DEPARTMENT OF THEMATIC STUDIES

BACHELOR OF SCIENCE THESIS

Employee Attitudes to the Environment and Environmental Management System
ALSTOM Power Sweden AB

Anna Lundén

LINKÖPINGS UNIVERSITET

Linköpings Universitet, Campus Norrköping, Environmental Science Programme,
SE-601 74 NORRKÖPING
Sweden
Today environmental management systems (EMS) are common documents (more correctly, a combination of documents) that direct, steer and regulate environmental efforts within many companies. The intention of EMS is that its guidelines are reflected in how the employee carries out his everyday work tasks. This study aims to illuminate the attitudes that exist regarding the EMS at ALSTOM Power Sweden. By using questionnaires and interviews as a method to communicate with employees, a study of the existing attitudes regarding the EMS was carried out. The results were analyzed categorically and statistically and show that there are consistent attitudes among employees, but that there are also inconsistent attitudes. Differences in attitude and conceptions are especially apparent when comparing management to their employees in some cases, which may be explained by looking at organizational structure and means of communication. Viewing the issues from this perspective may aid in future improvements of the EMS at ALSTOM.
Acknowledgements

*To my mother* without whom I would not be able to articulate a single word or form a single sentence, and for her unconditional love and support since “the beginning of time”.

*Thank you* to my supervisor, Malin Mobjörk, for her ability to eliminate and create chaos in my head and for her ever-presence “in” the computer and phoneline.

*Thank you* to my sister for her thorough attention to detail and for her last minute tips, comments and editing...just like when we shared a wall!

*Thank you* to my advisor at ALSTOM, Bo Vallgren, for his patience and thoughtfulness regarding all my questions and for his enthusiastic outlook on this study.

*Thank you* to all the respondents and interviewees who participated in the study for making it interesting and informative.
Abstract: Today environmental management systems (EMS) are common documents (more correctly, a combination of documents) that direct, steer and regulate environmental efforts within many companies. The intention of EMS is that its guidelines are reflected in how the employee carries out his everyday work tasks. This study aims to illuminate the attitudes that exist regarding the EMS at ALSTOM Power Sweden. By using questionnaires and interviews as a method to communicate with employees, a study of the existing attitudes regarding the EMS was carried out. The results were analyzed categorically and statistically and show that there are consistent attitudes among employees, but that there are also inconsistent attitudes. Differences in attitude and conceptions are especially apparent when comparing management to their employees in some cases, which may be explained by looking at organizational structure and means of communication. Viewing the issues from this perspective may aid in future improvements of the EMS at ALSTOM.

Keywords: environment, management, organization, attitude

1 Introduction

There are many environmental problems that, in combination with one another, may eventually result in insurmountable conflicts if humans do not unite and tackle the issues on all levels of society. There are numerous ways that this combat can be carried out. One of these methods is the main focus of this dissertation and has come to be known as Environmental Management Systems (EMS).

An EMS is a tool used, primarily by businesses, as a help to help navigate through the jungle of environmental laws, regulations, requirements, customer demands and market forces that are associated with managing a business today. The EMS is a way for the company in question to conceptualize its environmental influence, both negative and positive. Further, the EMS strives to identify environmental aspects, create routines for assessing the aspects, educate the employees about the EMS, carry out continuous internal follow-ups and revisions as well as communicating progress to the applicable external supervising authority1.

1.1 Purpose

The purpose of this study is to illuminate the attitudes that exist towards the EMS among a selected group of site employees at ALSTOM Power Sweden in Finspång. The results of the study will be analyzed and presented qualitatively. In addition to clarifying the current situation, the study will undoubtedly prove to be a valuable tool in planning future improvements and modifications of the EMS and the organization structure at ALSTOM.

1.2 Objectives

Three objectives will be used as a guide and a way to encompass the purpose. These objectives are:

- To reveal attitudes towards the EMS at ALSTOM that are prevalent among site employees.
- To point out consistencies and/ or discrepancies in these attitudes.
- To embrace the results in the organizational theory and in the definition of attitude.

---

2 Background

2.1 ALSTOM and ALSTOM Power Sweden AB

ALSTOM is one of the world leaders in infrastructure for the energy and transportation sectors. Products include gas turbines, cruise ships and highly modern trains (such as the one that has become known as the Arlanda Express). Services include conversion and distribution of electricity. Worldwide, ALSTOM employs 120,000 people in over 70 countries.

ALSTOM Power Sweden is a part of the ALSTOM Power sector, which is one of the five segments that together fall under the ALSTOM name. ALSTOM Power is one of the world leaders in the supply of power-generation products and services. ALSTOM Power Sweden has about 3000 employees who work with the production and delivery of products such as gas turbines and district heating. As a demonstration of the company’s dedication to quality and environmental issues, the company is registered to both ISO 9001 and ISO 14001.

The ALSTOM employees that were chosen for this study have their base in Finspång and are refereed to as "site employees". In Finspång, there are approximately 300 site employees, of which 45 were chosen for this study. They work at the customer’s location, rather than at the Finspång base. Tasks are performed for an external customer at the customer's location and ALSTOM is basically just the work-force supplier in this context. The customer is responsible for the ALSTOM site employees' work environment, safety and in many cases for the physical environment. Hence, the site employee has more daily contact with the customer at his location than he does with ALSTOM.

2.2 Environmental Management Systems – An overview

In the following section, a brief history of EMS will be discussed. The intended purpose of EMS will be reviewed and the goals that ought to be an all-embracing part of the EMS process will be presented.

2.2.1 EMS – Historically

The need for a tool such as an Environmental Management System (EMS) became apparent as peoples’ perspective on environmental issues changed and the issues became more threatening to everyday life. The way that society views environmental problems is a deciding factor in how the problems are dealt with. There have been many different approaches in the past; everything from moving the source of the problem to a less populated area to substituting a harmful chemical product with a less harmful product. Today’s method for dealing with environmental issues gives a more holistic impression and attempts to integrate past solutions and modern solutions.

With globalization, the problem of pin pointing the source of an environmental problem has gotten more difficult as the world has “shrunk” and become more available and accessible to

---

3 ALSTOM/Countrypres/SWE/0900 064S 02 02.
5 Verbal Source: Bo Vallgren, Environmental manager, ALSTOM Power Sweden AB, Finspång, several contacts under April 2002.
all. This has led to the need for a more holistic perspective on most issues, including environmental issues. Therefore, today, it is necessary to view sources of environmental problems from a lifecycle perspective. In other words, a product or service’s influence under its entire usage period needs to be taken into account. Within the industrial sector in Sweden this type of thinking has been known for about 50 years, but it has only been on the agenda for the past thirty years, and only prioritized for the past ten.

In recent years, businesses who wish to remain attractive on the market and be successful even in the future, have seen the increasing need to integrate some type of environmental organization within their business organization. Once this is realized, the idea is to convert the environmental organization to something practically applicable within the company, which calls for policy-making and decision-making regarding environmental efforts. In this way the company can focus on preparing for the future rather than being taken by surprise when the issues of tomorrow become a reality.

2.2.2 EMS – Purpose and goals

When it became apparent that environmental issues needed to be handled on an organizational level within industrial companies, the reasons why also needed to be conceptualized and reflected upon. According to Ammenberg, the term environmental management refers to all-embracing strategies and methods for conducting meaningful environmental efforts within a company. The goal of the company should be to minimize the negative environmental influences that arise from the production of a product or service. Focus should be placed on assessing the influences that exist during the entire life-cycle, with emphasis on the influences that occur within the company’s jurisdiction.

Focusing on the environmental impact of products and services will hopefully increase the company's environmental awareness and give it a competitive advantage. The process of constructing an EMS and then following its guidelines is a tedious and strenuous one. The procedure can be carried out in many different ways and it should be made clear from the beginning that there are no clear boundaries between the different stages in the process. Rather, the stages overlap and complement each other throughout the process. Below is a sketch of how an EMS could ideally be constructed according to Ammenberg. The steps are described concisely following the sketch.

---

2.2.3 EMS – The different phases

Figure 1 above illustrates how an ideal EMS could be constructed. Below follows a brief description of the various steps that are illustrated in the sketch\(^\text{11}\).

*Environmental assessment.* The first step after the management has made the decision to implement an EMS is environmental assessment. During this stage the current situation is analyzed in order to get a picture of the company’s environmental impact-negative and positive. Energy consumption, material flows, current permits, laws, regulations and the need for education are some of the issues that ideally should be studied.

*Environmental policy.* The policy is a short, concise document describing the company’s overall view on environmental issues and how the company proposes to relate to and handle these issues.

*Environmental goals.* Goals are drafted by utilizing the material from the assessment and the environmental policy. Goals should be concrete and measurable and they should be of general and specific nature.

*Environmental program.* Drafting a program involves creating a plan in order to reach the set goals. Each goal or combination of goals should have a corresponding plan of action that

\(^{11}\) Ammenberg, 2000.

\(^{12}\) Ammenberg, 2000.
includes a description of the goal, a time plan, communication plans, division of responsibility and specifications of necessary resources.

**Organization, responsibility, routines etc.** Organization and responsibility are, perhaps, the most important aspects to have under control if the EMS is to become an effective, accepted and relevant tool within the company. The chief executive officer (CEO) has the overall judicial responsibility for environmental efforts. In addition, employees from all departments of the company need to be involved in coordinating and executing efforts. These people should ideally be joined in a sort of environmental efforts group where an environmental coordinator bears the overall responsibility for the group. It is also of utmost importance that all employees act in a way that coincides with ambitions set by the EMS. Routines, instructions, policies and guidelines need to be created in order to facilitate structure that will hopefully result in a company wide united effort to integrate and utilize the EMS.

**Training and education.** All employees who are affected by the EMS need to be properly trained and informed on the EMS and environmental issues in general. In addition, information needs to be tailored to smaller groups composed of employees who have similar work-tasks. This is so that employees see the practical applicability of the system and understand the importance of their dedication to and comprehension of the system.

**Audits and follow-ups.** Internal and external audits are necessary in order to ensure that the system remains up-to-date and relevant. Flaws and deviations are exposed during audits, which primarily consist of consulting employees and documents for information on effectiveness and functionality of the EMS. Follow-ups are similar to audits, but are carried out by the highest management rather than by auditors. The purpose is to see if the system fulfills its purpose as it has been defined and to see if the set goals are still attainable by utilizing the system in its current form.

**Constant improvements.** The EMS is never “finished”. The stages of the EMS are organized circularly in order to discourage viewing an EMS as a process that has a definite beginning and end. The system is in constant motion as the nature of companies, laws, policies and regulations, for example, is such that they are forever changing.

### 2.3 ALSTOM Power Sweden's Environmental Management System

#### 2.3.1 ALSTOM's EMS – Historically

Initially, the questions who, what, when, and why need to be answered in order to understand the foundation that the EMS rests on today. Bertil Carlsson was consulted for this information\(^\text{13}\).

There are three main reasons why efforts were directed towards developing an EMS at ALSTOM. ABB, which was the name that ALSTOM went under in 1992 when the efforts were initiated, had a goal set that all of ABB was to develop an EMS that was to be integrated as policy within a certain time period. Increasing customer demands were another reason for initiating the effort and, finally, developing an EMS was viewed as a good way to keep things in order and to have control over the issues.

---
Initially, Bertil Carlsson and Bo Vallgren took the lead in conducting the efforts directed towards developing an EMS. A project group was started and led by these two employees. Unfortunately, their efforts suffered from lack of funding and the project progressed slowly in the beginning. However, in 1995 money was awarded the project and a modified group worked persistently at the task. Their efforts resulted in an EMS that is today registered to the ISO 14001 standard.

The EMS at ALSTOM Power in Finspång has been registered to the ISO 14001 standard since January of 1996. The general consensus was that the EMS was a functional and integrated part of the company and the ambition was to inform the rest of the industry, authorities and the community that this was the case. Registration would signal that environmental efforts are tackled in a systematic and serious manner. It would also communicate to others that ALSTOM works with environmental issues in accordance with an ambition level that goes hand in hand with being registered to ISO 14001.

2.3.2 ALSTOM’s EMS – Structure

ALSTOM’s EMS follows the layout represented in Figure 1 and implementation has gone according to the steps as well.

All aspects of the circle are interesting and deserve to be brought into light and analyzed. However, the scope of this study is limited to three aspects of ALSTOM’s EMS outline. These are (1) structure and responsibility, (2) EMS-documentation and, (3) incidences, corrective and preventive measures. The areas of study were chosen in collaboration with the environmental manager at ALSTOM. The reason for choosing these headings specifically is that it was thought that they would give an idea of the overall situation as the areas are interconnected and all deal with communication issues in some form. These areas are also of particular interest because the targeted employees have demonstrated difficulties applying and integrating these aspects in the past.

2.3.3 ALSTOM’s EMS – Selected study objectives

Below is a brief description of the chosen areas for study regarding ALSTOM’s EMS.

Structure and responsibility. The foundation of structure and responsibility may be determinant in the degree to which the utilization of the EMS succeeds. Responsibility is delegated by the CEO to the managers who in their turn inform the employees under their jurisdiction of environmental responsibilities. Further, ALSTOM’s site department also has a group responsible for keeping others informed of changes and modifications. The internal instruction system is accessible by everyone as all instructions are organized in the computer based Intranet.

EMS documentation. Documentation involves communication and management documents for example. The environmental manager has the overall responsibility for EMS documentation-communicating the contents and formatting the documents according to the

---

14 Bo Vallgren, April 2002.
16 ALSTOM Power Sweden, interviewees.
17 ALSTOM Power Sweden AB instruction 0880-4 Miljömanual, ALSTOM Power Sweden AB, 0105.
18 Bo Vallgren, 2002.
decided model. Revised and updated documents replace older versions in the Intranet as respective managers have approved them.

**Incidences, corrective and preventive measures.** The importance of reporting incidences to facilitate corrective and preventive measures cannot be trivialized. Internal and external auditors utilize documents pertaining to incidences when assessing the relevance and effectiveness of the EMS. The documents are also important when considering that constant improvements are an ever-present goal and learning from past mistakes is a good way of adhering to this goal. ALSTOM's internal information system (Intranet) supplies employees with instructions for how they should report incidences and supplies managers with information on how they should handle and follow-up these reports.

### 2.4 Current research

More and more research is being done on environmental issues connected to organizations and the people that make up the organizations. A few studies in this field are presented briefly below.

ISO 14000 registration is a way to gain a competitive advantage for many companies, but sometimes this formal standard is not the way to go. The "clean business" program in Poland was established in 1997 in order to support and encourage environmental solutions in all instances of the community, as well as ensuring that environmental considerations are taken into account when economic reforms are on the agenda. For companies, the program is a way to raise awareness that will eventually turn into action. In other words, a way to self-help and a precursor to registration perhaps. The employees become motivated as they are involved from the beginning and it is these employees who put the pressure on the management to develop an EMS.

A study presented by Pooley and O'Connor in September 2000 involves attitudes to the environment. Primarily, the study was concerned with environmental education, where it was leading and how it could be made more effective. The authors proposed that knowledge on environmental issues is today sufficient in most cases. The authors suggest that targeting a person's feelings is a much more effective way of getting the message across. Personal experiences, for example, are often large contributors to the individual's attitude as his feelings and emotions were present during the experience itself. The experience and the feelings associated with the experience are a part of the individual's memory bank and thus an ever-present part of him, which is why education should be aimed at targeting feelings.

A third and final study that will be discussed briefly is one that involves the effectiveness of tailored instructions. Studies have shown that tailored information is a good way of getting the message across effectively to the employee. In short this means that information that is

---

19 ALSTOM Power Sweden AB instruction 990-12 Kvalitets- och miljörelaterade document, 9910.  
21 ALSTOM Power Sweden AB instruction K-9420-6 Avvikelsehantering, Yttre miljö, 9906.  
written especially to pertain to one department or group within a company has a much larger impact than information that is standardized to apply to an entire company. This is because tailored information involves the individual to a much larger extent than does general information. Should instructions be tailored, the problem of seeing practical applicability would perhaps be overcome or diminished as the instructions would "talk" to the individual about integrating the aspect in his works-task.

3 Theoretical foundation

The people that are employed by ALSTOM are a part of an organizational structure that encompasses the structure of the efforts associated with the EMS. The way that the overall structure is constructed and functions effects how the employees handle the issues that are contained within the EMS structure. Taking a closer look at a couple of organizational theories will serve as a means for analysis in this study and, perhaps, offer some leads as to why the situation is as it is today. An organizational theory with a technocratic focus and one with a humanistic focus will be presented. In addition, a theory with principles somewhere in between the two extremes will be presented. The definition of attitude will also serve as foundation for analysis as attitudes to the environment many times effects how efforts are organized, interpreted and carried out.

3.1 Technocratic focus

The technocratic perspective has its roots in the early industrial period in the beginning of the 1900's. With the advent of increased production, assembly lines and division of labor some saw the need for organization in order to increase effectiveness and thereof prosperity. F.W. Taylor developed Scientific Management as a result of this apparent need for organization and structure within industry. According to Taylor, the following four principles of Scientific Management would lead to increased company prosperity, which he believed should be the main objective of any company:

- Develop a science for each element of an individual's work
- Scientifically select, train and develop the worker
- Heartily cooperate with the workers
- Improve production efficiency through work studies, tools and economic incentives

There were a few reasons why Taylor maintained that these principles would lead to increases prosperity. After studying each work-task, the knowledge is applied to technically develop standard processes that allow production to proceed in a controlled manner. The people who work the specified tasks have been selected to do so after concluding that they are physically and intellectually suited to perform the task. Training and internship, which are supplied by the management, are essential if the person is to be expected to carry out the task sufficiently. After this is done the management has an employee who is suited and trained for his task, which was viewed as a means for effective production.

Taylor makes a couple assumptions about human beings in general when developing his theory. One of these is the view that humans are primitive, physiological machines who are...

---

guided by motives that result in the greatest possible gain for them. The gain that the individual is after is of the economic nature and the gain that the company is looking for is also of the economic nature. Hence, the human being is a tool used by the company to reach the greatest possible gain and the human complies because this is what he wants as well. The idea is that when a company prospers the workers’ wages increase, as a division of surplus is necessary. The result is that both parties prosper\(^{29}\).

Another assumption that Taylor makes is that humans are indolent by nature and do as little as possible. Man has a natural tendency to take it easy, which Taylor refers to as “soldiering”. Taylor further develops this thought by saying that workers in groups will soldier together and create a sort of group norm for what is accepted in the way of work tempo, production and pauses. In this way, no worker does more work than his neighbor does\(^{30}\). If, however, someone were to go against the trend he would be teased, harassed and ridiculed. Not surprisingly, there were reactions to this new way of thinking and these counter-reactions paved the way for humanistic focus and the Human Relations school.

### 3.2 Humanistic focus

Taylor’s Scientific Management principles were not readily accepted from the very beginning. It has been said that the Human Relations school is a reaction to Scientific Management and its technocratic view of man\(^{31}\). The Human Relations school has a more humanistic perspective on man and man’s work-situation than does Taylor’s perspective. Elton Mayo is accredited as founder of these principles and John Dewey and Kurt Lewin are viewed as co-founders\(^{32}\).

Even the Human Relations view focused on the producing entities of a company, but the perspective is somewhat different. The following conclusions were drawn after the completion of a study, which has become known as the Hawthorne-study, that progressed for several years at an electrical company in Chicago in the late 1920's and early 1930's\(^{33}\).

- Workers behavior and feelings are closely linked to each other
- Norms within a group are important when considering what the individual worker produces
- Money effects production results to a much lower degree than norms, affective experiences and sense of security

The main focal points of these pillars is the humanistic view of man, that group dynamics affect him and that there are informal structures at a work-place that govern how the worker handles his tasks. Social motivation is to a large degree a deciding factor in the amount that a worker produces; physical capacity is not as crucial as was once thought. The individual’s sense of respect, worth and security are factors that determine his degree of social motivation\(^{34}\). In the Hawthorne study, it was concluded that people who feel that they are part of a special group, have the management’s support and a functional informal structure produce more\(^{35}\). This is because these workers feel an increased sense of psychological and

---


\(^{30}\) Taylor, 1911.


\(^{32}\) Hammarén, 1997.

\(^{33}\) Hammarén, 1997.

\(^{34}\) Hammarén, 1997.

\(^{35}\) Hammarén, 1997.
social satisfaction. The informal group was mentioned as an important factor for production. This is a group constellation that is not officially recognized, but its existence and importance is invaluable. Within this group there is an informal leader, someone who is popular or older for example. This person is necessary if effectiveness is to be optimized because a formal leader is not enough when it comes to meeting the psychological and social needs of the people within the group. This is how the group develops trust within itself, how they determine the norms for the group to be followed by all in the group and a way to support each other in everyday tasks.

3.3 Technocratic/ Humanistic – Compare and contrast

A summary of the two extremity theories is presented below. Similarities and differences between the two theories are apparent

<table>
<thead>
<tr>
<th>Technocratic Focus</th>
<th>Humanistic Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Management, ca 1910</td>
<td>Human Relations, ca 1920-1930</td>
</tr>
<tr>
<td>Focus on production entities</td>
<td>Focus on production entities</td>
</tr>
<tr>
<td>Classic theory</td>
<td>Neoclassic theory</td>
</tr>
<tr>
<td>Functional foremanship</td>
<td>Superimpose ideas of individual behavior and influence from informal groups on classic theories</td>
</tr>
<tr>
<td>Planning staffs</td>
<td>Informal structures valued</td>
</tr>
<tr>
<td>Much focus on specialization</td>
<td>Focus placed on the workers state of satisfaction and its importance for production</td>
</tr>
<tr>
<td>Expertise valued</td>
<td>Discussion on conflicts and their meaning</td>
</tr>
<tr>
<td>Formal leaders are the only employees who handle leadership</td>
<td>Informal leaders are present and necessary for the prosperity of the company</td>
</tr>
<tr>
<td>Adapt the worker to the organization</td>
<td>Adapt the organization to the worker and his group dynamics</td>
</tr>
<tr>
<td>Monetary gain decisive in determining prosperity and effectiveness</td>
<td>Economic gains subordinate when compared to the individual’s need for feeling that his social needs are being met</td>
</tr>
</tbody>
</table>

There are some reflections over both these theories that are necessary to bring up before proceeding; no theory is without its flaws and criticisms. Regarding Taylor’s Scientific Management it is important to not loose sight of the fact that thoughts originated in the beginning of the 20th century, and some of the thought patterns may be obsolete when applied to modern organizations. Taylor also focused on the production entity of the company and claimed that prosperity there would result in other entities of the company. This is because

37French & Bell, 1990.
42French & Bell, 1990.
43Hammarén 1997.
45Taylor, 1911.
he believed that managers and workers shared the same interest for economic prosperity. This, according to critics, is not the case and workers become slaves of the industry because of this misconception.46

The Human Relations theory has been criticized for drawing conclusions by utilizing primarily just one study, the Hawthorne-study. The study was plagued by poor methodology and analyses according to critics.47 Among the criticism directed at the theory itself, is the notion that common values and norms cannot be said to be present within everyone, especially in societies with competition and free enterprise.48 However, according to Berg, the theory has had and continues to have a profound effect on the socio-psychological perspective present in organizations today.

3.4 The socio-technical perspective – somewhere in between

The socio-technical perspective is in many ways a reaction to the notion of viewing organizations as having either a technical structure or a social structure. Those who advocate the socio-technical perspective are interested in uniting the technical and social perspectives in an attempt to see organizations in a different light.49 Focus is on a group-level and emphasis is placed on the social aspects of the group. This in order to satisfy the workers psychological needs while at the same time integrating new and improved technology in the work environment.50 This idea of integration goes hand in hand with the idea of viewing an organization as a system, which is what the socio-technical perspective does. The parts of the system cannot be viewed separately; social, technical and administrative aspects have to be viewed in relation to one another.51

It is difficult to credit someone with molding the socio-technical perspective as bits and pieces of the perspective can be traced back to a number of prominent people, such as Karl Marx.52 However, in the 1950’s more interest was placed on the working environment than had been in the past. This was partially made possible by technical innovations, but the interest was there nonetheless. Consequently, it seemed natural to want to include a social aspect in these technical innovations.53 Below are some central ideas of the socio-technical perspective:

- Unification of man (social) and production system (technology) in order to have a successful organizational structure
- Social and technical aspects are dependent on each other to reach successful solutions
- Adapt technology to man’s needs and the human condition
- Group constellations have a central position in the organization when it comes to decision-making and leadership

50 Abrahamsson & Andersen, 2000.
51 Abrahamsson & Andersen, 2000.
52 Though Marx’s theories contribute much to all perspectives presented in this study, his ideas will not be discussed further here as it is not possible or justified to summarize in a few sentences.
54 Abrahamsson & Andersen, 2000.
This perspective gives more credit to man (the worker) and his capability to make decisions, interact with others in an affective manner and to see the possibility and need for personal development than does a technocratic focus. The perspective does not, however, ignore the existence of, or the importance of, technology as a part of the working environment. Criticism in the way of trivializing the perspective has been conveyed. Critics say that research on the topic has not contributed to a theory of any kind and is simply a potpourri of other theories. In addition, the group structure that is the focus of the perspective is claimed by critics to have been fabricated and that it did not exist prior to the socio-technical view.

3.5 Attitudes – A concise definition

In order to illuminate attitudes and reflections on the EMS at ALSTOM and to connect them to the contents in the organizational theory presented above, it is necessary to first define attitude and discuss its components.

Common to a lot of research on the topic is that attitudes are complex and involve many aspects of a person's life history of experiences. Bruvold defines attitude as a "positive or negative affective reaction toward a detonable abstract or concrete proposition." Even within this definition there is some terminology that needs to be clarified. “Abstract or proposition” refers to the fact that an attitude always has an object or topic. Attitudes are not abstract, obscure or broad; they have a focus. In addition, attitudes are usually evaluative and relatively enduring. This means that attitudes are thought of as being tolerant to influence from conflicting sources. However, the more specific the object or issue, the more likely that the attitude is susceptible to change.

3.6 Attitudes – Developing the definition

The sketch below has been adopted from Rosenberg's and Hovland's *Attitude, Organization and Change* and will be referred to when the definition of attitude is broken down into components and developed accordingly.

---

3.6.1 Knowledge/ Cognition

Knowledge with regards to any object of an attitude varies greatly and is affected by a few factors. The amount of knowledge regarding a certain object is of significance when one tries to create a picture of their view (attitude) regarding a certain object. Ignorance towards an object may lead to the creation of a different picture than one would expect if the same person had more knowledge on the topic. The relative significance of the person's knowledge on the topic in relation to the object is an important aspect of the knowledge component. Knowledge can also be extensive, specific, rudimentary or subjective, which influences the attitude on the whole.\(^{61}\)

3.6.2 Affective - Feelings and emotions

A second component of the attitude is the one that deals with feelings and emotions. This component varies as much as people's fingerprints and is very difficult to assess and evaluate. Regardless, a person's feelings about an attitude object are often decisive in determining the overall attitude. This component is also related to the knowledge component as no attitude is composed of simply one genre of knowledge. Knowledge about seemingly unrelated things can affect the way a person relates to an attitude object because of the way that his emotions are connected to his knowledge. Feelings on many topics ought to be studied if one wishes to offer a more complete picture of a person's attitude to one object.\(^{62}\)

3.6.3 State of readiness/ Behavior

The last component involves a predisposition toward action. This study does not focus on action to any large extent, but it is worth mentioning predisposition toward action as it is a component of the attitude. The knowledge and emotions that one has toward a specific object can influence his state of readiness. These components can influence how he will act and react.\(^{63}\) However, it is important to remember that the road from intent to action is a long and winding one; conflicting attitudes and views, social pressure and new knowledge are just a few of the hurdles that can appear along the way that will affect a person's actions.\(^{64}\)

3.6.4 How do the attitude components relate to each other?

The different components of an attitude influence individuals in different degrees. All people are susceptible to influences in varying degrees, but Wrightsman states that:

---

\(^{62}\) Lindén, 1994.
\(^{63}\) Lindén, 1994.
\(^{64}\) Wrightsman, 1977.
In general, relationships between affective and conative components are higher than between either of these and the cognitive component; in other words, there is more similarity between one's feelings and one's policy orientations than there is between one's feelings and one's beliefs or between one's policy orientation and one's beliefs."\(^{65}\)

This statement agrees with what Pooley, O'Connor and Lindén maintain regarding the importance of the emotion attached to an attitude object. Feelings often affect the other two components to a much greater extent than either affect each other or emotions. However, in this context it is also necessary to point out that studies that focus on the affective component exclusively should not be viewed as a complete and accurate measure of an individual's entire attitude.\(^{66}\) Preferably, all components of attitude should be measured if any conclusions about the outcome are drawn.

4 Method

This study focuses on one company and a fraction of its employees' attitudes towards the existing EMS. In order to gain an understanding of people's attitudes it seemed appropriate to ask them. Hence, questionnaires and interviews were used as the primary methodology for gathering information in this study. Questionnaires were used because interviewing a large number of site employees would be much too time consuming for the scope of this study. The different geographic locations of the employees would also make face-to-face interviews difficult. However, I did want some sort of dialogue and interaction with some respondents, which made interviewing a part of this study as well even if to a much lesser extent. A few managers of the site employees were chosen as interview respondents because they are located in Finspång and because they would hopefully offer another perspective on the issues, communication and organization. Since only 45 out of about 300 site employees were given the questionnaire, it is necessary to keep in mind that the results of the study cannot be considered representative of all the site employees or all employees at ALSTOM. The results of the interviews cannot either be thought of as all-representative of site managers in Finspång because there are significantly more managers the four that participated in this study.

4.1 Gathering information

As mentioned, information for this study was acquired by utilizing questionnaires and interviews as a means of communication (Appendix A and B). Site employees were the main source of material for this study. The questionnaires were sent to three different sites where there was a total of 45 site employees; one in Gävle, one in Oskarshamn and one in Norrköping. The questionnaires were sent out in Swedish, but can be refereed to in Swedish or English in the appendixes. The questionnaire was divided into three sections that dealt with general information, general questions on environmental issues and questions on ALSTOM's EMS. The topics of ALSTOM's EMS that were handled were (1) structure and responsibility, (2) EMS-documentation and, (3) incidences, corrective and preventive measures (Appendix A). Common to all the questions was that they were aimed at trying to gain an understanding of the respondent's attitude to the different themes. A total of 35 questionnaires were returned completed by the employees. The results of these served as basis for the analysis of the site employees.

---

65 Wrightsman, 1977, pg 319.
66 Ajzen and Fishbein, 1980.
A second method that was used to try to illuminate the same problem from a different angle, was the interview. The interviewees were four employees with manager positions, but with different jurisdictions. The interviews were all between 30 and 45 minutes long and were conducted in Swedish. With the respondents’ permission, the interviews were recorded. During the interviews, notes were taken as well in order to aid the process of asking follow-up questions and in order to begin the analysis of the interview already during this stage of the study. Regarding interview questions, the same themes were chosen as in the questionnaire (Appendix B). A few more follow-up questions were added, but the themes remained the same as those in the questionnaires and the interviews were rather closed as there were questions that the respondent was expected to answer. An interesting development of this study could be to interview site employees in order to gain yet another perspective on the same study.

Both of these methods seemed appropriate for a couple of reasons. Because the study focuses on how people relate to the EMS, some sort of correspondence was necessary. There needed to be an exchange of information, a dialogue. A disadvantage of using questionnaires is that no dialogue is exchanged and the respondent is forced to answer within the realm of the answer choices. The respondent was given the opportunity to comment some of the questions, but he was not given any feedback on his comments. During the interviews, however, respondents were given feedback on their answers and confronted with follow-up questions, resulting in a sort of two-way communication.

4.2 Analyzing the information

After the questionnaires came back completed and the interviews had been carried out it was obviously necessary to analyze the information in a manner that would allow for the results to be presented and discussed. The analyses were carried out a little differently, but the purpose was the same; to illuminate attitudes to the EMS at ALSTOM.

4.2.1 Questionnaires

In order to facilitate analysis of the questionnaires, the answers were entered into SPSS 9.0 and coded in a way that would allow for frequency tests and comparisons.

The questionnaire had a total of 16 questions. Of these eleven were multiple-choice, three were answered by placing an "X" on a line, one question was answered by placing an "X" in all boxes that applied and one question was two questions in one (Appendix A). All the answers were assigned a numerical value that could later be utilized in frequency tests and comparisons. In question 7 there could be anywhere from zero to seven positive responses. For analytical purposes, the boxes that received an "X" were assigned a "yes" and the boxes that were left blank received a "no" as it was assumed that the respondent did not regard that choice as an applicable answer to the question. Question 8 was slightly unique because from the analytical perspective it was really 10 questions. The first part of the question asked the respondent if he would consider doing the suggested task. The second part of the question asked, "If yes, do you do it today?" There were five separate behaviors within the question, constituting a total of 10 questions. In the SPSS analysis they were in fact treated as 10 separate questions, but then treated the same as the other questions in that they too received a numerical values for analytical purposes.

Unfortunately, there is no way to recode the respondents' comments that were added at the end of some of the questions in SPSS. This results in a slightly altered picture of how the
questionnaire respondents answered because the full content of their response was not accounted for by using SPSS. However, comments were viewed in conjunction with the interview analyses in order to compensate for this deficit. Hence, the questionnaires were viewed in a more qualitative manner as well, rather than relying on SPSS exclusively.

It is important to account for missing values when using questionnaires in a study. It is also important to distinguish between different types of missing values if they do in fact differ. In this study two types of missing values were used. The number –98 was used when the respondent left the question blank. The number –99 was used when the respondent left the question blank because it did not apply to him. Hence, there are two different types of missing values that need to be accounted for properly in order to get a fair picture of the answer frequency within the questionnaire.

4.2.2 Interviews

The purpose of analyzing the interviews was the same as for analyzing the questionnaires; trying to get a picture of the respondents’ attitude to the issues. The same themes that were used in the questionnaire were also the main focus of the interviews. The main method of analysis was categorizing the different themes and compromising the respondent's ideas into more concise versions. Both of these methods were used in an attempt to make the analysis easier. Categorizing and compromising makes the task of discerning overall attitudes easier as focus on detail is limited. The purpose of the interviews makes it possible to view the interviews from these perspectives, as detail is not relevant to a large extent; a picture of the interviewees' attitude can be gained without exaggerated focus on detail. In order to do this, the recorded interview was played and notes were taken, categorizing the information, organized thematically, as the tape was played.

4.2.3 Frequency and Comparison tests – Questionnaires

The purpose of performing frequency tests was to get a picture of how the respondents answered. The program used for this was SPSS 9.0. The tests revealed how many respondents answered “completely agree” to a certain question for example. However, in this study focus was placed more on if someone answered “completely agree” than on how many responded in a certain way, even if it the quantitative perspective is consulted to do this. This is because the research material was so small that using percentages and ratios to describe the situation is not justified. In short, in a study of this nature it is more interesting to see what people said than it is to see how many said what.

Comparisons were also made between two questions. A condition was set on one variable then all the respondents who fit the specified condition were compared to another variable. For instance, if someone answered that he was aware of the instruction system at ALSTOM did he also claim that he used the instructions often? This was done in order to get a feel for if the person’s attitude was consistent or not (Appendix C). Comparisons of this type were done with 25 different criteria. The comparisons done on the section of the questionnaire that handled ALSTOM’s EMS are of special interest when viewing the site employees from the perspective of the theoretical foundation described earlier.

---

5 Results

In Appendix C a complete quantitative summary of the questionnaire results can be found. Below are the results of the questionnaires and interview, which are presented separately and will later be analyzed together.

5.1 Questionnaires

Thirty-five questionnaires came back answered within one week of being sent out. As there were forty-five employees at the three sites, this is an answering frequency of almost 78%. As for the ten that did not respond, it is worth mentioning that four questionnaires came back after the deadline and were thus disregarded. It is possible that the other six were not returned because the employees were no longer working at that site or were on a different shift-schedule and missed the questionnaire completely. There are also, of course, some people in a group who never participate in studies of this type and chose to disregard the questionnaire for that reason.

5.1.1 A general overview

Part I of the questionnaire handled general personal information. Of the thirty-five respondents all were male, resulting in the use of male pronouns throughout the text. Of these employees, about 2/3 were between the ages of 40-60+ while the remaining 1/3 were between the ages of 20-40. A little over half of the employees have worked at ALSTOM for more than ten years, while only one respondent answered that he had worked at ALSTOM less than a year. A convincing majority responded that they feel that they have control of their work-tasks and at the same time have room to grow and develop. No respondent claimed that he had no control over his work tasks whatsoever.

The majority of the questionnaire respondents answered that they believed that interest for the environment in society is very strong to moderate. Regarding the question that asked the respondent where he thought that meaningful environmental efforts take place and are encouraged, most of the respondents had more faith in local communities and schools than they had in political parties and international cooperations. The question on what the respondent could consider doing, sorting rubbish and signing petitions received the most positive answers while not driving in center-city and buying organic food received the most negative responses.

The third and final part of the questionnaire handled the questions pertaining to the EMS at ALSTOM and the environmental efforts at the company. Regarding the employees' knowledge of the instruction system that describes their responsibility for the environment, the response that received the most responses was the one titled "agree", though a significant number also answered "unsure". About half of the respondents answered that they rarely or almost never utilize instructions when something affecting the environment is unclear to them. However, the majority of the respondents were very certain to averagely certain of whom to contact if something was unclear to them. Regarding reporting and documenting environmental incidences, about 1/3 answered that they were sure of this, but a large number answered that they were uncertain to not at all certain over how this is done in accordance with company procedure.
5.1.2 Comparing the variables

In order to illuminate consistencies and discrepancies in attitudes it seemed reasonable to compare two variables. One comparison that was done was between the number of years that a person had been employed at ALSTOM and the degree to which he felt that he had control over his work tasks. The six respondents who had been employed at ALSTOM for 1-3 years answered that they agreed that they had control over their work-tasks. The same was true for employees that had worked at ALSTOM for more than ten years. Regarding knowledge of the instruction system, the tests done in SPSS reveal that it should not be assumed that the employee utilizes instructions simply because he has knowledge of them. The case seems to be similar when considering reporting and documenting environmental incidences. A significant number of respondents said that they know how this is to be done. However, a few answered that their reports of these incidences were rarely followed-up by their manager, which contradicts this.

5.2 Interviews

The interviews were analyzed categorically in accordance with the themes that were considered in the questionnaire. The results are presented categorically as well.

5.2.1 General attitudes toward the environment

In general, the interviewees seemed to agree that conscious awareness of the environment and environmental issues has increased over the past years on the whole. People are aware that environmental efforts and issues are regulated by policies and documents both within industry and within society. This makes them more receptive to information regarding these issues and hopefully more accepting of change as a result of this information. A contrasting view that was expressed was that people today are so bombarded by warnings of what to do, what not to do, what not to eat etc. that their sense of involvement and concern becomes blunted. There is a fine line between these two effects according to the respondent. Another concern that was expressed involved applying the increased awareness to everyday tasks. Often there is great difficulty in carrying out tasks even though one may be perfectly clear in how it ought to be done. This is a source of discomfort for people in general and for site employees. When looking more specifically at the site employees, the interviewees felt that they too have an increased awareness. The employees know of the laws and regulations that govern how they must carry out their tasks and these regulations reside in the back of the employees’ mind as he performs his trade.

When asked to recall an environmental newsbreak that has stuck with them, three of the interview respondents spoke of the Exxon Valdez oil spill outside of Alaska’s coast in the 1980’s. Recollections of blackened ocean and oil-saturated animals were still vivid in the minds of the respondents who broached the topic. In addition to this occurrence, a few other incidences were brought up that one can classify as personal experiences. One respondent spoke of the electromagnetic fields that have recently been observed in the new Volvos. He was concerned about this because he happens to own such a car. The same respondent also mentioned his concern regarding radiation from mobile telephones. Because of this concern, he has changed his behavior and now uses a handsfree unit whenever possible and has decreased his time spent talking on his mobile. Other personal experiences include the use of CFC’s in industrial processes and the use of UV-paint within the printing industry.

---

68 Results are a combination of what was said by the four interviewees at ALSTOM Power Sweden April 2002. No individual is personally referred to or quoted in the text.
5.2.2 Structure and responsibility

The four interview respondents unanimously agreed that a clearly defined structure and knowledge of responsibility are essential for the success of any EMS including ALSTOM's. A couple of the respondents viewed this as their definition of EMS. Their perspective of the purpose of the EMS was that it is primarily a set of documents used to delegate authority, work tasks and to have clear responsibility jurisdictions to work according to. The CEO is the person who delegates responsibility to his managers who in their turn inform their employees of what is expected of them. This is an effective way of handling the EMS as long as those responsible know over who, what and how they are responsible. Without clear answers to these questions not much can be expected in the way of working effectively with the EMS.

The interviewees spoke of the general introductory information that is communicated to all new employees. One of the topics that is discussed during this introduction is the environment in relation to how the company directs its efforts, what is expected of the employees and how they can gain information on where to find further information on the subject. The information that is communicated is of the general type and the employees are then expected to know what is expected of them, and if they do not know they are expected to know where they can find this out. The introductory information was viewed as a necessary element, a couple of the respondents mentioned that it may be legitimate to have some sort of follow-up information meeting 6 months after the first one. This is because many questions arise when one actually starts working and is forced to practically apply written guidelines.

With regards to the structure of the EMS, the interviewees were aware of all the instructions that constitute the system, though they did not in any way claim to have the ability to recite the contents of those instructions. The instructions pertaining to the EMS are included in the Intranet database. Searching for specific instructions is sometimes viewed as a tedious and time-consuming task, which may constitute a hurdle for some. This may also lead to future disregard for the instructions and a decreased faith in their ability to help the person solve his problem or answer his question. A suggestion was put forth that the instructions be made more concrete, clear and user-friendly. Overall, however, the structure received a passing grade from the respondents.

5.2.3 EMS documentation

Regarding documentation, the discussion was primarily focused on communication of the EMS documentation. Three of the interview respondents spoke of a leadership group that they have within the department in order to facilitate communication among the employees and between the different levels. One person in this group is responsible for informing the rest of the leadership group of the current situation and future changes. The leadership group then informs the managers, whom in turn, inform the site employees that they have under their jurisdiction. This is seen as an effective way of handling changes and alterations because there is no way that all employees can be expected to gather information on all the changes that are occurring and then deciding if the changes apply to them and their field of work specifically. The prerequisite for the success of this method is that the information is in fact communicated. Having a leadership group was viewed as a way to tackle issues systematically which is essential for a company the size of ALSTOM. Again, documentation goes hand in hand with responsibility; those who are responsible for the EMS documentation need to be aware of this and take that responsibility seriously so that other employees remain informed and up-to-date.
5.2.4 Incidences, corrective and preventive measures

The topic that handled incidences, corrective and preventive measures was slightly harder to grasp by the interviewees than the other two topics because they are not site employees themselves, meaning that they responded how they *think* that incidences are reported and documented. Hypothetically, the respondents were asked how they think that an employee acts in a situation when he spills 10 liters of oil on the floor. The overall response was that the most important thing to the employee is probably cleaning the spill up and then asking his co-workers if they were affected in any way by the incident. After that they are not too clear on what happens. One interviewee suggested that once the spill is wiped up, the rag is simply disposed of in the nearest receptacle. According to the respondent, humans are lazy by nature and are not inclined to walk ten minutes to throw something out, regardless of what they wiped with it. One interview respondent mentioned that after every completed job a general report is filled out and filed. How much of this report handles environmental issues and incidences was a question that remained unanswered. The respondents did, however, mention that a larger incident requires documentation so that it can be traced and has been accounted.

Corrective and preventive measures are not accounted for to any large extent. Often there is little interaction between the manager and employee regarding a discussion of what the underlying causes of the incident were. This makes drafting preventive measures difficult. Documentation and filing the incident is often viewed as sufficient even though this does not likely make the manager aware of the incident. Follow-ups do occur, but perhaps not to the extent that they need to, in order to ensure that no repeated incidences with the same consequences occur in the future.

6 Analysis

The results of the study bring on some interesting points regarding the subjects’ attitudes to the EMS at ALSTOM. A review of *what* was said has been carried out, now it is time to evaluate the *significance* of what was said.

6.1 Age

The age group that was dominant among the questionnaire respondents was 50-60+ years old. Assuming a retirement age of 65, this makes the respondents born somewhere between 1937 and 1952. Being born in this time period brings with a fifteen-year school period between the years of 1944-1959 and 1959-1974 respectively. During this time period, environmental discussions were not a prioritized point on the school curriculum. School children of this age were not informed of environmental issues simply because there was little knowledge of them during the time that they attended school. This affected the knowledge component of their attitude. It is possible that some of the attitudes developed during this time period may still be prevalent today. Support for this can be found by looking at the comments that followed some of the questionnaires. A common comment among this age group was, for example, that incident reports only give rise to more paperwork, which to me suggests some degree of ignorance regarding the purpose of reporting incidences. On the other hand, it is possible that this age group feels a stronger affective to the environment than do 20-30 years olds, in which case the fact that they had little knowledge of the issues becomes less important when determining attitude. The interviewees were for the most part slightly younger than the 50-60+ age group. However, even these respondents made it a point to mention that they were

---

not confronted with environmental issues in school simply because knowledge of the issues was minimal.

Another interesting aspect regarding age is the one that pertains to the degree that the employee feels that he has control over his work tasks. Nearly all questionnaire respondents who were in the age group 20-30 and 50-60+ agreed or completely agreed that they had control over their work tasks. When one considers the older category, it is perhaps not that surprising that they answered in this way. Most of these men 50-60+ had also worked within the company for many years, which means that they have learned to master their tasks over the years through experience. These employees know what is expected of them and they know how to go about doing things because they have been in the business for quite some time so to speak, which makes their tasks more than manageable. The employee is a part of an informal group and his roll within the group is probably very clear to him. One could, perhaps, go so far as to say that his tasks and group constellation are second nature to him, which is positive for his social needs.

The five respondents who were between 20 and 30 years old also claimed that they had control over their work tasks. In contrast to the 50-60+ group, one cannot claim that this age group has a 30-40 year history of work-experience behind them, so one is forced to look for another explanation as to why also these employees are confident in their ability to execute their work-tasks. The interviewees spoke of a general introductory course that handles general information on ALSTOM, general information on work-tasks and general environmental information. This course is given to all new employees. Communicating information is an important part of making all employees feel comfortable with their work-tasks, especially new employees. From the results, one may infer that this information is a good way to communicate information on work-tasks and the introductory course fulfills its purpose in this regard. The management seems to have conveyed their message successfully and united man and technology in a way that the worker feels confident in his work environment.

Yet another explanation as to why both groups claimed control over their work-tasks could be related to the type of task that each individual has. Though this study does not reveal anything about the type of tasks that the employees have, it is not unlikely that the younger employees have somewhat easier tasks than the older and more experienced employees. This, perhaps, makes the younger employees confident in their work-task because the task’s degree of difficulty is lower.

An age group between the two that have been discussed is 30-40 year olds. Looking a how they view their work-tasks, many agree that they have control over them. However, proportionally, more 30-40 year olds answered “unsure” and “not enough” than 20-30 and 50-60+ years old. This may be linked to gap in training compared to the 20-30 year olds or less work experience than the 50-60+ group. Perhaps, the 30-40 years olds somehow fell through the cracks which could explain why some of the respondents answered as they did. Of course, it is also important to take into account how many years the respondent had been employed by ALSTOM. In some case, this supports the training/ work-experience argument as well.

6.2 General environmental outlook

Getting a picture of the respondent's general environmental outlook is important because it is a way assessing how the respondent feels about and toward the environment outside of his work-situation. In addition, personalities and attitudes about the environment are not left at
the door as the worker begins his day; rather they are an inevitable part of him even during his workday. Both the interviewees and the respondents to the questionnaire gave the impression that people's interest for the environment was pretty strong and that interest and awareness had improved over the past years. This is an expression of faith for humanity and that we are moving toward a more environmentally sound society. The fact that they felt this way also gives strength to the research that claims that our knowledge of environmental issues is sufficient enough for us to be able to handle the information and take a stand. Knowledge of the issues has increased by way of media, politics, education and company policy to name a few. Hence, it seems that people's attitudes have been altered over time by the phenomenon of acquiring more knowledge.

In addition, people are affected everyday by personal experiences and feel certain things when they are confronted with this new knowledge. The interviewees who spoke of the oil spill outside of Alaska, for example, were still able to recall this incident because it had a profound affect on them. This is important when considering that emotions and feelings have a big roll in determining how effective we are as workers. We cannot separate the two, just as we cannot expect the individual's private environmental beliefs to be insignificant when studying his environmental practices at work.

6.3 Knowledge of the system

In the previous section, it seemed that knowledge of environmental issues has improved over the years and that people have become much more aware than they were just a couple of years ago. It is interesting to think that knowledge of the EMS was sufficient among the managers interviewed, the managers were under the impression that knowledge was sufficient among their employees, but when the employees were asked only half claimed knowledge of the system. In my opinion, this discrepancy can most likely be traced to some sort of communication and/ or organizational problem.

6.3.1 Flaws in communication

The managers interviewed spoke of the information group that informs managers of changes at least once every month. The managers then inform the employees, but in my mind the employees do not seem to have sufficient knowledge of the system. In this case, I think that it could be possible that the information is not communicated to the employees in a way that they can relate to it and comprehend it. It is easy to assume that the employees are not intellectually suited to handle the information, as Taylor might, but this is a dead-end explanation and does not really offer any reasons as to why the employee does not understand the information. If the information needs to be communicated in a small group by a person, rather than via the Intranet for example, then that is what needs to be done. According to the Hawthorne-study, people within a group who receive this "special treatment" will feel unique and that they are a part of something important as the management takes time to interact with the group. This may result in increased production, which translated to the terms of this study would mean an increased awareness of the system. I do not think that this would be an unlikely result if the method were tested.

Tailoring the information so that it more specifically applies to the department is a way that comprehension and application problems may be avoided. Doing this refutes the assumption that the employee is intellectually deprived, rather it is a way of involving the worker and giving him a sense of learning to apply something new in a relatively stable environment. Man and technology, in this sense, become more mutually adapted to each other and are not
viewed as separate parts of the system. Handling the communication this way may also increase the group's sense of support and security from the management. This can only bring with it an increased group dynamic, which most likely will result in increased efficiency.

The managers pointed out that the instructions are available to all by accessing the Intranet. All sites are equipped with a computer that is linked to the ALSTOM server, but the site environment is often such that using a computer may be viewed as more trouble than it is worth. This does not do wonders for communication between site and home-base. Again, it may be worthwhile to consider other forms of communication and different focal perspectives.

Of those questionnaire respondents who answered that they agreed that they had knowledge of the system, some answered that they rarely use it, which is rather surprising and disturbing even. In this case, knowledge has reached the employee in some manner and he is aware of the system, and thereof its contents on a general level. The employee is aware that he has responsibilities, but there is no way of knowing if he knows what these responsibilities are if he does not utilize the system. In this case, there are other reasons for his lack of utilization than the simple one, which is that he does not have knowledge of the system. For some reason his predisposition toward action was not consistent with his extent of knowledge on the topic. The informal structures within a site project may be partially to blame for this. Site employees are physically at a location other than the ALSTOM base, which makes solidarity to the group very important and norms within the group free to develop independently of norms present in the customer's social groups and of the groups based at ALSTOM. The group may not feel that they are being watched, which may cause them to ignore the instructions. Instead, they ask someone or act in a way governed by their own opinion. If this is accepted by the group, the individual will continue to act in this way as not to compromise his social needs. Regarding the management and the informal structures on site, managers may have trouble making their way into the informal group constellations that exist. The managers interviewed are rarely out on site, so when they do make a visit it is likely to be of the more formal nature. Information or messages conveyed during this visit may prove inferior to the group norm and what is socially accepted in the group. The result is that information is spoken and heard, but not necessarily accepted.

6.3.2 Organizational problems

The management's view on organization may be another reason why communication of knowledge is not always successful. The interviewees gave the impression that the instruction system is available to all via the Intranet. This is true. However, this is a very technocratic way of looking at the communication issue, and it may be beneficial if the management integrated the social aspect in its communication method to a larger extent. It appears now that the site employee is viewed somewhat as a machine who wants instructions to be communicated to him in a technical manner, and it is up to the management to train the employee to do what the management wants him to do. In my opinion, this can work only in combination with consideration for the individual's social needs; adaptation to the human condition to a much larger degree. An example of where other communication methods may be sensible can be found when considering the fact that computer use may not always be sensible or possible on site. The socio-technical perspective maintains that social and technical aspects of a system need to be mutually adapted to each other. The technology involved with having a computer based database needs to be adapted to man's needs, capabilities and possibilities. This is especially true of site employees since they often work in unique conditions. Technology cannot be optimized and expected to be a useful tool if it is
done at the expense of the social needs of the workers. Viewing the two subsystems as a part of the larger whole may give rise to new solutions that will lead to an increased utilization frequency of the instruction system among the studied group of site employees.

6.4 Reports, follow-ups and the gray area in the middle

The topic of reporting an incident involves both attitude and organizational issues. Ideally, both of these aspects need to be in agreement with each other if reporting incidences is to occur, according to the guidelines, giving the managers a report to follow-up.

Regarding reporting incidences, there was initially one answer to the questionnaire that struck me as especially interesting. When respondents were asked if their incident reports were followed-up by their managers, about 1/3 answered that an incident had never occurred. Consequently, about 1/3 had never been confronted with the task of reporting an incident. In this context it would be interesting to know what the respondent defines as an incident, and if/what the management had defined an incident as. An accepted and clear definition of what constitutes an incident is necessary in order to know what needs to be reported. If there is no definition, the employee relies on his own beliefs, feelings, and opinions to judge ad hoc what an incident is and if a report is necessary. Unfortunately, there is no way of knowing what either the employee or management define as incident by utilizing the questionnaires or interviews from this study. However, it is an interesting point to reflect over and study in the future. Having said that, focus will now be placed on the remaining respondents.

Closely related to knowledge reporting and documenting procedures is knowledge of the EMS on the whole. Not surprising, those site employees who did not claim to have knowledge of the system on the whole did not to any large extent claim that they have knowledge of reporting and documenting incidences. It would seem unlikely that it would be any other way. However, it is more interesting to look at those who claimed knowledge of the system yet responded that their knowledge of reporting and documenting incidences is insufficient. Somewhere between these two stages attitudes become altered, communication ceases, or training looses effectiveness for example. Regarding attitude, it can very well be a question of knowledge in this case, or it can be as simple as the employees not knowing what constitutes an incident and thereof not knowing how to report one. On the affective, it can be said that they have never personally experienced an incident. The people responsible for making sure that employees are aware of what they are required to report need to inform them of this. I think that a good way of doing this would be to integrate the social aspect in the available technology and to inform via the informal structure. The technical resources are not criticized, as I am confident that they are sufficient, but the way that they are utilized, and expected to be utilized, by site employees may not be in line with the individual’s other needs. One must be careful to not put so much faith in technology, such computer databases, that it is not properly integrated in the other aspects of the system (the social and administrative aspects).

For the group discussed above, it seems that the information on the system as a whole has reached them in a way that they are willing to claim that they have sufficient knowledge of it, which means that they are probably capable of comprehending information on incident reporting as well. In other words, I am refuting the assumption that the workers are not intellectually suited to handle the information and suggesting that a different way of informing may be all that is needed in this case. Practical applicability may need to be "acted out" rather than just spoken of and referred to.
Regarding manager follow-ups, the interviewees themselves said that there was little interaction between the manager and employee after an incident has occurred. An, in my opinion, unacceptable amount of questionnaire respondents claimed that incidents are rarely or almost never followed-up by the manager. In this case, both parties are in agreement that follow-ups are insufficient, which may make it easier to improve the situation. Follow-ups are necessary if the steps that come after the follow-up are to be made possible, as follow-ups of reports and interactions between the manager and site employee serve as the foundation for drafting corrective and preventive measures. I think that if the issues regarding reporting and documenting incidences are cleared up and if communication, definitions and organizational structures are improved, follow-ups will automatically become more frequent. This will lead to more interactions between the management and employees, which will increase mutual understanding between the two groups and facilitate more effective cooperation regarding issues that involve both subsystems.

7 Conclusions

After analyzing the results, I can say that there are many resources, technical and social, within the company that can be used to improve the effectiveness of environmental efforts. The consensus among the respondents in this study was that awareness of environmental issues has increased over the past years both within the community and at places of business. Among the respondents, there was also a willingness to be a part of positive environmental change, if only on a small level for some. In spite of this consensus, there are aspects of the company's progress that do not support this.

From the responses, it seems that the view on issues and employees is sometimes a bit technocratic and it may be beneficial to shift focus somewhat and approach the task of conveying messages and information in a more humanistically-inspired manner. Working as a site employee is unique because of the working environment, the decreased contact with managers and the increased contact with the customer. It is necessary to be aware of this in order to create effective interaction and communication between the site employee and his manager. The risk is otherwise that information relevant to the site employee stays with the manager. If information that is intended to reach the employee, stays with the manager, there is a gap in communication as the site employee is not made aware of the information that he is expected to apply. In this case it is not the site employee’s fault because he is confident that his manager does inform him, as this is the appropriate procedure. Problems of this type may be overcome if organizational issues are considered to a larger degree and if technology is adapted to the organization rather than the other way around.

It is also important that information targets individuals in a way that they can relate to it. Studies show that people are capable of comprehending information, but the way that it is communicated to them is decisive in how they choose to apply the information. There are many, many instructions on the ALSTOM Intranet that are intended to be of the general nature and all-embracing. Thereof, the instructions are often not specified making it difficult for the employee to see how the instruction effects him and his task, and how he should apply the guidelines. Perhaps, tailoring information would lead to an increased utilization frequency. This could appropriately be tested on the site employees from this study. Depending on the results, the method could be tested on other groups as well in order to see if there are any observable tendencies or patterns.
Regarding the incident reports and follow-ups, I think that it would be beneficial to first define what an incident is and demonstrate how a report should be filled out. The possibility for misunderstandings and misconceptions needs to be minimized, and I think that a cooperative effort to develop some sort of internal dictionary of used terms, phrases and procedures is a good way to accomplish this. It may seem rudimentary, but if all employees have a common base to stand on, I think that reports and follow-ups will become more frequent occurrences, especially among those employees who already claim knowledge of the EMS instructions.

If possible, communication patterns, tailored instructions and a terminology database should be evaluated and created by managers and their site employees together. Doing so would give all parties a sense of involvement and participation, which may lead to easier applicability of instructions, a wider acceptance of the guidelines and a greater understanding of where the “other guy” is coming from. I think that this can only have positive effects on the progress of the environmental efforts among the employees studied.

Last, it is vital to again point out that the conclusions of this study can only be applied to the respondents who participated in the study. The results cannot be viewed as general for all of ALSTOM or even for all site employees. The results must be regarded for what they are, that is a questionnaire study of 35 site employees and an interview study of four managers at ALSTOM Power Sweden in Finspång.
8 References/ Works Cited


ALSTOM Power Sweden AB instruction 0880-1 Miljöpolicy ALSTOM Power Sweden AB, 0103.

ALSTOM Power Sweden AB instruction 0880-4 Miljömanual, ALSTOM Power Sweden AB, 0105.

ALSTOM Power Sweden AB instruction 894-13 Manual för hälsa, miljö och säkerhet (HMS) på site, 0202.

ALSTOM Power Sweden AB instruction 914-5 Kompetensutveckling, 9810.

ALSTOM Power Sweden AB instruction 990-12 Kvalitets- och miljörelaterade document, 9910.

ALSTOM Power Sweden AB instruction 9131-5 Regler för entreprenörer, konsulter och samarbetspartners, ALSTOM Power Sweden AB, Finspång, 0106.

ALSTOM Power Sweden AB instruction 9150-12 Regler för förändringsarbete inom miljö- och arbetsmiljö, ALSTOM Power Sweden, 0111.

ALSTOM Power Sweden AB instruction 9420-1 Instruktioner och standarder för miljöledningssystemet, ALSTOM Power Sweden, 0009.

ALSTOM Power Sweden AB instruction 9420-3 Förteckning över miljölager, förordningar, miljötillstånd och andra krav vid ALSTOM Sweden, 0204.

ALSTOM Power Sweden AB instruction K-9420-6 Avvikelsehantering, Yttre miljö, 9906.


Interviewee, Verbal Source: Gustafsson, Ove. Manager-Site service, ALSTOM Power Sweden AB, Finspång, 2002-04-18, tel +46 122 81000.

Interviewee, Verbal Source: Jerenius, Anders. Manager-Site service, Customer service Department, ALSTOM Power Sweden AB, Finspång, 2002-04-19, tel +46 122 81000.


Verbal Source: Vallgren, Bo. Environmental manager, ALSTOM Power Sweden AB, Finspång, several contacts April 2002, no longer employed by ALSTOM as of 020430.
9 Questionnaire – ALSTOM Power Sweden’s EMS

My name is Anna Lundén and I am attending my third year of four at the Environmental Sciences Program at Linköping’s University. Between January 21 and March 22 I interned at ALSTOM Power Sweden which constituted the main portion of the course called "Environmental Science in Practice" which I attended during that period. During the last half of this spring semester I have my dissertation to write. I thought that it would be interesting to connect my dissertation to something that I came in contact with during my internship at ALSTOM. By assignment of the CQ department, I am going to try to illuminate attitudes and thoughts that exist regarding the Environmental Management System (EMS) at ALSTOM. The study can prove to be an important tool when it comes time to modify and improve the EMS. In order to carry out and complete this study, I need your help!

Below are 16 questions that pertain to the environment on a general level, at work and during leisure time. The questionnaire is divided into three parts of which one part handles general personal information, another general environmental outlook and the third environmental efforts at ALSTOM. The answers to the questions will serve as the primary research material for this study on existing attitudes to the EMS. Interviews will also be carried out in order to illuminate the same purpose from another perspective. The results of the study will be available at ALSTOM once the assignment has been completed.

Instructions on how the questions are to be answered proceed each question. There is even room to comment some answers/ questions if you wish.

PART I

*Place an "X" in the appropriate box.*

1. I am male [ ]
   female [ ]

2. I am between 20-30 yrs [ ]
   30-40 yrs [ ]
   40-50 yrs [ ]
   50-60+ [ ]

3. How many years have you been employed by ALSTOM Power Sweden?
   Less than one year [ ]
   1-3 years [ ]
   3-5 years [ ]
   5-10 years [ ]
   More than 10 years [ ]
Place an "X" in the appropriate box.

4. I feel that I have control over my work tasks and at the same time have the possibility to develop and grow.
   - Completely agree
   - Agree
   - Unsure
   - Not enough
   - Not at all

Place an "X" in the appropriate box.

5. I feel that information and news concerning the company is easily accessible to me as an employee.
   - Completely agree
   - Agree
   - Unsure
   - Rarely
   - Almost never

PART II

Place an "X" in the appropriate box.

6. In general, how interested do you feel that people are of environmental issues?
   - Very much
   - Moderately
   - A little
   - Not at all
   - Don't know, no idea

Place an "X" in ALL appropriate boxes.

7. I feel that meaningful environmental efforts occur and are encouraged within the following instances of society.
   - Political parties
   - Public sector
   - International cooperation
   - Local communities
   - Private businesses
   - Schools and universities
   - Organizations
Place an "X" in the appropriate box.
8. Are you inclined to do any of the following?
   Sort you own trash?  Yes [ ]  No [ ]
       If yes, do you today?  Yes [ ]  No [ ]
   Buy organic even if it is more expensive?  Yes [ ]  No [ ]
       If yes, do you today?  Yes [ ]  No [ ]
   Not drive in center-city?  Yes [ ]  No [ ]
       If yes, do you today?  Yes [ ]  No [ ]
   Lower your room temperature?  Yes [ ]  No [ ]
       If yes, do you today?  Yes [ ]  No [ ]
   Sign a petition if it is about something that you believe in?  Yes [ ]  No [ ]
       If yes, do you today?  Yes [ ]  No [ ]

PART III

Place an "X" on the appropriate place on the line.
9. I feel that the senior management at ALSTOM consciously tries to integrate environmental thinking and environmental conformity in products and services.

Completely agree          Dissociate completely from

Comment:

Place an "X" in the appropriate box.
10. I comprehend the company's instruction system that describes my responsibility for the environment.

   Completely agree [ ]
   Agree [ ]
   Unsure [ ]
   Not enough [ ]
   Not at all [ ]

Comment:
Place an "X" in the appropriate box.
11. I utilize the existing system of instructions when there are obscurities in situations that effect the environment.

Always [ ]
Almost always [ ]
Often [ ]
Rarely [ ]
Almost never [ ]

Comment: 

Place an "X" on the appropriate place on the line.
12. I know whom to contact if an instruction that effects the environment is unclear to me.

Yes [ ]
No [ ]

Comment: 

Place an "X" in the appropriate box.
13. News of changes in documents that effect the environment comes to my knowledge as frequently and in a similar manner as news of new processes and investments for example.

Always [ ]
For the most part [ ]
Rarely [ ]
Almost never [ ]
Uncertain [ ]

Comment: 


14. I am clear over how an environmental incident such as a chemical spill is to be reported and documented.

- Completely agree [ ]
- Agree [ ]
- Unsure [ ]
- Not always [ ]
- Not at all [ ]

Comment:

15. In which case an environmental incident has occurred and been documented, a follow-up is carried out by my boss in order to avoid similar situations in the future.

- Always [ ]
- For the most part [ ]
- Rarely [ ]
- Almost never [ ]
- Incident has not occurred [ ]

Comment:

16. On the whole, are you optimistic or pessimistic regarding a business' possibility to improve the environment by using EMS's and other regulatory documents?

- Optimistic
- Pessimistic

Comment:

Thank you for your participation!
10 Enkät – ALSTOM Power Sweden’s Miljöledningssystem

Jag heter Anna Lundén och går det tredje året av fyra på Miljövetarprogrammet vid Linköpings Universitet. Mellan 21 januari och 22 mars hade jag praktik hos Er på ALSTOM som utgjorde den största delen av kursen ’Miljövetenskap i Praktiken’. Den sista halvan av denna vårtermin ska jag skriva min C-upplys (examensarbete). Jag tyckte att det vore intressant att koppla denna uppsats till något som jag kommit i kontakt med på företaget under min praktik. I uppdrag av CQ avdelningen ska jag försöka skapa en bild av de attityder och funderingar som finns om miljöledningssystemet på företaget. Undersökningen kan komma att bli ett viktigt verktyg vid eventuella förbättringar och omarbetningar av miljöledningssystemet. För att genomföra detta behöver jag Er hjälp!


Instruktioner om hur frågorna ska besvaras finns innan varje ny fråga ställs. Det finns även möjlighet att kommentera vissa frågor/ svar om så önskas.

DEL I

Sätt ett kryss i lämpliga ruta.
1. Jag är man []
   kvinna []

Sätt ett kryss i lämpliga ruta.
2. Jag är mellan 20-30 år []
   30-40 år []
   40-50 år []
   50-60+ []

Sätt ett kryss i lämpliga ruta.
3. Hur länge har du varit anställd på ALSTOM Power Sweden?
   Mindre än ett år []
   1-3 år []
   3-5 år []
   5-10 år []
   Mer än 10 år []
**Sätt ett kryss i lämplig ruta.**

4. Jag känner att jag behärskar mina arbetsuppgifter och har samtidigt möjlighet att utvecklas.

- Instämmer helt []
- Instämmer []
- Tveksam []
- Inte tillräckligt []
- Inte alls []

5. Jag upplever att information och nyheter om företaget finns lättillgängligt för mig som anställd.

- Instämmer helt []
- Instämmer []
- Tveksam []
- Sällan []
- Nästan aldrig []

**DEL II**

**Sätt ett kryss i lämplig ruta.**

6. Hur intresserad tror du att människor i allmänhet är av miljöfrågor?

- Mycket []
- Måttligt []
- Lite []
- Inte alls []
- Vet ej, ingen uppfattning []

**Sätt ett kryss i ALLA passande rutor.**

7. Jag upplever att meningsfullt miljöarbete sker och uppmuntras inom följande instanser i samhället.

- Politiska partier []
- Offentliga sektorn []
- Internationellt samarbete []
- Lokala kommuner []
- Privata företag []
- Skolor & högskolor []
- Organisationer []
Sätt ett kryss i lämplig ruta.
8. Är du beredd att göra något av följande?
   Sortera egna sopor
     Om ja, gör du det idag? Ja [ ] Nej [ ]
   Köpa KRAV-märkt även om det är dyrare
     Om ja, gör du det idag? Ja [ ] Nej [ ]
   Låta bli att köra bil i innerstaden
     Om ja, gör du det idag? Ja [ ] Nej [ ]
   Sänka inomhustemperaturen
     Om ja, gör du det idag? Ja [ ] Nej [ ]
   Skriva på en protestlista om det rör någonting du står för?
     Om ja, gör du det idag? Ja [ ] Nej [ ]

DEL III

Placera ett kryss på lämpligt ställe på linjen.
9. Jag upplever att högsta ledningen på ALSTOM medvetet försöker att integrera miljötänkande och miljöanpassning i produkter och tjänster.

   Instämmer helt    Tar helt & hållet avstånd

Kommentar:

Sätt ett kryss i lämplig ruta.
   Instämmer helt [ ]
   Instämmer [ ]
   Tveksam [ ]
   Inte tillräckligt [ ]
   Inte alls [ ]

Kommentar:
Sätt ett kryss i lämplig ruta.

- Alltid []
- Nästan alltid []
- Ofta []
- Sällan []
- Nästan aldrig []

Kommentar:

Placera ett kryss på lämpligt ställe på linjen.

Ja Nej

Kommentar:

Sätt ett kryss i lämplig ruta.
13. Nyheter om förändringar i dokument som berör den yttre miljön kommer till min kännedom lika ofta och på liknande sätt som information om t.ex. nya processer och investeringar.

- Alltid []
- För det mesta []
- Sällan []
- Nästan aldrig []
- Osäker []

Kommentar:
Sätt ett kryss i lämplig ruta.
14. Jag är klar över hur rapportering och dokumentering av miljöincident t.ex. ett kemikaliespill ska ske.

- Instämmer helt [x]
- Instämmer [ ]
- Tveksam [ ]
- Inte alltid [ ]
- Inte alls [ ]

Kommentar:

Sätt ett kryss i lämplig ruta.
15. Då en miljöincident har inträffat och rapporterats sker en uppföljning av händelsen av min chef med avseende att undvika liknande händelser i framtiden.

- Alltid [x]
- För det mesta [ ]
- Sällan [ ]
- Nästan aldrig [ ]
- Incident har ej inträffat [ ]

Kommentar:

Placera ett kryss på lämpligt ställe på linjen.
16. Är du på det hela optimistisk eller pessimistisk om möjligheten att företag kan förbättra miljön med hjälp av ledningssystem och andra reglerande dokument?

Optimistisk

Pessimistisk

Kommentar:

Tack för Er medverkan!
11 Interview themes and questions

Part I – General
- How many years have you been employed by ALSTOM?
- During this time, have you experienced that environmental issues have come to be treated differently in media for example?
- Have moved within the company during your employment?
- How do you view modified work-tasks and responsibilities?
- Among these modifications and changes, is there something that you immediately associate to being an environmental change?

Part II – General environmental outlook
- How interested do you think/do you experience that people are in general of environmental issues?
- Can you recall a time when you were affected by an environmental incident either personally or one that came to your knowledge via media?
- What comes to mind when you hear the term greenhouse effect?

Part III – ALSTOM's EMS
- The CEO bears the highest judicial responsibility for environmental issues, what does this mean?
- What does the term EMS mean to you?
- How do you connect this definition to your work at ALSTOM?
- ALSTOM has an internal instruction system where even environmental issues are handled. How are these instructions accessed?
- By which means do you experience that ALSTOM conducts environmental efforts? What tools are utilized in these efforts?
- Can you tell me a little bit about what you view the purpose of the instructions is?
- There is a person within the company who is responsible for the EMS and its contents. What do you think that his work-tasks ought to be regarding this responsibility?
- How do you experience that a requirement to, for instance, document an environmental incident is viewed today? Corrective and preventive measures…
- What do you think the possibilities are for documents such as EMS's to improve the environment?
Intervjuteman och underfrågor – svenska
Interview themes and questions – Swedish

12 Intervjuteman och underfrågor

Del I – Allmänt
- Hur många år har du varit ALSTOM anställd?
- Under denna tid har du upplevt att miljöfrågornas behandling har förändrats rent generellt i media t.ex.?
- Har du flyttat runt under denna tid?
- Hur upplever du förändrade arbetsuppgifter och ansvarsområden?
- Bland dessa förändringar, finns det någonting som du direkt kopplar till förändringar inom miljö?

Del II – Allmän miljö
- Hur intresserade tror du/ upplever du att människor är av i miljöfrågor?
- Kan du berätta om en gång då du blev påverkad av en miljöhändelse som du själv upplevde eller som du sett/ hört via media?
- Vad tänker du på/ ser framför dig när du hör begreppet växthuseffekten?

Del III – ALSTOM's MLS
- VD bär det högsta juridiska ansvaret för miljöfrågor på ALSTOM, vad innebär detta?
- Vad betyder begreppet miljöledningssystem för dig?
- Hur kopplar du detta till ditt arbete på ALSTOM?
- ALSTOM har ett internt instruktionssystem där även miljöfrågor behandlas. Hur kommer man åt dessa instruktioner?
- Med vilka medel anser du att ALSTOM jobbar med MLS? Vad finns det för verktyg?
- Kan du berätta lite om vad syftet med instruktionerna är?
- Det finns en som är ansvarig för MLS på ALSTOM. Vad tycker du att hans arbetsuppgifter bör vara?
- Hur upplever du att ett krav på t.ex. dokumentering av miljöincident uppfattas idag? Korrigeraende och förebyggande åtgärder som under frågor...
- Kan du berätta för mig vad du anser att möjligheterna för ett dokument som MLS är?
## 13 Frequency and comparison results of the questionnaire

*Question #* is the question on the questionnaire.
*Variable* is the name given to each coded question/part of a question in SPSS 9.0. Below the coded variable is an explanation of the variable code.
*Choices* lists the possible responses to the question as they appear in SPSS.
*Frequency* is the number of respondents who chose a particular response.
*% of total* is the percent of the total responses that the particular response received.

The *choices* are abbreviated in Swedish as this is how they appear in SPSS.
An explanation of the abbreviations is found at the end of this appendix.

<table>
<thead>
<tr>
<th>Question #</th>
<th>Variable</th>
<th>Choices</th>
<th>Recoded</th>
<th>Frequency</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>sex2</td>
<td>male</td>
<td>1</td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>gender</td>
<td>female</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>age2</td>
<td>20-30</td>
<td>3</td>
<td>5</td>
<td>14,3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>employee's</td>
<td>30-40</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>age</td>
<td>40-50</td>
<td>5</td>
<td>25,7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50-60</td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>yrs2</td>
<td>&lt;1</td>
<td>7</td>
<td>1</td>
<td>2,9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>years</td>
<td>1-3</td>
<td>8</td>
<td>17,1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>employed</td>
<td>3-5</td>
<td>9</td>
<td>11,4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>by ALSTOM</td>
<td>5-10</td>
<td>10</td>
<td>5,7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt;10</td>
<td>11</td>
<td>62,9</td>
</tr>
<tr>
<td>4</td>
<td>wt2</td>
<td>ih</td>
<td>12</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>control of</td>
<td>i</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>work tasks</td>
<td>t</td>
<td>14</td>
<td>14,3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>lt</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ia</td>
<td>16</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>info2</td>
<td>ih</td>
<td>12</td>
<td>2</td>
<td>5,7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>information</td>
<td>i</td>
<td>13</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>is accessible</td>
<td>t</td>
<td>14</td>
<td>28,6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>s</td>
<td>17</td>
<td>11,4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>na</td>
<td>18</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>genin2</td>
<td>my</td>
<td>19</td>
<td>3</td>
<td>8,6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>general</td>
<td>ma</td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>enviro.</td>
<td>l</td>
<td>21</td>
<td>25,7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>interest</td>
<td>ia</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ve</td>
<td>22</td>
<td>1</td>
<td>2,9</td>
</tr>
<tr>
<td>7</td>
<td>pp2</td>
<td>y</td>
<td>23</td>
<td>13</td>
<td>37,1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>political party</td>
<td>n</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td>7</td>
<td>os2</td>
<td>y</td>
<td>23</td>
<td>14</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>public sector</td>
<td>n</td>
<td>24</td>
<td>21</td>
</tr>
<tr>
<td>7</td>
<td>is2</td>
<td>y</td>
<td>23</td>
<td>12</td>
<td>34,3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>int'l co-op</td>
<td>n</td>
<td>24</td>
<td>23</td>
</tr>
<tr>
<td>7</td>
<td>lk2</td>
<td>y</td>
<td>23</td>
<td>25</td>
<td>71,4</td>
</tr>
<tr>
<td>Local Communities</td>
<td>n</td>
<td>24</td>
<td>10</td>
<td>28.6</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>pf2 7</td>
<td>y</td>
<td>23</td>
<td>14</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Businesses</td>
<td>n</td>
<td>24</td>
<td>21</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>sh2 7</td>
<td>y</td>
<td>23</td>
<td>20</td>
<td>57.1</td>
<td></td>
</tr>
<tr>
<td>Schools</td>
<td>n</td>
<td>24</td>
<td>15</td>
<td>42.9</td>
<td></td>
</tr>
<tr>
<td>org2 7</td>
<td>y</td>
<td>23</td>
<td>17</td>
<td>48.6</td>
<td></td>
</tr>
<tr>
<td>Organizations</td>
<td>n</td>
<td>24</td>
<td>18</td>
<td>51.4</td>
<td></td>
</tr>
<tr>
<td>st2 8</td>
<td>y</td>
<td>23</td>
<td>26</td>
<td>74.3</td>
<td></td>
</tr>
<tr>
<td>Sort trash</td>
<td>n</td>
<td>24</td>
<td>9</td>
<td>25.7</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-98</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-99</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>styn2 8</td>
<td>y</td>
<td>23</td>
<td>16</td>
<td>45.7</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>24</td>
<td>7</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-98</td>
<td>3</td>
<td>8.6</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-99</td>
<td>9</td>
<td>25.7</td>
<td></td>
</tr>
<tr>
<td>krav2 8</td>
<td>y</td>
<td>23</td>
<td>13</td>
<td>37.1</td>
<td></td>
</tr>
<tr>
<td>Buy organic</td>
<td>n</td>
<td>24</td>
<td>21</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-98</td>
<td>1</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-99</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>kravyn2 8</td>
<td>y</td>
<td>23</td>
<td>7</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>24</td>
<td>3</td>
<td>8.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-98</td>
<td>4</td>
<td>11.4</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-99</td>
<td>21</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>car2 8</td>
<td>y</td>
<td>23</td>
<td>10</td>
<td>28.6</td>
<td></td>
</tr>
<tr>
<td>Not drive</td>
<td>n</td>
<td>24</td>
<td>24</td>
<td>68.6</td>
<td></td>
</tr>
<tr>
<td>In city</td>
<td>n</td>
<td>24</td>
<td>24</td>
<td>68.6</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-98</td>
<td>1</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-99</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>caryn2 8</td>
<td>y</td>
<td>23</td>
<td>2</td>
<td>5.7</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>24</td>
<td>6</td>
<td>17.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-98</td>
<td>3</td>
<td>8.6</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-99</td>
<td>24</td>
<td>68.6</td>
<td></td>
</tr>
<tr>
<td>temp2 8</td>
<td>y</td>
<td>23</td>
<td>14</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Lower room</td>
<td>n</td>
<td>24</td>
<td>20</td>
<td>57.1</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>n</td>
<td>24</td>
<td>20</td>
<td>57.1</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-98</td>
<td>1</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-99</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>tempyn2 8</td>
<td>y</td>
<td>23</td>
<td>11</td>
<td>31.4</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>24</td>
<td>2</td>
<td>5.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-98</td>
<td>2</td>
<td>5.7</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-99</td>
<td>20</td>
<td>57.1</td>
<td></td>
</tr>
<tr>
<td>pet2 8</td>
<td>y</td>
<td>23</td>
<td>26</td>
<td>74.3</td>
<td></td>
</tr>
<tr>
<td>Sign a</td>
<td>n</td>
<td>24</td>
<td>8</td>
<td>22.9</td>
<td></td>
</tr>
<tr>
<td>Petition</td>
<td>n</td>
<td>24</td>
<td>8</td>
<td>22.9</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-98</td>
<td>1</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>-99</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
## Frequency and comparison results of questionnaires

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Missing</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>23</td>
<td>19</td>
<td>4</td>
<td>54.3%</td>
</tr>
<tr>
<td>9</td>
<td>25</td>
<td>5</td>
<td>-98</td>
<td>0%</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td>2</td>
<td>14</td>
<td>5.7%</td>
</tr>
<tr>
<td>11</td>
<td>30</td>
<td>4</td>
<td>18</td>
<td>11.4%</td>
</tr>
<tr>
<td>12</td>
<td>25</td>
<td>16</td>
<td>8</td>
<td>45.7%</td>
</tr>
<tr>
<td>13</td>
<td>30</td>
<td>1</td>
<td>8</td>
<td>2.9%</td>
</tr>
<tr>
<td>14</td>
<td>12</td>
<td>0</td>
<td>13</td>
<td>0%</td>
</tr>
<tr>
<td>15</td>
<td>30</td>
<td>6</td>
<td>3</td>
<td>17.1%</td>
</tr>
<tr>
<td>16</td>
<td>25</td>
<td>4</td>
<td>-98</td>
<td>0%</td>
</tr>
</tbody>
</table>
Results of comparing one conditioned variable to another variable

<table>
<thead>
<tr>
<th>Variable name</th>
<th>Condition recoded in SPSS</th>
<th>Variable compared to</th>
<th>Number of respondents that fit conditioned criteria</th>
<th>How respondent answered to compared variable</th>
<th>Number of respondents who answered that way</th>
</tr>
</thead>
<tbody>
<tr>
<td>age2</td>
<td>3</td>
<td>wt2</td>
<td>5</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>age2</td>
<td>4</td>
<td>wt2</td>
<td>7</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>age2</td>
<td>6</td>
<td>wt2</td>
<td>14</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>yrs2</td>
<td>8</td>
<td>wt2</td>
<td>6</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>yrs2</td>
<td>11</td>
<td>wt2</td>
<td>22</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>pp2</td>
<td>23</td>
<td>os2</td>
<td>13</td>
<td>23</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>pp2</td>
<td>23</td>
<td>is2</td>
<td>13</td>
<td>23</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>pp2</td>
<td>23</td>
<td>lk2</td>
<td>13</td>
<td>23</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>pf2</td>
<td>23</td>
<td>sh2</td>
<td>14</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>pf2</td>
<td>23</td>
<td>org2</td>
<td>14</td>
<td>23</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>knowl2</td>
<td>12</td>
<td>usein2</td>
<td>2</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>31</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>knowl2</td>
<td>13</td>
<td>usein2</td>
<td>14</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>knowl2</td>
<td>14</td>
<td>usein2</td>
<td>13</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>knowl2</td>
<td>15</td>
<td>usein2</td>
<td>4</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>knowl2</td>
<td>13</td>
<td>repdoc2</td>
<td>14</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cont2</td>
<td>25</td>
<td>repdoc2</td>
<td>16</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cont2</td>
<td>26</td>
<td>repdoc2</td>
<td>8</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cont2</td>
<td>28</td>
<td>repdoc2</td>
<td>4</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cont2</td>
<td>29</td>
<td>repdoc2</td>
<td>2</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>repdoc2</td>
<td>14</td>
<td>knowl2</td>
<td>13</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>repdoc2</td>
<td>16</td>
<td>knowl2</td>
<td>9</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>repdoc2</td>
<td>35</td>
<td>knowl2</td>
<td>2</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>repdoc2</td>
<td>14</td>
<td>follow2</td>
<td>13</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>33</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>repdoc2</td>
<td>16</td>
<td>follow2</td>
<td>9</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>33</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>repdoc2</td>
<td>35</td>
<td>follow2</td>
<td>2</td>
<td>17</td>
<td>1</td>
</tr>
</tbody>
</table>

xvii
<table>
<thead>
<tr>
<th>Recoded</th>
<th>Choices</th>
<th>Svensk förklaring</th>
<th>English explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>male</td>
<td>man</td>
<td>male</td>
</tr>
<tr>
<td>2</td>
<td>female</td>
<td>kvinna</td>
<td>female</td>
</tr>
<tr>
<td>3</td>
<td>20-30</td>
<td>20-30 år gammal</td>
<td>20-30 years old</td>
</tr>
<tr>
<td>4</td>
<td>30-40</td>
<td>30-40 år gammal</td>
<td>30-40 years old</td>
</tr>
<tr>
<td>5</td>
<td>40-50</td>
<td>40-50 år gammal</td>
<td>40-50 years old</td>
</tr>
<tr>
<td>6</td>
<td>50-60+</td>
<td>50-60+ år gammal</td>
<td>50-60+ years old</td>
</tr>
<tr>
<td>7</td>
<td>&lt;1</td>
<td>jobbat &lt;1 år på ALSTOM</td>
<td>worked &lt;1 year at ALSTOM</td>
</tr>
<tr>
<td>8</td>
<td>1-3</td>
<td>jobbat 1-3 år på ALSTOM</td>
<td>worked 1-3 years at ALSTOM</td>
</tr>
<tr>
<td>9</td>
<td>3-5</td>
<td>jobbat 3-5 år på ALSTOM</td>
<td>worked 3-5 years at ALSTOM</td>
</tr>
<tr>
<td>10</td>
<td>5-10</td>
<td>jobbat 5-10 år på ALSTOM</td>
<td>worked 5-10 years at ALSTOM</td>
</tr>
<tr>
<td>11</td>
<td>&gt;10</td>
<td>jobbat &gt;10 år på ALSTOM</td>
<td>worked &gt;10 years at ALSTOM</td>
</tr>
<tr>
<td>12</td>
<td>ih</td>
<td>instämmer helt</td>
<td>completely agree</td>
</tr>
<tr>
<td>13</td>
<td>i</td>
<td>instämmer</td>
<td>agree</td>
</tr>
<tr>
<td>14</td>
<td>t</td>
<td>tveksam</td>
<td>unsure</td>
</tr>
<tr>
<td>15</td>
<td>it</td>
<td>inte tillräckligt</td>
<td>not enough</td>
</tr>
<tr>
<td>16</td>
<td>ia</td>
<td>inte alis</td>
<td>not at all</td>
</tr>
<tr>
<td>17</td>
<td>s</td>
<td>sällan</td>
<td>rarely</td>
</tr>
<tr>
<td>18</td>
<td>na</td>
<td>nästan aldrig</td>
<td>almost never</td>
</tr>
<tr>
<td>19</td>
<td>my</td>
<td>mycket</td>
<td>very much</td>
</tr>
<tr>
<td>20</td>
<td>ma</td>
<td>mättligt</td>
<td>moderately</td>
</tr>
<tr>
<td>21</td>
<td>l</td>
<td>lite</td>
<td>a little</td>
</tr>
<tr>
<td>22</td>
<td>ve</td>
<td>vet ej, ingen uppfattning</td>
<td>don't know, no idea</td>
</tr>
<tr>
<td>23</td>
<td>y</td>
<td>ja</td>
<td>yes</td>
</tr>
<tr>
<td>24</td>
<td>n</td>
<td>nej</td>
<td>no</td>
</tr>
<tr>
<td>25</td>
<td>0%</td>
<td>0% från positivt svar</td>
<td>0% from positive answer</td>
</tr>
<tr>
<td>26</td>
<td>25%</td>
<td>25% från positivt svar</td>
<td>25% from positive answer</td>
</tr>
<tr>
<td>27</td>
<td>50%</td>
<td>50% från positivt svar</td>
<td>50% from positive answer</td>
</tr>
<tr>
<td>28</td>
<td>75%</td>
<td>75% från positivt svar</td>
<td>75% from positive answer</td>
</tr>
<tr>
<td>29</td>
<td>100%</td>
<td>100% från positivt svar</td>
<td>100% from positive answer</td>
</tr>
<tr>
<td>30</td>
<td>a</td>
<td>alltid</td>
<td>always</td>
</tr>
<tr>
<td>31</td>
<td>nall</td>
<td>nästan alltid</td>
<td>almost always</td>
</tr>
<tr>
<td>32</td>
<td>o</td>
<td>ofta</td>
<td>often</td>
</tr>
<tr>
<td>33</td>
<td>fdm</td>
<td>för det mesta</td>
<td>for the most part</td>
</tr>
<tr>
<td>34</td>
<td>osak</td>
<td>osäker</td>
<td>uncertain</td>
</tr>
<tr>
<td>35</td>
<td>iallt</td>
<td>inte alltid</td>
<td>not always</td>
</tr>
<tr>
<td>36</td>
<td>ihei</td>
<td>incident har ej inträffat</td>
<td>incident has not occurred</td>
</tr>
</tbody>
</table>