. Terms can also be used to describe different types of trust experience, “calculus-based” trust and “knowledge-based” trust as examples /10/. When going from left to right, more positive levels of expectations based on confident knowledge, including motives, abilities and reliability appear /10/. Real trust, as it is most commonly defined, begins here /10/. So when the person feels emotionally pleasant in the relationship, he or she is more willing to exchange information and knowledge /32/. What this actually means is that when expectations are vindicated by experience, more powerful degrees of trust is possible to develop and much stronger confidence to preserve /10/.

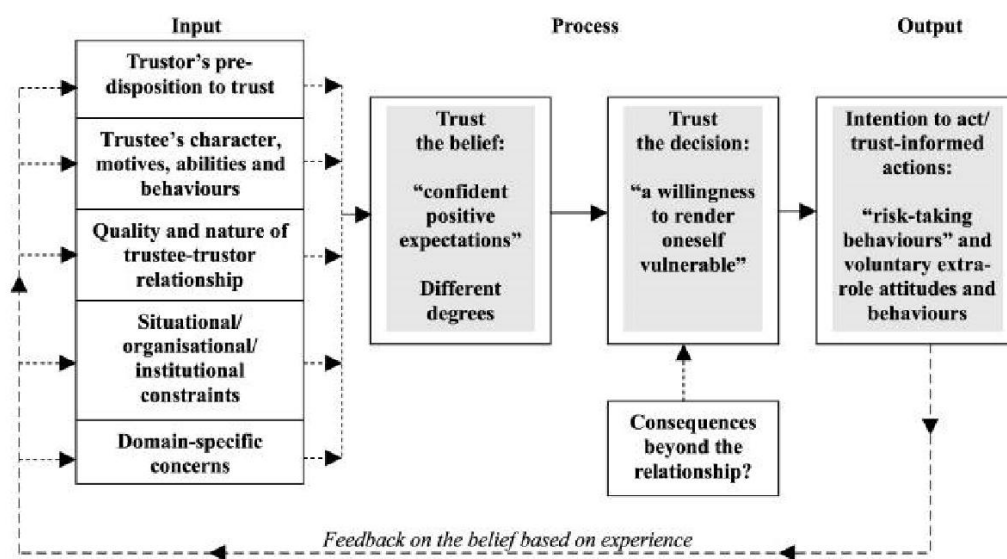


Figure 9. Depiction of the trust process

As illustrated in figure 9, trust needs a broader view when several inputs go through a process where beliefs are captured and decisions made with and after the output feedback loop goes back to input and thus permits new initiatives. If we go back to basics in communication, as principle the communicated message flows from the sender, encodes the message through the transmission channel by a verbal or non-verbal method, to the receiver that decodes the message /1/. To ensure effective communication, all components must function to prevent misunderstandings /1/. The basic flow is still present with more additional variables included, due to a more complex environment and relationships /7/. Also, we can say that Figure 9 illustrates the multi-dimensional, integrated framework for looking at the process of intra-organizational trust /10/. From left to right, it describes the inputs of trust; the different components of the trust processing itself in the central section going finally, the different trust-informed behavioral outcomes /10/.

How can a single person in the group then affect trust as variable? Trust is not only critical in the longstanding and value-adding relations with the external stakeholders /13/. It is also an essential component to strengthen the internal relations /13/.

Personal level trust can be seen as a social capital that increases spontaneous sociability among members and facilitates the suitable forms of defense to organizational authorities /13/. Trust as variable in the relationship between supervisor and subordinate work reciprocally, and comprises both the subordinate's trust towards his or her supervisor and vice versa /13/. Therefore, the organizations which want to build the trustworthy relations between their employees should not only consider their performance related outcomes but also focus on the benevolence and integrity dimensions of trust /13/ and greater understandings for what cooperation can adjust the level of total trust /13/. All in all employees' trust in their supervisor are normally related to their trust in the management in general. /10/. Shortly concluded, if trust is absent, no one will risk moving first and all parts will sacrifice the gains from collaboration and cooperation in increasing effectiveness /22/.

2.4.2 Organizational climate

Organizational climate can be described to be as “*a set of measurable properties of the work environment, perceived directly or indirectly by people who live and work in this environment and assumed to influence their motivation and behavior*” /11/. The environment should be both supportive and challenging, affording trust, mutual support, acceptance of the individuals, warmth and respect /31/. A positive climate gives a chance that employees' are committed to their work and job satisfaction is on a high level /11/. Individuals are satisfied when they have a meaningful and challenging work and also a chance to learn and grow /14/. Structures which have been identified in well-functioning organizations have clearly defined roles and responsibilities, willingness to take chances based on employees' ideas, warm relationships among employees for example pride and loyalty towards the organization and work group /11/. The organization climate and culture are closely related and are often seen to overlap /32/. However, the organization culture is rather stable and consists of assumptions, beliefs and values which are deeply rooted to the organization, so it is harder to be determined, while organization climate is often seen as elements and/or properties that are more temporal and easier to identify and change

/32/. How can the organization climate be influenced in all levels? Practical implications is that the management need to aim their leadership initiatives at both the individual level and the group or organizational level /23/. The climate of supportive leadership is one where individuals of the organization perceive that the leadership is equally highly supportive of them and particularly encourages their empowerment and development /23/. Also trustworthy behavior on the part of management is core to the development of this kind of perceptions /23/. Supportive leadership style is important in its own right and also it is likely to influence other dimensions of leadership behavior /23/. Backwards thinking linkage to trust is obvious so that when trust is high it enables organizational climate to function well. Organization climate, especially the climate for trust, requires multi-dimensional, integrated framework inside organization /11/. Ensuring that all employees' perceive, the leadership climate as supportive appears better, even if it means and require more resources and training /23/. Also in today's organizational world expectation is to have high work productivity, so it is not surprising that organizations are in need of employees' who will go beyond their call of duty and give job performances that exceed expectations /11/. In this kind of environment ability to influence organizational climate and group's behavior becomes more essential /11/. It is not too much to say that most valuable asset in organization are the people. Organizational behavior especially existence of suitable organizational climate, powerful and strong communicative skills in management are the basic factors for the success and superiority of the organization in other words, organizational climate is an important variable in management /35 /. The management should spend all their energies for developing a strong organizational climate which contributes the effectiveness of the organization /35 /. Organizational climate is regarded as a meaningful construct with significant implications in organizational behavior /14/.

2.4.3 Team learning

The third section towards a learning organization is the team learning. When environment and relationship complexity is growth to next level team learning starts to be more and more mandatory. Without this vital step the organization as a total entity, cannot reach the expected goal. Because of this complexity and challenges, employees` need to work and learn together and co-operate with others to develop novel, innovative solutions in the organization /12/. Team learning is important for all teams to learn how to work together effectively and for organizations to manage their continuously changing environment /25/. Team learning emphasizes teams to have an opportunity to innovations and a fruitful level of ideas that can be shared /12/. Team learning is all about knowledge acquisition, participation and creation /25/.

Emergence of research literature on team learning has been driven by at least two factors /24/. First, a longstanding interest in what makes organizational teams effective leads to the questions, how members of organizational teams learn to work together /24/. Secondly, arguments are also used that teams play a crucial role in organizational learning /24/. Teams are exposed to many different influences that can improve or prevent them to learn effectively /12/. To avoid unnecessary influences, organization-employee relationship, employee empowerment, employee's ownerships, and commitment levels must be supported through the teams' /7/. When these disciplines are clearly fulfilled and managed, maintenance of learning organization can be implemented /7/. Future development on the other hand can be secured through a relation-based environment expressed through the various kinds of communication suggested. Effective, discipline based well embedded communication can be seen as interrelated and understood as a well-functioning system /7/.

There are many definitions and conceptualisations of team learning in research on team learning /12/. Focus can be on the acquisition of new and common knowledge as an output of team interactions or change and improvement by regulatory and reflexive processes of the team /12/. Team learning requires processes that generate

team learning outcomes such as adaptations, improvements, performance and effectiveness /25/. Also, teams can be exposed to many different influences that can hinder or enhance teams to learn effectively, so normally well-structured teams can monitor and address mistakes better than others and can understand who knows what and who is responsible for what /12/. But due to many potential pitfalls teams can fail effective team learning if focus is not clear /25/. In a nut shell, knowledge sharing can be facilitated in well-structured team because every member knows where it can get information for the different tasks. If nobody within the team has the necessary information the team can cross boundaries and gather information from the outside /12/.

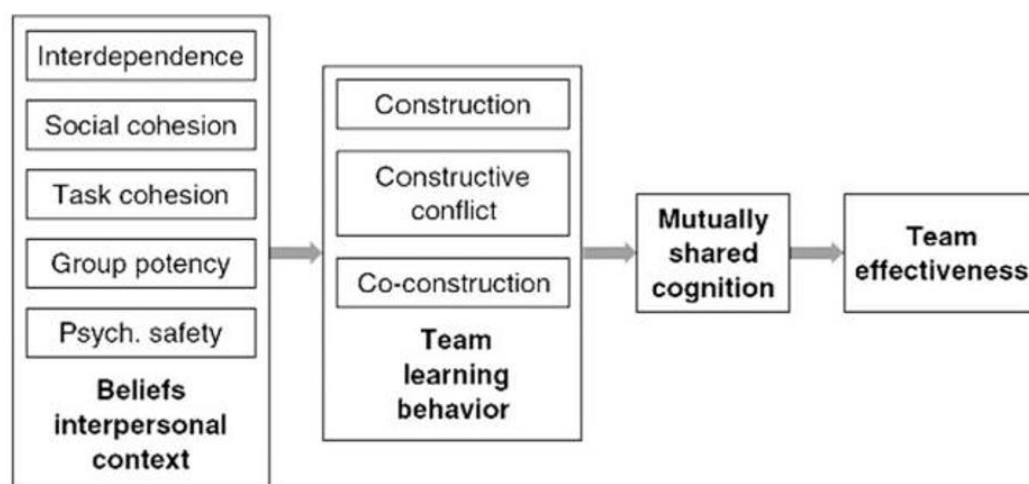


Figure 10. Structure of team learning beliefs and behaviors model

Figure 10, a model of beliefs and behaviors distinguishes four different categories of variables on the team level. The model suggests that social context of the team and interpersonal context, has a direct influence on the team learning behaviors /15/. Team learning behaviors contribute to the development of mutually shared cognition and mutually shared condition directly to team effectiveness /15/.

Beliefs of interpersonal context section contains enabler to be able to learn as an individual person /15/. The team learning behavior section is more touching on the cognitive perspective on team learning and that way influences group work on cognitive processes and the cognitive processes that arise from working in a group /15/. The third section is the mutually shared cognition which is described in literature to be as a key factor in the team learning, and is mutually shared cognition and can be seen also as the primary outcome of the team learning process and is positively related to team performance /15/. So if we now take the two first sections as input links towards mutually shared cognition first section is the input to the task-specific knowledge /15/. It allows team members to perform tasks in an organized way without necessarily having to plan or discuss the action /15/. The third section takes teamwork in to the picture so that individual tasks can proceed within the team, and highlight the importance to understand how important it is effecting to the team and the team's performance /15/. The last and fourth section then collect previous sections together and gives at the same time a view to the positive influence of team learning and team effectiveness /15/. This team effectiveness does not only incorporate team performance but also to the team viability and team learning /15/. So team performance can be seen as concerns to process, product of the team work and the willingness of team members to remain in the team as individual and that way as team member and learning success depends heavily on the cooperation between all organizational levels /15/.

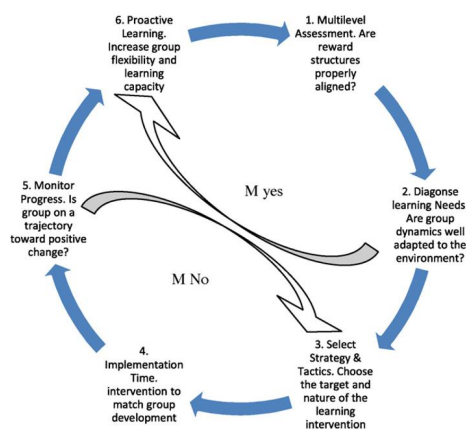


Figure 11. Cycle model of learning processes

Team development and team learning dynamics can be now described using next variables /25/.

- FORMING Dependency and inclusion, marked by high anxiety, uncertainty and politeness. Team members are mostly concerned with psychological safety, uncertainty reduction, boundaries and they will therefore tend to defer to a leader and to be defensive.
- STORMING Counter dependency and fight, marked by conflict, power struggles, search for identity and roles. Individuals and coalitions may have different ideas about how the team should operate, developed, and hence the full resources are not yet available for application to the task.
- NORMING Trust and structure, marked by more mature negotiation processes, goals, organizational structure, procedures, and roles. Communication becomes more task oriented, and feedback becomes safe to give and receive. Information is shared more freely and many more opportunities to learn arise.
- PERFORMING Work, marked by team members feeling comfortably, habitual sharing of information. Team members develops a good sense of different kinds of knowledge and expertise within the group.
- ADJOURNING Termination, marked by awareness growing team instability, anxiety and sometimes even conflict.

2.5 Hypothesis development

When getting all pieces together which are individual blocks towards learning organization the following generalizations can be implemented as features of a learning organization. The concept of a learning organization contains as minimum terms like, building blocks, characteristics, components, attributes, creation, acquisition and transfer of knowledge /16/. Also components can be described to be as individual, team and organizational learning related and requires from learning organization to have leadership, strategy, participative policy making, teamwork, self-development opportunities, information flows, structural considerations, solid learning climate, experimentation opportunities as well as learning reward availability /16/. Individual learning is important to organizations but organizational

learning is not simply the sum of each individual learnings /33/. Organizations, unlike individuals, develop and maintain learning systems that not only influence their immediate members, but are also transmitted to others by way of organization histories and norms /33/. In fact, the nature of the learning organization is the promotion of the innovation and sustainable development of the organization through organizational learning using trust, organizational climate and team learning as enablers' /7/. So now everything is set to go forward with solid communication chain supporting the needed decision making. But before data analysis two questions needs preliminary answers, how to measure and define what the level of learning organization is in the future and how to connect communication to the same picture? One well defined method to measure and define learning organization is described in Raili Moilanen study of diagnostic tools for learning organization /28/ and diagnosing and measuring learning organizations /29/. The learning organization diamond model can be illustrated by presenting the form of an imaginary diamond with two sides and ten elements /28/. The upper part of the diamond covers the organization wide aspects, while the lower part concentrates more on individual-based views /28/.

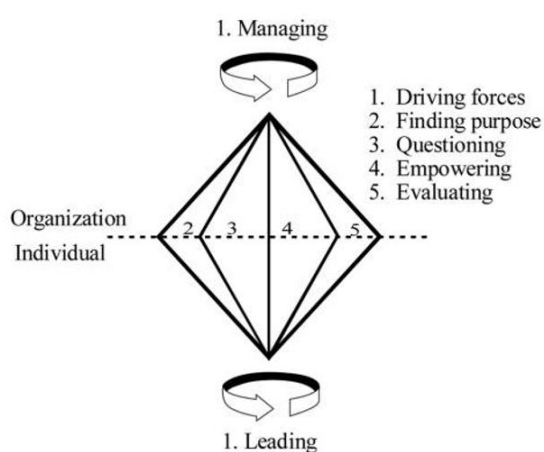


Figure 12. The learning organization diamond

Communication as part of learning organization can be covered using Eerika Hedman leadership team tool for better meaning making /3/ and Eerika Hedman and

Maarit Valo communication challenges facing management team's /2/ as sources for better communication implementation elements in management team and leading teams.

2.5.1 Trust and team learning

Confirmation that hypothesis is true is as follows. Directing and developing the actions, thoughts, and desires within the teams is the focus of team learning, so it is important that teams share information and learnings /7/. With openness, trust, and mutual support communicated at all levels, teams recognize, access, and develop emergent opportunities as they arise /7/. If a team member trusts his/her colleague's ability to perform well, no monitoring is needed /22/. In this way, the more teams can engage cooperative behaviors the less they will engage in monitoring and vice versa /22/.

H1. There is a positive association between trust and team learning

2.5.2 Trust and organizational climate

Climate of trust have positive expectations regarding the motives, intentions and prospective actions of others /17/. Also climate for trust motivates employees` to contribute new ways and engage in change-orientated behaviors /17/. Positive trust affects the employees' enterprising behaviors (e.g. creativity, risk taking behavior, assertiveness). Trust in management promotes also the employees' organizational citizenship behavior and allows employees to focus on productive activities and increases the organizational citizenship behaviors / 13/.

H2. The higher the trust, the more favorable the organization climate.

2.5.3 Organizational climate and team learning

Hypothesis is admitted using following descriptions. Personal mastery is the continual process of growth and development /7/. It is needed for creative work for

both the individual and organization /7/. Learning occurs only through the individuals acquires /7/. The communication exhibited through trust, support, and empowerment encourages individuals to continue their growth in organization /7/. Also team learning is important for teams to learn how to work effectively together and for organizations to manage their continuously changing environment. Therefore, teams are not only considered as important working units, but also increasingly to be the important learning units within organizations /25/.

H3. Favorable organizational climate is positively related to team learning.

The above hypotheses suggest that the organizational climate plays a mediating role in the relationship between the trust and the team learning. In other words, team learning has an indirect effect on the team learning through the organizational climate (Figure 13). This prediction is emphasized in the following hypothesis:

H4. There is a positive indirect relationship between trust and team learning through emphasis on organizational climate.

After these confirmations and openings of hypothesis, research model was drawn and data collection was started. (See figure 7)

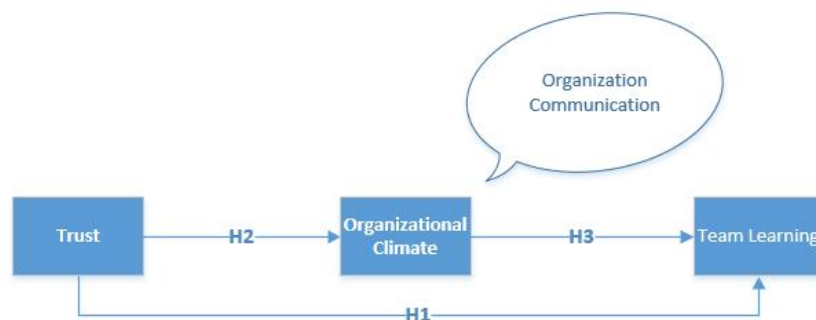


Figure 13. Research model

3 RESEARCH METHOD

This chapter introduces the research method, setting, data collection method, measurement of the variables and data analysis process.

In this thesis the research method used was a survey research, where raw data was collected using web based survey questionnaire and mail delivery to avoid potential errors.

3.1 Research setting

The research company Wärtsilä is a global leader in smart technologies and complete lifecycle solutions for the marine and energy markets. By emphasising sustainable innovation, total efficiency and data analytics, Wärtsilä maximises the environmental and economic performance of the vessels and power plants of its customers. The company operates in over 70 countries with approximately 18,000 employees and is listed on Nasdaq Helsinki. The net sales of the company were 4.9 billion euros in 2017. (Annual Report 2017) /34/.

The company has three businesses: Marine Solutions, Energy Solutions and Services (Annual Report 2017) /34/.

3.2 Data collection

To evaluate the model and variable linkages presented in Figure 7, this study adopts a descriptive quantitative design. In order to limit potential measurement errors, an electronic survey was sent to organization management team members. This study employed a single-respondent approach, so that 72 persons was selected as a key informant in the sampling unit.

To improve the likelihood of being able to generalize the results, electronic mail was sent to well-defined 72 management team members from the organization of Wärtsilä MPS RDE globally. After given survey submission period of two weeks, responses from 53 individuals were received.

The response rate is calculated in a way that removed ineligible responses from the sample size /26/. This calculation generated a response rate of 73.6 percent. This response rate can be seen as representative sample from the organization management. No significant differences were found between early and late respondents suggesting that response bias may not be a problem /30/. On the average, the respondents had worked in the company for 16.8 years and gender was divided to 18.9 / 81.1 percent between females and males /26/ (see table 1 for more details).

Background Variables

	Frequency	%	Cumulative %
Gender			
Male	43	81,1	81,1
Female	10	18,9	100
Years in organization			
0-10 years	16	30,2	30,2
11-20 years	20	37,7	67,9
21-40 years	17	32,1	100
Median 16,8 years			
Position in organization			
Director	6	11,3	11,3
General Manager	14	26,4	37,7
Program Manager	2	3,8	41,5
Senior Manager	1	1,9	43,4
Technical Manager	3	5,7	49,1
Business Controller	1	1,9	51
Manager	13	24,5	75,5
Expert	5	9,4	84,9
Assistent	3	3,8	88,7
Other	5	11,3	100
Respondent Education			
University	31	58,5	58,5
University of applied sciences	18	34,0	92,5
Other	4	7,5	100
Respondent Citizenship			
Finnish	36	67,9	67,9
Italian	6	11,3	79,2
Dutch	5	9,4	88,6
Norwegian	3	5,7	94,3
Spanish	2	3,8	98,1
Chinese	1	1,9	100

Table 1. Background Variables

3.3 Measurement of construct

The survey items for measuring research variables have been used in previous empirical studies, supporting the validity and reliability of the results. The survey contained thirteen questions regarding trust, five concerning organizational climate, seven touching the team learning, four related to team innovativeness and finally four to environmental uncertainty. The last two items, team innovativeness and environmental uncertainty were left outside from the analysis due to minor impact to main items.

3.3.1 Trust

Measurement of trust is based on the competing values instrument used by two different sources Tom R. Tyler and Graham Dietz, Deanne N. Den Hartog Krakower /30/. The survey question pattern were provided using a five-point scale (1 strongly disagree, 5 strongly agree.)

We used principal component analysis with varimax rotation to determine if all items measuring the TRUST construct together or not. Two factors with Eigenvalues greater than unity emerged from the principal component analysis, with solutions retaining 48 percent of the total variance /30/.

Factors for trust

	Component	
	1*	2*
I trust that my colleagues would acknowledge their own mistakes	0,772	
I trust that my colleagues can be relied on	0,725	
I trust that my colleagues will keep the promises that they make	0,672	
I trust that my colleagues care about the future of our organization	0,650	
In our organization, people tell the truth even if it is unpleasant	0,600	
I trust that my colleagues place our organization's interests above their own	0,574	
I trust that my colleagues can contribute to our organization's success	0,549	
I trust that my colleagues express their true feelings about important issues	0,401	
The Directors and Managers tried to take my needs into account		0,745
The Directors and Managers tried hard to do the right thing by me		0,733
The Directors and Managers considered my views		0,729
The Directors and Managers cared about my concerns		0,653
My views are considered when decisions are made		0,637

1*= Trust within colleagues

2*=Trust between superiors and subordinates

Table 2. Factors loadings for trust

Following the rotation, two constructs are Factors 1-2 denoted by the following characteristics (see Table 2). The first category, *trust within the colleagues* consists of trust emphasizing relationships with colleagues. The second category, *trust between superiors and subordinates*, consists of trust emphasizing relationships between superiors and subordinates.

3.3.2 Organizational Climate

The measurement of organizational climate is based on the competing values instrument also used by two different sources Stav Fainshmidt, M. Lance Frazier and Bassem E. Maamari, Leila Canaan Messarra. The survey question pattern were provided using a five-point scale (1 strongly disagree, 5 strongly agree).

3.3.3 Team Learning

The measurement of team learning is based on the competing values instrument developed by Eerika Hedman. According to the researcher this study is the first where question pattern is in use. The survey question pattern were provided using a five-point scale (1 strongly disagree, 5 strongly agree).

3.4 Reliability & validity of construct

To establish content validity, a review of existing theories and measures suggested that the measurement of trust, organizational climate, team learning could be reliably achieved through the adoption of measures modified from existing literature. In addition, the survey was pre-tested. In the pre-test phase, inputs was received from one director in the area of research development and engineering. He was asked to review the survey and to comment on the language clarity of each question as well as the overall format of the instrument. The pilot test showed that the instrument contained no ambiguities and its length was reasonable. After that the pre-test survey was sent to the target audience of 72 persons. Cronbach`s Alphas was then run to determine the reliability of the instruments /18, 27/.

Reliability Statistics		
Cronbach's Alpha	Numbers of Items	Variable description
0,840	13	Trust
0,786	5	Organizational Climate
0,652	7	Team Learning
0,846	25	All variables

Table 3. Reliability of construct

The Cronbach's Alpha obtained for the adapted survey was 0.846 and for the individual variable the Cronbach's Alphas ranged between 0.652 and 0.840 /18, 27/.

3.5 Research data analysis

3.5.1 Descriptive statistics

The following section provides information of descriptive statistics in table 3 and correlation matrix in table 4.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std.Deviation
Trust within colleagues	53	2,50	5,00	3,8325	0,48595
Trust between superiors and subordinates	53	2,60	5,00	3,7660	0,47513
Organizational Climate	53	2,40	5,00	3,6491	0,54477
Team Learning	53	2,29	4,43	3,5472	0,46942

Table 4. Descriptive Statistics

The final score for trust was calculated by summing and averaging the raw scores. Table 4 shows the descriptive statistics indicating a higher mean score for mean trust within colleagues, when compared to trust between superiors.

	1	2	3	4	5
1. Trust as one variable (TT)	1.00			0,735**	0,565**
2. Trust within colleagues (T1)		1.00		0,993**	0,563**
3. Trust between superiors and subordinates (T2)			1.00	0,563**	0,385**
4. Organization Climate (OC)	0,735**	0,693**	0,565**	1.00	0,630**
5. Team Learning (TL)	0,565**	0,563**	0,385**	0,630**	1.00

** Correlation is significant at the 0.01 levels n=53

Table 5. Correlation matrix of research model variables

Table 5 shows the bivariate correlation matrix for the variables used in the study. The results indicate a significant and positive relationship between trust (TT) and team learning (TL). Trust is positively and significantly related to organizational climate (OC). Although trust has a positive influence on team learning, trust within colleagues (T1) indicates a higher impact compared to trust superiors and subordinates (T2). Similar results were found when comparing the different types of trust on organizational climate.

4 ANALYSIS AND RESULTS

This chapter presents the statistical analysis and results of the thesis. Statistical analysis were performed for hypothesis testing and reporting /29/.

4.1 Correlation Analysis and Testing of Hypotheses

A simple correlation test provided the results shown in table 5 to all selected hypothesis.

The first hypothesis H1 of the framework required a test of the expected positive relation between trust and team learning. H1 suggested a positive relationship and linkage between TT and TL. Relationship was supported ($r = 0.565$, $p < 0.01$)

The second hypothesis H2 was linkage between trust and organization climate where trust was divided to two individual categories (T1 and T2), because SPSS factor analysis provided two separate components. H2 suggested a positive relationship and linkage between trust (TT) and organizational climate (OC). Relationship was supported ($r = 0.763$, $p < 0.01$).

The third H3 was between organization climate and team learning. H3 suggested a positive relationship and linkage between OC and TL. Relationship was confirmed ($r = 0.630$, $p < 0.01$) suggesting the mediating role of organizational climate.

For hypothesis 4, AMOS was used to test the mediation effect of OC on the relationship between trust and team learning (see Figure 14). In order to provide additional insight, the mediation was performed with the two variants of trust. To further test our hypothesis 4, a path analytic technique using AMOS was used to evaluate the model in Figure 13. We relied on the unstandardized parameter estimates for our theoretical model to further test the hypothesis and indirect effects.

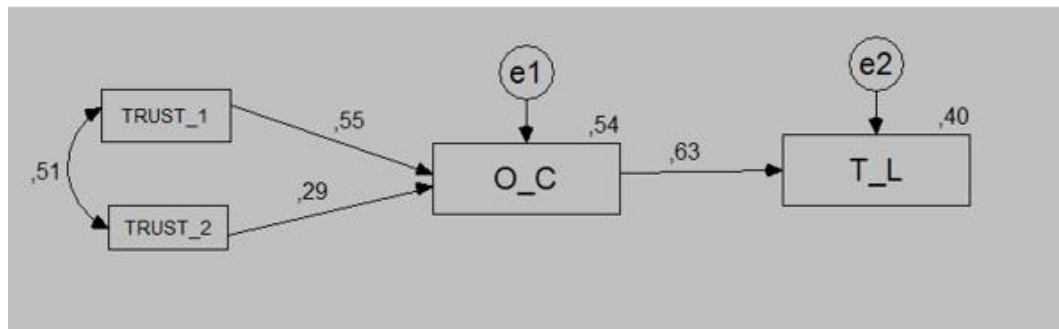


Figure 14. Structural Equation Modeling model in thesis

From a theoretical and evaluation point of view, a research model that fits best to the data was chosen. SPSS statistics supported by AMOS analysis finally confirmed the thesis' main variables and hypothesis to be interlinked as described in the theory part and data analysis. The hypothesized model appeared to fit the data. Maximum likelihood estimation was used because the research data was normally distributed. The CFI was .99, TLI was .97 and RMSEA was .08. We did not conduct post-hoc modifications because of the good fit of the data to the model. Table 6 shows that T1 is positively related to OC (standardized coefficient = 0.61, $p = .00$) confirming earlier results. Also T2 is positively related to OC (standardized coefficient = 0.33, $p < .01$). Confirming earlier analysis, OC were found also effecting TL positively with direct and significant relationship (standardized coefficient = 0.543, $p = .00$).

	Estimate	S.E.	C.R.	P	Label
O_C <--- TRUST_1	,613	,123	5,001	***	
O_C <--- TRUST_2	,329	,125	2,622	,009	
T_L <--- O_C	,543	,093	5,850	***	

Table 6. Regression weights

Figure 14 shows the standardized estimates for the relationships among trust, organizational climate and team learning. The path analysis shows that trust accounted for 55 percent of the variance in organizational climate, with a standardized path coefficient of 0.54 for *trust within colleagues* (T1), and 0.29 for *trust between*

superiors and subordinates. The path coefficient between the emphasis on organizational climate and team learning is 0.63, and accounted for 40 percent of the variance in team learning.

	Estimate
O_C <--- TRUST_1	.547
O_C <--- TRUST_2	.287
T_L <--- O_C	.630

Table 7. Standardized regression weights

We tested the significance of the indirect effects by using the bootstrap method, for overviews of testing indirect effects in mediation /36, 37/. We used AMOS with 2,000 bootstrap samples to obtain the lower and upper limits of a 95 percent confidence interval for the population indirect effect of trust on team learning through organizational climate.

The resulting interval was $CI_{0.95} : \{0.29; 0.49\}$ for T1 (trust within colleagues) and $CI_{0.95} : \{0.07; 0.30\}$ for T2 (trust within superiors and subordinates). The lower limits (0.29) and (0.07) are above zero. Thus, the confidence interval and supports H4 that states that trust influences team learning indirectly through favorable organizational climate.

5 DISCUSSIONS AND CONCLUSIONS

As described and analyzed in earlier chapters trust, organizational climate and team learning play vital roles in organization communication and without these ingredients organization growth and development as learning organization is not possible. Therefore, it is vital also for Wärtsilä MPS RDE organization to focus develop and maintain these variables. The basic research model was modified a bit during the study, to highlight more, the importance of trust within colleagues and between superiors and subordinates. Trust as total entity did not present the importance as needed, so a split to two own individuals was made. It was also stated in the literature review, how trust is more like as spectrum than one standalone entity /10, 21/. Also when relationships, communication and environment get more and more complex the organization needs a high level of organizational climate and team learning to the same picture /7/.

The research hypothesis was reviewed, answered in chapter 2, followed with chapter 3 containing the research method part, which collected raw data together, pressure tested data package and validated the reliability & validity of construct. Finally the data analysis and results were presented in chapter 4 where the hypothesis was confirmed, based on the analysis made.

5.1 Summary of findings

The main objective of this research was to explore possibilities to strengthen communication using learning organization as enabler and contribute organization, based on literature to start develop better knowledge about the innermost total communication first in the management team and in leading teams. This research confirmed the results that, between the selected variables, exists positive and significant connections, when maintained with proposed manner.

As a result of the literature review and empirical data analysis, this study contributes to the RDE organization to start actions to develop and deploy new ways of working and measurements supporting trust, organizational climate and maintenance of the learning organization.

Through the literature review and empirical data collection, provided by the research organization, the research intended to answer to the following question:

RQ1. What could be done in a research & development and engineering organization to enhance the development of trust, organizational climate and maintenance of the learning organization?

5.2 Theoretical contribution

There is a wide selection of literature related to the research question, how to enhance the development of trust, the organizational climate and maintenance of the learning organization. Theoretical contribution, descriptions, and literature references can be found in chapters 2.3 and 2.4, where all individual variables are opened. It is necessary and vital to understand these individual variable connections to each other and how a well maintained system is eventually working. In the literature chapter 2.3 overall relationship based on communication is opened using simple ways. Good example is that communication in other words can be described as “*data which have been processed and presented in a format which gives them meaning*” /1/ and that communication can also be seen as essential in a working relationship, connecting people and enabling organizations to achieve their purpose /19/. Also in this literature chapter a minimum communication baseline was given.

- Who (channels of communication, sender and receiver, responsibility and authority)
- What (scope, format)
- When (schedule)
- Feedback (confirms message received and understood)

- Filing (retrieval, storing, recovery)
- How (face to face, email, document, telephone, meeting, presentation)

The rest of the variables which were answering the research question is found in chapter 2.4, where the needs of trust were firstly reviewed. Trust was seen as spectrum not as standalone entity, where the most desired levels which affects the cooperation the most are knowledge -, relational - or identification based trust /10/. The statistical analysis confirmed also that trust have positive and significant relationships with organizational climate and team learning.

The second topic was organizational climate where the greatest findings were that organizational climate is *“a set of measurable properties of the work environment, perceived directly or indirectly by people who live and work in this environment and assumed to influence their motivation and behavior”* /11/. A positive organizational climate gives a chance that employees' are committed to work and job satisfaction can be at a high level /11/. Previous topics support the idea that the implication can be that managers need to aim their leadership initiatives at both the individual level and the group or organizational level /23/. Backwards thinking linkage to trust is obvious so that when trust is high it enables organizational climate to function well. Also communication and organizational climate is tightly connected. Organizational behavior especially existence of suitable organizational climate, powerful and strong communicative skills in the management are the factors for the success and superiority of the organization /35 /. The management should spend all their energy for developing a strong organizational climate which contributes the effectiveness of the organization /35 /.

The third and final variable of the final deliverables was team learning and its impact on the entity. Team learning is important for all teams to learn how to work together effectively and for organizations to manage their continuously changing environment /25/. Focusing on the acquisition of new and common knowledge as an output of team interactions or change and improvement by regulatory and reflexive processes of the team /12/. So team performance can be seen as concerns to

process, product of the team work and the willingness of team members to remain in the team as individuals and that way as team members /15/.

5.3 Practical implications

Based on the results, which was found during this study, the following actions are recommended to take in Wärtsilä MPS RDE organization.

5.3.1 Communication

Competent communication in the organization is in a central role as illustrated in this study, when the organization targets to be a learning organization. Based on findings in this study, the suggestion is that organization management needs first, develop awareness of the communication challenges they are facing and second, learn to discuss those challenges in a constructive manner /3/. Previous actions can be to implement establishing reflective practices, which allow to further develop team reflexivity and that way implement competent communication practices /3/. Management should also pay more attention to their informal communication particularly during meetings, because that enables trust and relationships within the team's /3/. To measure competent communication and reflexivity within the management team and leading teams so called Leadership Team Tool could be used /3/. In this study selected content of the original tool was used among other study related questions. The target of these communication and reflexivity related questions are to focus in understanding and working with the meaning-making patterns that are created, maintained and transformed in communication /3/. Parallel with management communication and reflexivity development the rest of the organization communication should be scanned using similar questionnaire which was used in this study. Received data should then be analyzed and compared to the already analyzed management data to find differences if any. A similar analytic approach should be used also during whole organization scan.

These actions and proposed Leadership Team Tool represent a new fresh era of organizational development /3/. A new way of thinking and managing communication as model and in daily practice is based on the dialogic rather than diagnostic mindset /3/. The organization as a total entity can benefit from qualitative communication in many ways such as new ways of thinking and managing communication, helps to facilitate conversation flow between the different contexts of individual communication behavior, relationships between team members, teams and organizational culture /3/. This will enhance organization at the same time to develop trust, organizational climate and maintenance of the learning organization.

5.3.2 Learning organization

Towards a learning organization trust, organizational climate and team learning are the variables including competent communication through the whole organization. To measure and develop the organization, the learning organization diamond should be implemented /28/.

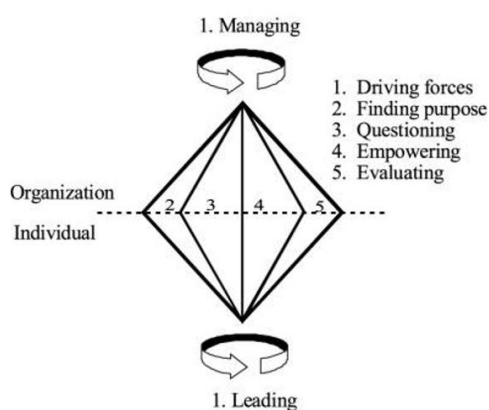


Figure 15. The learning organization diamond

Diamonds and learning organizations are composed of two halves which are in reciprocal dependence of each other: organization (upper half of the diamond) and the individuals (lower half) /28/. The core of this measurement tool is to visualize the holistic picture of an organization and see the present state of the learning organization /28/. Two separate portrayals can be created from organization or individuals as well as separate pictures of the different respondent groups of the organization /28/.

Focus	Organization	Individual
Driving forces	Building the whole	Leading learners
Finding the purpose		Where and why?
Questioning		Why not, what hinders?
Empowering		In what ways?
Evaluating		To know if succeeded

Figure 16. The core of questionnaire

The questionnaire offers a framework for analyzing the learning organization and is rather general, because organizations are different; backgrounds, histories, cultures, processes and businesses varies /29/. In spite of this variety, frameworks are needed to assist the management in their efforts of diagnosing their organizations /29/. During the buildup of the questionnaire pattern the following statements should be answered (see figure 11).

Focus	Organizational level	Individual level
Driving forces	Building a learning organization is a priority and has many resources in our organization	Leaders support and encourage my learning
Finding the purpose	Learning is seen as a vital part of our organization's competitiveness	The goals of my organization direct my development and learning
Questioning	Learning obstacles have been eliminated in our organization	I am not afraid of big changes
Empowering	Our people are coached to master new processes and techniques	I am able to apply my learning to develop my work
Evaluating	The development goals are meaningful, because they are evaluated	I am able to assess the outcomes and methods of the work of our team

Figure 17. Statements to operationalizing the framework

A research organization will gain benefits from this section proposal for example in these areas. The role of managing the whole and leading learners and their learning seem to be worth pursuing in organizations /29/. Also the proposed learning organization diamond takes organization as a whole entity and the single individual from the organization in the same analysis /29/. This viewpoint gives the organization totally new possibilities to develop relationships and cooperation among individuals.

5.4 Limitations and future research

The study was conducted with selected management levels in the selected organization, so it cannot therefor be used directly for other purposes or organizations.

Secondly, a future researcher may also venture in findings regarding research related questions which have impacted on the organization learning and communication in relation to the ones discussed and selected in this research.

Thirdly, the size of the organization as such has not been considered while conducting this research. Larger, smaller, more complex organizations have their own

complexities and may require a different set of skills and linkages, than those which are described in this research.

Also as future proposal and research output from this study, open discussions have started already in the selected organization, how to implement and develop even further findings from this study. It may be so that this study was just a pilot case for something bigger that will be happen later in the organization during future research.

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APPENDIX 1- SURVEY

Communication in organization

RQ1: What could be done in Research & Development and Engineering (RDE) to enhance the development of trust, communication and maintenance of the learning organization?

You must answer all questions to complete this survey and when answering, think about this current moment & time from near past.

This survey will be confidentially handled and respondents personal privacy is secured.

Hi Jukka, when you submit this form, the owner will be able to see your name and email address.

* Required

1. The Directors and Managers ...
Considered my views *

strongly disagree

disagree

neutral

agree

strongly agree

APPENDIX 1- CONTNUE

2. The Directors and Managers ...
Tried hard to do the right thing by me *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

3. The Directors and Managers ...
Tried to take my needs into account *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

4. The Directors and Managers ...
Cared about my concerns *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

5. My views are considered when decisions are made *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

APPENDIX 1- CONTINUE

6. I trust that my colleagues ...
Place our organization's interests above their own *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

7. I trust that my colleagues ...
Will keep the promises that they make *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

8. I trust that my colleagues ...
Express their true feelings about important issues *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

9. I trust that my colleagues ...
Can contribute to our organization's success *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

APPENDIX 1- CONTINUE

10. I trust that my colleagues ...
Care about the future of our organization *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

11. I trust that my colleagues ...
Would acknowledge their own mistakes *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

12. I trust that my colleagues ...
Can be relied on *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

13. In our organization, people tell the truth even if it is unpleasant *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

APPENDIX 1- CONTNUE

14. There is a very high level of trust throughout this organization. *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

15. Friendly atmosphere prevails among the people in this organization *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

16. If someone in this organization makes a promise, others within the organization will almost always trust that the person will do his or her best to keep the promise. *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

17. Directors and managers in this organization trust their subordinates to make good decisions. *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

18. In this organization, directors and managers have a great deal of trust for subordinates. *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

APPENDIX 1- CONTINUE

19. We discuss the different future organization scenarios openly. *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

20. We can successfully put our strategies into action. *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

21. Everyone in the team focuses on achieving the shared vision and objectives set by the team. *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

22. Everyone in the team participates actively in decision-making conversations. *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

APPENDIX 1- CONTINUE

23. Leadership is always a shared effort. *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

24. We discuss and evaluate our objectives, assumptions, working methods and processes openly. *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

25. If team member discovers a problem, he or she will talk about it with other team member *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

26. The team initiated new procedures and methods *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

27. The team developed new ways of accomplishing work targets/objectives *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

28. The team developed new skills in order to foster innovations. *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

APPENDIX 1- CONTNUE

29. The team initiated improved learning strategies and methods *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

30. It is hard to know customers' needs *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

31. It is hard to understand competitors' strategies *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

32. It is hard to predict competitors' product announcement *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

33. Technology changes rapidly *

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

34. Respondent gender *

Enter your answer

APPENDIX 1- CONTNUE

35. Respondent years in the organization *

36. Respondent position in the organization *

37. Respondent education (highest) *

38. Respondent citizenship *