Use Restricted

Classified information sharing, case NESA

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Abstract

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This Thesis is written for the Laurea University of Applied Sciences under the Bachelor's Degree in Security Management. The empirical research of the thesis was supported by the National Emergency Supply Agency as a CASE study, in classified information sharing in the organization. The National Emergency Supply Agency was chosen for the research because of its social significance and distinctively wide operation field. Being one of the country's administrator's actors, its range of tasks in business as well as in the administration is unique.

The purpose of this study was to analyse the classified information's usability and effectiveness in NESA's internal communication. The goal of the study was to understand and examine the challenges that NESA has in classified information. The study focuses on describing the current situation on classified information sharing at NESA and brings up common challenges of classified information through a literature research. In addition to that, it gives ideas of improvement for operations further down the road.

The study is done by using a qualitative research method. The information used in this study has been gathered from three different means. The information for the theory part is collected from a literature review. The empirical part was conducted by face-to-face interviews and by using NESA's public documents. The whole study was executed at NESA's facilities in Helsinki.

Four people from NESA were interviewed for the study. Three of the people that were interviewed represented NESA's management board and one was a special advisor. The interviewed people were selected from different sectors of NESA to achieve the realistic overall picture of NESA' operations.

The thesis shows the importance of classified information in the organization and offers suggestions for the current situation. The survey showed that the exchange of classified information is clearly personalized and therefore also inadequate. In order to ensure a good and real-time flow of information within the organization, the internal classified information sharing needs more attention and further development in the future.

Keywords: Classified information, classified information sharing, information sharing, internal communication, verbal communication

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Tiivistelmä

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Käyttö Rajoitettu - Salassa pidettävän tiedon vaihtaminen, case Huoltovarmuuskeskus

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Tämä opinnäytetyö on tehty osana Laurea ammattikorkeakoulun englanninkielisen turvallisuusalan koulutusohjelmaan kuuluvina opintoina. Opinnäytetyön empiirinen tutkimus on toteutettu tapaustutkimuksena yhteistyössä Laurean ja Huoltovarmuuskeskuksen kanssa. Huoltovarmuuskeskus valikoitui tutkimuskohteeksi sen yhteiskunnallisen merkittävyyden ja poikkeavan laajan toimintakentän vuoksi. Valtionhallinnon toimijana Huoltovarmuuskeskuksen tehtäväkenttä niin elinkeinoelämän kuin valtiohallinnon piirissä on erityislaatuinen.

Tämän opinnäytetyön tarkoituksena oli arvioida luottamuksellisen tiedon käytettävyyttä ja vaikuttavuutta Huoltovarmuuskeskuksen sisäisessä viestinnässä. Työssä yritettiin ymmärtää ja tarkastella Huoltovarmuuskeskuksen luottamuksellisen tiedon tuomia haasteita sisäisessä viestinnässä. Tutkimus keskittyy tarkastelemaan Huoltovarmuuskeskuksen nykytilannetta sekä pyrkii tuomaan teorian kautta esiin luottamuksellisessa tiedonvaihdossa esiintyviä haasteita ja luomaan mahdollisia kehitysehdotuksia tulevaisuuden toiminnalle.

Opinnäytetyön tutkimukselliseksi lähestymistavaksi määriteltiin kvalitatiivinen tutkimus. Tutkimuksessa lähestyttiin aihetta kolmella eri tiedonkeruumenetelmällä. Tutkimuksen empiirinen aineisto kerättiin kirjallisuuskatsauksista, haastatteluista sekä Huoltovarmuuskeskuksen sisäisistä julkisista asiakirjoista. Tutkimus suoritettiin kokonaisuudessaan Huoltovarmuuskeskuksen tiloissa Helsingissä.

Tutkimuksessa haastateltiin Huoltovarmuuskeskuksen johtoryhmän kolmea jäsentä sekä yhtä erityisasiantuntijaa. Haastateltavat edustivat organisaation eri osastoja, jotta tutkimus käsittelisi mahdollisimman laajasti Huoltovarmuuskeskuksen kokonaistoimenkuvaa.

Opinnäytetyön tutkimus osoittaa luottamuksellisen tiedon tärkeyden Huoltovarmuuskeskuksessa ja tarjoaa kehitysehdotuksia nykyiselle toiminnalle. Selvitys osoitti, että luottamuksellisen tiedon vaihtaminen on selkeästi henkilöytynyttä ja näin ollen myös puutteellista. Jotta organisaation sisällä varmistetaan hyvä ja reaaliaikainen tiedonkulku, tulee luottamuksellisen tiedon sisäiseen viestintään kiinnittää huomiota ja edelleen kehittää jatkossakin.

Asiasanat: Salassa pidettävä tieto, salassa pidettävän tiedonvaihtaminen, tiedonvaihto, sisäinen viestintä, verbaalinen viestintä

Table of contents

List of abbreviations and symbols

NESA	National Emergency Supply Agency
NESO	National Emergency Supply Organization
NESA Board	National Emergency Supply Agency Board
PPP	Public-Private Partnership
NDA	Non-Disclosure Agreement
TLP	Traffic Light Protocol
NSI	National Security Inspectorate

1 Introduction

This thesis focuses on the relevance of classified information sharing in internal communication at National Emergency Supply Agency in Finland. This thesis is a case study about trusted information sharing in National Emergency Supply Agency (NESA). Today, the information and information sharing is connected to both employee and the organization. The information is no longer just individual feature and investment but also organization's feature and investment.

There are three main challenges explained in this thesis. Firstly, there is already existing trusted information in the organization, but its availability is either unintentionally or intentionally restricted for internal use. Second, the trusted information is too personified and finally, the organization recognizes the role of information management, and has objectives to develop protocols or guides for its personnel.

1.1 Information

Information is a multidimensional concept that is connected to several processes, practices and data systems. In the organization the information can be "raw material" as in refined production processed into a product or service. Information can also be a result of the work. Information is needed in every state of activity in the organization. Information and capability can be recognized, developed and shared between individuals as well as in organization level and even between organizations.

Haridomos Tsoukas analyses in his writings an organization's information character (Tsoukas 2001). He observes an organization's information as a constructive aspect and thinks about the organization as a distributed knowledge system. In this kind of system an organization's information can't be observed and understood as a managed whole, because it is in principle undefined: Information (knowledge) is not a stable or unchangeable shared resource but is continuously formable. Regarding the information the organization is not self-sufficient, because its information is separated to individuals and a part of these individual's information comes from outside the organization.

According to common and established definition, data is formed from different facts that don't have a meaning or goal (Davenport & Prusak 1998, Tsoukas &Vladimirou 2001). In the organization the data is stored in electronic data warehouses and written reports. The Data becomes information when it is communicated in message between people via different communication systems and in social interactions (Davenport & Prusak 1998).

1.2 Information sharing

When an organization's knowledge examination is research-based, exchange is observed in a type of mechanism activity in the organization. The mechanism's goal is to keep the knowledge that exists unchangeable. Because the knowledge that exists in people's conversations is subjected to be misinterpreted, knowledge change is "built-in" to all knowledge use (Tsoukas 1996, Szulanski 2003). Knowledge transfer is not a right term, because an organization's information can't be transferred like an item – like it exists in another place – but every information recipient builds up his own version about this transferred knowledge (Karl-Erik Sveiby, 1996, 381).

The information transfer with the information sharing interaction changes the inspection focus away from the organization activities to activities between individuals. Davenport & Prusak(1998) say that this means that the attention from information exchange should be directed more to its availability and notice, information sharing rapidity to information usability and from reading documents to its interaction. Because not all individuals can explain all the transferable information in words, the only way is to accelerate information transferability for increasing the interaction according to the circumstances and try to maintain and improve it. Therefore leadership requires its understanding and how information and knowledge in the organization should be shared and used between the organization members interaction.

Szulansk research results say that information transferring failure has three important reasons and they are: 1) the information's sender and receiver's "arduous relationship", the second the receiver doesn't have the skills to take on the information or has "a lack of absorptive capacity", or the receiver doesn't understand the transferable information's meaning overall or its "causal ambiguity". The information receiver needs not only to have the information but also understand and use the information.

1.3 Previous research

Both information and information sharing are widely studied concepts. However, there have not been many researches that handle the classified information sharing. The reason for this might be that the information that is used changes its value depending on the information receiver and its usability.

2 Theoretical frame and reference

This chapter studies the concepts of internal communication, communication channels, verbal communication and electronic communication. It also studies the communication problematics constituting the theoretical frame of reference to support the understanding of information sharing and internal communication and their relationship.

2.1 Classified information

Most of the countries' classification systems vary but usually the levels still correspond to each other. The purpose of classification is to protect information. This protection considers information confidentiality, integrity and availability (CIA) and the access is restricted by law or the organization's rules. The classified information can be divided to four levels, which are; restricted, confidential, secret and top secret. EU commission uses these levels but they add on their documents the word "EU" before every protection level, e.g. "EU SECRET". These levels are based on the information's impact to the organization, state or country.

The NSI refer to three major decisions when thinking of classifying the information. They use three questions "1. Should the information be classified? 2. What level of classification does it require? 3. What should be the duration of its classification?" (Quist, A. 1993. Classification of information an overview).

The Arvin S. Quist Classification Officer, a member of the Federation of American Scientists states that information protection should be "described in clear, precise language". He adds that the "classification guidance should leave no doubt about exactly what information is classified and what information is unclassified". (Quist, A.1993. Classification of information an overview).

The U.S. Department of Defence Handbook says that the classifying information or material should be "definite" and the reason should be "identifiable or rationale". If the reason is not recognized the information or material shouldn't be classified. He says that "Precise classification guidance is prerequisite to effective and efficient information security". (US Department of Defence .1999).

2.2 Internal communication

An organization is a group of people that are committed to work for the company's goals. An organization's structure defines the devision of labour and power in the organization. At the same time it has ab effect on communication. Communication is necessary for an orgazation's activity and it can be defined as one of the organization's resources. The Communication should be planned and managed (Åberg 1989, 34).

Organizational communication bears all communication that happens in the organization. This includes i.a. external and internal communication. Internal communication happens inside the organization between all personnel (Åberg 1989,34).

Siukosaari explains that the work community's internal communication is mainly human resource communication (Siukosaari, 2002 p. 65). Internal communication is largely management and staff cooperation. This cooperation means all of the community's internal communication activity that doesn't really intermediate information. The cooperation's objective is to try to grow interaction between them. This adds to the staff's well-being, which leads to staff commitment, builds up motivation and develops fruitful work activity. The internal communication should be planned and also equally applied. When the staffs are familiar to each other, as well as their job description, it leads to good interaction in discussions and meetings. (Siukosaari, 2002 p. 67).

According to Siukosaari, communication's goal is to influence. The message is considered understood when the receiver understands the message and changes his/hers habit like the message sender has intended (Siukosaari 2002, 80). Ikävalko on the other hand defines communication as a contiguous process where planning something new is based on the past evaluation.

Smith refers to Chair Stephen Windsor-Lewis and adds that the term ”leadership communication” is an alternative term for internal communication. Smith continues that informing always tries to affect by information – it is expectations for the corresponding, correct and as correctly as possible timed information (Smith 2008). Siukosaari states that the internal communication target groups inside the organization are easily recognized. Regarding to this it is also possible to find out what ~~is~~ the education level is, what special knowledge they hold and how they varies in different staff groups. When the receiver is known, it is also possible to assure the sended message comprehensibility using the same language with the receiver. (Siukosaari 2002).

According to Kortetjärvi-Nurmi the organization's communication can be observed from three views: The staff interaction network, communication as an activity and as management's responsibility. The organization communication is goal-oriented and the communication forms a structure that includes communication relationships (who messages to whom), message content (what is communicated), practical arrangements and resources (what resources are used to communicate). Communication goals implementation is monitored, measured and evaluated and these evaluation results are the basis for planning new goals and actions (Kortetjärvi-Nurmi 2008, 8-10).

Smith says the internal communication has moved from events and people to sharing corporate goals and that it should be championed at the management level. The organization needs to understand what is expected of them and internal communication helps them to deliver this. Internal communication is still considered as a new discipline. However, the internal communication is everybody's responsibility from CEO to line manager and supervisor. (L. Smith 2008, 9-16).

It has been seen that difficulty remains in individuals in the organization that think themselves conducting internal communication and do not regard the internal communicator as a specialist with professional knowledge (Smith 2008, 19). When internal communication is well managed and targeted it could help employees to understand their company role and its direction.

Siukosaari(2002) refers that the new, usable information, which is in somebody's head, on a sheet of paper or stored on a personal network drive, won't help anybody else in the organization to achieve the organizations common goals. Siukosaari states that information must be moved and the information doesn't move by itself. Even though telecommunication has developed in an enormous amount, the computers and devices don't yet communicate together. It needs the senders and conveyors power. (Siukosaari 2002, 80)

According to Smith the communication mission is a three way process; Top-down, bottom-up and lateral, across sectors or functions (Smith 2008, 172). The fist general principle is to start with a management role. Employees expect to receive information from their managers and when they don't receive it, the senior manager is in a crucial role. Next, the staff must know what they can and cannot talk about. Commercial agreements or other sensitive information will fall into "not" category. If the manager is not able to talk about the matter, they should also be able to say why they cannot talk about such information. (Smith 2008, 172-173).

2.3 Communication channels

Communication is needed in the organization to tell the working society about incidents, internally as well as externally. The internal communication is targeted, as the name refers, to personnel. (Åberg, Viestinnän johtaminen, 171). The work community in internal communication has quite an extensive range. The internal communication forms can be categorized to four groups according to, if they are: Close channels or remote channels. Close channels serve work units or individually work community's members. Remote channels send messages to all work community (organization). Direct intercommunication or handed on small group and network communication. Intercommunication is based on personal interaction. Small group communication uses mass communication technics but the message is handed on to a more definite targeted group than in mass communication, where a targeted group is wider and more random. In network, communication is used intranet and other electronic communication applications. (Åberg 2002, 173).

Åberg describes that direct intercommunication based on close channels represents the closest supervisor, other supervisors and different meetings like section meetings. Supervisor-subordinate network is internal communication's basis and great part of the operational information passes horizontally, from co-worker to other.

The company's communication system is often a mix of different communication systems. The benefit of electronic and written message is that the information is saved somewhere, where it can be checked afterwards. Verbal communication enables dialogue, when it is possible to make specified questions and extend the communicated message and bring up different aspects in the conversation. The verbal and electronic communication is explained further in this chapter.

Åberg says that information that is related to one's own work, the most important information source is the immediate superior. Åberg adds that the information received from one's own superior and from section meetings when the subject is related to one's own work unit. Information that included information of the whole company was received from briefings, one's own supervisor or CEO. With these facts Åberg makes the conclusions and states that firstly staffs use channels selectively and these uses of habits are gathered over the years. The other observation was that the superior was a so called "general source". (Åberg 2002, 180).

Åberg describes communication gap as a person's experienced difference about specific subject or channel between the amount of given and wanted information. The gap can be divided to a channel gap and an information gap. A Channel gap is explained to be the reminder of the information that we have and the information that we want through a specific communication channel. Whereas, an information gap refers to gaps, that exists between the subjects. (Åberg 2002, 181. Huhtala 1998).

According to the OCD research that Åberg talks about, the work community usually wants to have all the information available. The reason for this need is the lack of flow of information, which really means that information is pledged. The other fact is the timing problem. This means that sometimes the subject has been informed about but employees' don't remember or find the information when they feel that there is need of that information flow. (Åberg 2008, 181). The last thing that bothers the employees is that the information exists somewhere but it is not told to the person themselves. (Åberg 2008, 183)

In practice the above means that for one reason or other communicators and work community's communication needs don't meet - the bigger the gap the farther the brush. The conclusion is that when the communication gap decreases, the internal communication has been increased. However, if the amount of the internal communication is increased too much it causes an information problem. This means that the person who needs the information has troubles finding the essential information. Efficient internal communication system is a system where moves informative messages.

2.4 Verbal communication

Verbal communication is the most efficient and respected communication tool. It is preferable to talk face-to-face about the most important subjects. Often these subjects rises discussion and when the message can be directly discovered it is understood correctly and the listener can make clarifying questions. The message can be supplemented and say goals where the verbal communication has an influence.

The different communication styles might have an effect on some of the friction inside the organization. The communication is not always constructive and open. People may talk to each other very sharply amid the rush. The communication styles can be divided to positive (e.g. kindness and energy) and negative (unkindness and passivity).

The new modern communication tools have not removed the need of personal communication. As mentioned before, important subjects are discussed face-to-face. Face-to-face discussions are usually done when the message concerns one's own job, unit or exchanges that happen in that field (Ikävalko 1999, 59-60).

In meetings the information is shared to a group and usually the questions and answers asked give information to more people at the same time. The challenging part is to have everybody's attendance and this puts demands on the meeting leader. The meetings can be between management and staff, unit, team, workgroup discussions or brainstorm meetings.

Superiors usually hold meetings that are information sharing meetings where the superior carries a message from the top down. The superior's role is to read the message from management and relay the message in an understandable way to subordinates. The superior must also relay the message to those people that were not able to attend the meeting (Siukosaari, 99).

The information moves a lot between co-workers. Often the communication is linked to work but also to a unit's and the whole organization's matters. In addition to that people are used to talking about personal matters, too. Between colleagues there is also the grapevine. There is always somebody who knows about unfinished matters that have not been reported and then the rumour grows wings. This makes the internal communication role very important, it should be open and fast so the rumours are only positive (Siukosaari, 100). The news conference is the right way to communicate when the subject is extremely important and urgent or if there is need to tell the staff about a bigger change in the organization. After a news conference there should also be an announcement about the discussed subjects in the conference.

2.5 Electronic communications

In organization's internal communication electronic communication basically means e-mail and intranet, both concepts are discussed in this chapter. The electronic communication has made the communication real time and contiguous. By this implication more and more organization's members are information providers and brokers. Therefore communication skills are needed in organizations every unit and level (Kortetjärvi-Nurmi 2002, 103).

E-mail is an easy and painless internal communication channel. The message can be delivered to bigger receiver group at the same time and it makes possible to create common distribution lists which are easy to use. Because the e-mail is so normal and easy to use, it is used often too much. With the distribution list sometimes the message is sent to a person that it shouldn't receive and the other thing is that the person's name is added to the group just in case the person needs the information.

The email has also brought some sloppy language use in the context. The messages are usually short and often people use dialect words and specific work related words in internal communication. There is a risk that the message can be understood incorrectly or it is not understood at all. The message can be understood wrong also when the language is well spoken. It depends on how the message receiver reads the lines. Therefore the message sender should read the text again before sending the message and think is the text unambiguous or is there some points that could be read incorrectly. Some organizations have separate guides for email communication (Kortetjärvi 2002, 96). It would be easier and clearer if the organization uses a common image in e-mails and follows graphic instructions and communication strategy.

E-mail is a good channel to exchange and share information in daily information sharing because it's fast. E-mail is often used also in discussions where the answers are sending back and forward. E-mail leaves a track if there is a need for check afterwards. If the e-mail is used as an information channel, the condition is that all those persons for whom the message is intended to are admitted to read the email.

Intranet is communication channel for whole staff, which is carried out in information network. The intranet is a great information sharing tool. With intranet the information is available at the same time and form for all staff and the information is there for re-examination if needed. This doesn't leave superiors anymore in unequal position with information sharing skills (Kuivalahti 2003, 41).

The data content of intranet could be very diverse and it can work interactively with feedback channel or via discussion column. The organization's vision and strategy are there easily checked and reporting economy matters is being taken care of easily too. In the intranet is possible to publish process pictures and through it there is available tools and documents for every day work. Through intranet it is possible to increase the service availability and knowledge among organization staff and thus issues are conducted efficiently. The changes that happen in the organization can be informed via the intranet as well as permanent information. Human resource related issues can be also informed effectively through it. All topical announcements and events can be saved in the intranet too (Kuivalahti 2003, 46-47).

It is important to understand that the intranet is only a communication channel and it doesn't rule out other communication but completes it. Same kind of matters can be and is preferable to message through other channels too.

The intranet's efficiency depends on its structure and functionality. The options and push buttons should be clear, simple and divided to a whole complex of issues, so it doesn't take too much time to find the information. The links have to work and the guides should be clear so every user can e.g. give feedback through intranet and leave its own announcement in the electronic board. This needs skills from intranet creators and administrator.

Written communication has been abandoned because of the electronic communication and usually all newsletters are sent to all in emails. Telephone directory can be for instance an information package. It can be copied to a paper or it can be in an electronic form in the intranet.

2.6 Communication problematics

In this section it is discussed the problematics of communication and why communication doesn’t always achieve the wanted result. Wiio divides these disruptions into four parts; communication disruption, barrier, loss and roar.

Wiio states that ideal communication system is a system that doesn’t have any limitations and distractions and the systems goal effect would be exactly the same as achieved effect. In real communication systems this doesn’t happen. The achieved effect always is different than the goal effect. In every communication system there is always disruptions that change the goal effect. (Wiio. O, 2000). The communication system can be incomplete and the communication doesn’t come up. This means that communication has barriers. Wiio states that this kind of example is a message that doesn’t go through. This means that the message has been probably sent to a wrong address or it has for some reason lost in its way. The sender or the receiver might have defective articulacy or they don’t know how to use communication tools (Wiio 2000, 214-215).

Loss means that the message has been lost after the message has been delivered. It is connected to the message receivers’ data processing. The message can be lost e.g. when the receivers email is full or he loses the envelope before reading it. This Wiio explains as destruction. The other loss-type that Wiio refers to is rejection. Rejection is explained as receiver decides to not accept the information because of his own attitude or because the information is not important for him. (Wiio 2000, 215).

When the information is read differently than the sender has intended to, the message is distorted. Things that affect this can be that the message is too complicated so that the receiver cannot conceive like the sender intended. The receiver might also read the message wrong because of his own experience and attitudes. Also if the message travels through too many people the message is not any more as reliable. (Wiio 2000, 216). Using clear headlines and defining a whole complex of issues helps reading and understanding messages. The clear layout of the message is a key factor (Wiio 2000, 120-137).

Because the communication methods have developed it has also a disadvantage side: There is too much of information. Today everybody’s emails are full of new messages and they hardly manage all the messages they receive. The challenge is to find the relative information and messages and find a way how to inform of the message content to target groups. The information should be saved so that all have the knowledge where the material is stored. Siukosaari (2002, 81) states that it is more understandable and helpful if the person knows what is the organization activity and goals. It is important also to know colleagues job description and mission. Not all the information should be forwarded to all organization but the information should be screened out and sent only the relative information. All other information should be stored in files and those files that have information should be reported to all personnel so the information is known available (Siukosaari 2002, 81).

3 Methodology

After the previous introduction and familiarizing the theory concepts, this chapter presents the methodology used in the research. The chapter introduces first the research questions of the thesis. After this are the methods used for answering those thesis questions and finally the research timeline.

3.1 Research questions

The introduction part introduced the relationship between information and information sharing. After that the second chapter described the theory part of the central concepts. Regarding those concepts discussed the research questions are the following:

1. How confidential information is handled currently at NESA?
2. What are the organizations internal communication problems when sharing classified information?
3. How the organization can develop their internal communication when sharing classified information?

3.2 Research methods

Due to the research nature, theoretical concepts and research questions, this thesis will apply deductive and qualitative research logic. The research is theory based and it is done as a case study, which means in practice familiarizing one organization’s culture in confidential information sharing.

The goal of the qualitative survey is to understand the event from subjective and actor perspective. Usually the researcher participates in the research process but not as external observer who just measures things objectively. The research process can be flexible and it can change during the research. The research material is gathered in real context and situations. In qualitative research the human is the material method collector and the researcher’s own observations and discussions are more important than the calculated data. (Hirsjärvi & Hurme. 2014, 47-48). The qualitative research surveys complex processes and events and especially those events that are not well known and that can't be explored through experimental process. (Marshall 1985. 1987. & Marshall & Crossman. 1995).

The theory's meaning in the qualitative research is twofold; it's a tool and an objective. Theory as a tool helps in doing research and in structuring interpretations when the theory's objective is to develop the theory and come from single to common observations.

3.2.1 Semi-structured theme interview

Interview is considered as a unique data collection method because there the interviewer and the interviewee are face-to-face and in direct lingual interaction. Hirsjärvi, Hurme & Ollikainen state that the data collection method should be justified. The benefits from interviews are that usually the interviewers are enclosed to the research (Hirsjärvi, Hurme & Ollikainen. 2013, 206).

Despite the fact that interviews accomplish something functional and valuable it still takes a lot of time. To be able to make a thorough interview, it needs familiarizing with roles and duties of the interviewed person. The interview's reliability could be weakened because the interviewee usually gives democratic answers. Therefore it is decisive how the interviewer read the interviewee's answers (Hirsjärvi, S. etc. 2013, 207).

Semi-structured theme interviews are the most common interview method in qualitative survey. Theme interview is an interview where the researcher has developed the survey's questions in specific themes (Hirsjärvi & Hurme. 2014, 47). Hirsjärvi & Hurme states that for example Patton (1990, 280) uses for this kind of context "the general interview guide approach". According to Hirsjärvi & Hurme the theme interview is closer to non-structured than structured interviews. The theme interview is semi-structured because the interview's aspect is that interview's subjects and theme areas are for everybody the same. (Hirsjärvi & Hurme. 2014, 48).

According to Saunders, Lewis & Thornhill (2009, 320-323) the semi-structured interviews have a list of themes and questions to be discussed. They say that questions can vary and they don't obey a certain flow chart. The discussion can be done by audio-recording or by note taking. Saunders, Lewis & Thornhill state that the open questioning method is good way to start the interview because it encourages the interviewee to reply as they wish. The other type of question they refer to is "probing questions" and these are used to explore responses to the research topic. Probing questions are also used when the interviewer is not quite sure about the interviewee's answer or the response doesn't reveal the reasoning involved. Finally Saunders, Lewis & Thornhill discover the third type, specific and closed questions that are used to obtain specific piece of data. It is used to confirm or obtain specific fact or opinion.

(Saunders, Lewis & Thornhill 2009, 336-339). Silverman says about the semi-structured interview typology of interview strategy that it requires skills in rapport with interviewee and understanding the aim of the project. (Silverman, D. 2001, 162).

3.2.2 About the interviews in this thesis

The qualitative research is carried out in semi-structured interviews that represent two groups, the directors and specialist. For this study were interviewed three directors and one specialist. These representatives are from three different working sectors. The representatives' names and sectors are not mentioned in this thesis, because they wanted to stay anonymous. However, this doesn't reflect on the thesis reliability because all the interviews are written in a memo that are held with author of this thesis. The semi-structured interview's question themes were done in advance. These themes follow the research concepts mentioned in the introduction part; confidential information, internal communication, communication channels, verbal communication, electronic communication and communication problematics.

The organization's induction programme had a big role in understanding the organization's activities as well as the methods used in the organization for information sharing. The induction programme represented all the organization's sectors and their main activity. This helped to identify and recognize the shortcomings and barriers that exist in the organization. Through that, it was easy to come up with the questions for the interviews. The questions were formed through the recognized problems and regarding the theory concepts. The semi-structured theme interview questions are presented in the appendix 1. All the interviews were face-to-face interviews and they were carried out at NESA premises in Helsinki. The author of this thesis took notes through the interviews and wrote down a memo of each interview, which are stored in classified manner.

3.3 Research timeline

The research of this thesis began on summer 2015 when the author of thesis met NESA representative and agreed to do the study project at NESA. During the fall 2015 the author of this thesis was doing this thesis at NESA premises in Helsinki. The timeline of thesis is shown in a table below.

DATE	FUNCTION	PLACE
1.8.2015	Beginning of Thesis	Laurea
1.9.2015	Thesis guidance	email notes
14.9.-20.9.2015	Induction program	NESA
21.9.-27.9.2015	Induction program continues	NESA
21.9.2015	Meeting with Partner	NESA
22.9.2015	Meeting with Analyst	NESA
25.9.2015	Induction to NESA mission and activities	NESA
28.9.2015	Induction to CERT and HAVARO	NESA
29.9.2015	Induction to NESO mission and activities	NESA
30.9.2015	Meeting with Partner	NESA
1.10.2015	Induction to critical infrastructure	NESA
2.10.2015	Meeting with Energy representative	NESA
5.10.2015	Meeting with CEO	NESA
13.10.2015	Induction to primary production sector	NESA
20.10.2015	Academic writing session 2	Laurea
20.10.2015	Thesis guidance	email notes
27.10.2015	Academic writing session 3	Laurea
29.10.2015	Induction to Energy sector activities	NESA
29.10.2015	Interview Adam	NESA
3.11.2015	Academic writing session 4	Laurea
4.11.2015	Interview Bill	NESA
9.11.2015	Interview Duigo	NESA
10.11.2015	Interview Charles	NESA
10.11.2015	Thesis guidance	email notes
17.11.2015	Thesis Seminar- Final presentation	Laurea

Tables 1: Research Timeline

4 A Finnish example of trusted information sharing

The following chapter represents the organization where the case study is done. First this chapter introduces all those parties that act in the National Emergency Supply Organization. The first part of this chapter discusses the roles of National Emergency Supply Council, National Emergency Supply Agency, National Emergency Supply Agency’s Board, Sectors and Pools and finally the Private-Public Partnership. The second chapter discusses about the “Decree on information security in central government 681/2010”. This decree part defines the confidential information and its four protection levels. In this chapter is also discussed the meaning of all protection levels I-IV and how they appear in NESA’s activity.

4.1 National Emergency Supply Organization

National Emergency Supply Organization is a network that maintains and develops Security of Supply with public -and private partnership principle. Its main goal is to secure the important organizations for National Emergency Supply Agency and through that also the society’s operational requirements. The National Emergency Supply Organization cooperates with hundreds of companies, authorities and associations from different professions to achieve their mission. National Emergency Supply Organization consists of National Emergency Supply Agency and its National Emergency Supply Agency board, National Emergency Supply Council, Sectors and Pools. The following figure describes the National Emergency Supply organization's structure (Huoltovarmuus 2015).

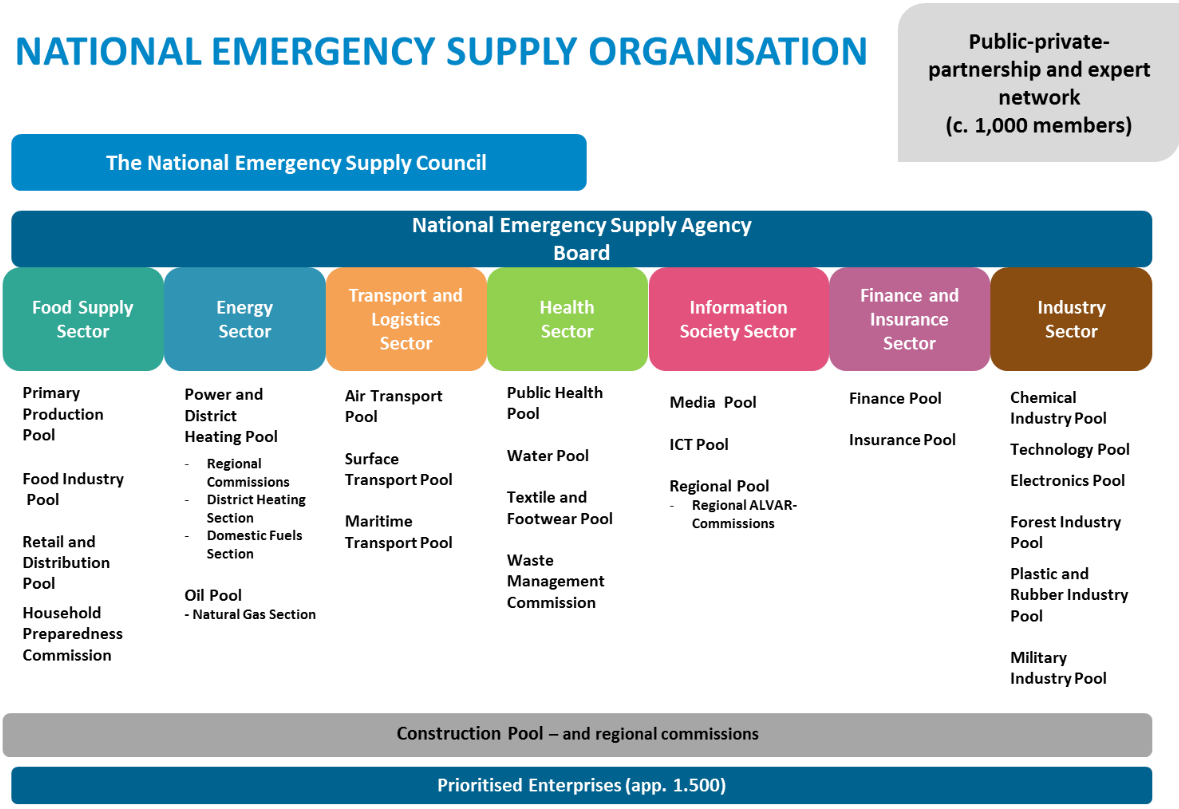

Figure 1: National Emergency Supply Organization (Huoltovarmuuskeskus, 2015)

4.1.1 National Emergency Supply Council

National Emergency Supply Council examines country's security of supply situation generally and does proposals in security of supply matters. The Sectors mission is to evaluate security of supply situation and boost cooperation between authorities and Confederation of Finnish Industries in security of supply matters (Huoltovarmuus 2015).

The Pools corresponds of the operational preparedness by the Confederation of Finnish Industries lead. Their mission is together with the focused companies to follow, research, plan and prepare actions for own field security of supply development (Huoltovarmuus 2015).

The government assigns to the security of supply council minimum 22 and maximum 26 members for three year term. The chairman and minimum half of the other members represent

industry. The council gathers two times in a year on behalf of the chairman. NESA's chairman acts as a council's Secretary General.
National Emergency Supply Councils main tasks are:

- Examine country's security of supply condition and observe the risks in a long period
- Take the initiative and develop free exchange of views in security of supply matters
- Evaluate sectors and pools field coverage and expedience as well as overall performance
- Take the initiative in legislative development regarding security of supply
- Evaluate security of supply resources needs and performance
- Do proposals for Confederation of Finnish Industries about NESA's board membership.

4.1.2 National Emergency Supply Agency

National Emergency Supply Agency is under the Confederation of Finnish Industries administrations department, which mission is to maintain and develop country's security of supply related planning and operational activity. As a part of the National Emergency Supply Organization its mission is to support the pools and sectors activity and take care of its legislative tasks. The CEO leads NESA with the National Emergency Supply Board's guidelines. As a strategic mission NESA inter alia:

- Coordinates industry and public administration cooperation in preparedness
- Takes care of security stocks
- Controls necessary technical system functionality and secures critical production of goods and services
- Follows up international development and stays in contact with foreign governmental authorities and departments (Huoltovarmuus, tehtävät 2015).

The basis for NESA's action is government's off-budget security of supply fund from where are financed security stocks and some technical infrastructural protection contingency procedures (Huoltovarmuus organisaatio 2015)

4.1.3 NESA's Board

NESA's activity is led by the board. The board is assigned by Council of Ministers (Government) after they have heard NESA's Council. The Board consists of minimum 9 and most 11 members, chairman and vice chairman included. Four of these represent industry. The term of the board is three years.

The board steers the work which is done in sectors and pools. It confirms their common activity goals and follows the activity via the CEO's reporting. The board decides on NESA's annual budget and gives the financial statement. The CEO presents the financial needs to the board and the board decides those financial needs that are outstandingly big in regarding activity and quality needs. The board confirms NESA's rules of procedure and general guidelines (Huoltovarmuus organisaatio 2015.

4.1.4 Sectors and Pools

Sectors and pools work as a committee at NESA. NESA's priority area is those sectors. Sectors include authorities, organizations and they are significant actor group that compose sectoral cooperation in organizations. Their general mission is to steer, coordinate and follow their own types of organizations preparedness and develop cooperation between authorities and business life in security of supply matters (Huoltovarmuus, sektorit ja poolit 2015).

Besides that sectors mission is to follow its own area's pool activity, research security of supply development targets and do presentations to develop security of supply, evaluate and analyze their own areas threats and boost their own area actor cooperation in security of supply matters (Huoltovarmuus sektorit ja poolit 2015).

Security of supply sectors are information society-, logistics-, food supply-, energy supply-, health care-, financial services- and industrial sector. Members of the sectors are from ministries, central industries, business life associations and representatives from essential companies (Huoltovarmuus sektorit ja poolit 2015).

The Pools coordinate practical procedures and they correspond of the operational preparedness with business life lead. Their mission is together with the specified companies to follow, research, plan and prepare actions to develop security of supply (Huoltovarmuus, sektorit ja poolit, 2015.

4.1.5 Public-Private Partnership

Business life maintains significant part of society's crucial activities. The actors in the private sectors are a requirement for safeguarding security of supply. Business life's active and spontaneous participation for security of supply work has always been distinctive for Finland.
The private sector joins the activities in security of supply sectors and pools. Sectors are the priority area for security of supply. Security of supply sectors are wide, sectoral cooperation organizations (Huoltovarmuus 2015).

4.2 Decree on information security in central government 681/2010

The Government decree on information security in central government 681/2010 defines in Chapter 3 section 9 to the “protection levels indicating handling requirements”. NESA uses this decree on classification of secret documents when it, stores, receives and shares information. The chapter presents all the protection levels I-IV (top secret, secret, confidential and restricted) but the thesis concentrates only to the protection level IV(restricted) due to confidentiality issues. Currently, NESA rarely receives top secret information but in exceptional circumstances the situation might be different.

The following protection levels are used in NESA for the classification of secret documents:
“ (1) Protection level I, if unauthorised disclosure or unauthorised use of the secret information contained in the document could cause particularly grave prejudice to a public interest referred to in a secrecy provision;

(2) Protection level II, if unauthorised disclosure or unauthorised use of the secret information contained in the document could cause significant prejudice to a public interest referred to in a secrecy provision;

(3) Protection level III, if unauthorised disclosure or unauthorised use of the secret information contained in the document could cause prejudice to a public or private interest referred to in a secrecy provision;

(4) protection level IV, if unauthorised disclosure or unauthorised use of the secret information contained in the document could be disadvantageous to a public or private interest referred to in a secrecy provision”.

Level of protection labels are made by what kind of damage or barrier the information in confidence can do for public or private interest:

- Protection level I – exceptionally great damage
- Protection level II – significant damage
- Protection level III – damage
- Protection level IV – harm / barrier

These protection levels correspond to classified markings: Top secret - Secret - Confidential - Restricted.

4.2.1 Protection level I – Top Secret

- Top secret information rarely comes to NESA. In exceptional circumstances the situation might be different.
- The existence of the document is also classified information. Only the CEO can handle top secret information documents or in isolated case his ordered official. If the document is necessary to archive, the archivist places the document to safe.
- There is a separate list of top secret documents, which is stored in the same way as top secret documents should be. The list has the information of who officials has had the information of the document.
- Documents can't be handled in open networks neither sends by email.
(Huoltovarmuus 19 October 2015. Tietoaineistojen luokittelun ja käsittelyn pikaohje)

4.2.2 Protection level II – Secret

- The archivist marks the classified information document manually maintained classified document journal. The document can be handled only by the person whose job it directly belongs. Documents that are top secret they can't be copied.
- Secret information can't be stored in office; they have to be transferred to the archivist directly after the use, which places them to safe.
- Documents that are made for preparedness exercise should be destroyed. The destruction is done and documented by the archivist.
- The documents handover in open networks is not allowed.

(Huoltovarmuus 2015. Tietoaineistojen luokittelun ja käsittelyn pikaohje)

4.2.3 Protection level III – Confidential

- The document is assigned only for the persons who need it.
- The recipient is defined in the document. There is a list of the dissemination.
- Information can be sent in a normal envelope.
- Document shouldn't be left to open places without any surveillance. Document or the information shouldn't be visible on a computer screen.
- It is allowed to speak of the document's information on the phone when the other party is identified.
- In an electronic system documents and the information is stored separately from the other material (in its own folder).
- Only the person who has the right to handle the information can copy the document.
- The document can be printed only to personal printer or controlled network printer.

- Manual document is destroyed by shredding. The data is destroyed in other trustable way.
- The document can be send by email but it should be strongly encrypted email.

4.2.4 Protection level IV – Restricted

- The authority itself can classify the information security demands.
- This level of protection material is typically used broadly, high usability and adequacy for daily work use. Information disclosure causes little damage on the classified document.
- The document can be sent via the public administration secured e-mail. (Huoltovarmuus 2015. Tietoaineistojen luokittelun ja käsittelyn pikaohje)

5 Recognized tools used for sharing sensitive information

This part of the thesis introduces some tools that are used globally when sharing or exchanging classified information between companies. The fist subchapter describes what Traffic Light Protocol (TLP) is and when it is used. The second subchapter presents Non-Disclosure Agreement (NDA) and defines how and under which circumstances it should be used. In the discussion part of this thesis is explained why, when and with whom this kind of method should be used considering NESA’s activities (US-CERT & Viestintävirasto 2015).

5.1 Traffic Light Protocol – Process rating

The Traffic Light Protocol (TLP) process rating can be used in conferences as well as in information exchange cooperation and communications. For process rating functionality, it is highly important that the information recipient understands the information process rating boundary conditions and act accordingly. When classifying the information it should be avoided to choose too strict process rating classification. Too strict classification restricts information use and by that it reduces information exchange utility. On unclear situation before distributing the information it is reasonable to ask informants stand for the matter. The process rating is used in several Cybersecurity centers in domestic and international cooperation groups (Viestintävirasto 2015).

Color	When should it be used?	How may it be shared?
RED	Sources may use TLP: RED when information cannot be effectively acted upon by additional parties, and could lead to impacts on a party's privacy, reputation, or operations if misused.	Recipients may not share TLP: RED information with any parties outside of the specific exchange, meeting, or conversation in which it is originally disclosed.
AMBER	Sources may use TLP: AMBER when information requires support to be effectively acted upon, but carries risks to privacy, reputation, or operations if shared outside of the organizations involved.	Recipients may only share TLP: AMBER information with members of their own organization who need to know, and only as widely as necessary to act on that information.
GREEN	Sources may use TLP: GREEN when information is useful for the awareness of all participating organizations as well as with peers within the broader community or sector.	Recipients may share TLP: GREEN information with peers and partner organizations within their sector or community, but not via publicly accessible channels.
WHITE	Sources may use TLP: WHITE when information carries minimal or no foreseeable risk of misuse, in accordance with applicable rules and procedures for public release.	TLP: WHITE information may be distributed without restriction, subject to copyright controls.

Figure 2: Traffic Light Protocol Matrix

The four process categories are the following:

RED – Personal distribution

The information is handed over in person only for the person that is receiving the information. The person cannot hand over the information further, not even inside the information exchange group or organization (US-CERT 2015).

AMBER - Restricted community’s internal distribution

The information can be distributed to other information exchange group members and for information recipient’s organizations internal essential persons. The informant can on demand set an extra restriction or liberty for handling information (US-CERT 2015).

GREEN – Community’s internal distribution

The information can be distributed freely internally in the information recipient’s representative organization. Respectively the information can be freely handed over for the information exchange group members. The information however cannot be published in the internet neither handed over for external quarters (US-CERT 2015).

WHITE- Unlimited
The information can be distributed freely when respecting the mandatory regulations. Abovementioned restriction for information sharing can be set e.g. in law of copyright. Typically TLP WHITE – classified information is already available from public sources (US-CERT 2015).

When the Traffic Light Protocol- process rating is in use, it is marked on top of the document e.g. “TLP Green” (US-CERT 2015).

5.2 NDA

Non-Disclosure Agreement protects the proprietary information. NDA is used to ensure that the proprietary information won’t become public when sharing information with another person or organization. The NDA helps to protect intellectual property e.g. trade secrets. It is an agreement that helps to maintain business competitive advantage. The NDA is good tool for consultants or analyst who needs information belonging to another person or organization to e.g. make response for consultation and the NDA is to clarify that the terms under which information is shared (Rocketlawyer. Non-Disclosure Agreement 2015).

There are two types of NDA’s, unilateral and mutual. Unilateral is a contract where the other party is requested not share a certain information for another. On signing unilateral agreement the party is bound by law to do so. Most of the NDA’s are unilateral agreements. A mutual NDA is an agreement where both parties agree not to share other’s information. This is used for communication sharing between businesses. Confidential disclosure agreement (CDA) is basically the same as NDA but it is used for sharing confidential information. However when signing the CDA one must be clear and specific on what information is not wanted to be disclosed (Rocketlawyer. Non-Disclosure Agreement 2015).

6 Results

The kind of research that shapes the results of empirical research into a case study was discovered in chapter three. This chapter presents the results of the interviews by categorizing them in themes. Because the representatives wanted to stay anonymous they have been given alias names. The management level alias names are Adam, Bill and Charles. The special advisor’s representative name is Guido.

6.1 The organization's present state

Most of the interviewees notice that the classified information sharing is not working well currently. Adam believes that the present state is generally good. All interviewees agree that the information is not shared enough and it's too personified. Chris says that he doesn't know enough about those classified information topics to say what the real situation in the organization is. They all think that classified information sharing is important for the organization business continuity management. There is more personal information than organization information. Only those documents that have a record number and can be searched are the organization's information. They all see that the information sharing is important to its sector because it is never known when the information might affect someone else's duty. They all agree in saying that a lot of information is shared verbally. The time limit is considered as an issue for documentation. The fact the PL IV material is internally open is taken for granted. (Adam, Bill, Charles & Duigo 2015).

6.2 Classified information

The classified information is considered an issue when the information causes economic or mental harm for the information sender or receiver. It's also an issue if the information ends up in the hands of a third party or anyone else who is not intended to receive the message. One interviewee said that the organization's information is automatically considered classified because of the organization nature, when referring to an organization that represents security organization. These classified documents usually hold private agreements with NESA's partner companies or EU and NATO related information. Also all the unfinished and "work in process" documents are considered as classified (Adam, Bill, Charles & Duigo 2015).

Every interviewee responded that because of their duty, they need to handle classified information. Most of the handled classified information comes from outside of the organization, so basically NESA doesn't itself produce classified information much. One interviewee said that sometimes it feels that the classified information is considered too classified by the person when compared to the reality (Adam, Bill, Charles & Duigo 2015).

They all agree that there is no defined rule or guide on what classified information can be given to the partners. Everyone agrees that PL IV material is considered only for internal use. One interviewee said that PL IV material is received weekly, PL III material once in a month, PL II material couple of times in a year and PL I material never. Few of the interviewees said that the organization's stamping situation is not that clear and that it needs development methods. The information is categorized in PL III and IV mostly by work experience, there is no protocol or guide for it (Adam, Bill, Charles & Duigo 2015).

6.3 Information storing and sharing

As mentioned above all the interviewees say that the information has been kept to itself. The network drive O- is considered as an information storing tool for classified information. Some interviewees answer that the O drive is also an information sharing tool. Adam defines that he uses the O-network drive for storing and sharing e.g. project, statements, presentations, budgets and some international documents. These documents are considered to be protection level III and IV material. Bill and Chris agree with Adam (Adam, Bill, Charles & Duigo 2015).

They all find the O-network drive is not an organized and efficient tool for information storing and sharing. All interviewees said that email is also used often for sharing PL III and IV material. The PL III material is mostly sent on encrypted email. All interviewees responded that the PL I and PL II handling seems to be clear. PL I and II are stored, handled and shared correctly following the rules and regulations of the whole information lifecycle. The PL I and II information is not shared through electronics. One interviewee says that it seems that the difference between PL III and IV is not very clear in the organization and this is commonly seen in the organization practice (Adam, Bill, Charles & Duigo 2015).

Most of the interviewees said that the classified information is often shared verbally, face-to-face or by email. If the subject considers something general the person sends an email for the whole staff (35 people). These kinds of documents can be e.g. nominations. Adam considers verbal communication as too laborious and finds that a personal approach is the fastest and easiest way to communicate. However, Adam understands that verbal communication is only an option because it doesn't leave a mark and is therefore very risky (Adam, Bill, Charles & Duigo 2015).

6.4 Problems of classified information handling

They all agree that the problem lies in the lack of common information tools to which everybody has an access. The O-network drive is impractical and unorganized. The documenting is also considered challenging by most of the interviewees because of the time use. One of the interviewees said that he won't define the documents correctly unless the system demands for it. In addition, in the interviews the issue of a lack of a specific tool that allows you to input and search information rose up a number of times (Adam, Bill, Charles & Duigo 2015).

They all agreed that the information is kept to itself; it's in a person's mind, email or their own network drive. Email is considered as a wrong tool to share all the information because it's too person dependent. Chris said that he doesn't know much about those classified information materials, but that the information should be used more for internal use. He added that it feels like the information doesn’t move. Adam said that there is not internal communication in the organization and this includes the technical part of communication sharing. Charles said that the internal communication happens in the sectors but not between the sectors (Adam, Bill, Charles & Duigo 2015).

7 Analysis

After the interview’s answers discussed on the previous chapter, this chapter analyses those results referring to the theory part of the research. The interviewees successfully recognized their current state for classified information management. The interviews showed generally that there is no existing and usable tool for classified information sharing. The rules and regulations considering PL I and PL II material seems to be clear. The gap is shown between the PL III and PL IV material in understanding their difference. The reason for this unclear situation might also be that the law has changed two years ago regarding the classification. In the past there were only three levels: Top Secret, Secret and confidential. The restricted has been added afterwards.

7.1 Internal communication at NESA

During this research it was revealed that not only was the classified information management unclear but the organization’s internal communication as well, which included classified information(, too). Siukosaari says that internal communication is a major part of the management and staff cooperation and this also applies to classified information sharing. This cooperation’s objective is to try to grow the interaction between management and staff. The management should be more interested and interactive towards the personnel and encourage open discussion. The management should plan and define the organization’s goal in classified information sharing and cooperatively apply it. The organization needs to understand what is expected of them and internal communication helps them to deliver this. The communication is everybody’s responsibility, from CEO to line manager and supervisor (L. Smith 2008, 9-16).

7.2 Information sharing at NESA

The information sharing was seen as a problem in the interviewees answers because there is no good tool for it. However the interviews showed that it’s not the only problem. Referring to Siukosaari’s theory about information sharing, the information should be usable and the information that’s is in somebody’s head, a sheet of paper or stored in one’s own network drive, won’t help anybody else in the organization to achieve the organization common results, and this is exactly what has happened in NESA. NESA should be convinced that this can’t continue- the computers and devices don’t yet communicate together.

The problem that rose up in the interviews was the information silo effect, which meant that information sharing happened in sectors, but not between the sectors. This fights with Smith's theory for communication missions. The communication at NESA works from top-down, bottom-up but not lateral, across sectors. The fact that communication across sectors doesn't exist is not only the fault of individuals in the organization but also the management's. If the management level sees that the information doesn't move and it disturbs the organization culture, the management should develop some protocols, rules or regulations to improve the situation. That could for an example be monthly meetings for the whole staff, which is in this case approximately 35 people. In the monthly meetings all the main issues could be set on the table. The staff could also be reminded on what they can and cannot talk about.

7.3 Confidential information at NESA

Referring to the NSI theory of three main questions discussed in the introduction part of this thesis about confidential information, the interview answers the theory's problems. The first question was "should the information be classified?" This rises up when observing NESA's classified information. It seems that it is not really understood the value of the PL III and IV material and that is the reason, why the PL III and IV are handled in the same way. It also argues that should the PL IV material just be officially open for everybody working in the organization, like it already is in practice. The reason for unclear situation might be that the organization hasn't defined "public" information in the organization at all. Most of the other companies have actually five step classification system, which means that there is PL I- IV and "public". This "public" doesn't mean that the information is actually public for outside the organization, but used internally. The "public" information usually is some general company's own documents to help the work and maintain the overall picture of the company's activities. The other thing that also agrees with this question is that according to Bill, all NESA's information should be classified automatically, when the decree on information security says that information should be public unless it is justified otherwise. This mainly tells about the organization's individuals behavioural or the organization long culture about the information management.

The other question discussed on the theory was that "what level of classification does it require?" According to NESA's activity field and nature, its main information comes from outside of the organization from private companies, which is based on the public-private partnership. Therefore NESA actually doesn't categorize the receiving information but the private company does. NESA just needs to handle and manage that information correctly according the agreements and regulations set for the specific classified information. The private company is the party that categorizes the information because the company knows what the information leakage causes for the company. NESA in this kind of situation has agreed to commit to handle the information on the right demanding way. However, NESA should define the value of the information for them. Therefore NESA needs to classify the information value and authorize the access for that information. This brings us to the third theoretical question "what should be the duration of its classification". Currently it has been seen that when the information is classified on some level it will be classified information for all times. So, basically, again, should be questioned the value and usability of the information. Some PL II document from 20 years ago might not be any more protected at all. When classifying the information, should be also considered the duration of the classified information, regarding the content of the information.

Referring to Arvin S. Quist mentioned in the theory of this thesis, he said that classification should be described clear and in precise language. Currently this is the problem at NESA. There is no guidance and there are doubts on what information is classified and what is not and this argues totally with The Arvin S. Quist opinion about defining classified information. Now the information sharing is not effective or efficient for the information security profile, which also fights with the U.S Department of Defence Handbook.

All agreed that the problem is that there are no common information tools where everybody has an access. O-network drive is not practical and it's unorganized. The documenting is considered also by most of the interviewees challenging because of the time use. One of the interviewees said that he won't define the documents correctly unless the system demands for it. Also, in the interviewees rose up many times the issue that there is no specific tool where to "put", and from where to "search" the information.

All agreed that the information is kept to itself, it's in person's head, email or own network drive. The email is considered as a wrong tool to share all the information because its too person dependent. Chris said that he doesn't know much about those classified information materials, but he said that the information should be used more for internal use and added that it feels like the information doesn't move. Adam said that there is not internal communication in the organization and this includes also the technical part of communication sharing. Charles said that the internal communication happens in the sectors but not between the sectors.

The interviewees showed that the personnel are not so satisfied for the current situation regarding the classified information management. The interviews pointed out several gaps between the information availability and usability. The staffs seem to be unknown regarding the regulations that differ between PL III and IV material. The personnel activity in the organization reveals that information sharing is based on individual thoughts and acts how the information is shared and to whom. Now it seems that all does their own work what they are mandated to do and that's enough. The information doesn't move because the new produced information is not thought that it might affect someone else's job too. The information is considered relevant only for sectors use not for organizational use.

The interviewees answered that there is need for classified information management improvement in the organization. All said that there is need for protocol or guide to manage the classified information. The tools for information management should be also user friendly. The lack of information availability and usability rose up in everyone's interviewee.

The reason for lack of information was discussed to be the undefined system and protocol. This is true and relevant opinion for information sharing. However, the fact is that the organization culture has been for too long the same. This means that the tool for information sharing or storing isn't going to be the only result for improving information management, it needs also big organizational cultural change on understanding the relevance of classified information and its usability and availability. When the organization has been working for a long time through traditions or by certain ways, it is hard to change the ongoing situation. This means that if someone has been doing his work for e.g. 30 years it is harder for him to change the ongoing methods that he has been doing for so long time. This means that if nobody agrees to change their working habits it means that the new system won't work even if there would be a new tool.

The positive thing is that personnel think and believe that information is valuable and important for the organization role. The organization structure has made it also possible to have only silo effect information without any happened circumstances. What needs to be understood is that today's multicultural environment doesn't work that way. It is important to understand the overall picture to be able to recognize the critical parts of the organization's activity.

The problems that argue between the current situation and the ideal situation is that the information is not moving because the information is not considered to help nobody else than oneself or its sector. Everybody does their own work and communicate only up, not down or between sectors. The major issue is that there should be much more communication between different sectors. If those sectors someday share information as much information as in unit meetings, the situation will be more sustainable. Personnel doesn't necessarily pledge information intentionally, it is just a way they have used to do work.

8 Discussion

After the analysis this discussion part will present first the validity and reliability of the research, TLP and NDA possible role at NESA.

8.1 The validity and reliability of the research

Hirsjärvi & Hurme (2004) explains that the reliability means when researching same person the result will be same in both times. The other way to define reliability is that when two evaluers end up on the same result.

The results and analysis of the research reveal that the classified information and internal communication should be more organizational information rather than personal information. The only solution for this will be to develop guide for how classified information should be used and managed in the organization.

The current situation has not made the classified information and internal communication efficient and available because there is no specific tool for that. To be able to take advantage of all the classified information is that there should be principles for information management and they should be specifically defined. The challenge is that not all the organization staff feels that the information sharing helps the overall picture and situation awareness, which is essential for NESA's activity and this can't be done only by looking for one sector achievements.

NESA's human resources are slim and great part of the personnel work regularly outside of the office. When the information is more personified rather than institutional, there is not necessary access for the information when needed. Besides the information collecting and review from several different structures is also time-consuming. In the current state NESA can't find out is all the organization's existing information been taken to advantage.

Regarding the interviews the classified information PL III-IV has been seen as one level of classified information in daily work, not as separate information that has different value or impact. This is a risk, because the information sharing depends on the person who handles the information and about his/hers actions on what they want to do for the information they manage.

8.2 How to improve the classified information sharing at NESA by utilizing TLP and NDA?

In chapter five the research presented two tools for sharing classified or sensitive information, Traffic Light Protocol and Non-Disclosure Agreement.

NESA's whole activity is dependent on business life and other companies' cooperation. The cooperation relies on the classified information sharing and on the trust that has been built in between NESA and business life companies.

In order to NESA to run its core activities efficiently, it needs classified information from other business life companies. Currently NESA is sharing classified information with other companies based on mutual trust. However, the company usually wants to be sure that the sensitive information doesn't end up to public and then only the trust is often not enough. There are lot of companies that use NDA's for this reason. The companies assure by NDA's that the information is not used wrong and it's not leaked by members that usually doesn't have access for company's information. Besides this, the company itself knows who they have given the access to that kind of information and then they can check afterwards who they have given access to their system for example. NDA's can be used when e.g. some IT representative needs to check some errors in the company's data system, then the company who has ordered this IT service will demand the IT representative to signature and agree on the NDA. The company wants that IT representative agrees on NDA because the company knows that in order to the IT representative to fix the problem he has an access for sensitive information that can damage company's business or its other activities. So the NDA is a tool for company to assure that company's sensitive information wont leak by other company representatives further and the agreement often says where and who can use that information. When taking into account NESA's activity, the NDA would help NESA's information sharing with business life companies and it will make it more efficient, usable and clear. The TLP on the other hand is a good tool to use when sharing sensitive information in meetings or conferences where are more people. The TLP protocol is used already in many countries and it has had great value in information sharing with business activities.

However, it needs to be clear that these protocols, TLP and NDA, are used when NESA and business life companies share information, not when the sensitive or classified information is shared at NESA internally. The reason for this is that the information flow in the NESA organization internally should be better than currently it is, and if these protocols would be added, it sets more barriers to information sharing than today. So basically, e.g. one NESA representative represents the NESA organization when sharing the sensitive information with private company, the representative is not actually the person who shares information but NESA is. This means that the all the information shared between business life companies is organizational information, not personal information. The business companies shouldn't think that the information is shared based on the personal relationship. The following figure describes the information sharing.

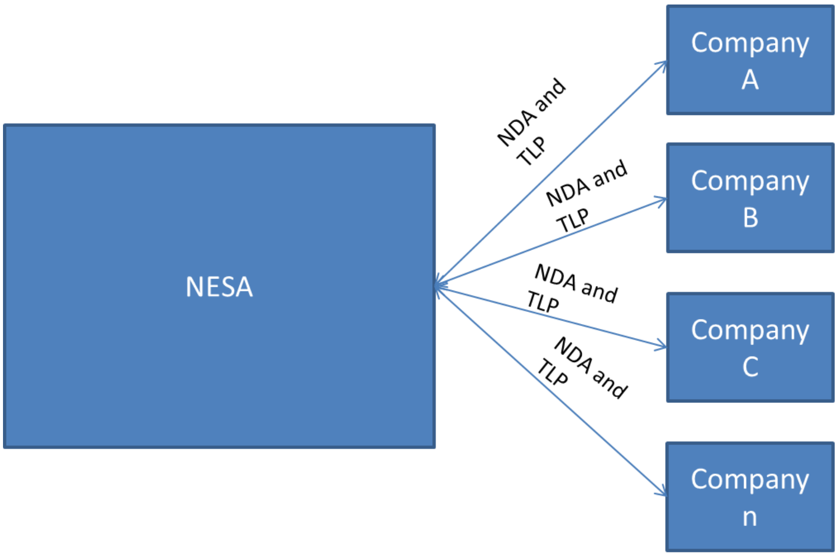

Figure 3: The NDA&TLP between NESA and private companies is always made between the companies, not persons.

9 Implications for further research

This chapter comes up with the suggestions of development methods for future research described in a chart below. This is just an example of one kind plan. The chart begins first with the requirements of authorization and description of the authorization process and continues on defining the participants and responsible person for the information classification.
The second part concentrates on implementation and building the system. It sets the requirements to make the decision for the tool or the place where the data should be stored. It also considers that before deciding the tool there is need to check if the tool covers the security requirements needed.

The third part discusses the change management and the follow up on the loaded documents. In this part the communication should be considered. This is very important when changing organizations culture to something new. The communication should be done correctly and openly through the process. The management should be capable to answer the questions why, what and who: 1. Why this change has been made?, What has changed? And who this affects?

	Topic	Description	Responsible	Participants
Design / Requirements	**Authorizations**	Determine who can see what information (level 3 and 4 information) - - Authorization process (what authorizations are given for new comers, how to gain new authorizations (format, Approvers, who gives physically the authorizations, process to remove the access when person leave the company / change the position) - Audit (need to be able to have/keep the list of users and authorizations rights)	Project Manager	Segment Heads
	Folder structure			
	Responsibilities	Who should upload the data / who should ensure that data is loaded (Responsible / Accountable)		
	Communication	How to communicate when there is a new document? - Automatic email to the relevant people once the document has been uploaded? - Email by the loader of the document to the relevant people - How the search functionalities are working		
Implementation / Build	**Decide the tool / place where the data will be stored**	Decide the tool based on the requirements(evaluate security demands of the tool) Options: - Network drive - Huovi - SharePoint - Some new tool Make the decision of which is the tool for (classified) internal communication and material/documents	IT + Project Manager	Concept Owner
	Build the folder structure			
	Load the data			
Change Management	**Test the authorizations**			
	Communicate about the change	Communication from the top management - why, what, who…	Business Owners / Project Manager	
	Follow up on the loaded documents	Follow up on monthly meetings how many documents were loaded / how many times the document is read		

Figure 4: Example of how to authorize information access

10 Conclusion

The purpose of this thesis was to research the classified information's availability at NESA, analyse the current condition and come up with some development ideas.
This chapter tries to answer the three main research questions based on the results by using different research methods. After this the study explains the validity and reliability of the research.

10.1 Answering research questions

Research question: How confidential information is handled currently at NESA?

NESA's information management current state has been realized inadequate and thus insufficient for classified information management. The essential challenges in information management are information's silo effect in National Emergency Supply Organization sectors and units as well as the undefined information sharing platform (O-network drive). These challenges make the difficulty for handling NESA's overall picture. However, NESA has in any case managed well in its obligations. Staffs have recognized that there are different levels for classified information and especially PL I and PL II have been understood and managed well. NESA's activity is characteristic strong striving for development, so there is willing to make the information management better in a way that it supports staff's work, analysis function, business continuity management and identifying the silent signals as well as all security of supply.

Research question: What are the organizations internal communication problems when sharing classified information?

Currently NESA doesn't have any clear principles or processes for classified information management. However there is recognized some leading principles for information acquisition, handling and sharing. The first one is the network drive O which is for common information use and share. The second are the folders that exist in the same platform O network drive but are authorized for only specific sectors and units and finally the personal material and documents that exist in staff's individual work stations.

The current state forms several challenges and vulnerabilities for NESA's activity and the objective being pursued by the Council of State (Government). The major challenge that rises is that there is no overall picture in the organization and thus the silo effect doesn't support this development at all. The challenge is the classified information that has protection level II and IV material and is not defined or managed in the organization. Because of the classified information's undefinedness it has led for colourful practice in handling, storing and sharing classified information by individuals. The third recognized challenge is that currently used information management leading principles doesn't enable information sustenance quantitatively or qualitatively. The classified information availability decline and its finding is time-consuming. The fourth challenge is the formulated silo effect information vulnerability for NESA in disorder situations.

Research question: How the organization can develop their internal communication when sharing classified information?

The classified information management development objective is to produce first 1) convergent practice for information acquisition, handling and sharing. These support Security of supply strategic planning and operative management. Besides this it develops current and proactive information produce.

Second, classified information management established 2) practices will be trained and implemented as a NESA's activity culture. This way that information management will be seen more effective and meaningful in everybody's work activity. Because NESA consists of specialists, it is important that all expertise is taken advantaged of widely over the sectors. Third, main objective for classified information management development is to see 3) the classified information sharing as unambiguous at NESA.

By improving the classified information management, NESA will have new practices for information management that define the principles for information acquisition, handling and sharing. It will have the process picture and practice of the classified information management. This gives NESA more institutional information than personified information. The staff expertise gain strength when there is more information available and usable. NESA forms actual cross-section coordinator when the staff can capitalize all the organizations information in developing security of supply.

The classified information has a long tradition at NESA. The information is kept to oneself, the information is given only for the persons that need it at the time and lastly the information is not systematically stored anywhere. However, today's business environment doesn't give time for several days practices. The renewal of the operation model requires readiness to accept new practices.

10.2 Future research

The research results of this thesis opened up discussion about the current condition at NESA also in management level. The classified information sharing was seen important for the organization's business continuity management and risk awareness. The study rose up some major existing problems on sharing classified information at NESA. Through the seen results, NESA has agreed to start a project to develop organization’s classified information management. This project will start at the beginning of 2016, and the author of this thesis will be developing this project as one project member.

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Figures

Appendixes

Appendix 1: Semi Structured interview form

Semi structured theme interview form

Laurea Ammattikorkeakoulu

Amira El-Bash

1.10.2015

1. Information sharing and internal communication
- How important is classified information at NESA?
- Who is responsible for classified information?
- Who is responsible for internal communication?
- How has the internal communication in classified information been carried out?
- How is the information sharing been carried out?

2. Classified information
- How do you understand the concept of classified information?
- What is the relationship between classified information and protection levels?
- Are there any factors that threat the classified information?
- Is the classified information availability and usability good?

3. Classified information sharing and storing
- Verbal communication and electronic communication
- Is there a difference?
- Tools and ways how the information is shared and stored?

4. Is there need for improving the classified information sharing? If yes, how? If no, why?