



Occupational safety and health in Finnish SME's: occupational safety and health guidebook

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**Occupational safety and health in Finnish
SME's: occupational safety and health guide-
book**

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This thesis focuses on occupational safety and health in Finnish small and medium-sized enterprises. The thesis was conducted for and done in cooperation with a small bakery operating in Lahti, Finland. The purpose of this thesis was to study the occupational safety and health hazards and risks that are currently present in the company. The goal was to develop an occupational safety and health guidebook for the company.

The theoretical framework of this thesis is based on risk management and occupational safety and health literature, earlier research and standards. The framework defines the concepts of risk management and occupational safety and health. Additionally the applicable legislation was explored.

As a part of this study a risk assessment was conducted for the client company. This thesis utilized a combination of secondary data analysis, structured observation and semi-structured interviews to identify the occupational safety and health risks present in the company. The identified risks were analyzed using a cause/consequence analysis.

The identified and analyzed risks were the base on which the occupational safety and health guidebook was built upon. The guidebook was created in cooperation with the owner of the company in two phases. The guidebook contains information about the occupational safety and health hazards and risks that the employees of the company face daily in their work and additional information about the subjects that the owner of the company wanted to be covered in the guidebook.

Keywords: Occupational safety and health, Risk management, Risk management in SMEs, Guidebook,

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1 Introduction

The topic of this thesis is occupational safety and health in Finnish small and medium-sized enterprises. This study has been conducted in cooperation with a small bakery. The bakery will be referenced as the company from now on in this document. The company is a small enterprise which currently employs 3 full time employees. Additionally they employ one or two seasonal workers during the summer. The owner of the company works at the bakery 4-5 days per week. In the year 2017 its turnover was approximately €440 000 and yearly profit was €75 000. The company is located in Lahti, Finland. The company is located in an ABC gas station and has a lease with the ABC chain.

The company produces baked goods such as bread, pastries and confections. For example the company produces handmade bread daily. Their product mix is extensive and includes various products. The produced goods are sold at the same location they are made in.

This thesis will focus on the subject of occupational safety and health in the company. There are various threats to a person's safety and health when working in a bakery. There is heavy machinery, hot and cold surfaces, sharp objects and so on. Additionally there are hazards which are not as easy to identify if you are not familiar with the subject of occupational safety and health in a bakery. For example as the individuals handle flour they are exposed to flour dust which can cause a disease called baker's asthma. Occupational exposure refers to an individual being exposed to something during their work which can affect the individual in various ways (Alli 2008). These and other occupational hazards have to be properly addressed by law.

In the case of SME's, especially in small enterprises, the effects of an occupational accident are emphasized when compared to the large enterprises. Occupational accident refers to an accident which arises out of, or during, a work assignment which results either in a fatal or non-fatal occupational injury (Alli 2008). Occupational injury refers to death, personal injury or illness resulting from an occupational accident (Alli 2008). The personal injury can be a physical injury or a psychological injury. Occupational illness or disease refers to a disease which is contracted or developed as a result of exposure during work (Alli 2008).

For a simplified example an employee of large company X falls during work and suffers a mild traumatic brain injury. The company X loses the employee for one to two weeks while they recover from the injury but the company X has other employees who can perform the duties of the injured employee. The company X does not suffer losses in productivity or output or they are minimal.

The same simplified example from the perspective of a small company Y presents where some of the problems stems from. An employee of the small company Y falls during work and suffers a mild traumatic brain injury. The company Y loses the employee for one to two weeks while they recover from the injury. In this case the company Y does not have similar personnel resources as the large company X. Other employees or the owner would have to work overtime in order to cover for the injured employee. This would lead to stress and the other employees and/or the owner being overworked. The other option would be to leave some of the shifts unmanned which would lead to losses in productivity and output.

1.1 Purpose and goals

The purpose of this thesis is to develop a guidebook which would contain the necessary information regarding occupational safety and health. Currently the company does not have separate instructions and solely rely on the oral instructions or instructions provided by the equipment manufacturer. The guidebook would provide the employer an easy solution to these problems and would highlight the importance of occupational safety and health in the company.

Additionally the guidebook would support employee orientation which is the first touchpoint with the employee and the processes that the organization performs. The occupational safety and health guidebook would help the new employees to understand the equipment, processes, and methods of work and the hazards that are associated with them. The guidebook would also help employees to understand what kind of hazards they should be aware of, how these hazards can be avoided and how they can identify potential hazards.

The company would get up-to-date information about their current state of occupational safety and health. As a part of this study an occupational safety and health risk assessment will be carried out. The risk assessment will indicate if there are threats that have not been properly addressed and how said threats could be avoided or mitigated.

Based on the risk assessment an employee occupational safety and health guidebook will be dawn out. The guidebook will cover the topics of work conditions, equipment and safe use of equipment and methods of safe work. The guidebook will additionally contain information about how an employee can identify a potential occupational safety and health hazard and what actions they should take.

This guidebook can be used to support the employees with easy to access information about the subjects mentioned above. The idea is that the owner of the company can hand out the guidebook to the employees. The employees will be able to understand the hazards involved in their work and how they can avoid these hazards. Additionally the guidebook can be used

to support the orientation process of new employees. The occupational safety and health guidebook is not a static document. It should be evaluated in regular intervals.

As the goal of this thesis study is to develop a guidebook it is important that the shortcomings of the used process will be identified. This will help anyone who wishes to create a similar guidebook.

2 Occupational safety and health

The significance of occupational safety and health has built up over the past decades. The first steps in the field can be traced back to the Factory Acts of United Kingdom passed in the 1800's at least in the terms of regulatory governance. This series of acts focused on the English cotton trade. The first act of the series, passed in 1802, was called The Peel's Act which prevented children under the age of 21 to work at night, work over 12 hours per day and gave them the right for a basic education (UK Parliament 2018).

The concept of occupational safety and health has a long history in Finland. In 1889 a regulation was passed regarding occupational safety and health in the manufacturing sector (Hietala, Hurmaninen, & Kaivanto 2017). In the modern day Finland the legal requirements for occupational safety and health are highly evolved with specific legislations according to the sector and subsector. The legislation is derived from the European directives, regulations and other decisions made by the European Commission, Parliament and the Council.

According to European Agency for Safety and Health at Work Annual Report 2017 the yearly cost of work-related accidents and illnesses is €476 billion for the EU. The national costs of occupational accidents and illnesses is estimated to be around 2.6%-3.8% of Gross National Product in the EU member nations (European Agency for Safety and Health at Work 2001). The costs of occupational accidents and illnesses is massive on national and international level.

The size of the enterprise has an effect on the level of occupational safety and health. The general opinion is that the small enterprises are more prone to occupational accidents and have a worse occupational safety record when compared to large enterprises (Alli 2008). The reason behind this statement is simple. The micro and small enterprises does not simply have the same resources available as the large enterprises. They do not have enough monetary resources to invest into occupational safety and/or they do not have the necessary knowledge to improve it.

2.1 Occupational safety and health management

Managing something usually refers to utilizing and allocating resources and directing work in order to reach a predetermined goal (Alwi 2011). In the case of occupational safety and

health management the goal is to achieve the desired level of occupational safety and health which is done through compliance with legal requirements and organizational safety and health policy and objectives (Alwi 2011). The chosen occupational safety and health system has to align with the organization, its objectives and processes.

There are several approaches to occupational safety and health management system. This study will focus on the system applied in ISO 45001 which is the Plan-Do-Check-Act cycle. The framework of the cycle can be seen in Figure 1. The Plan-Do-Check-Act approach ensures that the management system is continuously improved (SFS-ISO 45001:2018).

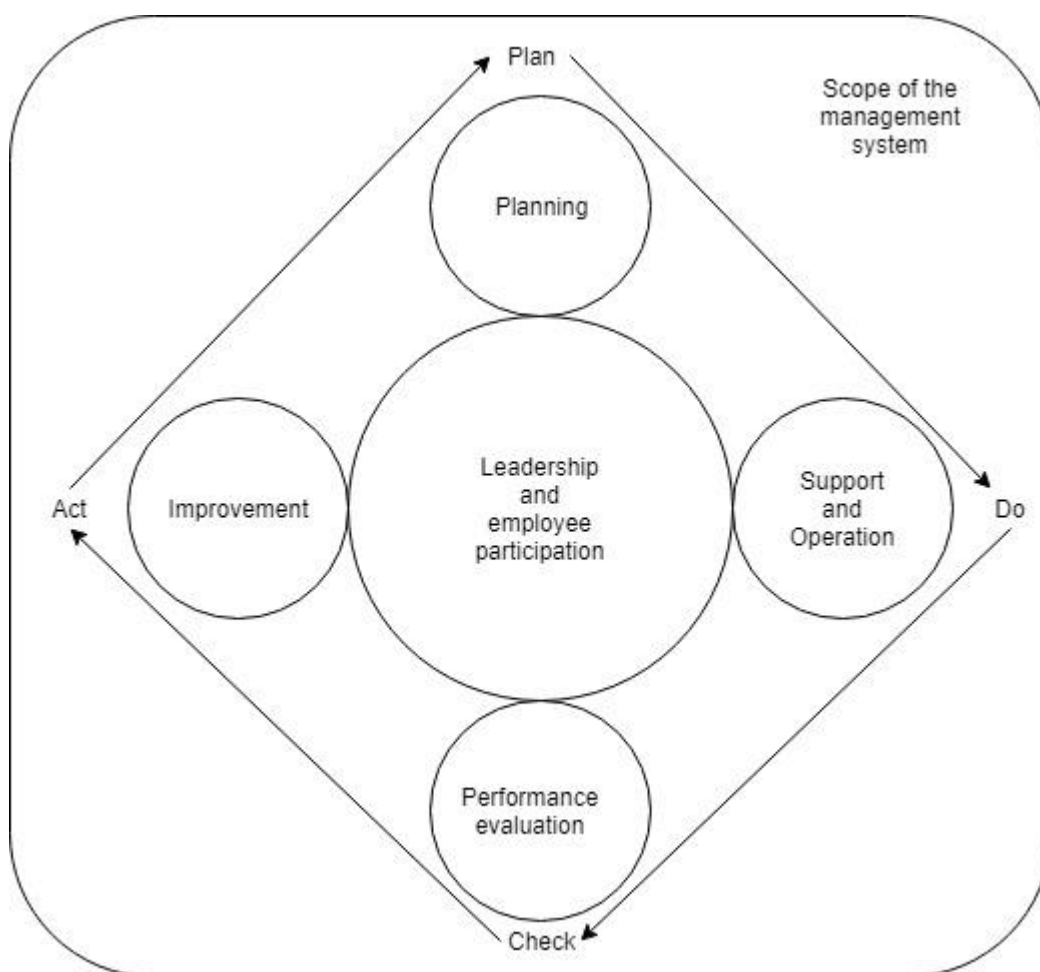


Figure 1 Plan-Do-Check-Act framework (SFS-ISO 45001:2018)

When establishing the occupational safety and health management system the organization has to determine external and internal issues that are vital for the purpose of the organization and that affect its capability to reach the determined outcome of the system (SFS-ISO 45001:2018). Additionally the organization has to understand the needs and expectations of workers and other interested parties (SFS-ISO 45001:2018). These interested parties include the health care provider chosen by the organization and Regional State Administrative Agencies. Regional State Administrative Agencies enforce compliance with the occupational safety and health legislation.

In order for the occupational safety and health management system to be effective the top management has to be committed to it (SFS-ISO 45001:2018). There are several ways for the top management to demonstrate their commitment. ISO 45001 mentions that top management can commit to the system for example by taking responsibility and accountability for the prevention of occupational accidents, ensuring that the system is aligned with the organizational strategy, ensuring the integration of the system requirements to the organization's business process and ensuring that the system has enough resources available (SFS-ISO 45001).

Occupational safety and health management is often done through a policy. The policy has to provide a framework for setting occupational safety and health objectives (SFS-ISO 45001:2018). Additionally according to SFS-ISO 45001:2018 the policy also has to have commitments to several elements of occupational safety and health management. These commitments include for example a commitment to provide safe and healthy working conditions, a commitment to fulfil legal and other requirements and a commitment to eliminate occupational safety and health hazards and risks (SFS-ISO 45001:2018). The policy has to be made available for all the employees of the organization and other interested parties when appropriate (SFS-ISO 45001:2018).

2.2 Occupational safety and health: numbers and statistics

European Union occupational safety and health numbers from 2015 (The Statistical Office of the European Communities 2018):

- 3.2 million non-fatal accidents (9118 fewer than in 2014)
- 3876 fatal accidents (102 more than in 2014)
- 2/3 of non-fatal accidents happened to men
- 19/20 of fatal accidents happened to men
- Highest rate of non-fatal accidents was recorded in France with 3160 accidents per 100 000 employed individuals
- European Union average of non-fatal accidents was 1513 accidents per 100 000 employed individuals
- Highest rate of fatal accidents was recorded in Romania with 5.56 accidents per 100 000 employed individuals
- European Union average of fatal accidents was 1.83 accidents per 100 000 employed individuals

In the case of non-fatal accidents the problem with the reported numbers is the habit of under-reporting. An example of this can be found from the Accidents at work statistics by the Statistical Office of the European Communities. There were 5.56 fatal accidents per 100 000 employed individuals reported in Romania but there were less than 100 non-fatal accidents per 100 000 employed individuals. The problem of under-reporting makes the studying of statistical data problematic and the presented data should be taken with a grain of salt.

Additionally most of the major statistical institutes, such as the Statistical Office of the European Communities and Statistics Finland, only take into account occupational accidents that result in at least four days of absence from work. The basis for this can be found from the Regulation (EC) No 1338/2008 of the European Parliament and of the Council on Community statistics on public health and health and safety at work in the Annex IV. This means that there is only limited data available about the accidents that are excluded by this scope.

The Figure 2 presents the number of occupational accidents that happened to employees in Finland that resulted in at least four days of absence from work. Before the year 1996 the numbers also include the occupational accidents that resulted in at least three days of absence from work. The data provided by the Statistics Finland included the year 2015 but due to an error in the data it was decided to be left out.

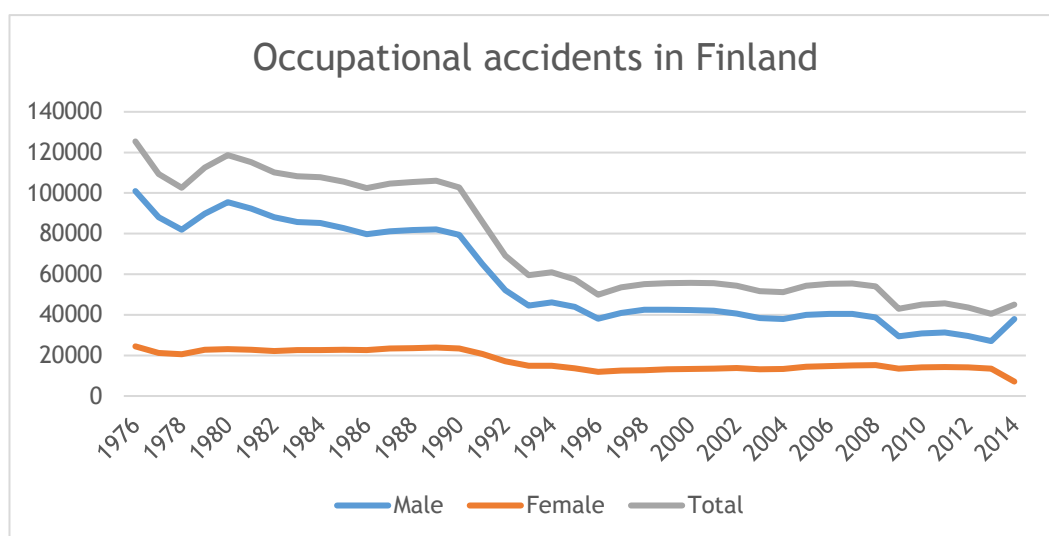


Figure 2 Occupational accidents in Finland (Statistics Finland 2017a)

The number of occupational accidents in Finland has been in a steady decline (Figure 2). The number of occupational accidents has declined by 64% between the years 1976-2014. As mentioned before the scope for gathering the data was changed in 1996. When the number of occupational accidents between the years 1996-2014 are compared the number of accidents has dropped by 9.7%. The number of occupational accidents involving a female employee has been on a slow but steady decline since the 1976.

The Figure 3 presents the number of occupational accidents which lead to a fatality of an employee. The orange line represents the number of individuals that died in an occupational accident while driving on a work assignment. The numbers for lethal occupational accidents has been in a steady decline.

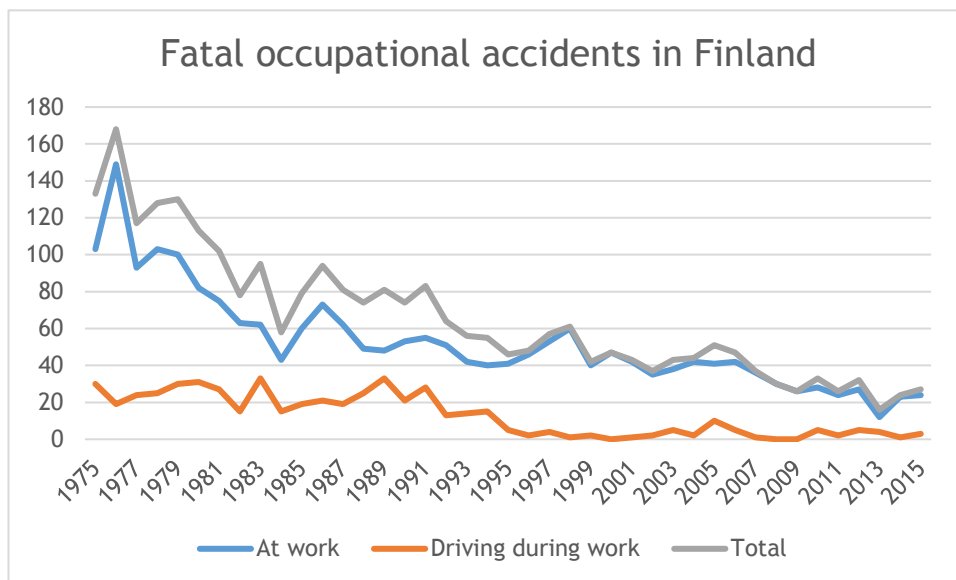


Figure 3 Fatal occupational accidents in Finland (Statistics Finland 2017b)

Figure 2 shows a rise in the number of occupational accidents involving men in the year 2014 and despite the best efforts fatal occupational accidents still occur. Why? A possible answer can be found from a newspaper article written in Aamulehti magazine. In said article the author Heidi Pesonen interviews two occupational safety and health experts: Arto Teronen from Regional State Administrative Agency and Otto Veijola from Workers' Compensation Center. They mention that the number of occupational accidents reflect the state of the national economy and that a fatal occupational accident is often an isolated case with multiple causes (Pesonen 2015).

2.3 Occupational accidents in bakeries

In 2001 there was 3670 and in 2013 there was 2333 occupational accidents in the food industry in Finland (Huhtakangas 2015). If these numbers are compared to the statistics presented in the Figure 2 approximately 6% of the national occupational accidents happen in the food industry. Huhtakangas (2015) notes that the manufacturing of bakery and farinaceous products had the second highest number of occupational accidents within the food industry in 2013. In 2013 there was 400 occupational accidents in the manufacture of bakery and farinaceous products.

Like mentioned before there are several hazards that an employee faces while working in a bakery. Cuts, lacerations, crush injuries and accidental amputations are some of the serious occupational accidents that can happen in a professional bakery setting. The consequences of such accidents are long-lasting and might affect the individual's ability to work in the future.

In the following two occupational safety and health crime cases are presented which occurred in a Finnish bakery corporation in 2011. These cases were reported by Janne Laitinen in Savon Sanomat magazine on the October 31st 2013.

In the first case an employee was clearing an obstruction in a machine which slices bread. The machine was running while the employee attempted to remove the obstruction. While clearing the obstruction the blade of the machine hit the employee's hand. This resulted in accidental amputation of the employee's index finger.

In the second case an employee was clearing an obstruction in a bagging machine while it was running. While clearing the obstruction the heat sealing clamps crushed the employee's right hand. This resulted in the employee partially losing their index finger.

These both cases resulted in Chief of Production and two foremen being convicted of occupational safety and health crime. The Chief of Production was sentenced to a 30 day-fine, and the foremen were sentenced to a 15 and a 20 day-fine. Additionally the corporation was fined for €10 000.

In their sentencing the Southern-Savo district court brought up four points which made the case of occupational safety and health crime clear. Firstly the technical protections on the machinery were lacking. The employees were able to put their hands in the machine while it was operating. Secondly guidelines and restrictions does not cover mandatory technical protection in machinery. Thirdly the hazards and risks linked to the machinery was overlooked and was not addressed properly. Lastly the court noted that the monitoring of the employees was lacking. This case shows that even the smallest overlooks in occupational safety and health can have large impact not only on the employees but on the management and the whole company as well.

3 Risk management

SFS-ISO 31000:2018 defines risk management as coordinated activities to control and direct an organization with risk taken into consideration. The process of risk management covers the whole organization and all of its processes and activities. The goal of risk management is to identify, quantify, analyse and respond to the risks within the established contexts (SFS-ISO 31000:2018).

The purpose of risk management is to protect the organization and its assets but it can also create value (SFS-ISO 31000:2018). The word risk often has a negative undertone but this is not always the case. Merna and Al-Thani (2011) note that when managed correctly risks can have a positive impact and risk management should not solely focus on the threats and losses but on the opportunities and gains as well.

The principles of effective risk management are: integrated, structured and comprehensive, customized, inclusive, dynamic, best available information, human and cultural factors and continual improvement. The principles are presented in the Figure 4. All of these elements work towards, as mentioned before, protecting and creating value. The individual elements and their explanations can be seen in the Table 1.

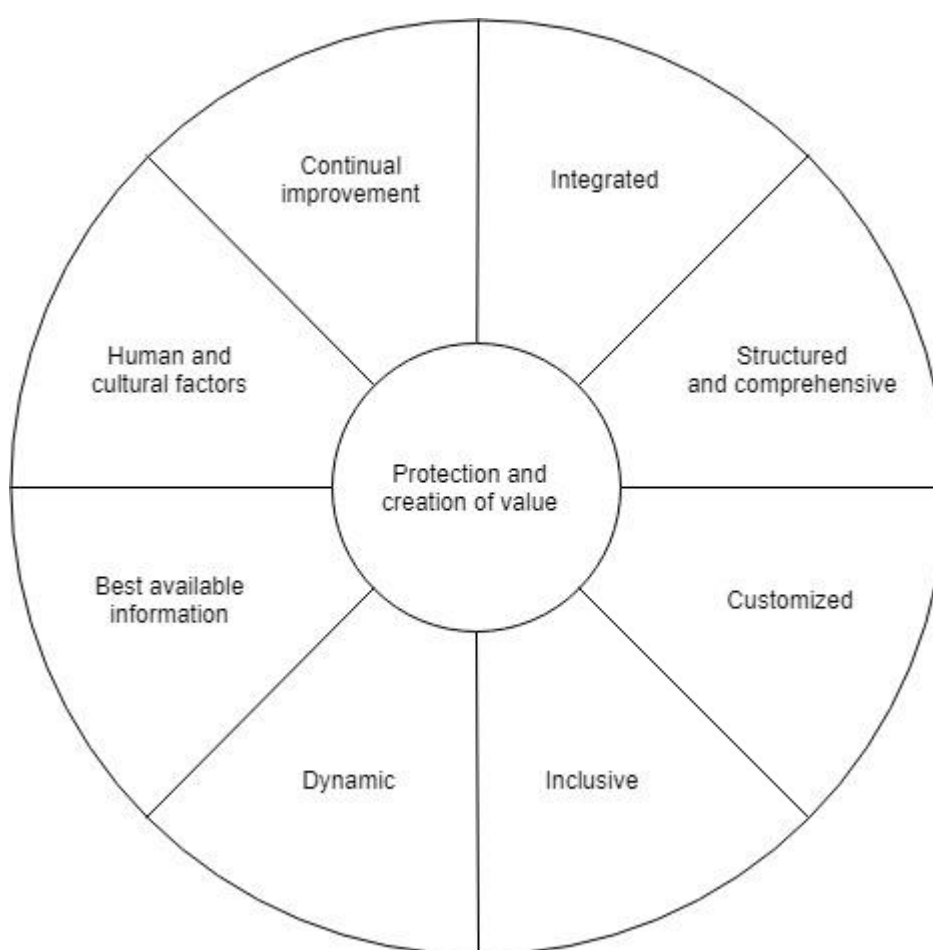


Figure 4 Risk Management Principles (SFS-ISO 31000:2018)

Element	Explanation
Integrated	Top management should ensure that risk management is integrated into all organizational activities.
Structured and comprehensive	In order for risk management to be consistent and the results to be comparable the approach has to be structured and comprehensive.
Customized	Every organization is different. The risk management framework and processes has to align with the organization and its objectives.
Inclusive	Involvement of stakeholders allows their views and knowledge to be considered. This leads to improvement of awareness and informed risk management.
Dynamic	Organization does not live in a vacuum. As the organization and the world surrounding it changes so does the risks that the organization is subjected to. Risk management has to be able to anticipate, detect and respond to these changes.
Best available information	Risk management has to take into account historic and current data as well as future expectations. Limitations and uncertainties regarding the information has to be taken into account. Information should be available to the relevant stakeholders.
Human and cultural factors	Cultural factors and human behaviour has a significant effect on risk management.
Continuous improvement	Risk management is continuously improved through experience and learning.

Table 1 Elements of risk management (SFS-ISO 31000:2018)

Regarding risk management and risk management standards this study focused on ISO 31000 and ISO 31010 standards. However there are other widely used standards such as COSO and OCEG 2.0. According to Hardy, K. and Runnels, A. (2014) the aforementioned standards share a lot of similarities. The major differences between the standards can be seen in the Table 2.

Standard	Key differences
ISO 31000	Focus on the effects that risks and risk management has. Emphasis on risk management as a strategic discipline.
COSO	Larger responsibility for the board of directors. The board is involved directly with the risk management process.
OCEG 2.0	Formally integrates governance, risk and compliance processes. Focus on the identification and the measurement of risks.

Table 2 Standards and their main differences (Hardy and Runnels 2014)

3.1 Risk and uncertainty

There is no unified definition for word risk. The definition also varies according to the context that it is used in for example business vs medical context. The Merriam-Webster dictionary defines risk as “the possibility that something bad or unpleasant (such as an injury or a loss) will happen.” In ISO 31000:2018 risk is defined as “effect of uncertainty on objectives”.

According to Merna and Al-Thani (2011) risk can be broken down in to three components: occurrence of an event, the probability of it occurring and the consequences of the event. Additionally the event may have various individual consequences with individual probabilities. These components can also be identified from the two definitions of risk which were presented before. These three components can be used as the basis of risk assessment (Merna and Al-Thani 2011).

Another term closely used with risk is uncertainty. Sometimes the terms are even used interchangeably. The difference between the terms however is that when talking about a risk the probability of the event is, or should be, known (Merna & Al-Thani 2011). With the term uncertainty the probability is unknown or it is impossible to be attained.

3.2 Risk sources and types

Some sort of risk can be attached to most, if not every, operation and activity an organization performs. This is true to human life as well. People use common sense and instincts to control the risks they are subjected to (Merna and Al-Thani 2011). In the world of business this is done through risk management.

There are various sources of risk when it comes to organizational risk management. These risk sources have to be accessible to the organization, which allows the necessary identification, analysis and response processes to take place (Merna and Al-Thani 2011). If the risk source is inaccessible to the organization the risk assessment might be incomplete and miss vital information. Incomplete risk assessment and/or missing of vital information will lead to ill-informed decisions which may have negative effect on the organization. Examples of risk sources can be seen in Table 3.

Risk source	Cause of the risk (examples)
Political	New/change in legislation, war, terrorism
Economic	Changes in interest rates, Inflation
Environmental	Permissions
Financial	Bankruptcy, profit margins change
Natural	Extreme weather conditions
Criminal	Theft

Table 3 Risk sources

According to publication by Global Risk Alliance (2005) three different risk types, seen in Figure 5, can be identified which are: opportunity-based risks, uncertainty-based risks and hazard-based risks. Each of these risk types have their own characteristics. The variance in characteristics requires different management systems and analysis methods to be used.



Figure 5 Risk types and their management (Global Risk Alliance 2005)

3.2.1 Opportunity-based risks

As the name suggests this risk type is based on opportunities. The two main aspects of the opportunity-based risks are based on the decision of taking or not taking the presented opportunity (Global Risk Alliance 2005). The decision to take the risk is a conscious decision which is, or should be, based on the potential losses, gains and their individual probabilities. The decision to take or not to take the opportunity-based risk also reflects the organizations risk appetite.

It is critical that an organization identifies and manages its identified opportunities. According to Bekefi, Epstein and Yuthas as the focus is expanded to include identifying and managing opportunities the process may yield insight into which risks should be mitigated. It is important to note that by taking an opportunity an organization risks missing on a better opportunity. The source of an opportunity may be external or internal.

When an opportunity-based risk is taken the identified risks accompanying it are accepted. The organization should put into action processes which aim to minimize the negative impacts and maximize the positive impacts (Global Risk Alliance 2005). According to Global Risk Alliance (2005) opportunity-based risks: may or may not be visible or physically apparent, are often financial, may have a negative or positive consequence and the consequences may be long- or short-term.

3.2.2 Uncertainty-based risks

Uncertainty-based risks are associated with unexpected and unknown events. These risks include events such as natural disasters, fires and loss of a key supplier. The occurrence of such event is often unpredictable or it is extremely difficult. Management methods such as emergency planning and recovery planning are used to prepare for such events and to minimize the impact of the event (Global Risk Alliance 2005).

According to Global Risk Alliance uncertainty-based risks are impossible or difficult to quantify. The consequences are negative and may be financial, physical or both and the risks are impossible to control or influence (Global Risk Alliance 2005). These traits are due to the often sudden and often disastrous nature of the risks.

3.2.3 Hazard-based risks

Hazard-based risks are risks which are connected to sources and situations that have a potential to cause damage. These risks include (Global Risk Alliance 2005): physical hazards, chemical hazards, biological hazards, ergonomic hazards and physiological hazards. These are the risks that this study focuses on.

If a hazard-based risk is present or occurs they pose a threat to individual's well-being. The consequences of hazard-based risks can be long-term and may have an effect on the individual's ability to work in the future. Organizations identify, analyse and control hazard-based risks through occupational safety and health management.

Hazard-based risks are quantifiable and possible to control. The consequences of hazard-based risks are negative and they can be separated into two component: individual and organizational consequences. Individual consequences refers to the consequences for the individual that has suffered an occurrence of a hazard-based risk. The individual consequences are physical and/or mental. Organizational consequences refers to the consequences to the whole organization. Organizational consequences can be financial, losses in organizational image and judicial or a combination of these.

3.3 Risk management process

Risk management process involves systematically applying policies, procedures and practices to activities (SFS-ISO 31000:2018). These activities include communication and consultation, context establishment, risk assessment, treatment of risks and recording, monitoring, reviewing and reporting risks. Risk management process can be seen in Figure 6.

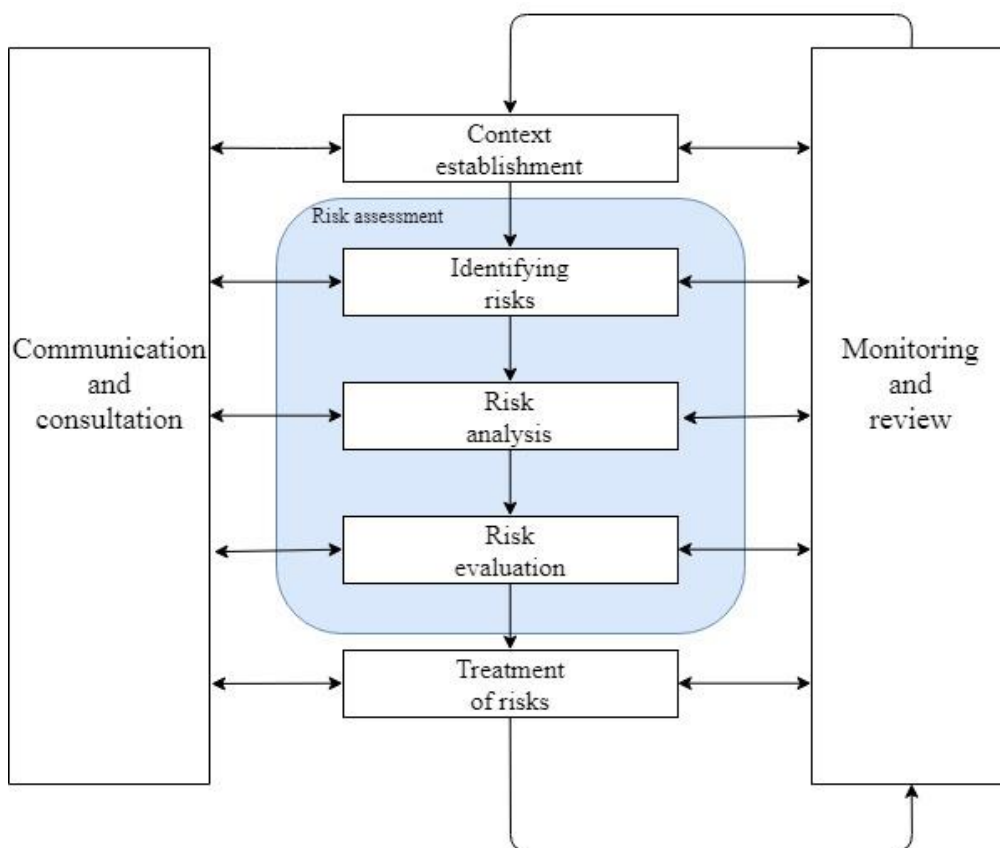


Figure 6 Risk Management Process (SFS-EN 31010 2010)

Risk management process should be integrated into the operations, processes and organizational structure (SFS-ISO 31000:2018). If it is not integrated the process cannot protect and create value it is intended to do. Risk management process can be applied at various organizational levels for example at strategic or project levels.

For this study the most important part and aspect of the risk management process will be the risk assessment process. This process is highlighted in the Figure 6 in light blue. The risk assessment process involves identifying, analysing and evaluating risks. The process will be discussed more in the upcoming chapters.

3.3.1 Risk assessment

Risk assessment is a systematic process which is used to identify, analyse and evaluate risks. The process should not be a separate process. It should be integrated to all the aspects of the risk management process (SFS-EN 31010:2010). Risk assessment is an iterative process which should involve relevant stakeholders (SFS-ISO 31000:2018).

Risk assessment provides information about the risks, causes of the risks, consequences of the risks and probabilities of the risks (SFS-EN 31010:2010). This information then can be used in management and decision making processes.

Risk identification is the first phase of the risk assessment process. The scope of the risk identification is based on the risk management context. For example in this study the scope of the risk assessment is occupational safety and health. The purpose of risk identification is to discover, recognize and characterize the risks that the organization is subjected to (SFS-ISO 31000:2018).

There are three main risk identification methods mentioned in the ISO 31010. These methods are: evidence based method, systematic approach and inductive reasoning techniques (SFS-EN 31010:2010). Evidence based methods rely on documented data when identifying risks and use techniques such as check lists and historic data. Systematic approach is a systematic process for identifying risks. Inductive reasoning techniques include techniques such as hazard and operability studies. Additionally to these there are several supporting techniques such as brainstorming. Using supportive techniques will enhance the accuracy and fullness of the risk identification (SFS-EN 31010:2010).

The second phase of the risk assessment process is risk analysis. During this step the identified risks are analysed further. This provides the researcher and the organization understanding about the risks. Risk analysis determines the causes and the consequences of the risk and their probabilities, taking into consideration the currently implemented control measures (SFS-EN 31010:2010). It is important to note that a risk/event may have multiple causes and consequences and the elements which have an effect on the probability and/or the consequences should be identified (SFS-EN 31010:2010).

The used methods for risk analysis can be qualitative, semi-qualitative or quantitative. The application, available data and its reliability, and the needs of the organization dictates which analysis method or method mix is the most suitable for the situation (SFS-EN 31010:2010). Examples of risk analysis methods mentioned in the SFS-EN 31010:2010 standard are Business impact analysis, root cause analysis and fault tree analysis.

The third phase of the risk assessment process is risk evaluation. In this part of the risk assessment the risks are identified and their causes, consequences and probabilities are known. This information is then compared to the defined risk criteria and is used in the decision making process regarding future actions (SFS-EN 31010:2010). There are various aspects that should be taken into consideration when making the decisions. These aspects include but are not limited to environmental, legal, economic and ethical aspects. The future actions may include decisions on does the risk needs treatment, what is the treatment priority, what kind of

actions are required and what kind of methods should be used to treat these risks (SFS-EN 31010 2010).

According to SFS-EN 31010:2010 standard it is common to divide the risks in to three groups which are: Intolerable risks, “Grey” area and negligible or small risks. If the risk falls into the intolerable risk group the treatment of the risk is essential. The use of financial or other resources should not be limited when treating intolerable risks (SFS-EN 31010:2010). If the risk falls into the “Grey” area group the opportunities of the risk should be balanced with the potential consequences with costs and benefits taken into account (SFS-EN 31010:2010). If the risk is negligible or small risk treatment is not needed (SFS-EN 31010:2010).

3.4 Risk Management in SMEs

According to Henschel (2016) there is a lack of practical risk management frameworks or models that are directly applicable to SMEs. Henschel (2016) also notes that the research on the current state of risk management in SMEs is very limited. According to European Commission (2017) in the European Union 99.8% of the enterprises operating in the EU are SMEs and they account for 67% of the total employment in the European Union. Considering this information there is a clear void both in research and practises regarding risk management in SMEs.

When comparing large enterprises and SMEs the obvious differences can be seen. The SMEs have smaller financial and non-financial resources, they do not benefit from economies of scale, they are more reliant on their suppliers and they are more dependent on individual customers (Falkner & Hiebl 2015). Additionally the entrepreneur or partners are responsible for the decisions and risks they take. All of these factors contribute to the importance of risk management in SMEs.

According to Duong (2009) the operational activities, their complexity and scale dictates the risks that the enterprise faces and the extent that the risk management requires. Additionally the operating environment that the SMEs usually operate in are highly competitive and may change rapidly (Henschel 2016). This leads into a situation in which management becomes a success factor for SMEs.

Commonly used risk management process in SMEs consist of five steps. The steps of the risk management process are: identify risks, analyse risks, select techniques, implement strategy and control (Falkner & Hiebl 2015). This five step risk management process shares similarities with the risk management process presented in ISO 31000 which was presented in Figure 6.

4 Legal framework

Finland is a member state of the European Union and the enterprises operating in Finland have to follow the national and European legislations. This section focuses on the Finnish legislations as they are based on the European legislations. In addition to the legislations discussed in this section there are various other legislations which deal with the subject of occupational safety and health majority of which are specific to a certain situation or industry.

This study focuses on three Acts that is applicable to all of the work conducted in Finland. These Acts are the Employment Contract Act (55/2001), Occupational Safety and Health Act (738/2002) and Occupational Health Care Act (1383/2001). There are several applicable Acts that will not be discussed in this work. These are excluded because the Acts discussed in this chapter obligates the employer and the employee to obey these Acts. These Acts include, but are not limited to, Working Hours Act (605/1996), Workers' Compensation Act (459/2015), Annual Holidays Act (162/2005) and Non-Discrimination Act (1325/2014).

Additionally several Acts were excluded because they are applicable to a certain situation or industry. These Acts include, but are not limited to, The Criminal Code of Finland (39/1889), Radiation Act (859/2018), Seafarers' Employment Contract Act (756/2011) and Chemicals Act (599/2013). Additionally to these there are several Decrees that are applicable. These Decrees include for example Government Decree on the Safety of Construction Work (205/2009) and Government Decree on the Safety of Asbestos Work (798/2015).

4.1 Employment Contract Act (55/2001)

The occupational relationship of an employee and an employer is based on an employment contract. The contract and its content depend on the job description, industry and other such variables. The employment contract can be a written, an electronic or a verbal contract (Finland 2001a). With the contract the employee agrees to personally perform work specified in the employment contract under the direction and supervision of the employer (Finland 2001a). The overall goal of the Act is to guarantee that each employee is treated fairly and equally.

There are several sections in the Employment Contract Act (55/2001) which deal with the subject of occupational safety and health. The Chapter 2 of the Act deals with the obligations of the employer and has several notions towards occupational safety and health. The most notable is section 3 of the 2nd chapter titled occupational safety and health. This section obligates the employee to follow the Occupational Safety and Health Act (738/2002). Additionally the section focuses on pregnant employees and that the employer has to ensure that the work carried out by the employee does not endanger the health of the employee or the foetus (Finland 2001a).

Section 2 of the 2nd chapter of the Act is titled Equal treatment and prohibition of discrimination. The section ensures that the employer treats all of the employees equally including fixed-term and part-time employees. The Employment Contract Act (55/2001) mentions that the deviation from equal treatment has to be justified in the view of the responsibilities and position of the employee. The Section also notes that the employer has to follow the Non-Discrimination Act (1325/2014) and the Act on Equality between Women and Men (609/1986).

Chapter 3 of the Act focuses on the responsibilities of the employee. Section 1 of the 3rd chapter notes that the employee has to perform their work carefully complying with the instructions given by the employer within their competence (Finland 2001a). Section 2 of the chapter deals with the subject of occupational safety and health. The section obligates the employee to exercise care and caution required by the work and working conditions and to ensure their own and other employees' safety with the available means (Finland 2001a).

4.2 Occupational Safety and Health Act (738/2002)

This is the main occupational safety and health legislation applied in Finland. The act covers the topics of responsibilities of the employer and the employee, cooperation, provisions on work and working conditions, organization of work and obligations of persons who affect safety and health at work. The main objective of the Occupational Safety and Health Act (738/2002) is to improve the working conditions and environment in order to maintain and guarantee the employees ability to work and the prevention of occupational accidents and diseases and elimination of hazards (Finland 2002).

The Act applies to work performed in an employment relationship (Finland 2002). The act is also applied to volunteer work. If the individual working or volunteering is under 18 years of age the Young Workers Act (998/1993) is also applied. The Act lists special cases in which the Act is applicable in § 4. These cases include for example rehabilitation and rehabilitative work and work performed by individual servicing a court sentence. The § 3 of the Act specifies the responsibilities in cases in which the labour is leased.

4.2.1 Responsibilities of the employer

The § 8 of the Occupational Safety and Health Act (738/2002) defines the responsibilities of the employer. The Act states (Finland 2002):

Employers are required to take care of the safety and health of their employees while at work by taking the necessary measures. For this purpose, employers shall consider the circumstances related to the work, working conditions and other aspects of the working environment as well as the employees' personal capacities.

The Act also requires the employer to design, choose and apply measures for improving working conditions. The Act lists four principles that have to be followed when designing, choosing and applying improvement measures. The principles that are mentioned in The Occupational Safety and Health Act (738/2002) are prevention of hazards and risks, elimination of hazards and risks and adopting safety measures that have a general impact on safety. The last principle mentioned in the Act requires the employer to take technological advancements and other viable means into consideration when designing and choosing measures (Finland 2002).

The Act requires that the employer continuously monitors the environment of work, the safety of the work methods, the state of the working community and the impact of the applied safety and health measures. The Act does not state how often and how these should be monitored. That is left for the owner/organization to decide. The decision should be based on the organization, its processes, functions and organizational goals.

4.2.2 Responsibilities of the employee

The responsibilities of the employee are defined in the § 14 of the Occupational Safety and Health Act (738/2002). The Occupational Safety and Health Act lists three major responsibilities for the employee. The Act states that the employee is responsible for following the orders and instructions given by the employer, taking care of their own and other employees' safety and health and avoiding harassment and mistreatment of other employees (Finland 2002). These responsibilities ensure that the employer is not solely responsible for the occupational safety and health. The employees and the owner are expected to work together towards safer and healthier workplace.

4.2.3 Employee orientation

The Occupational Safety and Health Act lays down the requirements for employee orientation and when it should take place. The Occupational Safety and Health Act (Finland 2002) § 14 states:

Employers shall give their employees necessary information on the hazards and risk factors of the workplace and ensure, taking the employees' occupational skills and work experience into consideration, that:

1. The employees receive an adequate orientation to the work, working conditions at the workplace, working and production methods, work equipment used in the work and the correct method of using it, as well as to safe working practices, especially before the beginning of a new job or task or a change in the work tasks, and before the introduction of new work equipment and new working or production methods;

2. The employees are given instruction and guidance in order to eliminate the hazards and risks of the work and to avoid any hazard or risk from the work jeopardizing safety and health;
3. The employees are given instruction and guidance for adjustment, cleaning, maintenance and repair work as well as for disturbances and exceptional situations; and
4. The instruction and guidance given to the employees is complemented, when necessary.

The act covers the requirements for employee orientation thoroughly. The Act is vague about the instances when additional orientation, instructions or guidance is necessary. This is left to the employer or the organization to decide. There are various instances where additional orientation, instructions or guidance is recommended. According to Ahokas & Mäkeläinen (2013) some instances when additional orientation or guidance is necessary are when methods of work change, new machinery or equipment is introduced to the process, occupational safety and health instructions are being disregarded or occupational accident has occurred.

4.3 Occupational Health Care Act (1383/2001)

The Occupational Health Care Act (1383/2001) requires the employer to arrange occupational health care for his/her employees. The Act also lays down the requirements for the content of the occupational health care and its implementation. The purpose of the Act is to promote cooperation between the employer, the employee and the health care provider (Finland 2001). The Occupational Health Care Act states also that the cooperation and use of occupational health care provider and their services has to be based on a written contract (Finland 2001)

The Occupational Health Care Act (1383/2001) lists four aspects of occupational safety and health which it aims to advance. These aspects are prevention of occupational accidents and illnesses, safety of the work environment and work and its healthiness, employee's health and ability to work and workplace community functions. These aspects aim towards physically and mentally safer and healthier workplace.

The Occupational Health Care Act (1383/2001) § 4 states on the responsibilities of the employer:

The employer shall arrange occupational health care at his own expense in order to prevent and control health risks and problems related to work and working conditions and to protect and promote the safety, working capacity and health of his employees.

Occupational health care shall be organized and implemented to the extent required by the work, working arrangements, personnel and workplace conditions, and any changes in these, as provided in this Act.

The Act also gives the employer other responsibilities. These responsibilities include that the employer has to use occupational health care professionals and other experts in the manners of planning, developing, implementing and monitoring occupational health care (The Occupational Health Care Act (1383/2001)). The Act also requires that the employer prepares occupational health care decisions in cooperation with the employees or their representative (Finland 2001). The Occupational Health Care Act (1383/2001) also states that the employer cannot require an employee to do tasks that a medical examination has revealed to cause a health risk to the individual.

5 Methodology

This section will introduce the methods which were used to gather the information for the risk assessment and how the identified risks were analysed. The gathered information and the results of the risk assessment will be then used in the creation of the guidebook. The chosen risk assessment method will follow the SFS-EN 31010:2010 standard. The Figure 6 presents the general process of Risk Management and within this process the risk assessment process is highlighted in light blue. The risk assessment process has three steps: risk identification, risk analysis and risk evaluation.

5.1 Risk identification

The risk identification is used to find and identify risks. Risks identified should always be recorded. The purpose of risk identification is to identify the risks within the scope of the risk assessment.

There are two main areas of research which will be utilized in this study to identify the risks. The first is to perform a secondary data analysis which will give insight into the general hazards of the sector. The second is to perform original research which will give the study the hazards that are present in the company. Additionally the original research will confirm the general hazards that are present and eliminates the hazards that are not present in the company.

The owner of the company will be involved in the process. In the risk identification phase the owner will be interviewed as a supportive research technique to the observations. The original plan was to hold a workshop for the owner and/or the employees but due to unforeseen changes in the personnel of the company the owner requested that the workshop would not be held.

Historic data usually brings out a lot of information regarding occupational safety and health hazards. However there usually is very limited amount of historic data about hazards and risks when it comes to small enterprises because these are rarely recorded. The gathering of such historic data will be conducted alongside with the stakeholder interview which will partly focus on the historic elements of the occupational safety and health in the company.

Another avenue which could be used to gather such information would be to contact the occupational healthcare provider and/or the occupational insurance provider of the company. These institutions could be able to provide historic data about the company's occupational safety and health issues. In this study these institutions will not be contacted as the necessary information can be gathered with the planned interview.

These methods were chosen for the risk identification mostly because of the size of the company. The company is small which means that there is limited very limited amount of personnel, prior knowledge and historic data that is available.

5.1.1 Secondary data analysis

According to Kothari (2004) secondary data refers to information that has been collected by someone and which has passed through the scientific process. The data does not have to be collected by the researcher as it is already available. Secondary data can be separated into published and unpublished data. Secondary data is permanent and widely available which leads to the data being open to public scrutiny (Saunders, Lewis and Thornhill 2015).

According to Saunders et al. (2015) there are various advantages when using secondary data. The advantages of using secondary data are that it requires fewer resources than collection of primary data, it is an unobtrusive measure, it may provide contextual and comparative data and it allows longitudinal and comparative studies to be achievable, as long as the data collection and recording methods are comparable (Saunders et al. 2015). Saunders et al. (2015) also note that re-analysing secondary data may lead to new discoveries.

Kothari (2004) notes that before using secondary data the researcher has to confirm that the secondary data is reliable, suitable and adequate. Saunders et al. (2015) add that gaining access to secondary data may be difficult or expensive.

As stated before the secondary data analysis will be used to give this study the baseline of risks that can be found in the industry. The secondary data analysis was conducted between 2.1.2019 and 5.1.2019. The secondary data analysis was based on reliable publications by institutions such as the Finnish Institute of Occupational Health and The Centre for Occupational Safety. Additionally other industry related material was reviewed such as publications in industry specific magazines and teaching material available online.

5.1.2 Observation

People continuously observe their surroundings but it becomes a scientific research method when it serves a planned research purpose, it is planned and recorded systematically and it is subjected to validity and reliability checks (Kothari 2004). Saunders et al. (2015) describes observation as systematic viewing, description, analysis and interpretation of human behaviour. According to Kothari (2004) the researcher directly observes the behaviour demonstrated by the subject without asking them about it, which has three advantages:

1. Subject bias is eliminated, if the observation is conducted accurately.
2. The information relates to the current state of the researched phenomenon.
3. It does not require subject's willingness to respond.

In this study the observation will be used to identify the risks that stem from the methods of work and from the work environment. The observation method chosen for this study is structured observations which according to Saunders et al. (2015) means that the researcher is detached from the processes they are researching and it quantifies behaviour.

Observation was chosen as a research method for this study because it gives the research detailed information about the subject and it gives the researcher access to the real situations that the employees face daily while they work.

In this study the observation research was separated into two phases. The first phase is to observe the work environment and premises in which the work takes place. The second phase will focus on the methods of work. These observations were done in three separate observation sessions which took place on 8.1.2019, 19.1.2019 and 25.1.2019 and approximately 20 hours was dedicated for this research. A separate observation form was used to record the gathered data during the observation.

5.1.3 Interview

According to Kothari (2004) collecting data through interview method involves verbal questions and verbal responses. The interview style can be formal and structured to informal and unstructured and between these two depending on the purpose of the interview (Saunders et al. 2015).

In this study the interview held was semi-structured interview. According to Saunders et al. (2015) in semi-structured interview the researcher has structured themes and key questions that they want to cover during the interview. The order of the questions asked may depend on the flow of the conversation and additional questions may be required (Saunders et al. 2015).

In this study the interview was held on 27.2.2019 and the interview took approximately 90 minutes. The interview was done personally with the owner of the company. The interview was captured with an audio-recording with the consent of the interviewee. Additionally notes were taken during the interview. The interview had three main themes which were current risks and hazards that are present in the company, historic risks and hazards, and identified risks and risk analysis. In addition to the interview themes key questions were formulated on a separate interview form. After the interview the audio-recording was transcribed.

The goal of the interview was to discover any risks or hazards that were missed during the previous research steps and to confirm the risks and hazards that were identified. Additionally this interview focused on the observed hazards and their analysis to confirm the causes and consequences of the hazards/risks.

5.2 Risk analysis

The second phase of the risk assessment is risk analysis. The purpose of this step is to determine the likelihood of the risk occurring and what could be the consequences in the event that the risk occurs.

A Cause/consequence analysis was performed for the discovered risks. A cause/consequence analysis is a combination of two different analysis techniques: Fault tree analysis and Event tree analysis. The start of a Fault tree analysis is the event in which the risk occurs (SFS-EN 31010:2010). After the event is identified all the causes of the event are ascertained. Event tree analysis focuses on the various outcomes of the event and uses reasoning in order to determine the probabilities of these outcomes (SFS-EN 31010:2010).

The Cause/consequence analysis was chosen for this study because it explores both the causes and the outcomes of a risk. Additionally this analysis will give valuable information about the underlying causes of the risks which will be used in the creation of the occupational safety and health manual.

5.3 Risk evaluation

At this point the hazards and risk present in the company are understood and this knowledge can be used in the decision making process regarding the future actions. In this study the identified risks which are not controlled a mitigation/elimination control will be suggested. This was done in cooperation with the owner of the company during the guidebook creation process.

6 Results

This section focuses on the result of the secondary data analysis, observation and interview. Additionally the results of the risk analysis portion of the risk assessment will be discussed in this chapter.

6.1 Secondary data analysis

This section introduces the secondary data that was used to formulate the common risks found in the bakeries and food industry. The documents used for the secondary data analysis were chosen based on their suitability for this study. The suitability was assessed with reading the information presented in the publication and reflecting the information to information presented in other publications. The data for the secondary data analysis was collected from the following sources:

- The Centre for Occupational Safety
 - “Elintarvikeala” publication (n.d.)
 - “Työtaturmat elintarvikealalla” publication (n.d.)
 - “Pölyt pois yhteistyöllä”-guide (2012)
 - “Leipomon työturvallisuus” publication (n.d.)
- Seinäjoen koulutuskeskus
 - “Työturvallisuuden opettaminen elintarvikealan perustutkinnoissa” publication (2005)
- Finnish Institute of Occupational Health
 - “Riskialttiit ammatit” publication (n.d.)
 - “Jauhöpöly” publication (n.d.)

The above mentioned documents introduce the common occupational safety and health hazards in bakeries and in food industry. The main discovery from the analysis was that the most common hazards and risks for individual’s health and safety are: ergonomic problems, repetitive work, exposure to chemicals, flour dust and other small particles, slips, trips and machinery hazards.

Other hazards and risks were discussed in the publications mentioned above. In the later parts of the study some of these were ruled out as not present in the company or were

deemed so insignificant that further analysis of these hazards and threats was unnecessary. The judgement was made during the interview with the owner.

6.2 Observation

The observation were conducted in two phases. The first phase focused on the work environment and premises and was conducted on the 8.1.2019. The second phase focused on methods of work and was conducted on the 19.1. and the 25.1.2019.

6.2.1 Work environment and premises

During this part of the research the premises were observed. This included the premises in which the baking and selling of goods takes place. Additionally the waste disposal site was observed. About six hours was dedicated for this research.

The main findings were that the premises in which the work is done are small taking into account that there are sometimes three employees working on the same time. The machinery is placed near the walls. The premises and machinery were photographed during the observation. The majority of materials used for baking are stored in a separate room but some are stored on shelves around the baking area. The machinery and equipment of the company includes:

- A stone deck oven
- A combination oven
- A steam oven
- 3 Dough mixers (20l, 30l and 50l)
- A bun divider and roller
- A deep-fryer
- 4 Fridges
- 2 Freezers
- A walk-in freezer

The waste disposal site includes metal trash containers for recyclable materials, metals, glass and cooking oil. The waste disposal site is located at the outside wall of the ABC premises and are exposed to the elements. The waste disposal site can be accessed from the inside. The

exposure to the elements means that the ground can be slippery due to water or ice. Additional hazards and risks include back injuries when carrying or placing waste into the containers and injuries to the fingers in case of accidental closure of the container lids. The recycled metals are required to be pressed manually which increases the back injury risk and the risk of slipping. Another risk that can be associated with the metal press is metal shards that may come loose from the material being pressed and hitting the employee.

The company has machinery which is utilized in the baking process such as the dough mixers. However the company does not have any packaging or slicing machines which commonly cause occupational injuries in bakeries. The machinery used has safety equipment and for example the dough mixers cannot be turned on if the safety guard is not in place. During the observation it was discovered that one of the dough machines has a trapping risk between a rotating bowl and the frame of the machine. This risk was reduced with the placement of the machinery.

The presence of ovens and a deep-fryer mean that there are various hot surfaces that the employees have to be aware of. Additionally the air surrounding these machines may be hotter than the air outside. The presence of fridges, freezers and the walking mean that the employees are in contact with cold surfaces as well.

One risk associated with machinery is a noise risk. The machinery use is infrequent and is focused on the opening hours when the bread and other doughs are being prepared. During the observation it was discovered that the noise risks is minimal even during the time when the doughs are being prepared.

The lack of room leads to tripping, bumping and falling risks being increased. Additionally the currently implemented storage solution increases the risk of an employee hitting a shelf while tripping or falling. This may lead to stored material falling and hitting the employee which in turn may lead to more serious injuries.

The job involves selling products to the customers and all of the employees are required to do so. Additionally the premises of the company are located in an ABC chain gas station which sees a lot of foot traffic. These both lead to threat of violence for example in form of a robbery.

6.2.2 Methods of work

During this part of the research the methods of work were observed. Approximately 15 hours was dedicated for this part of the research. The main focus of the observation were to identify hazards and risks that relate to the baking processes. Supporting processes such as the

cleaning and sales processes were observed as well. The most common risks that were discovered included faulty lifting/carrying techniques, faulty method of using the deep-fryer and handling cold goods without protective equipment.

The risk of burns is ever-present when working in a bakery. However there were few instances which increases this risk. The increase stems from the use of baking trays and how they were being handled. The employees sometimes stacked these trays in a way which was unorganized so it was not apparent which tray was still hot. Additionally these trays were sometimes stored on the ground leaning on the sink table waiting to be washed. This habit increases the risk of employee making a contact with the hot oven tray and getting a burn. Additionally this increases the risk of tripping and slipping as the tray is more difficult to detect and grease and dirt may drip from the tray on to the floor.

When getting a hot tray from the oven the employees have to move to a separate table or rack where they can place the tray and baked goods to cool. During the observation the employees did not warn other employees as they walked close by with a hot tray. This leads to increase in the risk that the employee handling the tray accidentally burns another employee.

The employees have to sometimes lift and/or carry large bowls of dough, bags of flour and other large or heavy objects. Handling of large or heavy objects has its own risk such as increased risk of back injuries and injuries to the extremities. During the observation the method of lifting and carrying was found to be incorrect.

There are plenty of risks when a deep-fryer is used to cook goods. These include risk of burns, exposure to small particles and fire. While observing the method used to fry goods in the deep-fryer it was discovered that the current method increases the risk of the employee splashing hot oil and getting a burn.

Some of the goods sold by the company are bought frozen and the company also freezes some of its own products to be used later. Handling and long exposures to cold have been linked to various injuries and risks such as frost injuries. The owner of the company has provided gloves to be used while the employee handles frozen goods. During the observation it was discovered that some of the employees did not use the protective equipment.

6.3 Interview

The interview was held on 27.1.2019 and the duration of the interview was 90 minutes. The results of the interview will be discussed in this chapter. During the interview some of the risks were ruled out as not present in the company. This includes for example the risk that the dough mixers can be turned on without the safety guard.

The owner of the company believes that slips, trips, burns and lifts are the most apparent risks. There are some precautions taken and the owner has purchased tools which are aimed to aid the work being done safely. The owner also believes that the size of the premises is a problem which may cause some of these risks.

The owner also notes that the employees are required to wash some of the used dishes manually and clean the premises daily. Additionally once a year the premises and machinery are cleaned more thoroughly. Some of the cleaning products which are used in these processes are toxic. The owner of the company has bought protective gloves and masks for the employees to use.

While discussing about the causes of these risks the owner also notes that lack of knowledge and knowhow might play a role. Additionally the owner thinks that carelessness, thoughtlessness and sometimes hurry might be the root causes for at least some of these risks and hazards.

The next theme of the interview was historic data regarding occupational accidents and near misses. The most severe occupational accident happened to the owner. The owner was making crackers out of old bread and used a slicing machine. The owner cut their finger and fainted. After the accident the owner decided to remove the slicing machine in order to eliminate the risk that the accident would occur in the future.

Majority of the occupational accidents that have happened are burns and small cuts. In one instance an employee bumped into another employee with a hot baking tray. Other incidents have involved the deep-fryer or hot baking trays. There has not been any occupational accidents involving the current machinery.

The owner generally hears about the occupational accidents within hours of the accident. In the case of near miss situations the owner usually hears about it at least the next time they are working at the bakery. The company does not have forms or other documentation about these accidents and rely on the verbal communication between the owner and the employee.

The owner has had to react to some occupational safety and health issues. One of them was the slicer machine example presented above. Usually if an employee causes an occupational safety or health risk they discuss about the matter and how it should be handled in the future. One time the employer had to give an employee a written warning because the employee repeatedly caused occupational safety or health risks with their actions.

6.4 Risk analysis

As mentioned in the methodology section the chosen analysis method for the risks identified was cause/consequence analysis. The analysis was performed for all the identified risks and

was done in two stages. In the first stage the risks discovered during the secondary data analysis and observation were analysed. The analysis was then presented to the owner of the company during the interview. After the interview the analysis was performed again. During the second phase of the analysis some of the risks were ruled out and some risks that were not discovered during the research were added to the analysis. The interview also gave additional information for the causes and the consequences of the risks and hazards.

The original plan was to calculate an individual accident frequency rate for the hazards and risks. This would have represented the probability of the risk/hazard occurring. Accident frequency rate is a calculation which represents accidents proportionally to the work hours in a certain period of time, typically a year. The accident frequency rate formula is:

$$\text{Accident frequency rate} = \frac{\text{number of occupational accidents}}{\text{number of work hours}} \times 1\,000\,000$$

During the analysis the decision was made that the probabilities of the risks were left out. This decision was made because the company did not have recorded data about occupational accidents and/or near misses and the statistical data available did not provide the necessary information.

During the analysis the causes of the risks were discussed with the owner of the company as mentioned in the interview results. The main finding was that the main root causes of the occupational safety and health risks/hazards are thoughtlessness, carelessness and lack of knowledge. An example of this is how the oven trays are left on the ground leaning on the sink table. More immediate causes for the accidents are the lack of room and poor methods of work.

The consequences of the occupational accidents was based on statistical data and information about different accidents. The individual consequence was given a probability based on the accident and on the 2015 statistic data on the nature of occupational accident injuries. The individual consequence was also given a monetary expense range based on the days of sick leave and the approximate cost of a day of sick leave. For example a burn was calculated to have an expense range of €0 to €5250 depending on the place and severity of the burn.

7 Creation of the guidebook

This section focuses on the process of creating the guidebook which was the development task for this study. The content of the guidebook was based on the occupational safety and health hazards and risks that were identified and analysed during the previous stages of this study. Additionally the owner of the company was involved in the guidebook creation process. This was done so that the owner had an opportunity to include topics that she wanted to be covered in the guidebook. The guidebook was only created in Finnish.

The guidebook was created in two stages. In the first stage the first rough draft of the guidebook was created and presented to the owner of the company. The current and desired content was then discussed with the owner. In the second stage the content of the guidebook was revised based on the discussions with the owner and feedback. Then the revised guidebook was presented to the owner. After the second presentation the guidebook was finalised based on the discussions and feedback received from the revised guidebook. The final guidebook was presented and given to the owner of the company on the 7th of March 2019. The guidebook was given in docx and pdf forms.

The intent is that the guidebook can be distributed by the owner as they see fit. It can be printed out and distributed as a physical copy or it can be shared as a pdf file via email. The latter form of distribution is more desirable as the guidebook contains hyperlinks to current occupational safety and health legislation for an example. The guidebook contains pictures that were taken during the first stage of observation. The original docx file was also given to the owner of the company so that changes can be made to the guidebook whenever necessary.

The final guidebook is 15 pages and has the following content:

1. Introduction
2. Responsibilities of the employee
3. Environment of work and safety
4. Equipment and safe use of equipment
5. Methods of safe work
6. Threat of violence
7. How to identify an occupational safety and health risk and what to do
8. How to prevent a dangerous situation

The introduction chapter of the guidebook introduces the subject of occupational safety and health to the reader. The second chapter, responsibilities of the employee, focuses on the current Occupational Safety and Health Act (738/2002) and the responsibilities that the employee has. Chapters 3-6 focus on the occupational safety and health hazards and risks that the employees face while they are working. Additionally these chapter contain information on how they can mitigate these hazards and risks with their own actions. Chapters 7 contains information on how an occupational safety and health hazard/risk can be identified and what

should be done. The final chapter of the guidebook focuses on actions that an employee can take in order for the work and the work environment to be safer and healthier.

Chapter 2, Responsibilities of the employee, was included in the guidebook during the second stage of the creation process as the owner felt that the employees were not aware of the legislative responsibilities that they have. Chapters 3-6 of the guidebook were based on the risk assessment and the information gained with the risk analysis. Chapters 7 and 8 were included in the guidebook to inform the employees what actions they should take in order for the workplace to be generally more safe and healthy.

The decision to structure the guidebook follows the structure of the risk assessment and the methods used to research and analyse the risks and hazards. Some of the chapters, such as chapters 3-6, have sub-chapters based on activity, hazard, task or piece of equipment. For example chapter 4, equipment and safe use of equipment, is divided according to individual machines that are used in the company.

8 Summary and conclusions

The purpose of this thesis was to develop an occupational safety and health guidebook for a Finnish SME bakery. The end result was a 15 page guidebook containing information about the company specific occupational safety and health hazards and risks and how the employees can avoid and mitigate these.

The literature review of this thesis was largely based on books, standards and current legislation. Books such as *Enterprise Risk Management : A Guide for Government Professionals* by Hardy and Runnels, *Työsuojeluvastuuopas* by Hietala,, *Hurmainen & Kaivanto, Corporate Risk Management* by Marena & Al-Thani and *Managing Opportunities and Risks* by Bekefi, Epstein & Yuthas provided insight on the subject of risk management and occupational safety and health. Additionally publications by The Centre of Occupational Safety and the Finnish Institute of Occupational Health provided information about the subject of occupational safety and health.

As this thesis focused on the subject of occupational safety and health and risk management the ISO 45001, ISO 31000 and ISO 31010 standards were utilized. The standards were used as a source of information for the literature review. More importantly these standards were used to plan and conduct the risk assessment for this study. There are other standards which could have been used but the choice to use these standards was based on the availability of ISO standards.

The literature review parts of this study was extensive and covered the main topics of the subject. The part regarding occupational safety and health could have been discussed with more depth but the current form is sufficient. The subject of risk management was discussed

thoroughly in this study. The legal framework was intended to cover the Acts that are the most vital for the subject. Various legislations were excluded as they are more geared towards a certain situation or sector/subsector. The use of various sources such as books, standards and publications by expert organizations gave the study more depth into the subject. All in all the literature review gave extensive insight into the subject of this study.

The content of the guidebook was based on an occupational safety and health risk assessment conducted for the company. The risk assessment followed the framework and methods presented in the ISO 31010 standard. The current risks were identified using a combination of secondary data analysis, observation and interview research methods. These risks and hazards included safety and health risks such as burn risk, risk of flour dust inhalation and threat of violence.

The methods used for the research were suitable for this work and yielded the necessary information for this study. There are however various other research techniques that could have been used. The original plan for this study was to conduct a workshop with the employees. Due to unforeseeable changes in the personnel the owner of the company asked that the workshop would not be held and it was replaced with the interview. Using workshop as a research technique could have provided the study more in depth information than the interview did.

Additionally due to lack of recorded historic data some of the research techniques were not suitable for this study. Historic data may be able to provide the researcher a lot of vital information about the subject in a study such as this. If the historic data was recorded and available the chosen research methods would have reflected this. In this study the historic data was only explored during the interview.

The identified risks and hazards were then analysed using a cause/consequence analysis. Cause/consequence analysis is a combination of event tree analysis and fault tree analysis which explores and analyses both the causes and the consequences of the risk. The individual risk/hazard probabilities were left out because of lack of information. The analysis of the causes of the risk identified thoughtlessness, carelessness and lack of knowledge as some of the root causes for the risks/hazards. Lack of room and poor methods of work were identified as more immediate causes for the risks/hazards.

During the analysis of the consequences of the occupational accidents individual consequence was given a probability based on statistical data and information about different accidents. The individual consequence was also given a monetary expense range.

The chosen analysis method was suitable for this study since it provided insight into both the causes and the consequences of the occupational accident. The causes of the occupational

accident were the most vital information for this study as they were addressed with the occupational safety and health guidebook. The consequences of the occupational accident were used to demonstrate what the consequences are to the individual and to the company. This provided the study the evidence that occupational safety and health management has an effect on an organization.

In this study the identified hazards could have been additionally analysed using a risk matrix. This would have given the study more insight into the individual probabilities of a risk/hazard. There are various other analysis methods that could have been used in this study. However the chosen method was most suitable for this study.

The guidebook was created in two phases in cooperation with the owner of the company. This enabled the owner to influence the content of the guidebook. The first phase of creating the guidebook was to create a rough draft of the guide. The second phase of the guidebook creation process was to revise the content based on the discussions had with the owner and her feedback. The final occupational safety and health guidebook was presented and given to the owner on the 7th of March 2019.

The guidebook creation process was successful and the resulting guidebook covered the intended topics. The process involved the owner of the company but it could have involved other relevant stakeholders, such as the employees, as well. This could have resulted in a guidebook which would have included more insight into the topics that the stakeholders were interested in and wanted to be covered with the guidebook. The goal of the study was reached and the resulting guidebook satisfied the needs of the company.

8.1 Validity and reliability

According to Shuttleworth (2008) validity refers to the experimental context and the results and how these meet the scientific research method requirements. In another words: the research measures what is intended and that the results are genuine.

Reliability refers to the fact that any significant scientific results have to be repeatable (Shuttleworth 2008). This means that if any other researcher used the same research and analysis methodology they would be able to replicate the results of the study.

The reliability of secondary data analysis is strong and if someone else uses the same methods of research and analysis the results of the study would be the same, or at least similar. The data used for the analysis was from institutions that are dedicated to do research and spread information on the subject of occupational safety and health. The information was also up-to-date. Additionally the information was verified using several sources.

The observations were conducted in a scientific manner. The observations were planned and recorded separately. Additionally the results of the observation were verified in the interview with the owner which bolsters the validity and reliability of the results. Observer bias was also avoided with the inclusion of interview as a part of the primary research.

The purpose and goals of the study were reached so the results can be seen as valid. The research and analysis methods that were used generated the required information for the creation of the occupational safety and health guidebook.

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Appendix 1: Observation form

Translated from Finnish

Observation form
Antti ArnkilDate:
Duration:

Work environment & premises / methods of work

Observation: phenomena, behavior, action...	Notes	Possible hazard, risk

Appendix 2: Interview themes and key questions

Translated from Finnish

Antti Arnkil
Semi-structured interview themes and key questions
Occupational Safety and Health

Date:
Duration:

Ask consent for audio-recording

1. Risks

- In your opinion what are the most significant risks in your operation?
- What are the dangers of working as a baker?
- In your opinion what are the most significant causes for these risks?

2. Historic data, accidents and near misses

- Have you or any of your employees had an occupational accident? What happened? When?
- Have you or any of your employees had a “nearly missed” occupational accident? What happened? When?
- How long did it take for you to hear about the accident or the “near miss”?
- How did you react to the accident/”near miss”? Actions taken?

Before moving on to the next theme go through the identified risks and cause/consequence analysis

3. Identified risks and cause/consequence analysis

- In your opinion are the identified risks present in your company?
 - Any other risks/hazards that you or the employees face?
- Do you think the causes for these risks/hazards are valid?
 - Can you think any other causes for these risks?
- Do you think the consequences of these risks/hazards are valid?
 - Can you think any other causes for these risks?

Appendix 3: Occupational safety and health guidebook

Työntekijän työturvallisuusopas

Funar Oy

Hyvän olon mestari



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Johdanto

Mitä on työturvallisuus? Työturvallisuus tarkoittaa sitä, että työpaikalla fyysiset, psyykkiset ja sosiaaliset työolot ovat kunnossa. Kun työympäristö on turvallinen ja työyhteisö toimiva, työn tekeminen on mielekästä, palkitsevaa ja tuottaa tulosta.

On hyvä muistaa, että työturvallisuus ei tapahdu itsestään. Työturvallisuus syntyy työnantajan ja työntekijöiden välisessä yhteistyössä, jolla huolehditaan siitä, että työpaikalla on turvallista ja terveellistä tehdä työtä.

Tämä turvallisuusopas on tarkoitettu Hyvän olon mestarin työntekijöiden käyttöön. Opasta voi käyttää sekä uudet, että vanhemmat työntekijät. Oppaalla halutaan tuoda työntekijöiden mieleen asioita, jotka vaikuttavat sekä omaan että muiden työturvallisuuteen.

Leipomoissa on useita vaaranpaikkoja, joista työntekijän on hyvä olla tietoinen. Tulevissa luvuissa käymään läpi asioita, joihin työntekijän on hyvä kiinnittää erityistä huomiota, jotta työntekeminen on turvallista.

Työturvallisuuden ja työnsuojelun perustana toimii Työturvallisuuslaki (738/2002). Työterveyslain tarkoituksena on parantaa työympäristöä ja työolosuhteita työntekijöiden työkyvyn turvaamiseksi ja ylläpitämiseksi sekä ennalta ehkäistä ja torjua työtapaturmia, ammattitauteja ja muita työstä ja työympäristöstä johtuvia työntekijöiden fyysisen ja henkisen terveyden haittoja. Tämän lisäksi on useita lakeja ja asetuksia, jotka antavat yksityiskohtaisempia määräyksiä. Alla olevista linkeistä saat lisätietoa työturvallisuuslaista sekä muusta työsuojelulainsäädännöstä.

<https://www.finlex.fi/fi/laki/ajantasa/2002/20020738>

<https://www.tyosuojelu.fi/tietoa-meista/toiminta/lainsaadanto>

Työntekijän vastuut

Ota huomioon, että vastuu työturvallisuudesta ei ole ainoastaan työnantajalla. Myös työntekijällä on omat vastuunsa, jotka ovat lueteltu Työturvallisuuslain (738/2002) luvussa 4.

Työntekijän on:

- noudatettava työnantajan toimivaltansa mukaisesti antamia määräyksiä ja ohjeita.
- noudatettava työnsä ja työolosuhteiden edellyttämää turvallisuuden ja terveellisuuden ylläpitämiseksi tarvittavaa järjestystä ja siisteyttä sekä huolellisuutta ja varovaisuutta.
- kokemuksensa, työnantajalta saamansa opetuksen ja ohjauksen sekä ammattitaitonsa mukaisesti työssään huolehdittava käytettävissään olevin keinoin niin omasta kuin muiden työntekijöiden turvallisuudesta ja terveydestä.
- vältettävä sellaista muihin työntekijöihin kohdistuvaa häirintää ja muuta epäasiallista kohtelua, joka aiheuttaa heidän turvallisuudelleen tai terveydelleen haittaa tai vaaraa.
- viipymättä ilmoitettava työnantajalle työolosuhteissa tai työmenetelmissä, koneissa, muissa työvälineissä, henkilönsuojaimissa tai muissa laitteissa havaitsemistaan vioista ja puutteellisuuksista, jotka voivat aiheuttaa haittaa tai vaaraa työntekijöiden turvallisuudelle tai terveydelle.
- huolellisesti ja ohjeiden mukaisesti käyttää ja hoitaa työnantajan hänelle antamia henkilönsuojaimia ja muita varusteita (esimerkiksi työkengät).
- Työntekijän tulee työnantajalta saamiensa käyttö- ja muiden ohjeiden mukaisesti sekä muutenkin ammattitaitonsa ja työkokemuksensa mukaisesti käyttää oikein koneita, työvälineitä ja muita laitteita sekä niissä olevia turvallisuus- ja suojalaitteita.

Työympäristö ja turvallisuus

Työtilat, jossa työskentelemme, ovat ahtaat. Tämä tuo useita erilaisia vaaranpakkoja sekä itselle, että työkavereillemme. Muista huomioida toiset työntekijät ympärilläsi. Kiinnitä erityistä huolellisuutta esimerkiksi kun kannat kuumaa uunipeltiä. Varoita ja käytä ääntäsi kun liikut kuuman pellin kanssa. ”Kuuma pelti takana”-varoitusta on hyvä omaksua mukaan työrutiiniin.

Tilojen ahtauden mukana tulee myös tavaroiden ja raaka-aineiden varastoimisen haasteet. Mikäli joudut laittamaan tavaraa korkealle ota huomioon, että mikäli tavara putoaa saattaa se aiheuttaa sinulle tai jollekin muulle vamman. Varmista, että tavara on tukevasti hyllyllä, eikä ole vaaraa että se putoaisi.

Kompastumiset ja kaatumiset ovat yleisiä työtapaturmia. Jotta näin ei kävisi sinulle tai työkaverillesi muista pitää kulkuväylät esteettöminä. ÄLÄ myöskään jätä uunipeltejä nojaamaan esimerkiksi tiskialtaaseen, vaan laita ne joko tiskialtaaseen tai rullakkoon odottamaan pesua. Uunipellit, jotka ovat jätetty nojaamaan, ovat kompastumisriski. Lisäksi uunipellistä saattaa valua lattialle rasvaa tai muuta likaa, joka lisää kaatumisriskiä.

Mikäli huomaat että sinulta tai joltain työkaveriltasi on tippunut lattialle jauhoja, vettä, rasvaa tai muuta likaa lattialle siivoa se viipymättä. Liukkaat ja likaiset lattiat lisäävät kaatumisriskiä. Kun tähän yhdistetään vielä ahtaat työtilat voivat kaatumisen seuraukset olla vakavat.

Muista myös käyttää työssäsi työnantajan osoittamia jalkineita sekä muita suoja-asusteita. Jalkineiden tarkoitus on lisätä työturvallisuutta ja vähentää kaatumisriskiä.

Joudut työssäsi käyttämään veitsiä, saksia ja muita leikkaavia esineitä. Muista käyttää varovaisuutta aina kun käytät veitsiä, saksia ja muita leikkaavia esineitä. Tämän lisäksi muista toimia veitsien puhdistuksen ja säilytyksen suhteen työnantajan ohjeistamalla tavalla. Esimerkiksi ÄLÄ jätä veitsiä muiden esineiden alle esimerkiksi tiskialtaaseen. Tästä aiheutuu pisto/haavariski työntekijälle, joka tiskaa astioita.

Osana työtä joudut viemään roskia ja muita tavaroita erikseen osoitetulle jätteidenkäsittelyalueelle. Kun menet alueelle ota huomioon vuodenaika ja säätila. Mikäli ulkona on kylmä, muista pukeutua tarvittavan lämpimästi ja laita hansikkaat käteen. Muista myös pitää työnantajan osoittamat tyøjalkineet jalassa, sillä alueella voi olla liukasta jään, rasvan tai muun lian takia.

Jätteidenkäsittelyalueella on hyvä myös kiinnittää huomiota jätesäiliöiden kansiin ja niiden kuntoon. Kun laitat jätteitä niihin kuuluviin säiliöihin varmista, ettei ole vaaraa kannen äkilliselle sulkeutumiselle. Mikäli joudut käyttämään metallin litistäjää suojaa tarvittaessa silmäsi.

Jauhöpöly ja pienhiukkaset

Jauhöpöly ärsyttää limakalvoja, silmiä ja ihoa. Jauhöpölyä hengittäessä altistutaan myös jauhopölylle herkistymiseen, allergiseen nuhaan ja astmaan. Herkistyminen jauhopölylle ei tapahdu hetkessä ja se saattaa ilmetä vasta usean vuoden työskentelyn jälkeen. Vuosina 2008–2014 Työperäisten sairauksien rekisteriin (TPSR) ilmoitettiin noin 270 jauhojen ja/tai viljojen aiheuttamaa ammattitautia.

Oireita joihin on syytä kiinnittää huomiota:

- Nenän vuotaminen ja tukkoisuus
- Silmien punoitus ja kutina
- Kurkku oireet, kuten käheys
- Astmaoireet: yskä, limaisuus, hengenahdistus ja hengityksen vinkuna

Jauhöpöly saattaa aiheuttaa myös kosketusallergiaa esimerkiksi nokkosrokkomaista ihottumaa sekä ärsytysihottumaa.

Jauhöpölystä aiheutuvien terveyshaittojen toteamiseksi on hyvä käydä terveystarkastuksessa 1-3 vuoden välein.

Käsien puhtaana pitäminen on elintarvikealalla tärkeää. Tämä kuitenkin saattaa rasittaa ihoa, jolloin iho saattaa ärsyntyä tai kuivua ja käsiin saattaa syntyä ihottumaa. Ihon terveydestä on tärkeä pitää huolta myös asiakkaiden kannalta. Esimerkiksi ihottumassa esiintyvät bakteerit voivat vaarantaa asiakkaan terveyden.

Mikäli sinulla on jo astma, saattaa ammatti pahentaa sitä. Lisäksi allergia taipuvaiset saattavat allergisoitua jauhopölylle.

Lisätietoa jauhopölystä ja pienhiukkasista:

<https://www.ttl.fi/kemikaalit-ja-tyo/jauhopoly/>

<https://www.ttl.fi/toissa-terveena-ammatinvalinta-allergia-ihottuma-astma/riskialttiit-ammattit/> (valitse kohta Leipuri)

Sairaustapaukset

Mikäli epäilet, että sinulla on elintarvikkeiden välityksellä mahdollisesti tarttuva tauti ilmoita sairaudesta tai sen oireista (ja mikäli mahdollista niiden aiheuttajasta) välittömästi työnantajallesi. Ilmoituksen jälkeen toimi työnantajan antamien ohjeiden mukaan.

Myös mikäli sinulla on tulehtunut haava, ihotulehdus, ihovamma tai ripuli ilmoita asiasta työnantajallesi. Tämänlaisissa tapauksissa elintarvikkeiden käsittely ja oleskelu elintarvikkeiden käsittelyalueella on kielletty, jos olemassa on suoran tai epäsuoran saastumisen vaara.

Laitteet ja niiden turvallinen käyttö

Joudut käyttämään työssäsi useita laitteita. Jokaiseen laitteeseen liittyy omat työturvallisuusriskinsä. Muista aina kuunnella ja toimia työnantajan ohjeiden mukaan, jotta työskentely on mahdollisimman turvallista sekä itsellesi että työkavereillesi.

Seuraavaksi käymme läpi laitteita, sekä niihin mahdollisesti liittyviä riskejä. Muista pitää mahdolliset vaaranpaikat mielessäsi kun työskentelet.

Taikinakoneet





Suurimmat riskit taikinakoneiden käytössä liittyy niiden moottoriosiin ja pyörivään taikinamelaan, -koukkuun tai muuhun osaan. Koneet ovat suojattu mekaanisesti, eivätkä ne lähde käyntiin ellei suoja ole paikoillaan. Muista laittaa mekaaninen suoja paikoilleen ennen koneen käyttämistä. Kun lisää kulhoon aineksia varmista, että kone on sammutettu. ÄLÄ lisää tai laita koneeseen mitään sen ollessa käynnissä.

Sveba Dahlen-taikinakoneen (3. kuva) kulho pyörii alustalla koneen ollessa käynnissä. Kiinnitä tällöin huomiota, että vaatekappale tai kätesi ei joudu koneen alle tai koneen kulhon ja rungon väliin.

Mikäli joudut siirtämään taikinakulhoa, muista oikea nostotekniikka (katso kohta turvalliset työmenetelmät). Mikäli taakka on painava käytä kulhon siirtämiseen apuvälineenä esimerkiksi rullakkoa, jonka päälle voit asettaa kulhon liikuttamista varten.

Kun siivoat taikinakonetta, varmista että kone on kiinni ja virtajohto on irti pistokkeesta.

Uunit



Suurin uuneihin ja niiden käyttöön liittyvä työturvallisuusriski on kuumuus ja palovammariski. Muista aina käyttää patakintaita käsitellessäsi kuumaa uunipeltiä.

Muista käyttää patakinnasta myös kun lisää uuniin kylmän uunipellin. Uunin metalli- ja lasiosat ovat aina kuumat. Kun käytät patakinnasta, vähennät riskiäsi saada palovamman.

Kun liikut kuuman uunipellin kanssa muista olla erityisen varovainen, ettet osu mihinkään tai kehenkään. Käytä ääntäsi ja varoita työkavereitasi, mikäli joudun liikkumaan heidän lähellään.

Mikäli joudut ottamaan usean pellillisen tuotteita samaa aikaa uunista, käytä apuvälineenä rullakkoa. Kun laitat pellit rullakkoon voit liikutella rullakkoa rauhassa. Näin vähennät itsesi sekä muiden palovamma- ja työtaturmariskiä.

Rasvakeitin



Rasvakeittimeen liittyvät riskit ovat samankaltaisia kuin uuneihin liittyvät, sillä suurimmat riskit liittyvät myös palovammoihin.

Mikäli joudut täyttämään rasvakeittimen, muista laittaa rasva ensin kaukaloon ja tämän jälkeen keitin päälle. Mikäli laitat rasvakeittimen ensin päälle vastukset saattavat vaurioitua. Lisäksi tästä aiheutuu tulipaloriski.

Mikäli joudut lisäämään rasvaa keittimeen sen ollessa käynnissä käytä apunasi rasvakeittimen ritilää. Laita rasva ritilälle ja nosta ritilä rauhallisesti kaukaloon. Näin vähennät riskiä, että rasva roiskuu. Roiskuva rasva on sekä palovamma, että tulipaloriski.

MUISTA! Rasvapaloa EI saa tukahduttaa vedellä. Mikäli rasva leimahtaa liekkeihin, käytä sammuttamiseen sammutuspeitettä. Sammutuspeitteen löydät työnantajan osoittamalta paikalta, paina se mieleesi. Muista myös tällöin laittaa rasvakeitin pois päältä.

Mikäli palon sammuttaminen ei onnistu, poistu paikalta. Pelasta itsesi ja muut vaarassa olevat ihmiset, varoita muita. Kun poistut tiloista sulje ovet perässäsi. Soita hätänumeroon 112 kun olet päässyt turvalliseen paikkaan. Jää odottamaan pelastushenkilökuntaa turvalliseen paikkaan. Muista myös tarvittaessa opastaa pelastushenkilökuntaa.

Pullanpöyrittäjä



Pullanpyörittäjään liittyvät riskit ovat vähäiset. Mikäli kuitenkin joudut siivoamaan pullan erottaja/pyörittäjä osaa, varmista että kone on sammutettu ja ettei se voi lähteä käyntiin.

Muut koneet ja laitteet

Yllämainittujen laitteiden lisäksi joudut käyttämään muita koneita ja pienlaitteita. Muista aina olla varovainen laitteita ja koneita käyttäessäsi.

Mikäli et ole käyttänyt laitetta aiemmin tai sinusta tuntuu, että tarvitset opastusta laitteen käytössä pyydä apua työkaveriltasi tai työnantajaltasi.

MUISTA myös, että laitteet menevät rikki. Mikäli havaitset, että jokin käyttämäsi laite toimii toisin kuin sen pitäisi tai jos siinä on vika:

1. Lopeta laitteen käyttäminen
2. Ilmoita työkavereillesi, että laitetta ei saa käyttää (esim. suullisesti tai lapulla)
3. Ilmoita laitteen viasta työnantajallesi

Turvalliset työmenetelmät

Rasvakeitin ja uppopaistaminen

Rasvakeittimen kanssa työskennellessä tulee noudattaa erityistä huolellisuutta. Kun olet valmistautumassa paistamaan tuotteita rasvakeittimessä muista kaksi asiaa:

1. Tuotteet, joita olet paistamassa, eivät saa olla pinnalta kosteita. Huolehdi siitä, että tuotteiden pinnalla olevalla kosteudella on ollut tarpeeksi aikaa haihtua.
2. Pidä kätesi kuivina. Mikäli käsissäsi on vettä esimerkiksi käsiin pesun jäljiltä kuivaa kätesi huolellisesti.

Kun alat uppopaistamaan tuotteita muista seuraavat asiat:

- Laske tuote rauhallisesti rasvaan. ÄLÄ tiputa sitä. Näin vältät rasvan roiskumisen
- Laske tuote rasvaan itsestäsi poispäin.
- Kun käännät tuotteita rasvakeittimessä käytä työnantajan antamia apuvälineitä. Käännä tuotteet niin, että rasvaa ei roisku.
- Kun otat tuotteet pois rasvakeittimestä käytä apunasi rasvakeittimen ritilää. Aseta tuotteet kuivumaan paperille (ritilässä tai ilman). ÄLÄ tuo ritilää itseäsi kohti, sillä ritilästä voi tipua rasvaa jaloillesi.
- Aseta ritilä takaisin rasvakeittimeen ennen seuraavaa paistokertaa.

Siivoaminen

Kun sinulle annetaan työtehtäväksi siivota tiloja tai laitteita muista käyttää suojahansikkaita sekä tarvittaessa hengityssuojainta.

Käsien suojaaminen

Työssäsi olet myös tekemisissä kylmien pintojen, kuten pakastimessa olleiden uunipeltien ja esipakastettujen tuotteiden kanssa.

Muista aina suojata kätesi, kun käsittelet kylmiä pintoja. Esimerkiksi jäädytetyt tuotteet, kuten pulla-aihiot, ovat olleet -21 °C:ssa. Tällöin on olemassa sormien paleltumisriski, jolta voit suojautua käyttämällä työnantajan osoittamia hansikkaita käsien suojana.

Nostaminen ja kantaminen

Selkävaivat ovat yleinen ongelma leipomoalalla. Muista oikea nosto- ja kantotekniikka kun joudut suorittamaan noston tai kannon. Mikäli nostettava tai kannettava asia on painava tai hankalaa esimerkiksi sen muodon vuoksi käytä rullakkoa, tai rullilla liikuteltavaa alustaa apunasi. Muista myös, että voit pyytää apua työkavereiltasi.

Nostotekniikka:

Asetu nostettavan taakan eteen siten, että jalkaterät ovat:

- joko niin sanotussa käyntiasennossa eli hieman eri tasossa tai
- asetu haara-asentoon.

Näin tasapainon hallinta on parempi ja taakka on lähtötilanteessa lähellä vartaloa.

Valmistautuminen nostoon:

- kyykisty ja työnnä pakarat ja lantio taakse, liike tulee lonkista.
- ylävartalo kallistuu silloin etuviistoon, mutta selkä ei pyöristy
- tarkista, että paino jakautuu tasaisesti kantapäille ja jalkaterille
- pidä polvet auki
- ota ote taakasta
- nosta rintakehä ylös ja pidä pää pystyssä
- esijännitä lihakset raskaaseen nostoon vetämällä lapoja hieman taakse, jolloin lihaskalvoksetjut aktivoituvat tukemaan nostoa
- hengitä napakasti sisään keuhkot puolilleen ilmaa - nosta, kun olet pystyasennossa, hengitä ulos.

Lisävinkkejä nostotekniikkaan saat videosta: <https://www.youtube.com/watch?v=zr692psFFgw>

Kantotekniikka:

Painavia taakkoja tulee kantaa mahdollisimman lähellä vartalon edessä siten, että taakkaa pystyy tukemaan vartaloon. Oikeaoppinen kantaminen noudattaa samoja lainalaisuuksia kuin nostaminen, eli selän tulee pysyä luonnollisessa asennossa, jotta se ei pyöristy. Vartalon kiertoa tulee välttää.

Väkivallan uhka

Työpaikkaväkivallalla tarkoitetaan joutumista fyysisen väkivallan tai sen uhan kohteeksi työssä. Se voi ilmetä uhkaavana käytöksenä, ahdisteluna ja pelotteluna tai fyysisenä väkivaltana, kuten tönimisenä, kiinnipitämisena, lyömisenä, potkimisena tai ääritapauksessa aseiden käyttönä.

Voit työtavoillasi ennaltaehkäistä väkivalta- ja uhkatilanteita esimerkiksi seuraavilla tavoilla:

- Kun lasket päivän kassaa, tee se paikassa, johon ei näe liikkeen ulkopuolelta.
- Pidä kassakone kiinni, mikäli et ole antamassa asiakkaalle vaihtorahaa.
- Mikäli kassakoneessa on paljon käteistä rahaa, siirrä ne työnantajan osoittamaan paikkaan.
- Jätä (tyhjä) kassakone yöksi auki

Mikäli tilanteessa on fyysisen väkivallan tai aseellisen väkivallan uhka, muista:

- Suojaa itsesi ja työkaverisi esimerkiksi kutsumalla apua tai lukittautumalla wc-tiloihin.
- Hälytä apua soittamalla hätänumeroon 112 ja toimimalla poliisin ohjeiden mukaan.

Muista myös toimia tilanteessa työnantajan antamien ohjeiden mukaan.

Kerro työnantajallesi työpaikalla sattuneista väkivalta- ja uhkatilanteista.

Lievät pahoinpitelyt ovat virallisen syytteen alaisia silloin, kun ne kohdistuvat henkilöön, joka suorittaa työtehtäviään ja kun rikosten tekijä ei kuulu työpaikan henkilöstöön. Yleisen syytteen alaisissa rikoksissa rikosilmoituksen voi tehdä työntekijän lisäksi myös työnantajan edustaja. Lain nojalla työnantaja voi siten huolehtia rikosilmoituksen tekemisestä, kun työntekijä ei itse kykene tai halua tehdä ilmoitusta.

Vakavat työpaikalla sattuneet väkivaltatapaturmat on ilmoitettava poliisille ja työsuojeluviranomaiselle.

Työturvallisuusriskin havaitseminen ja kuinka toimia

Työturvallisuusriskien havaitsemiseen ei ole yhtä ohjetta. Kuten aiemmin todettiin, työturvallisuus syntyy työntekijöiden ja työnantajan yhteistyöllä. Tämä mainitaan myös työturvallisuuslain 17 § (Työnantajan ja työntekijöiden on yhteistoiminnassa ylläpidettävä ja parannettava työturvallisuutta työpaikalla).

Tärkeintä on muistaa puhua asioista sekä työkavereiden, että työnantajan kanssa. Mikäli sinusta tuntuu, että jokin toimintamalli aiheuttaa työturvallisuusriskin ilmoita asiasta viipymättä työnantajallesi.

Työturvallisuuteen pätee hyvin New York Police Departmentin käytämä motto ”See something say something” (vapaasti käännettynä ”Kun näet jotain, sano asiasta”). Avaamalla suusi ja puhumalla asiasta voit vaikuttaa omaan ja työkavereidesi työturvallisuuteen.

Kuinka voit estää vaarallisen tilanteen

Mikäli havaitset, että jokin asia saattaa aiheuttaa työturvallisuusriskin sinulla on vielä mahdollisuus estää työpaikkatapaturma. Esimerkiksi jos huomaat että lattialla on vettä tai jauhoja, voit siivota ja kuivata lattian.

Mikäli havaitset, että joku työkavereistasi toimii työnantajan ohjeita vastaan vaarantaen itsensä tai muut, tulee sinun pysäyttää toiminta. Kysy ymmärsikö hän vaaran, minkä toiminnallaan aiheutti. Voit myös opastaa työkaveria, jotta työnteko sujuu turvallisemmin. Tarvittaessa ilmoita asiasta myös työnantajalle.