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# RISK MANAGEMENT IN INTERNATIONAL OPERATING COMPANY

ŘÍZENÍ RIZIK V MEZINÁRODNĚ PŮSOBÍCÍ FIRMĚ

## MASTER'S THESIS

DIPLOMOVÁ PRÁCE

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Theoretical background of the thesis  
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## **Abstrakt**

Cieľom tejto práce je kritická analýza spoločnosti Slovalco, a.s., identifikovať riziká, ktoré ovplyvňujú spoločnosť a vytvoriť návrh, ako zmierniť alebo minimalizovať potenciálne hrozby pre spoločnosť. Práca je rozdelená na tri časti: teoretický rámec, analytickú časť a návrhovú časť. Teoretický rámec slúži na vysvetlenie nevyhnutných pojmov a definovanie kľúčových modelov, ktoré sa používajú v práci. Analytická časť analyzuje súčasnú situáciu v spoločnosti a identifikuje kritické riziká. Návrhová časť slúži na navrhnutie riešenia pre kritické riziká a implementáciu zmien v spoločnosti.

## **Abstract**

The aim of this thesis is to critically analyse Slovalco, inc. Identify the risks, which are influencing the company and create a proposal on how to mitigate or minimise the potential threats to the company. The thesis is divided into three parts: theoretical framework, analytical part and, proposal part. Theoretical framework is dedicated for explaining the necessary terms and defining the key models, which are used in the thesis. Analytical part is analysing the current situation in the company and identifying critical risks. Proposal part is for proposing a solution to critical risks and implementing the changes in the company.

## **Kľúčové slová**

Riziko, Riadenie rizík, identifikácia rizík, mapa rizík, rozvoj firmy, SWOT analýza

## **Keywords**

Risk, Risk management, Risk identification, Risk map, Company development, SWOT analysis

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Declaration/ Čestné prehlásenie

Prehlasujem, že predložená diplomová práca je pôvodná a spracoval som ju ja sám.  
Prehlasujem, že použité citácie sú úplné a že som vo svojej práci neporušil autorské práva  
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I hereby declare that this diploma thesis was made solely by me. I have properly cited and  
acknowledged used theoretical knowledge and information. These references can be  
found in the list of references, and I agree with publishing my thesis on the internet.

Brno, 15 May 2023

V Brne, 15 Mája, 2023

A handwritten signature in black ink, appearing to be 'P. V. S.', written over a horizontal line.

podpie studenta

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## Introduction

In today's competitive and volatile business environment, companies must be able to identify, evaluate, and mitigate risks effectively to ensure their survival and growth. Recently, the cost of living increased substantially making it very hard for companies to survive as they are at the edge of bankruptcy. For companies, which are offering a product, which is being processed with big consumption of energy, it is inevitable for the organisation to keep an eye on the costs of energy as poor judgement of the costs might lead to financial losses, impacting their profitability and competitiveness in the market. To maintain competitive, big organisations and companies must establish risk plans and strategies, which include steps on how to act if such crisis emerges. Furthermore, these risk plans are very complex and effectively are helping the companies to maintain competitive in the most difficult and hard period.

Company called Slovalco, inc. had to recently shut down because of high energy costs. Therefore, the company could not afford operating under such circumstances. The company is processing and creating aluminium parts and are owned majorly by Norwegian company called Hydro. Furthermore, they are currently operating only at their limits to maintain operational in the future as the ovens for processing aluminium must be functional and need to be checked every now and then. It is a very hard situation for the company as to come up with a smart solution to mitigate the risks and therefore maintain competitive in their market.

This thesis is going to analyse the chosen organisation, and identify critical risks, which arise from their recent operations. It is important for the company to keep operating as it is considered the biggest aluminium producer in the country. A lot of workers were forced to leave the company making it very hard for the families then to quickly adapt. Furthermore, when a company in such a crisis it is important to have the necessary tools to overcome the period. Slovalco, inc. is a big company and can implement the necessary strategies, which can enable the company operating again.

## Goals of the thesis and methods

### Problem identification

Slovalco, inc. is an international operating company, which produces aluminium and is working as a subsidiary. Its main products are materials, which are used to produce various of products and therefore makes the company incredibly valuable within their operations. Currently, the company is struggling with functioning as the prove of electricity recently skyrocketed. Furthermore, company is trying to find a solution, which would allow its operation. This action requires analysis of the current situation, potential risk assessment and eventually development of a strategy, which would allow the company to achieve this goal.

The main aim of this the thesis is to propose a set of measures to reduce risk in an internationally operating company.

### Goals of the master's thesis

All the parts in this thesis contribute to the desired goal and consist of:

1. **Theoretical background:** in this part all the necessary definitions will be introduced to implement knowledge in the upcoming stages to better understand the problem and its solution.
2. **Analytical part:** this part is dedicated to analysing the environment of the company externally, internally and identifying risks, which could be altered.
3. **Proposal part:** this part is closely connected with understanding the risks and proposing a solution on how to mitigate the identified risks in a chosen company.

## **Methods**

To achieve the desired goals mostly structured outputs from the critical assessment and interviews with employees of the company were introduced in the analytical part and reviewing and using literature as a benchmark to establish proposal of the solution.

Processes:

- Reviewing and picking the right literature to meet the goal of the thesis
- Assessing what sources can be used
- Understanding, characterising, and analysing the position of the company using relevant tools towards the topic
- Identifying risks, which relate to the operations of the company
- Creating a map risk for understanding, which risks are the most influential and dangerous to the company
- Developing a proposal on how to minimise the identified risks

Furthermore, theoretical background includes important definitions and characteristics of used models, which play a key role in identifying risks in the company. Analytical part consists of applying described models on the chosen company and analysing its current position. Proposal part is dedicated to processing the proposals to have created clear steps on how to minimise the risks in a company.

# 1. Theoretical framework

This section of the thesis presents a comprehensive review of relevant literature, highlighting the key theories and concepts that inform the research study. By examining existing research, the theoretical framework aims to fill gaps in knowledge and provide a foundation for further investigation. Ultimately, the theoretical framework provides a basis for the research study, ensuring that the research questions are grounded in existing theory and that the research findings contribute to the advancement of knowledge in the field.

## 1.1. Risk management

Risk management is the process of discovering, evaluating, and controlling risks to an organization's resources and profits is known as risk management. These risks have many different causes, such as monetary unpredictability, legal responsibilities, technological problems, strategic management blunders, accidents, and natural calamities.

An effective risk management programme aids a business in considering all potential risks. The relationship between risks and the potential negative cascade effects on the strategic objectives of an organisation are also examined by risk management.

Perhaps never has risk management been more crucial than it is right now. Because of the quickening speed of globalisation, the risks that contemporary organisations face have gotten more complicated. The widespread usage of digital technology nowadays has led to the ongoing emergence of new threats. [1, 3]

Furthermore, the risk field principally focuses on two tasks:

1. using risk assessments and risk management to analyse and manage the risks associated with activities (such as the operation of an offshore installation or an investment)
2. performing general risk research and development in relation to concepts, theories, frameworks, approaches, principles, methods, and models to comprehend, characterise, communicate, and (in a broad sense) manage/govern risk. [2]

### **1.1.1. Asset**

Asset can be considered everything, that has a value for the subject and the value itself can be decrease by facing danger. Subject can be also characterised as an asset if the danger is threatening subject's entire existence. Asset can have tangible and intangible characteristics.

The value of the assets is directly influenced by:

- Time consumption on recreating the asset
- Relationship of the asset and interconnection about business
- Buying price
- Financial loss created by damaging the asset
- Other factors [3]

### **1.1.2. Threat**

Case, person, or reality can negatively affect and decrease the value of an asset. The consequences are quantitatively calculated by making the asset into operational state as it was before the threat or simply by finances needed to minimise the threat. Source of the threat can be either human or natural factor. Can be created intentionally and unintentionally. Threat is not defined by typical environment; it is created internally withing the company and can have impact not only on one asset but numerous and can therefore evoke disasters.

Threat is being defined based on its value, which depends on:

- Threat on harm
- Possibility of meeting the threat and asset [3]

### **1.1.3. Vulnerability**

By this characteristic we can define the level of sensitivity assets possess. However, this doesn't characterise the initiation of harm, it only applies in environment where the threat is present. Vulnerability is being defined by the basic characteristics of an asset, it is the result of a threat and an asset. Risk is being created by mutual act of threat and vulnerability.

Definitive factor of vulnerability is dependent on:

- Sensitivity of an asset
- Importance to the entity [3]

#### **1.1.4. Counter measurement**

Set of actions, tools, and everything, which is helping to reduce the impact of threat and vulnerability. The aim of a counter measurement is to prevent the occurrence of a threat. It is very likely to choose an option, which is financially beneficial. However, it doesn't have to apply if the situation depicts otherwise. Monitoring is playing a key role in the effectiveness of application of counter measurement. In case that the result is not favourable, it is necessary to change the process or terminate the process totally. The understanding mutual connections in this terminology is very important. [3]

#### **1.1.5. Risk**

The origin of this word comes from Italian word 'risico', which dates to 17<sup>th</sup> century, when it was connected to the danger of encountering rock structure massive in the path of boat in the environment of boat transportation. Later, the word was being used in identifying adverse circumstances.

Risk itself is being created by mutual act of threat and asset. Important thing to point out is that when a threat is not influencing on any asset, then the threat doesn't have to be considered in the analysis. The level of risk is being set by the value and vulnerability of an asset and level of the threat.

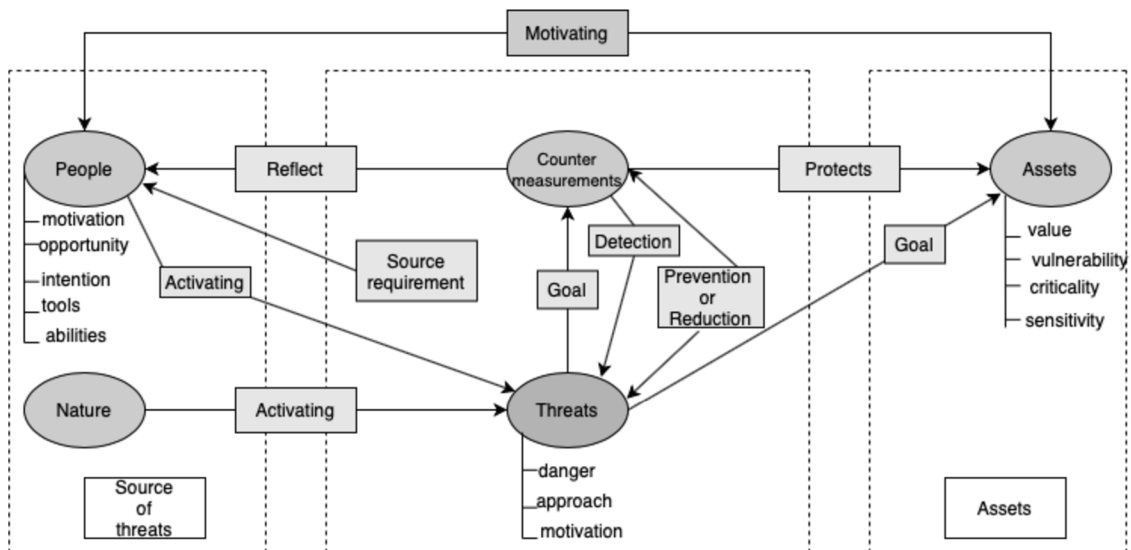
The **residue risk** is such risk, which is considered small and therefore friendly for the entity and therefore there is no need to implement any counter measurement.

**Reference level** is the border of risk, which dictates if the risk is considered residual. This concludes if any counter measurements are needed to decrease the risk. Reference level should achieve such level, which results in having threat so small that can be considered negligible.

The risk itself is being used in complex structures, which is conditioned by different factors, therefore a lot of definitions exist.

Some of the most frequent definitions, which characterise the risk are:

- Difference in current and forecasted results
- Threat in decision making
- Potential creating of danger or failure
- Potential creation of damage or asset
- Result of incorrectly defining the decision-making process [3]



**Figure 1:** Relationship of risk analysis

(Source: (3, p. 97))

## 1.2. Strategic management

Strategic management is a set of decisions made by the managers, which decide and have an impact on long-term effectivity of the company. The aim of the strategic management is to acquire comparative advantage over other companies, which are operating on the market. Can be also categorised as the process of formulating and implementing the major goals and initiatives taken by a company's top management on behalf of owners, based on consideration of resources and an assessment of the internal and external environments in which the organization competes.

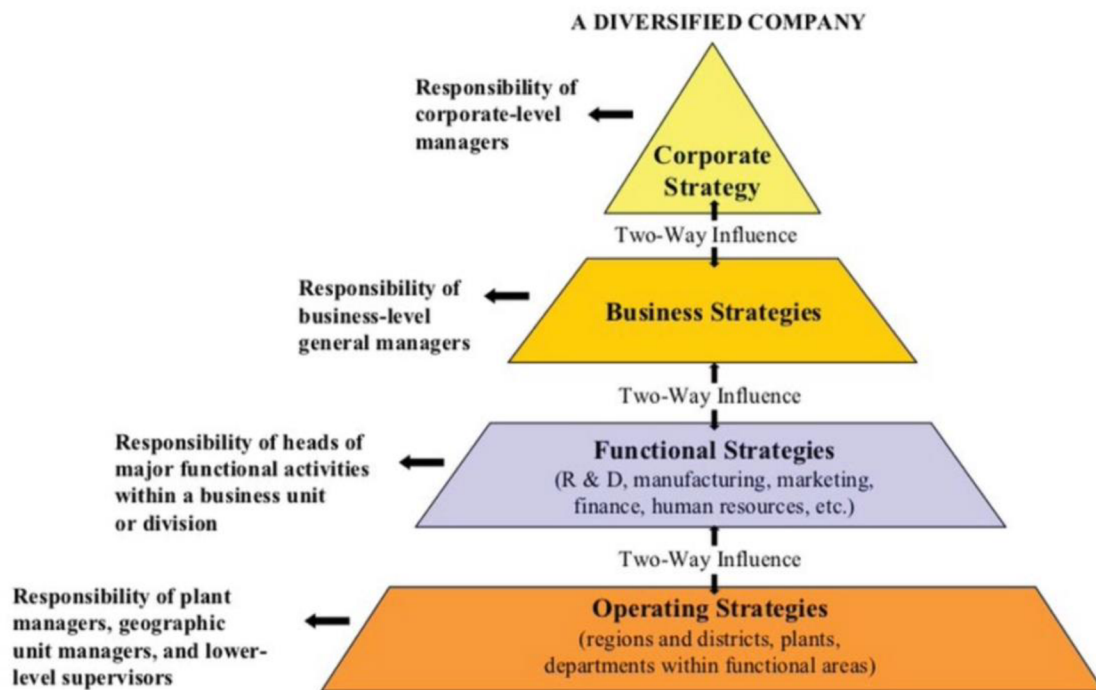
Strategic management involves analysing the company's current position and developing strategies to achieve its long-term objectives. It also involves making decisions about allocating resources, managing risks, and implementing plans that will help the company to adapt to changes in the competitive environment.



Overall, strategic management is a critical function for any organization looking to achieve sustained success, as it enables the company to align its resources, capabilities, and goals, and to respond proactively to changes in the market and other external factors. [4]

### 1.2.1. Business strategy

A business strategy concentrates on a particular area of business and determines the best method to gain a competitive advantage. It can also involve analysing a specific business unit and finding ways to improve its competitiveness, such as selecting a more appealing target market. In terms of business management, there are various levels of strategies. Its formulation requires the company's capability, objective, opportunities, and threats of the market, which are needed to take into consideration. [4]



**Picture 1:** Business strategy diversification

(Source:

[https://www.researchgate.net/publication/317799966\\_Crafting\\_Strategic\\_Objectives\\_Examining\\_the\\_Role\\_of\\_Business\\_Vision\\_and\\_Mission\\_Statements](https://www.researchgate.net/publication/317799966_Crafting_Strategic_Objectives_Examining_the_Role_of_Business_Vision_and_Mission_Statements))

Each level of a business has distinct objectives, stakeholders, and scope. The corporate strategy is relevant to diversified companies with multiple business units. As all the units

fall under a single company, the corporate strategy is the overarching strategy that encompasses all the business units. A corporate strategy is a top-level plan for the company, directed by management at the executive level. It deals with concerns such as which industries the company should enter, how to improve the competitive position and profitability of all business units, and which units should receive priority in terms of resource allocation and investments. [4]

The business level strategy is designed for specific business units. The focus of the business strategy is to establish the long-term competitive position of the business in the market. The business plan outlines management's intended course of action and responses to factors such as competitive pressures, economic trends, technological advancements, customer demands and demographics, regulatory changes, and other external factors that can impact the business's performance and profitability. In the case of a single-business company, the corporate strategy and business strategy are essentially the same. [5]

Functional strategies are strategies that target specific departments, such as production, marketing, finance, and human resources, as well as major functional processes such as new product development. These strategies are developed to achieve the objectives and goals of the department. However, like the business level strategy, a functional level strategy must also align with the overall corporate and business strategy of the company.

The bottom of the strategic pyramid is operating strategy. The operational strategy is responsible for overseeing two primary areas:

1. The operational units of the organization, which include facilities such as plants, warehouses, and distribution centres. Each unit requires a distinct strategy to manage its operations. This strategy should be in line with the functional strategy of the unit and the overall business strategy of the organization.
2. The operational tasks, such as purchasing materials, maintaining inventory, managing logistics, and processing customer returns. Each task necessitates a distinct strategy. [5]

### 1.2.2. Vision

To start practicing strategic management successfully, the organization must clearly express its vision for the future. This refers to the overall long-term goals that the organization aims to achieve. The vision is extensive, comprehensive, and forward-looking. A vision always pertains to a desirable future, and it plays a crucial role in developing business strategies and carrying out strategic planning. It is also regarded as an essential aspect of leadership, which involves motivating others to work towards a shared objective. The vision represents a broad and aspirational goal for the future state of the organization. If the vision is straightforward, it enables individuals to easily understand their roles and responsibilities in achieving the organization's objectives. Although it may be challenging for the organization to realize its vision in the long run, the vision provides a sense of direction and motivation to work towards it. [6]

### 1.2.3. Risk identification

Risk identification lifecycle refers to the process of identifying and assessing potential risks throughout the various stages of a project or business process. The goal is to identify and prioritize potential risks, evaluate their potential impact, and develop strategies to mitigate or manage them. The stages of the risk identification lifecycle may vary depending on the specific context, but typically include the following steps:

1. **Planning:** This involves defining the scope of the project or process, identifying the stakeholders, and establishing risk management policies and procedures.
2. **Identification:** This involves identifying potential risks and their causes. This may be done through brainstorming sessions, expert interviews, and reviewing historical data or lessons learned from similar projects or processes.
3. **Assessment:** This involves evaluating the likelihood and potential impact of each identified risk. This may be done through qualitative or quantitative analysis, such as risk probability and impact assessment (PIA) or a risk matrix.
4. **Mitigation:** This involves developing strategies to manage or reduce the impact of identified risks. This may include developing contingency plans, implementing risk controls, or transferring the risk through insurance or contracts.

5. **Monitoring:** This involves tracking the identified risks and their mitigation strategies throughout the project or process lifecycle. This allows for ongoing evaluation of the effectiveness of risk management strategies and the identification of new risks as they arise. [6, 7]

### **1.3. Kurt Lewin's model**

According to Kurt Lewin's Force Field Theory, restraining forces have an impact on both collective and individual behaviour, ultimately determining whether change will occur. The driving forces inspire and direct workers in the direction of the new state. The restraining forces serve as the main obstacles to change initiatives by highlighting probable resistance to change.

Lewin contends that it is critical to strike a balance between both pressures by providing employees with the necessary training to close the skills gap and engaging them in the change process. Change agents must utilise persuading change argumentation, stress management approaches, and compliance monitoring. [8]

#### **1.3.1. Unfreeze**

Lewin's model has a first stage that deals with perception management and seeks to get the involved parties ready for the impending organisational transformation. The ability of the organisation to adapt to change must be improved, according to change leaders. Communication plays a key role in this stage as people and employees are vital and it needs to be explained what the reasons for such strategy and plan are.

#### **1.3.2. Change**

The second step in this model involves working with the uncertainty created in the unfreeze stage as employees start to see the new directions and start to understand more the motivation behind important decisions. This stage can be characterised as the most important or critical as the management of the company is trying to move from the current state to desired future state. To have successfully completed change stage in the company it is important to communicate and keep explaining to the employees as to why the decisions were made. Furthermore, one of the key characteristics in this stage is resistance

as it is natural to have employees, which are in fear of uncertainty and losing their jobs. This task to complete is for the managers and leaders of the company as to explain them the benefits they will gain in the long run.

Overall, the change stage is a critical component of the change management process, and careful planning and execution are required to ensure that the change is successful and sustainable.

### **1.3.3. Refreeze**

In the final "refreezing" step, workers go from the transition phase to stabilisation or acceptance. Employees may revert to old habits if change leaders don't reinforce the change by integrating it into the organisational culture.

The following activities can ensure the change:

- **Understanding employees' emotions after change.** Getting feedback from employees can help the leaders and managers to implement some details in the process, that can help the whole process
- **Training employees.** To keep the employees up to date and make them part of the team, leaders should offer them trainings.
- **Identification of key employees.** To appeal to others, that the change is beneficial, leaders and managers should pick the best adopters in the organisation and reward them. [8]

## **1.4. Analytical tools**

Risk management tools are techniques, methods, or processes used to identify, assess, and mitigate risks that may affect an organization's ability to achieve its objectives. These tools help organizations to anticipate, prepare for, and manage potential risks that may arise from internal or external factors.

It is important to understand the nature of the problem to pick the right tool as it depends on the nature and complexity of the organization. Some common risk management tools include:

1. Risk identification tools: These tools are used to identify potential risks, such as brainstorming sessions, surveys, and checklists.
2. Risk assessment tools: These tools are used to evaluate the likelihood and impact of identified risks, such as risk matrices, risk scoring models, and scenario analysis. [9]

### 1.4.1. Risk matrix

Unexpected occurrences that may or may not have an impact on the success of your project are known as risks in project management. Any facet of a project, including the budget, resources, procedures, or technology, to mention a few, can have risks attached to it. While it can be simple to assume that all risks will have negative effects, it's important to realise that good risks can also happen throughout the course of a project.

When creating a risk matrix, there are some benefits:

- **Prioritising all risks with an understanding of the level of severity.** If more than one danger materialises, having a comprehensive understanding of all potential risks enables you to rank them in order of importance. Your project team will gain from this prioritising, and it will help keep them on course if something goes wrong with the project.
- **Creating strategies and allocating resources for the unexpected.** While it is hard to completely plan for uncertainty, recognising and comprehending potential risks gives one the chance to develop strategies for unforeseen situations. Project completion and success are more likely when risks are properly planned for.
- **Reducing the or neutralising the impact of risks that occur.** The unanticipated effects of a danger that is not considered beforehand may feel more severe and devastating than a risk that is detected and examined. A project risk can be changed or neutralised before it materialises by being aware of its possible effects. [3]

#### Process of creating the risk matrix

1. **Identify the risks** - To complete your risk assessment matrix, you need to start by having an in-depth understanding of your project — the scope, budget, resources, timeline, and goal.

2. **Define and determine risk criteria** – there are different risks with different impacts, which means it is important to develop criteria for each risk regarding its likelihood and impact on the organisation.
3. **Analysing the risks** – After successfully designing the criteria for risks, it is needed to assess the risks and put them into the matrix. Simple visualization can result in good justification and overall decision-making process.
4. **Prioritizing risks and planning** – in order to mitigate or neutralize the found risks it is important to create a plan, which would allow neutralising them. [10]

### **Risk evaluation**

Evaluation of the identified risks is no easy task and requires good knowledge of those risks. Furthermore, there are several steps to make sure that the risks are evaluated correctly involving evaluating how likely the risk might occur. Next, you should evaluate the potential impact of each risk if it were to occur. Consider the potential consequences for the project, organization, or individual, including financial, operational, and reputational impacts. Once you have assessed the likelihood and impact of each risk, you should prioritize them based on their level of risk.

Lastly, to make the risks more visual to emphasize the importance of each risk we can visually use risk matrix and evaluate the risks by numbers to give the risks and sense of importance. To rank risks in numbers, use of numerical scale, such as a 1-5 or 1-25 scale, to assess the potential impact and likelihood of occurrence of each risk, which could lead to having:

#### **1. scale of impact**

- a. Negligible (1): Risk is having little consequence if it even happens to occur.
- b. Low (2): If the risk will occur, the solution is manageable.
- c. Moderate (3): The solution will take some time to mitigate the risk
- d. Significant (4): The outcome of this risk could be considerable and might lead to enduring harm.
- e. Catastrophic (5): The impact of this risk could be harmful and might pose difficulties in recovering from it.

## 2. Scale of likelihood

- a. Very likely (5): It is highly probable that this risk will occur at some point in time.
- b. Probable (4): There is a significant likelihood that this risk will occur.
- c. Possible (3): This risk has an uncertain probability of occurring, and its chances are ambiguous.
- d. Not likely (2): There is a considerable likelihood that this risk may not occur.
- e. Very unlikely (1): There is a remote possibility that this risk will occur.

[11, 12, 27]

After successfully giving the risks numbers, in order to make it more visually visible, which of the risks should be paid more interest, risk table shall be created with characteristics as follows:

- A low-risk event, rated between 1 to 6, is unlikely to occur and even if it does, it will not result in significant consequences for your project or company. Such events can be assigned a low priority in your risk management plan.
- A medium-risk event, rated between 7 to 12, can be a hindrance to your project and cause minor disruptions. However, by taking preventive measures during project planning to minimize and mitigate these risks, you can ensure the success of your project. These risks should not be ignored, but they do not need to be given top priority.
- A high-risk event, rated between 13 to 25, has a high probability of occurring and can have severe consequences that may potentially derail your project. It is crucial to keep these risks in mind during project planning and assign them the highest priority in your risk management plan. [27]



IMPACT	Catastrophic (5)	5	10	15	20	25
	Significant (4)	4	8	12	16	20
	Moderate (3)	3	6	9	12	15
	Low (2)	2	4	6	8	10
	Negligible (1)	1	2	3	4	5
		Improbable (1)	Remote (2)	Occasional (3)	Probable (4)	Frequent (5)
		LIKELIHOOD				

**Figure 2:** Risk matrix example

(Source: <https://www.techtarget.com/searchsecurity/definition/risk-map-risk-heat-map>)

#### 1.4.2. PESTEL analysis

An analytical framework known as a PESTEL analysis is frequently used to assess the business environment in which a firm operates. Political, Economic, Social, and Technological (PEST) analysis was the term used in the past to describe the framework; more recently, the framework's scope was expanded to include environmental and legal. The main goal of the analysis is to identify areas, which if changed will have significant impact on the processes of the company

##### **Political factors**

Political factors, broadly speaking, are those that are influenced by governmental acts and policies. They consist of the following, but are not limited to:

- Corporate taxation
- Other fiscal policy initiatives
- Free trade disputes
- Antitrust and other anti-competition issues

### **Economic factors**

Economic factors in this analysis tend to include more broader economic situation and are expressed in a more financial way:

- Exchange rates
- Employment rates
- Inflation
- Interest rates

### **Social factors**

These factors are harder to define than economic factors. They are defined in tway that stakeholders approach leisure time, which can impact commercial activity:

- Consumer beliefs
- Lifestyle trends
- Attitudes around working conditions
- Demographic considerations

### **Technological factors**

Today the technological advancement is inevitable, and it is shifting every sector in its specific way. These factors tend to help to understand in what way they impact the organization. They include, but are not limited to:

- Cyber security
- Technology infrastructure
- How is research and development influencing costs and competitive infrastructure
- Automation

### **Environmental factors**

These factors were later added on into PEST framework as the business community realised how can environmental changes influence the physical structure of the organization and present material risks and opportunities for organizations. Environmental considerations are:

- Weather events

- Climate change impacts
- Carbon footprint

### **Legal factors**

Factors, which emerge from changes in the regulatory system and may affect certain industries, broader economy, or even individual businesses. They include:

- Protection of IP
- Licenses and permits required to operate
- Employment and consumer protection laws

According to some researchers it is not necessary to analyse all the factors. Only the most significant ones are having impact on the organisation. The analysis itself therefore should be focused on the customer and should analyse such factors, which could mean future opportunities or threats. [12]



**Picture 2:** PESTEL analysis

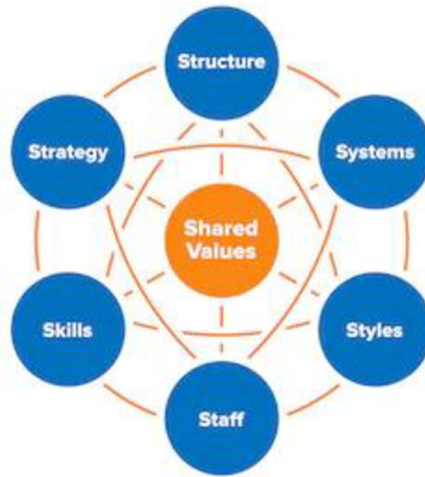
(Source: <https://corporatefinanceinstitute.com/resources/management/pestel-analysis/>)

### **1.4.3. McKinsey 7-S model**

The 7s model is a tool that organizations use to critically evaluate their internal components to achieve their strategic objectives. It was created by McKinsey & Company during the late 1970s and is currently implemented extensively. The model assumes that there are seven key elements that must be followed for an organization to be effective.

These elements are interconnected, and changes in one area can have an impact on the others. The seven elements are often depicted as follows:

1. **Strategy:** The direction in which the organization is headed. This includes their definition of vision, mission, and goals to stay remain competitive in its industry and market.
2. **Structure:** this area consists of the formal system of the organization. This would refer to its hierarchy, chain of command. This area is important when there is need of understanding how the company operates from a managerial point of view.
3. **Systems:** Procedures upon which the company manages to complete their daily tasks.
4. **Shared Values:** Shared values refer to the generally acknowledged and established principles and practices within a company that shape and regulate the conduct of the staff and management. These standards may be outlined in company policies given to the employees. Shared values are reflected in the observable actions and behaviours exhibited by the employees in the workplace.
5. **Style:** the style defines in what way the management leads a company and how it impacts the overall performance, productivity, and culture of the organization. It suggests that the leadership style and approach adopted by management can have a significant effect on the success and atmosphere of the company.
6. **Staff:** defines on how strong the workforce is in the company and how the employees are acting to their duties, including their motivation and reliability when it comes to company's goals.
7. **Skills:** talents and abilities of a company's staff and management, which have a significant impact on the company's potential accomplishments and capabilities. This would suggest that adjustments need to be at place when the company wants to successfully implement the strategy.



**Picture 3:** McKinsey 7S model

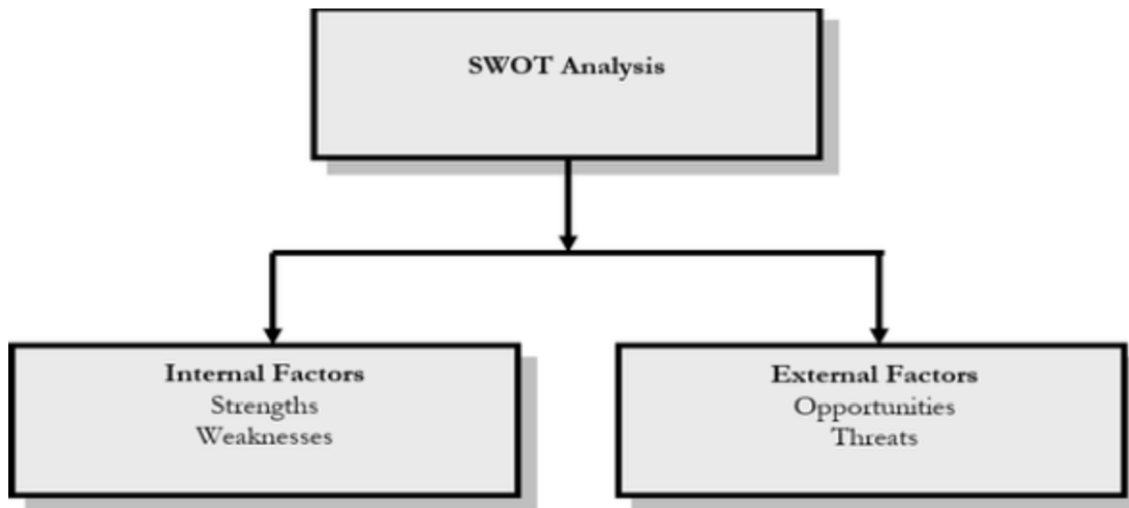
(Source: <https://www.mindtools.com/aicks4s/the-mckinsey-7-s-framework>)

The 7s model is often used as a diagnostic tool to identify areas where an organization needs its improvements. It can help organizations to assess their current state, identify gaps, and develop a roadmap for improvement. [13]

#### **1.4.4. SWOT analysis**

An organisation, a strategy, a project, or a business activity can be evaluated using the SWOT analysis strategic planning framework. Thus, SWOT analysis is a crucial tool for situation analysis that aids managers in recognising organisational and environmental elements. SWOT analysis has internal and external dimensions. Organizational variables, together with strengths and weaknesses, are included in the internal dimension. Environmental aspects, along with opportunities and dangers, are included in the exterior dimension. Eventually, it is a very useful tool to build organizational strategy and competitive strategy.

One of the advantages of developing a swot analysis of an organisation is that the results help managers to navigate in their decision-making process, creating a road map that guides from general to specific.



**Figure 3:** SWOT analysis

(Source: [https://www.researchgate.net/publication/319367788\\_SWOT\\_ANALYSIS\\_A\\_THEORETICAL\\_REVIEW](https://www.researchgate.net/publication/319367788_SWOT_ANALYSIS_A_THEORETICAL_REVIEW))

The components of SWOT analysis are:

1. **Organizational strength** – Characteristics that give advantage over others in the industry. Among the strengths we can include resources of the organisation, big market share, quality of the production or low salary costs
2. **Organizational weaknesses** – Characteristics that place at a disadvantage relative to others. One of the weaknesses can be high debt, weak management, or badly chosen suppliers
3. **Environmental opportunities** – External elements in the environment that give benefits for the organizations. An example of the opportunities or the company can be considered the growth of a market or its differentiation within the operating market.
4. **Environmental threats** – External elements in the environment that could cause trouble for the organization in the present time or future. Among the threats we can include powerful competition, instability of the market or international competitor entering the market. [14]

## 1.5. Summary of theoretical framework

This chapter was dedicated for explaining the basic principles and definitions, when trying to fully evaluate the company and identify the risks, which can endanger the operations within the company.

Risk management was identified as process of discovering, evaluating, and controlling risks to an organization's resources and profits is known as risk management. These risks have many different causes, such as monetary unpredictability, legal responsibilities, technological problems, strategic management blunders, accidents, and natural calamities. Asset, vulnerability, threat, counter measurement, and risk are entities that are closely influencing the risk management of a company and should be considered in the planning process for the future.

Furthermore, strategic management was introduced as a fundamental study in identifying and understanding the risks, which are present in a company. Can be also categorised as the process of formulating and implementing the major goals and initiatives taken by a company's top management on behalf of owners, based on consideration of resources and an assessment of the internal and external environments in which the organization competes. Part of the strategic management is the business strategy that a company has and can be divided into four main parts: Corporate strategy, business strategies, functional strategies, and operating strategies. These strategies should have a vision and a plan on how to be successful in the future and how to mitigate identified risks. Vision can be characterised as a motivation tool for the employees as well as it is showing the wanted position of the company.

To create a plan on how to reduce the risks in a chosen company risk identification process was introduced. The process itself includes planning, where the scope is identified as to understand to which extend the analysis should take place. The most important step is to identify the risks to create a plan on how to influence them. Furthermore, after the identification, assessment is created as to identify initial value of the risks, so we can use analytical tool such as risk map and visually see the potential threat of the risks. Final steps in a successful risk identification process are mitigation and monitoring phase, where the implementation of chosen strategies takes place and its eventual monitoring to see if the strategy is successful or must be changed in some way.

Analytical tools were explained as they are holding important role, when creating a successful strategy based on the identified risks. SWOT is a crucial tool for situation analysis that aids managers in recognising organisational and environmental elements. It recognises its strengths, weaknesses, opportunities, and threats. In addition, PESTEL is

recognised as analysis, which concentrates on political, economic, social, and technological factors, which might affect the business itself. McKinsey 7S holds a role of identifying potential risks internally and setting a way on how to improve the areas, which are needed to improve.

Finally, risk matrix holds a crucial tool when understanding the value of each risk as the matrix depicts the risks visually and helps the managers in deciding what risk should be evaluated as the most influential one and should be paid the most attention.



## **2. Analytical part**

This part of the thesis is dedicated to the introduction of the chosen company and its analysis. Risks are being identified based on the interview with the manager in the company and overall operations. Analytical tools are being used to identify important threats to the company. Every tool in this part has been defined in the theoretical part.

### **2.1. Introduction of the company**

Slovalco is a significant player in the global aluminium industry and has a long-standing reputation for producing high-quality aluminium products. The company's production facility in Žiar nad Hronom is equipped with advanced technologies that enable it to produce primary aluminium using an environmentally friendly process, which is extremely important nowadays as the competitors logically have to adapt and keep competitive.

Slovalco's primary aluminium production process involves refining alumina into aluminium metal using an electrolytic process. The company uses high-purity alumina, which is sourced from reputable suppliers worldwide, to produce aluminium metal that meets the highest international standards.

In addition to producing primary aluminium, Slovalco also produces extrusion billets, wire rod, and foundry alloys. These products are used in a wide range of industries, including automotive, construction, and packaging. Slovalco's products are renowned for their consistency, reliability, and quality, making them a preferred choice for customers worldwide.

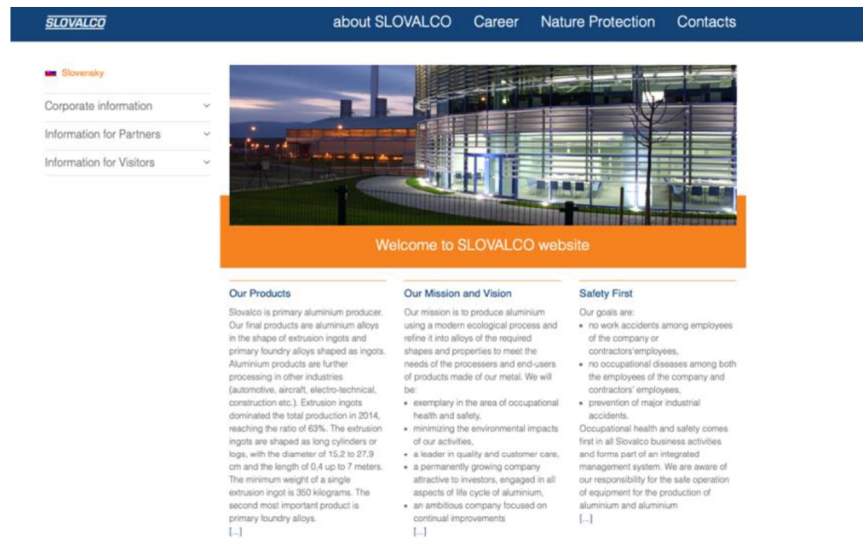
Slovalco has a strong commitment to sustainability and operates its production facility in an environmentally responsible manner. The company has implemented various measures to reduce its carbon footprint, such as using renewable energy sources and optimizing its production processes to minimize waste and emissions.

Overall, Slovalco is a leading aluminium producer that has established a strong reputation for its high-quality products and commitment to sustainability. The company's continued success is a testament to its dedication to excellence and innovation in the aluminium industry. [16, 17]



**Picture 4:** Logo of the company

(Source: <https://www.slovalco.sk>)



**Picture 5:** Slovalco website

(Source: <https://www.slovalco.sk/en/>)

Full name of the company	Slovalco, joint stock company
Headquarters	Priemyselná 14 965 48 Žiar nad Hronom
Date of establishment	07.06.1993
Number of employees	250-499 employees
Last year revenue stream	470 906 000 €

**Chart 1:** Company operations

(Source: <https://www.finstat.sk/31587011>)

### 2.1.1. Company’s current actions and problems

As was introduced before, company has a lot of customers to deal with and is obliged to process accordingly to satisfy all the needs. In addition, unfortunately, Slovalco is still facing challenges related to high electricity prices, and its production has remained paused. The company is working closely with the Slovak government and other stakeholders to find a solution to this issue and resume its operations as soon as possible.

## **2.2. External analysis of the company**

The main aim of the analysis is to identify the opportunities and threats in the external environment that can affect an organization's performance and strategy. External analysis helps organizations understand the competitive landscape, anticipate changes in the market, and identify potential risks and opportunities.

### **2.2.1. PESTEL analysis**

Pestel analysis is widely used when developing a powerful strategy to understand the environmental factors affecting the company. PESTEL stands for factors: Political, Economic, Social, Technological, Legal.

#### **Political factors**

The company as introduced is an employer to many people and is one of the biggest aluminium producers in Europe. Therefore, it is not surprising that the company has a lot of factors to take care of. There are several views, which should be taken into consideration.

**Policies and regulation:** Probably any changes at this point might affect the company itself as it has grown into significant size. The changes can be in taxes, trade policy, market demand, environmental regulations, and profitability

**International relations:** As the company is having customers from different countries it is inevitable to maintain good relationships within their operations

**Political stability.** Any political instability or changes in the government can affect the investment climate and business operations in Slovakia. Any significant change in the political environment can create uncertainty and impact the market demand for aluminium.

**Government subsidies and incentives.** Government subsidies and incentives can significantly impact the production costs and market demand for aluminium. Changes in the government's subsidies and incentives for aluminium production could impact Slovalco's production costs and competitiveness in the market. [18]

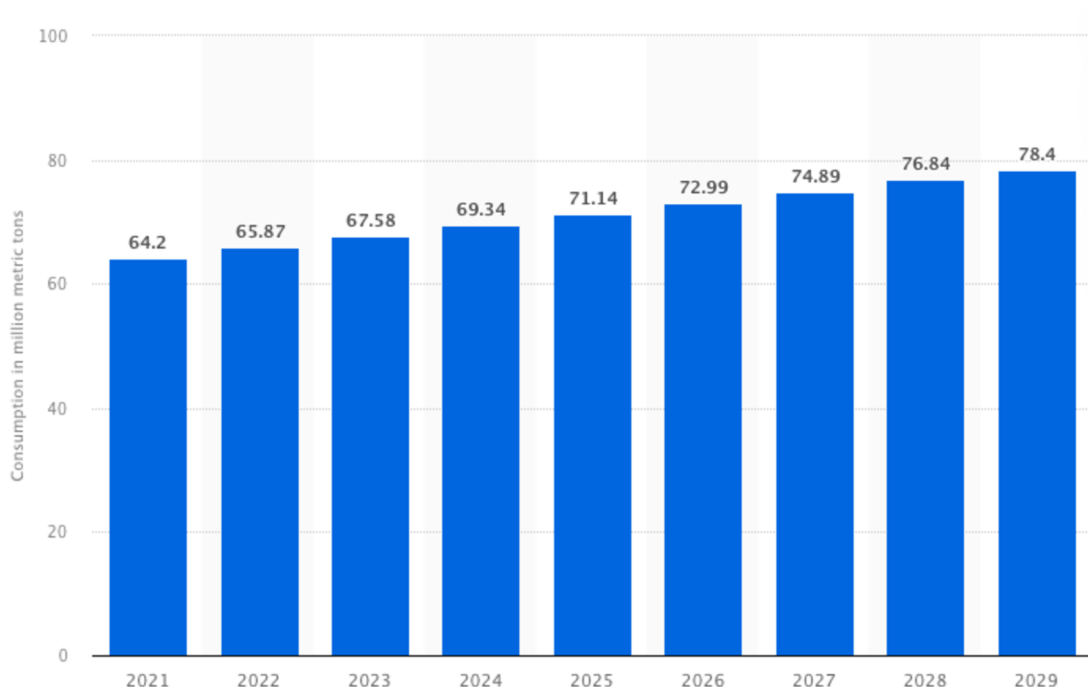
## Economic factors

As the company is big in size it is inevitable to take into consideration the health of the country itself regarding the economic factor. Here are factors, which might affect the company.

**Economic growth.** If the country is going to have overall economic growth, this would affect the company positively. As economic growth leads to increased demand for construction, automobiles, packaging, and other products that require aluminium, the demand for aluminium is likely to increase.

**Exchange rates.** Fluctuations in exchange rates can impact the costs of raw materials and the prices of finished products, which can impact Slovalco's profitability. As Slovalco operates in the global market, changes in the exchange rate can impact its competitiveness and export revenues.

**Availability of raw materials.** As a producer of aluminium, Slovalco relies on the availability of bauxite, electricity, and other raw materials. Changes in the availability and cost of these raw materials can impact the company's production costs and competitiveness. [19]

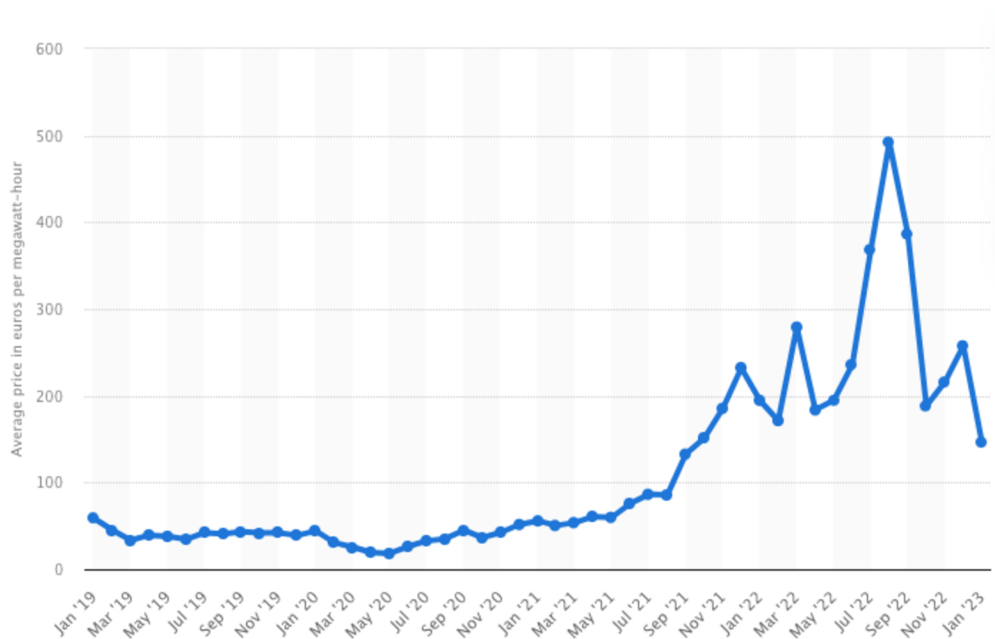


**Figure 4:** Global aluminium consumption projections from 2021 to 2029

(Source: <https://bit.ly/41NAgL7>)

**Labour market conditions.** Availability of skilled labour and wage rates can significantly impact Slovalco's production costs and competitiveness. Any changes in the labour market conditions could impact the company's profitability.

**Electricity.** As the company operates with raw material and is substantially big in size it is having very big demand for the electricity. In July 2022, Slovalco operated 133 out of 226 electrolyzers, which are electric furnaces. This made Slovalco the biggest user of electricity in Slovakia. When running at maximum capacity, Slovalco consumes eight percent of the entire electricity production of the country. Therefore, the company was forced to shut down and operate only on such level, which would allow the company to survive. This is the result of the government as the problem was forwarded to them. However, the reaction came too late and there was no decision made during the time, when it had to be done. They blocked the adoption of an amendment which would have adjusted the amount of compensation for energy-intensive enterprises to the level of other industrialised EU countries. [20]



**Figure 5:** Electricity price in Slovakia until Jan 23

(Source: <https://www.statista.com/statistics/1314560/slovakia-monthly-wholesale-electricity-price/>)

“Slovakia has not implemented a competitive EU CO2 compensation framework. This has prevented Slovalco from entering long-term power contracts and the plant’s current contract expires at the end of 2022. Due to the current Slovak framework conditions and

the European power prices, Slovalco would incur substantial financial losses if it continued its operation beyond 2022,” Sæter added. [21]

## **Social**

Social factors might be considered affecting the company a little less compared to other factors. However, it should be included as well, when developing a strategy. Here are the cases:

**Demographic changes.** As people have different age, they might have different needs for aluminium as they are dealing with different things at their age. [22]

**Consumer behaviour.** Changes in consumer behaviour, preferences, and attitudes can impact the demand for aluminium products. For instance, increasing awareness of sustainability and environmental concerns might drive consumers to prefer eco-friendly products.

**Lifestyle changes.** Changes in lifestyle patterns, such as an increasing trend towards healthy and active lifestyles, might impact the demand for aluminium products. For instance, there might be an increased demand for aluminium packaging for healthy food products. [22]

**Education and skill levels.** As the company is operating on high-skilled level, that requires skilled workers it is important to keep an eye on the education and skill level of people as it might affect the production costs.

## **Technological**

The world is improving every single day and technological aspect of the processes improve significantly causing companies to save and cut expenses related to their production. Here are important factors, which can help company to save money and cut costs.

**Innovation in production processes.** Development of new and innovative production processes can significantly impact the company as it can cut the production costs and improve the overall production.

**Automation.** Company has a lot of workers. Therefore, it is inevitable for the company to try to make the processes as much automated as possible to improve in their competitiveness and effectivity.

**Data analysis.** The use of data analysis tools can help Slovalco identify potential areas for improvement in production processes, cost savings, and product development.

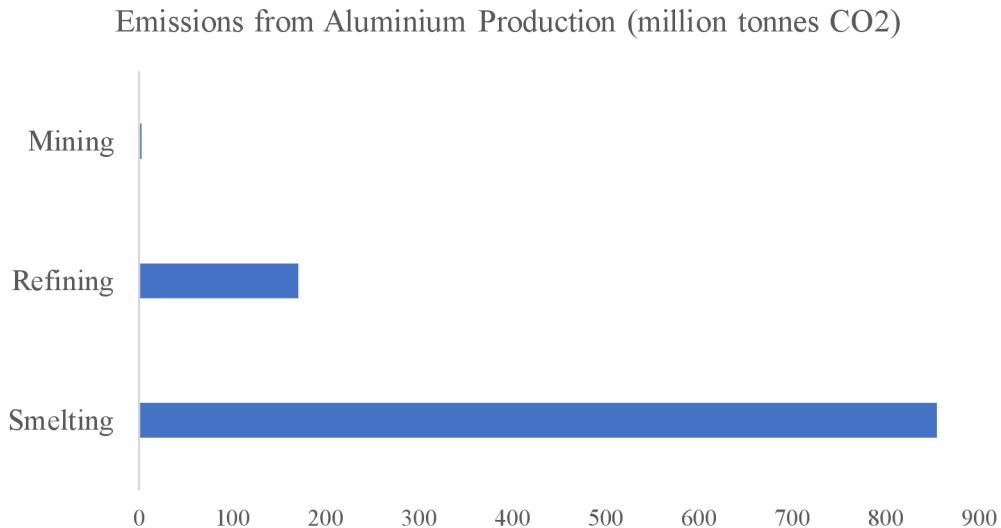
**Technological advancements in energy generation.** Slovalco relies heavily on electricity for its operations. Therefore, advancements in energy generation technology, such as renewable energy sources, can significantly impact the company's energy costs and sustainability. [23]

## **Legal**

Legal factors refer to the laws, regulations, and policies, which the company must obey and keep an eye on. Here are the most important factors affecting the legal aspect of the company:

**Environmental regulations.** Slovalco operates in the aluminium production industry, which can have a significant impact on the environment. Therefore, environmental regulations, such as emissions standards and waste management laws, can impact Slovalco's operations and profitability.

Government system in the country can influence the industry significantly in a good way or a bad way. An example could be regarding the CO<sub>2</sub> compensation set by the the governments across Europe including Germany, Norway, and Netherlands. The European Union has approved a CO<sub>2</sub> compensation scheme that enables national governments to provide compensation to energy-intensive industries, including aluminium smelting, to assist them in recovering some of the expenses associated with paying high carbon prices under the Emissions Trading System (ETS). The companies receive money based on the CO<sub>2</sub> production as a side product, which is created through aluminium production. According to Norsk Hydro, countries like Germany will provide a CO<sub>2</sub> compensation of around 67.55 million euros (\$72.54 million) this year to a smelter producing 200,000 tonnes per year. [26]



**Figure 6:** CO2 waste in aluminium industry

(Source: <https://bit.ly/3HosY8j>)

**Health and safety regulations.** Slovalco must comply with health and safety regulations to ensure the safety of its employees and the surrounding community. Not obeying these regulations can lead to Failure to legal and financial penalties. This area is crucial for the company as they are working with dangerous processes and must obey the regulations, which are set by the government.

### Bezpečnosť je prvoradá

Starostlivosť o bezpečnosť a ochranu zdravia pri práci je na prvom mieste vo všetkých podnikateľských aktivitách Slovalco, a.s. a je súčasťou integrovaného systému manažérstva.

**Figure 7:** Statement from Slovalco how health is important

(Source: <https://www.slovalco.sk/o-slovalcu/bezpecnost-na-1-mieste/>)

**Employment laws.** Slovalco have to keep track with employment laws that govern issues such as wages, hours of work, and working conditions.

**Intellectual property laws.** Slovalco must comply with intellectual property laws to protect its intellectual property rights, such as patents and trademarks. Failure to comply with these laws can result in legal disputes and financial losses.

**Trade regulations.** Slovalco operates in a global market and must comply with international trade regulations, such as tariffs and quotas, to maintain access to international markets, which is crucial as they have their customers from foreign countries.



## 2.3. Internal analysis of the company

Internal analysis of a company typically involves the examination of the organizational structure, human resources, technology, and other internal factors, which are affecting its operations. This analysis helps to identify the resources and capabilities that the company has and the areas where it may need to improve.

### 2.3.1. McKinsey model

This management tool designed to help organizations analyse and optimize their internal alignment and effectiveness. The model consists of seven interconnected elements, which are divided into two categories:

**Hard elements:** These are tangible and measurable elements that include strategy, structure, and systems.

**Soft elements:** These are intangible and harder to measure elements that include shared values, skills, style, and staff.

The McKinsey model suggests that these seven elements need to be aligned and integrated with each other to achieve optimal organizational performance.

#### **Strategy**

As the company is considered a corporate it is important to have a strategy composed of more steps and, which is more complicated than for the companies smaller in size. The strategy itself is divided into mission, vision and philosophy described in the year-end report, which is available online.

**Mission of the company:** *‘Our mission is to produce aluminium through a safe ecological process and refine it into alloys of the required shape and properties to meet the needs of the processors and end-users of products made of our metal. – year-end report 2021*

Regarding the vision of the company, it is much more complicated as the company has its own shareholders and is trying its best to satisfy them. Therefore, the vision of the company is divided into more steps to ensure the satisfaction of the customers and shareholders.

## **Vision**

We will be:

- Working without accidents and incidents with high-risk potential.
- Exemplary in occupational health and safety.
- A leader in corporate social responsibility.
- Minimizing the environmental impact of our activities, continuously reducing volume of waste and emissions even more the requirements of law; • A leader in quality and customer care.
- A permanently growing company attractive to investors, seeking suitable investment opportunities, developing business activities, and increasing the value of the company for its shareholders.
- A company engaged in all aspects of life cycle of aluminium.
- A benchmark in the use of technology we operate.
- Relying only on our own resource to raise our own people for key positions in the company.

They have also published an internal policy, where they describe as they understand that their employees are the highest valuable asset and that they need to take care of them no matter what.

## **Structure**

Structure of the company doesn't have anything unexpected. It is working based on hierarchical structure, where board of directors have the highest power. CEO is right beneath the board of directors. The CEO manages two main departments for the company and has three subsidiaries: production-technical department (Chief operational and technical officer, sales-financial department (Chief commercial and financial officer) and three subdepartments: Integrated systems department, Information and communication technology department, project manager

Chief operational and technical officer is divided into three main process departments:

- Electro-chemical process: where they take care of the chemical and technical production of aluminium and how it should be made

- Finalization process: team is taking care of the regulations and making sure the processes are safe enough to go through
- Maintenance: team is taking care of the tools the employees use and making sure they are up to date or safe to use

**Chief commercial and financial officer** Is divided into three main departments

- Sales and purchase department: the sales department focuses on generating revenue for the organization by selling its products or services, while the purchase department focuses on acquiring the goods and services needed to run the organization.
- Finance team: plays a critical role in ensuring the financial stability and success of an organization by managing its financial resources, providing financial analysis, and reporting, and ensuring compliance with financial regulations and standards.
- Internal logistics department: team is responsible for managing the supply chain and ensuring that goods and materials are delivered to customers on time, in good condition, and at the lowest possible cost.

**Three sub-departments are present in the company:**

- Integrated system department: plays a critical role in ensuring that an organization's technology infrastructure is efficient, effective, secure, and reliable, and supports the organization's goals and objectives.
- Information and communication technology department: is responsible for managing an organization's technology infrastructure, including hardware, software, networks, and databases.
- Project manager: plays a critical role in ensuring that projects are completed on time, within budget, and to the required quality standards. They are responsible for managing all aspects of the project, from planning and execution to monitoring and reporting, and are accountable for the project's success.



**Picture 6:** Hierarchy of the company

(Source: <https://www.slovalco.sk/wp-content/uploads/Vyrocna-sprava-2021.pdf>)

## Systems

The company is large in numbers of employees. This would suggest that systems in the company must be simple and clear, to keep track with the operations and every employee must know what is happening. Company operates within rather traditional systems, such as holding regular meetings upon which the employees know what is happening. Furthermore, for the company it is very important to have shareholders share their thoughts and suggestions, these regular meetings also apply to them.

## Shared Values

Company with such size must have shared values known to every person within the company. This is important as the communication plays a critical role to maintain effective and successful. Company's main values are published on their official website and are regularly being shared within the yearly report of the company, which is set by law to publish their operations.

## Style

Based on the interview the management maintains democratic style in the company and has divided their management into their subsidiaries and their superiors, where everyone is free to share their ideas and later, it can be discussed within on the official meetings. On the other hand, the higher management don't have free will so to say, they must obey the rules and systems, which are set by the mother company 'Hydro'.

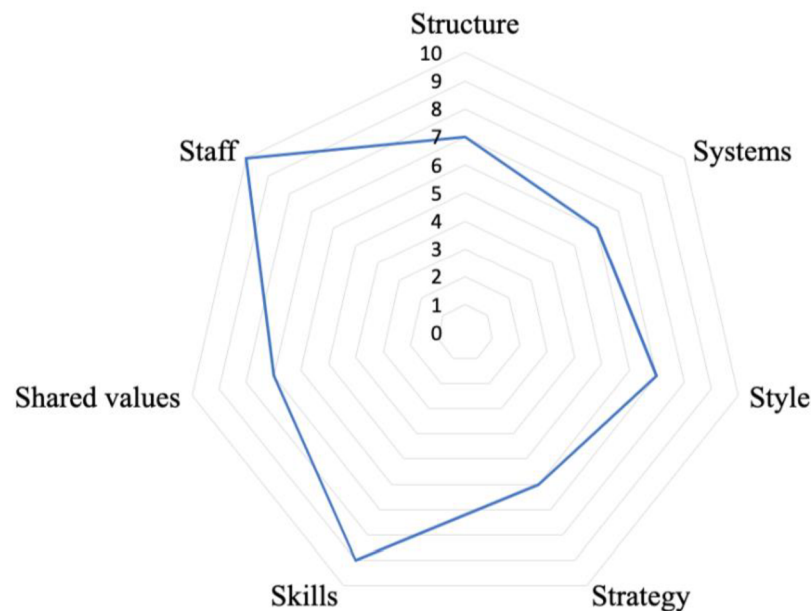
## Staff

Recently the company was forced to sack a lot of high-valued employees, which was a huge pity as the employees maintain the most asset of the company. Furthermore, employees are highly trained and skilled workers and are dependent on their duties as they are bringing money into their families. This results into being dependant on each other.

## Skills

This part for the company is the most important as they consider their employees as the most valuable asset. This would only suggest that the employees are highly trained professionals and are masters at their craft. Furthermore, employees in this kind of industry are the know-how of the company and therefore this fact would suggest that without this professional force, company would be weakened and wouldn't know the steps to fully grasp its potential.

This also applies, when the company is recruiting its employees and bringing new work force to the company. Whereas experienced employees are having trainings with new employees and these employees are playing key role when it comes to completing the trainings effectively.



**Figure 8:** Depiction of 7S model

(Source: Own work)

## 2.4. SWOT analysis

This analysis will be used to identify internal strengths and weaknesses, as well as external opportunities and threats. The analysis will come from the previous analysis and models, which were dedicated to identifying the biggest factors influencing the overall strength of chosen company.

### 2.4.1. Strengths

One of the first eventual strengths, that this company possesses we can consider its **age** as it is on the market since 1993, this would point out their advantage in experience compared to their competitors. This fact would suggest therefore, that the company is having history of long success and are reliable, when it comes to its operations.

As the company can be consider one of the bigger ones, it is only inevitable for the managers and employees to operate **within the regulations**, which only points out the **professional attitude** of the company.

One of the biggest strengths of the company is **credibility** as they are on the market some time now and are holding responsibility toward their employees, shareholders, customers, and other organisations.

The customers, which were doing business with the company has a very **good opinion** on them and the company itself is considered very successful and reliable in the region.

As the process of aluminium requires a lot of regulations to be met, it is only important for the company to maintain the **certifications ISO**, which are being called in the company as integrated managerial systems, which are necessary for the company to keep an eye on as they hold the key role in maintain legitimate.

The company recognises their employees as they are most valuable asset and therefore, they take a great care of the through **medical care**. This can be considered as their strength as the employees are happy to work there with the benefits, they are having.

As the company is producing parts, which are necessary to produce cars, it can be considered to having **good positioning** as they have headquarters, where the surrounding creates environment of automotive industry and aluminium is demanded from these companies.

### 2.4.2. Weaknesses

One of the biggest weaknesses the company is struggling with is **old recruitment infrastructure**, where people are not that keen to work in their company and when recruiting, most of the time they are not meeting the numbers of employees they want, which can result in having **not enough workers** for operating such big company and that could result in a disaster. It is not easy to recruit someone into this company as the company is expecting **highly trained workers**. The training of the workers takes some time, usually months, and not all of them pass the requirements resulting in firing the person.

Furthermore, for creation of the aluminium several **goods are needed**, which are being traded and their **price** is not stable. Any significant fluctuation can endanger the company's operations and therefore could lead into not having enough resources to produce.

One of the biggest weaknesses is the **energy consumption** of the company as it consumes a lot of energy to produce the parts. This led into shutting the company down and therefore they are dependent on having stable energy prices, which can help them get back on track.

### 2.4.3. Opportunities

One of the opportunities can be considered the fact, that they are constantly **improving the workplace** and figuring out how to improve as an employer, which would allow the company to keep key employees in the organisation.

The **automation** in industries got very popular as new AI were introduced and therefore a huge opportunity arises as the company can consider in the future researching this area in order to make the processes in the company more effective.

The company itself is part of a lot of **groups**, which can be helpful to one another in hard times. This would allow the company to communicate possible solutions and get help from other similar companies and fully grasp the advantage of **membership**.

Improve the **carbon footprint** of their production throughout their years, which would allow them to be more eco-friendly. Furthermore, to improve their operations, it is necessary to consider the **government compensation** for the company

Aluminium is exceptionally good subject to sell as its **demand** is gradually growing throughout the years. The main reason for it to be that successful is that aluminium is one of the key **building blocks** for other industries such as automotive, which needs this good to continue their operations.

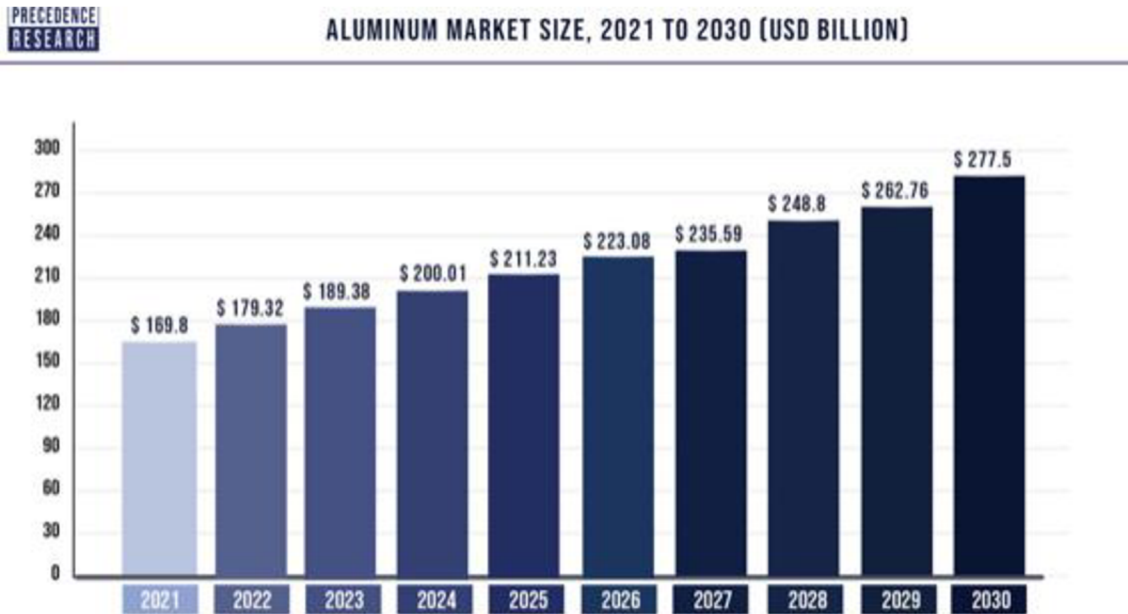


Figure 9: Aluminium demand prediction

(Source: <https://www.precedenceresearch.com/aluminum-market>)

#### 2.4.4. Threats

The company is operating in a very dynamic environment, where the prices are fluctuating, which results in not able to predict and prepare for potential **high prices**, which might result in a disaster.

As the company is operating with a lot of certifications, it might get to a point, where it is not that easy to keep track of the **certifications** as a lot of check-ups must be completed to maintain the possession of such certifications.

Government **regulations** are constantly changing and requires quick reaction from the company as it must comply with the law if they want to operate **legally**.

The aluminium logistics might get pricey sometimes and it is not easy to keep the prices low when moving aluminium part from one place to another. This suggests that logistic prices might be one of the threats as it is part of the company's business as well.



Slovalco is not the only company in the world, which produces aluminium parts. This means that the **competition** is very strong in other countries. In some other countries the aluminium production is so significant, that it is very hard to be equally considered as competitors.

Rise of the **electricity price**. This is the threat, which threatened the operations of the company a lot as it is until this day not operational due to these prices.

**War on Ukraine or pandemic**. These are global threats for the company as it can have significant impact on every business operating company and Slovalco is not an exception. The prices can get influenced by these events, which could lead to creation of new problems for the company.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>- Experienced company</li> <li>- Professional attitude</li> <li>- Credibility</li> <li>- Good image</li> <li>- ISO certifications</li> <li>- Medical care for employees</li> <li>- Good positioning</li> </ul>	<ul style="list-style-type: none"> <li>- Old recruitment infrastructure in the region</li> <li>- Price of input goods</li> <li>- Energy consumption</li> <li>- Lack of experienced workers</li> <li>- Lack of new employees</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>- Improving working environment</li> <li>- Implementing automation (AI)</li> <li>- Membership<sup>4</sup> in various organisations</li> <li>- Reduce carbon footprint</li> <li>- Government compensation</li> <li>- Demand for aluminium</li> </ul>	<ul style="list-style-type: none"> <li>- High energy prices</li> <li>- Big number of certifications to take care of</li> <li>- Dynamic change of regulations</li> <li>- Competition</li> <li>- War</li> <li>- Global pandemic</li> </ul>

**Chart 2:** SWOT analysis of the company

(Source: own work based on the manager's interview)

## 2.5. Risk identification

This subchapter is dedicated to identifying the full scope of potential risks, which might affect the chosen company. As mentioned in the theoretical framework the identification process consists of steps such as planning, identification, assessment. Mitigation and Monitoring is delivered in the proposal part as it plays role in creating the strategy itself and trying to find solution to the problem. Furthermore, evaluation of the risks is being done by evaluating how likely the risks might occur and then giving them number rating, which is mentioned in the theoretical framework.

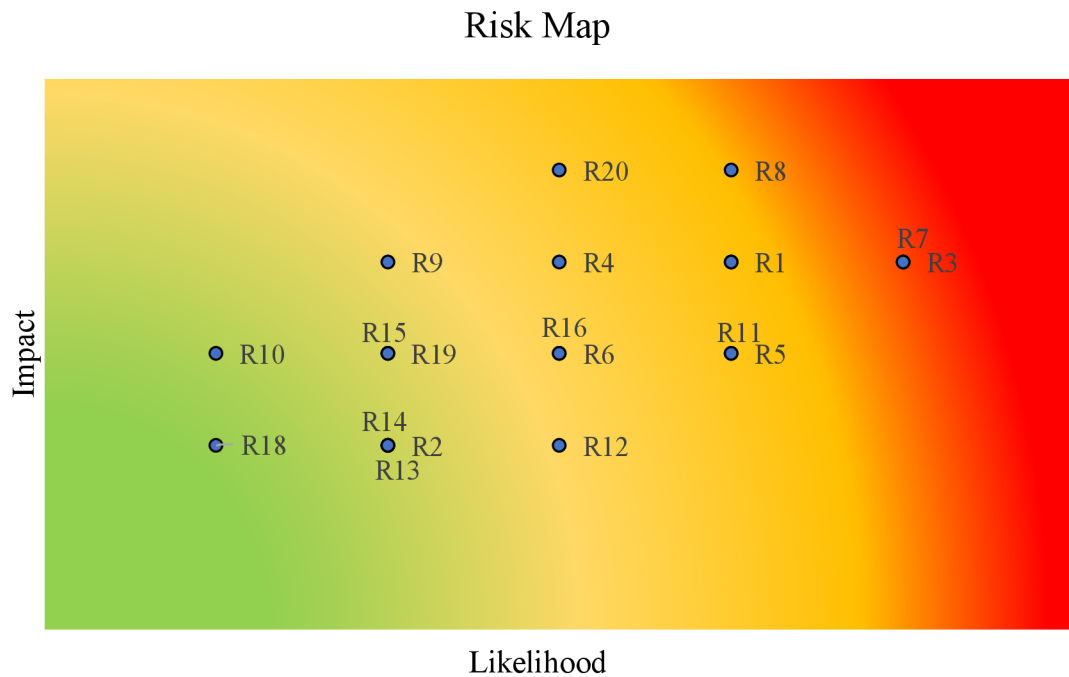
Risk type	Risk item ( derived from analytical part and conducted interview)	Likelihood	Impact	Priority (Score reached, calculated by likelihood x Impact)
R1	Change of regulations	4	4	16
R2	Loss of certicicates	2	2	4
R3	Price volatility in global aluminium demand market	5	4	20
R4	Availability of materials	3	4	12
R5	High price of energies	4	3	12
R6	Shifts in consumer preference toward other materials	3	3	9
R7	No compensation from the government	5	4	20
R8	Shortage of skilled workers	4	5	20
R9	Loss of credibility	2	4	8
R10	Potential bad positioning	1	3	3
R11	Global pandemic	4	3	12
R12	War	3	2	6
R13	Intense competition	2	2	4
R14	Failure to comply with environmental regulations	2	2	4
R15	Failure to adapt to new technologies or production methods	2	3	6
R16	Accidents causing physical damage to facilities or equipment	3	3	9
R17	Failure to inovate	4	4	16
R18	Increased scrutiny and pressure from environmental activist groups	1	2	2
R19	Increase in trasportation costs	2	3	6
R20	Difficulty accessing key trasportation routes	3	5	15

**Chart 3:** Identified risks of Slovalco

(Source: own work)

### 2.5.1. Risk matrix

The risk map was created based on the identified risks in the company. Risk map helps to visually see the risks how they are prioritised, and which risks should be taken into consideration, when proposing a solution.



**Figure 10:** Visual risk map of the identified risks

(Source: own work)

### 2.6. Summary of analytical part

This part was dedicated to identifying the potential risks, which arise from the operations of the chosen company. Firstly, PESTEL analysis was used to understand what external factors are affecting the company.

Political factors have shown that regulations play the biggest role in the company and without meeting these regulations the company is not capable of operating on usual basis as they are used to.

Economic factors pointed out, that availability of raw materials can be an issue as the company is in need of these goods in order to maintain their operations. Whereas Exchange rates of the global market might affect their profitability worldwide. In

addition, energy cost plays a significant role recently as the company is currently not operating. This is the result of big rises in the electricity fees, which result in the company's decision.

Social factors findings pointed out how demographic changes are important for the company as they need workers, which are highly skilled and therefore are creating a value within the company.

Automation development in the technological perspective can improve the company's operations and cut costs in the upcoming years as the involvement of all operations are evolving significantly.

Legal factors have shown that regulations, which are set by the government are strictly completed by the company. However, the government have failed to compensate the company with CO2 compensation. Whereas other countries got the compensation within the EU.

Internal analysis was completed by understanding McKinsey model within the company. One of the key findings are considered that the company's most valuable asset are employees. This is only understandable from the company's perspective as they are operating in industry, where the key factor are the employees itself. Workers must be highly trained and very skilful to maintain out of the danger, which can be encountered on daily basis operations.

The SWOT analysis could be considered as one of the most important assessments as they can potentially show, what risks the company is currently dealing with, where the analysis uncovers strengths, which company should hold and improve in the future. The company recognises their strengths such as their age, credibility, care of their employees, and certifications they got hold of because of their professional industry operations. One of the biggest weaknesses can be bad and old recruitment infrastructure in the region not allowing the company to hire new experts and valuable workers.

As the technological improvement and innovation is strongly present globally it is inevitable to mention that one of the biggest opportunities can be considered automation and implementation in the future, which would allow the company to cut operational costs. Threats are closely connected with recent events as the electricity process went rapidly up making it very hard for the company to maintain operational. Furthermore,

there is a vast number of certifications company must follow to maintain operational and legal. Company has to keep track of the regulations and certifications they possess. Otherwise, they can get high fees because of not doing so.

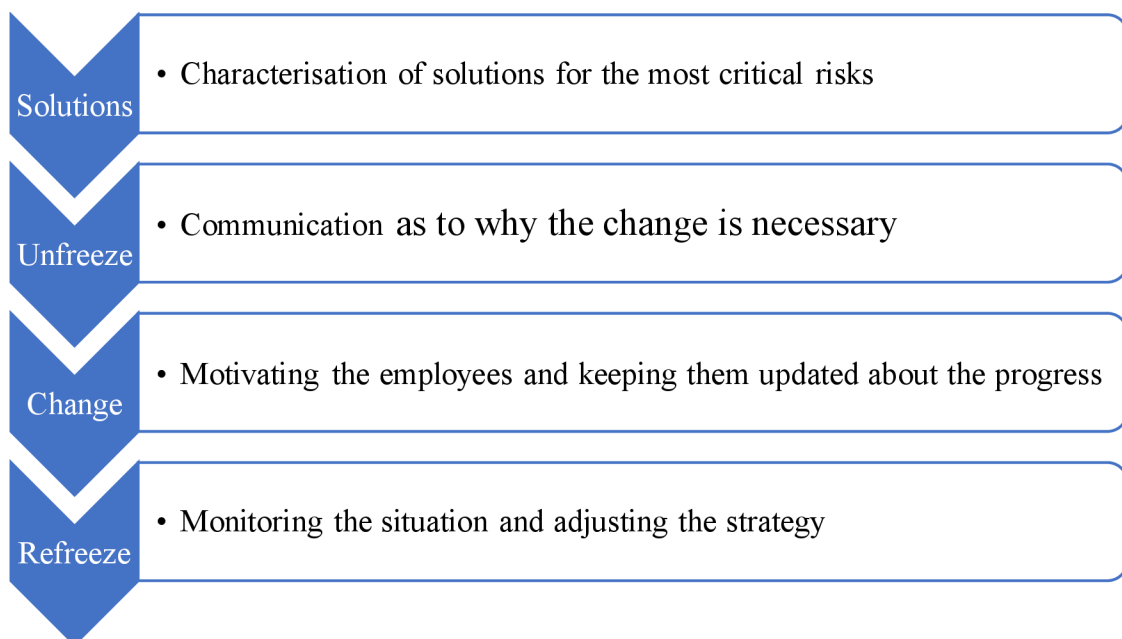
Risk identification and risk matrix were introduced at the end of the analytical part pointing out the most important risks, which can influence the company greatly and must be considered. In the upcoming proposal part, solution for how to mitigate these identified risks will be introduced.

### 3. Proposal part

Proposal part is dedicated to proposing steps on how to minimise identified risks in the chosen company based on the findings from the analytical part of the master's thesis. The proposals will be based mainly on the fact that the company is currently not operational. The proposal itself will be based on the Lewin's model, which can be characterised as the most suitable model, which can help to understand the process in which the company should continue its operations to stay competitive and innovative as it was until recent actions emerged.

As it was characterised in the theoretical framework, Lewin's model is divided into three parts: unfreeze, change, refreeze. The steps will ensure to mitigate identified risks and propose on how to approach risks, which made the company not operational. Furthermore, these steps will be defined more in detail as to how to implement these changes in the company.

For clearer understanding for the company as to how apply this model into the company. Solutions for the identified most important and critical risks will be characterised. The reason for this is to first mitigate the risks by actual actions and then communicate the changes with the employees to apply the changes.



**Figure 11:** Process of the proposal part

(Source: own work)

### 3.1. Solutions for the identified risks

To find out, which of the identified risks are the most important, priority score comes into play to find out, which of the risks need to be mitigated as soon as possible to successfully handle them. The priority is characterised as the relationship between likelihood and impact, where we can see what score each of the risk got and therefore, we can prioritize these risks based on that score as seen in the table in the analytical part. In addition, the chosen risks are the ones which possess the biggest threat in the company. However, the fact that the company is mostly being owned by the Norwegians is very important to include in the solutions as Slovalco can't make changes by its own and have obey the strategies set by the company Hydro.

#### **No compensation from the government (Score: 20)**

The company tried to point the attention at the fact that the government doesn't have a plan on how to compensate for CO<sub>2</sub> as the other EU countries got. However, this risk only shows that the company can improve throughout the years and try to mitigate this risk as much as possible. There are several solutions to this risk, which include:

1. **New memberships:** Company must find a way on how to not rely on the compensation that much, which would allow them to not rely on the governmental help at all. To do so, they can join some of the most prominent groups in the global market, which would allow them getting advice from the biggest companies and the most successful ones. Furthermore, these groups usually internally help each other also financially. This would allow the company to improve other processes and therefore mitigate even more risks.
2. **Diversifying the customer base:** This solution is tricky as the company is mostly owned by the Norwegian company and cannot approach new customers. However, this solution might help the situation and could allow the company for having more opportunities.
3. **Negotiating with the government.** Company should constantly put pressure on the government and monitor the situation as to why they are not receiving the answers. This would result at the end in having response from the government and potentially giving the compensation as the biggest argument is that other countries within EU already such compensation have.

### **Price volatility in global aluminium demand market (Score: 20)**

As the company is not the only one processing the aluminium and the market is big, the price of on the demand market can reach high volatility, which can possess a threat for the company, if they are not prepared properly. The following steps should ensure to mitigate this risk.

- 1. Continuous market analysis:** the company by conducting this research will stay ahead of the trends and will ensure that they will have in their hand more informed decisions about the pricing and production levels
- 2. Collaboration with customers:** working with customers, understanding their needs and preferences can help the company align its production with market demands, reduce excess inventory, and avoid pricing pressure.
- 3. Diversify customer base:** this solution might be tricky as the company is owned mostly by the Norwegian company Hydro. However, by communicating and explaining to them that it would be beneficial for both sides to expand the customer portfolio as to reduce its dependence on a particular region or sector. This can help mitigate the risk of sudden changes in demand from a specific market, thereby reducing price volatility.

### **Shortage of skilled workers (20)**

This risk can be considered as one of the most major ones. Simply the reason is that the company is defining their workers as one of the most valuable assets and therefore it is only inevitable to address and mitigate this risk. To address this risk the company can:

- 1. Increase training programs:** Slovalco can approach and partner with local schools and training centres to develop training programs for potential workers to acquire the necessary skills to work in the aluminium industry. This could include apprenticeships, internships, and vocational training.
- 2. Implement automation and technology:** this is mentioned in their plans for the future as the company recognises the benefits of implementing AI for example and therefore is able to not rely on the workers that much. This would mean that the company should come up with new department, which would investigate these innovations and how they can implement the AI in their daily tasks to cut costs on workers.



### **Change of regulations (Score: 16)**

This refers to the potential of new or revised laws, rules, or policies that could affect the functioning of Slovalco. Such modifications could be related to environmental regulations, labor laws, tax policies, trade agreements, or other regulatory frameworks that have an impact on the company's operations. The concern is that the company may not be able to adjust to these changes promptly or effectively, which may lead to higher costs, reduced productivity, and possible legal or reputational repercussions. This risk is affected by multiple factors, including political and economic circumstances, alterations in the government, and global regulatory trends. The solution for this risk can include:

- 1. Creation of new department:** to monitor and assess any new or modified laws, regulations, or policies that could impact the company's operations. This team could conduct regular reviews of the regulatory landscape and provide recommendations to senior management on potential impacts and required actions.
- 2. Maintain open communication with government agencies:** this would allow the company to maintain informed about all the potential new laws and regulations, which are being set by the government. Furthermore, this would also enhance the chance of getting the compensation as they would push and vow for themselves with the responsible government authorities.
- 3. Invest in training and development programs:** to ensure that the employees keep informed about any new regulations or policies that might affect their roles and responsibilities within the company.

### **High prices of energies (12)**

This risk ensured that the company had to shut down and get rid of a lot of workers. It is quite hard to understand as to how this company in such size had to shut down. On the other hand, it is quite understandable as the market with energy prices went rapidly up ensuring that the company didn't have enough of financial resources to maintain the operational costs as processing aluminium requires a lot of energy. For the future to start processing again and to mitigate this risk the company can include in their strategies the following steps:

- 1. Long-term contracts:** this solution might be considered as the most valuable one. Company can ensure favourable prices and reduce exposure to short-term price fluctuations by establishing long-term contracts with the energy suppliers, which can benefit both parties.
- 2. Energy storage:** Slovalco can invest in this type of technology. However, this solution might be considered expensive for the company uses a lot of energy. In addition, by doing so they could be able to store energy when prices are low and use it when prices are high.
- 3. Diversify energy source:** Company can explore alternative sources of energy, such as renewable energy or natural gas, to reduce their reliance on traditional energy sources that are subject to price volatility. This also includes investment in technological development.

#### **Global pandemic (Score: 12)**

This risk is well known already as the COVID-19 occurred in the recent years. The company got hit by having their employees sick and unable to work disrupting the daily operations. Also, the global demand for aluminium got lower from several industries such as automotive, aerospace, and construction, which meant decrease in their revenues. To mitigate the risks company can do the following:

- 1. Implementing strict health and safety protocols:** As the pandemic started to fade out, there were a lot of regulations, which were being implemented throughout the years and the company can ensure in the future to quickly adapt to this situation.
- 2. Diversifying the supply chain:** to reduce dependence on a single source of raw materials, which could be impacted by pandemic-related disruptions.

#### **Availability of materials (Score: 12)**

refers to the possibility of shortages or disruptions in the supply chain of raw materials needed for the production process. This risk can arise due to various factors such as natural disasters, geopolitical tensions, trade restrictions, or supplier bankruptcy. The impact of this risk can lead to production delays, decreased productivity, and increased costs, which can ultimately affect the company's profitability and reputation. In order to minimise this risk, the company can do the following:

- 1. Build strategic partnerships with the suppliers:** this could provide the company with more visibility into the suppliers' operations and ensure timely delivery of materials. Furthermore, by establishing contracts with the suppliers, the company can have materials, based on their contracts for the long run, which can benefit both parties.
- 2. Invest in research and development:** to find alternative materials or improve the efficiency of current materials usage, which could reduce the dependency on specific materials and lower the risk of supply shortages.
- 3. Strategic stockpiling:** Slovalco could build up strategic reserve of key materials to mitigate the risk of supply disruptions or shortages.

### **Shifts in consumer preference toward other materials (Score: 9)**

risk that consumers may choose other materials over aluminium due to changing preferences, such as for sustainability, cost, or performance reasons. This risk could result in decreased demand for aluminium, leading to reduced revenue and potentially lower profits for Slovalco. It could also lead to excess inventory of aluminium, which could result in increased storage costs and potentially the need to write off inventory.

- 1. Monitor and analyse shifts in consumer preferences:** Slovalco should be able to monitor and analyse the market trends and according to the results make decisions, which would allow the company to thrive.
- 2. Invest in research and development:** improve the properties and versatility of their aluminium products, making them more attractive to customers.
- 3. Explore partnerships:** this would include exploring new partnerships and collaborations in way that could expand their customer portfolio creating new applications for aluminium, expanding its reach and appeal.

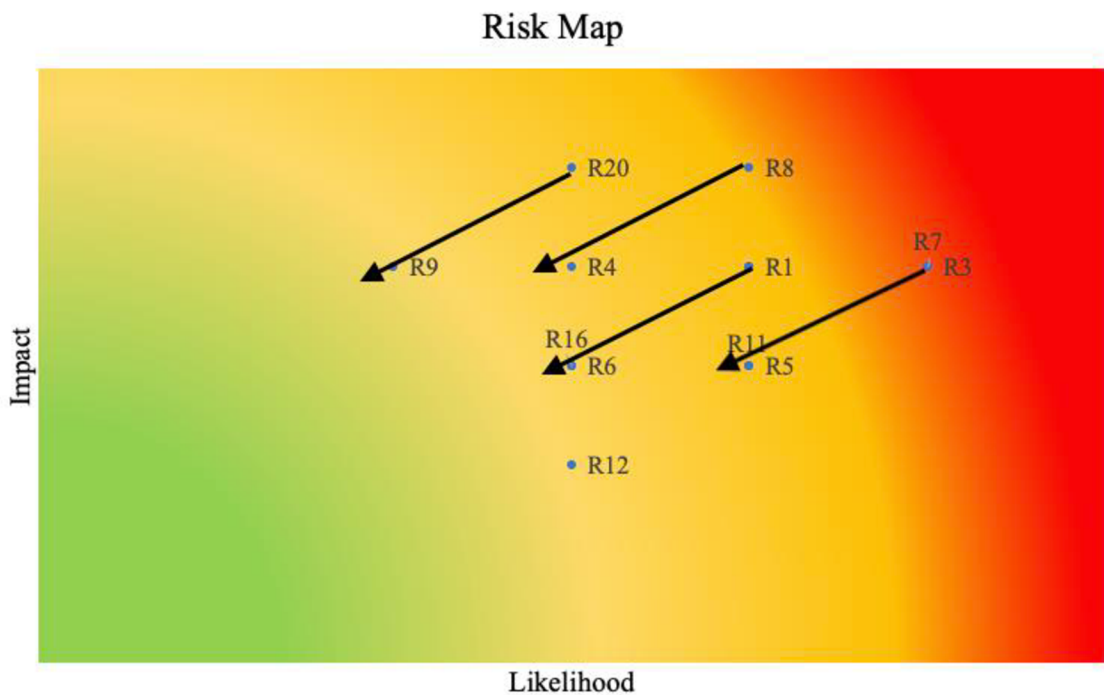
### **Loss of credibility (Score: 8)**

potential damage to the company's reputation and brand image, which can result from a variety of factors such as poor product quality, environmental issues, ethical violations, or other negative incidents. This risk can lead to decreased customer loyalty, reduced sales, difficulty in attracting new customers, and ultimately, loss of market share and competitive advantage. It can also lead to negative media coverage, legal or regulatory action, and stakeholder backlash. To mitigate this potential risk the company can:

1. **Improving quality controls:** by improving such processes the company can keep an eye on their overall quality and therefore ensure that the products produced are at the very best level, which ensures the customer satisfaction and the company's image
2. **Enhance transparency and communication with stakeholders:** enforcing ethical behaviour throughout the organization and building a strong brand reputation. It is essential to continuously monitor and assess the company's performance, engage with stakeholders, and respond promptly to any issues that arise to maintain a positive image and reputation.

After successful implementation of these solutions, the company should be able to improve their processes and maintain competitive in the market. Furthermore, the priority of these risks would eventually decrease making them less dangerous.

Furthermore, it is important for the company to maintain the monitoring stage if needed, which would allow the company to maintain well informed and could be making new important decisions as to how decrease the impact of such risks.



**Figure 12:** Risk map after implementation the solutions

(Source: own work)

## 3.2. Unfreeze

This stage is dedicated for the company to prepare the company for a change by identifying and communicating the need for change and creating a sense of urgency among stakeholders and employees. This could be very beneficial for the company to start moving things into the desired direction.

### 3.2.1. Communication with Hydro

As mentioned in the previous parts of the thesis, the company is primarily owned by the Norwegian company called Hydro. It is important for Slovalco to maintain everyday contact with the Norwegians as to explain to them how important it is to implement the desired solutions into work so that the company can start processing once again.

Furthermore, to persuade them and therefore make the unfreeze stage successful the company can create a sense of urgency around the identified risks and solutions. This could be achieved by highlighting the potential consequences of not addressing these risks and the benefits of implementing the proposed solutions such as expanding their customer portfolio as their potential customers might be near their facility, which can result in cutting costs and increasing revenues. The company may also need to conduct risk assessments and cost-benefit analyses to provide stakeholders with a clear understanding of the risks and the potential impact on the company's financial performance.

n.	Item	Price	Expected price
1.	Travelling expenses	70-80 €/ person	225,0 €
2.	Printing materials	10 €	10,0 €
3.	Hiring a specialist	100€/h	200,0 €
4.	Catering	8-25€/person	119,0 €
5.	Miscellaneous expenses	50 €	50,0 €
<b>Total:</b>			<b>604,0 €</b>

**Chart 4:** Financial prediction of monthly meetings

(Source: own work)

The meetings should be held monthly. The prices are of an expected and predicted value and might differ from the actual costs. The price of hired professional would differ as well, bringing an insight on the desired problem on the meetings.

### 3.2.2. New departments

To implement the proposed solutions, the company would need to create a change management plan that outlines the specific actions that need to be taken to address each risk. This plan should include clear objectives, timelines, and responsibilities for each action, which means creating new departments specifically dedicated to research and development and maintain the clarity in what the new government regulations are. The company may also need to invest in new technologies or processes to support the implementation of the solutions, such as new production equipment or training programs for employees to increase the motivation and knowledge of current problems the company is currently dealing with.

The following chart predicts financial costs of creating new department in government affairs, where the employees would keep an eye on new regulations, which can help the company in the future and make sure that the company is being operated within the law.

n.	Item	Price	Expected price
1.	New premises	5 000,0 €	5 000,0 €
2.	Salary (monthly)	650,0 €	3 250,0 €
3.	Trainings	800-1000€/ person	4 500,0 €
4.	Miscellaneous expenses	1 000,0 €	1 000,0 €
<b>Total:</b>			<b>13 750,0 €</b>

**Chart 5:** Financial prediction of creating new government department

(Source: own work)

#### **Salary**

The price of bringing new people would differ on how the company is valuing these individuals. The number is being calculated as an average salary on Slovakian soil. (29) Later, company might value these employees as a very valuable asset and might increase their salaries based on their performance

#### **Trainings**

As the company is in aluminium industry it is necessary for new employees to go through various of trainings to ensure that they are completing daily tasks safely as the facility itself have dangerous areas, where harm to people might occur.

### 3.2.3. Automation and collaborations

As mentioned before company might be thinking in the future to implement AI in their daily processes as to cut the costs and improve their revenue stream. This could be done as AI improved significantly and might be very helpful for the company in the long-term. On the other hand, AI is currently still being developed and it is very hard to predict the exact processes it could carry out. Furthermore, the cost of AI could vary depending on the solutions the company needs, and it could vary from **5 - 280, 000 €**. (30, 31) This can be confusing as the price difference as it is very big. On the other hand, it has its own meaning as the company should decide, where the automation can be used and how.

Company is struggling in a badly developed recruitment infrastructure, so creation of new collaborations is necessary for the company to attract new employees to maintain operative and having high-skilled workers.

n.	Item	Price	Expected price
1.	Benefits	5 000,0 €	5 000,0 €
2.	Materials	100,0 €	400,0 €
3.	Trainings	800-1000€/ person	3 600,0 €
4.	Miscellaneous expenses	200,0 €	200,0 €
<b>Total:</b>			<b>9 200,0 €</b>

**Chart 6:** Financial prediction of collaborations

(Source: own work)

#### **Benefits**

The reserved sum would motivate chosen employees to visit schools and organisations to present the company. Their shared values and reasons as to why they should apply to this company.

#### **Trainings**

Training the employee beforehand ensures they have the necessary knowledge about the company, its values, and offerings. It helps them deliver a consistent message, communicate effectively with the students, and handle questions and challenges professionally. The training boosts their confidence, enhances their presentation skills,

and creates a positive brand perception among the students, increasing the likelihood of attracting them as potential employees.

<b>n.</b>	<b>Item</b>	<b>Price</b>
1.	Meetings with Hydro	604,0 €
2.	New department	13 750,0 €
3.	Presentations	9 200,0 €
	<b>Total:</b>	<b>23 554,0 €</b>
4.	AI	100 000,0 €
	<b>Total:</b>	<b>123 554,0 €</b>

**Chart 7:** Financial prediction of implementing the solutions

(Source: own work)

The financial prediction could differ from the actual costs as the company can choose different approach when dealing with the implementation of AI, which is considered the biggest cost. On the other hand, when considering its costs, it might be a very good invest opportunity for the company to cut costs and therefore improve their processes in the future.

### **3.3. Change**

The change stage is the second stage of Lewin's change management model, which involves making changes and implementing new strategies to address the identified risks. In this stage, the company needs to communicate the need for change to all stakeholders, including employees, suppliers, customers, and investors, and ensure that they understand the reasons behind the changes and their role in the implementation process.

#### **3.3.1. Motivation**

The company may need to provide training and support to employees and suppliers to ensure that they have the necessary skills and knowledge to implement the changes effectively. It may also need to work with external partners, such as consultants, to develop new processes, systems, or technologies to support the changes.

In addition, the company should establish a system for monitoring and evaluating the effectiveness of the changes and adjust if necessary to ensure that the solutions are achieving their intended outcomes. The change stage requires strong leadership and



communication skills, as well as a willingness to be flexible and adapt to unexpected challenges that may arise during the implementation process.

### 3.4. Refreeze

This is the last stage of the Lewin’s model and can be decisive, when talking about the success of the company. This includes mainly monitoring the situation, where the new changes have been implemented and are now part of the company's standard operating procedures. In this stage, the company's focus is on making the changes permanent and ensuring they become embedded in the culture of the organization.

#### 3.4.1. Monitoring

For Slovalco, the refreeze stage would involve ensuring that the solutions implemented during the change stage are sustainable and continue to be effective in the long term. This may involve ongoing training and education for employees to ensure they are following the new procedures correctly, as well as monitoring and evaluating the effectiveness of the changes over time.

To maintain an eye on the processes, which are occurring in the company. The management can assemble regular conferences, where they can present any new adjustments in the strategy and answer questions for employees on any new regarding the company’s actions and their situation.

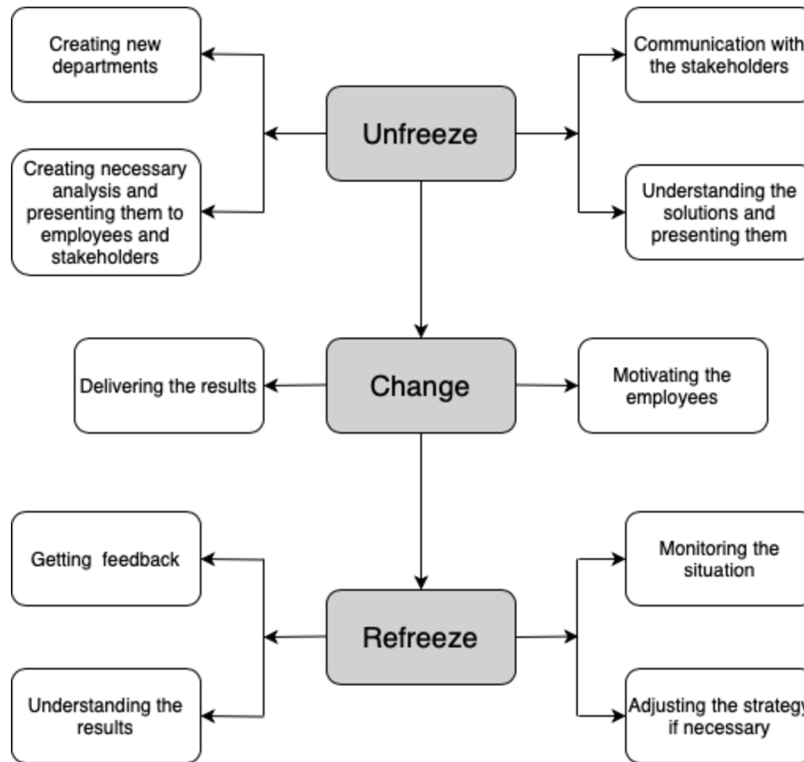
n.	Item	Price	Expected price
1.	Presentation	100 €	225,0 €
2.	Printing materials	20 €	10,0 €
3.	Hiring a specialist	50€/h	100,0 €
4.	Drinks and beverages	100 €	100,0 €
5.	Miscellaneous expense	50 €	50,0 €
		<b>Total:</b>	<b>485,0 €</b>

**Chart 8:** Financial prediction for the conference

(Source: own work)

It is also important to celebrate the successes of the change initiative and recognize the employees who contributed to its success. This can help to build morale and a sense of

pride in the organization and encourage employees to continue to support the changes and look for opportunities for further improvements.



**Figure 13:** Lewin's model of change in Slovalco

(Source: own work)

## Conclusion

The aim of the thesis was to identify and propose a solution on how to mitigate the risks in a aluminium processing company, which is currently struggling with maintaining the processes because of high electricity fees. The thesis was therefore divided into three parts to meet this goal.

Theoretical framework was dedicated for explaining the necessary terminology regarding the necessary tools to meet the goal of the thesis. Pestel analysis was introduced as a tool to understand the external factors affecting the company. McKinsey model was used to explain the internal situation in the company. SWOT analysis was used to identify in what state the company currently is and what potential risks we can identify. Finally, Lewin's model was introduced to encourage the implementation in the company successfully and therefore to enable the company to start processing again.

Analytical part was analysing the current state of the company and understanding the potential risks, which emerged from the analysis. One of the biggest strengths, company considers its employees and value them very much as they are part of important processes within the company. Also, age is considered their strength as they are on the market since 1993, which makes them experienced enough to deal with any situation. The company is struggling to maintain operative as their energy costs are high, therefore energy consumption can be considered as their weakness. Whereas we live in technological period and a lot of innovations are coming on the table. This means that in the future implementation of AI and automation can enable the company to cut costs in various of their daily processes. As the company has a lot of certifications to take care of to maintain legal, it might be also a threat, which could endanger the credibility of the company for loosing such valuable certifications.

Furthermore, risk identification was introduced as well to understand what risks are the most important and which has the highest priority. In addition, visual risk map was described at the end of analytical part as to visually be capable to understand, which of these risks must be taken care of and which are necessary to provide solution for in the proposal part.

In proposal part, solutions were introduced to identified risks as well method for implementation of these solutions. As the company is currently struggling with no compensation from the government and high energy costs one of the solutions could be to create new department, which could enable the company to stay in contact with the government and maintain informed about all the changes, which are necessary. As there is a bad recruitment infrastructure, the company can solve this problem by simply improving the training program and creating new partnerships with the company. In the other part of the proposal Lewin's model of change was introduced as a strategical tool for successful implementation of these solutions, where the company must firstly enter the unfreeze stage, where understanding the solution must take place and efficiently introducing these solutions to the employees, stakeholders and all the members, which can affect the processes of the company. Financial predictions were completed in this stage as well, where the company must create a strategy on how much money it should be able to keep on the side as to successfully complete the strategy. Secondly, change stage takes place as to implement the desired strategies and maintain the communication with the stakeholders and improve the motivation of the employees. Lastly, the freeze stage is regarding monitoring the situation as to adjusting the strategy in any way necessary. This includes gathering important data and therefore making decisions based on the results.

The aim of this thesis as to solve the risk the company is currently dealing with and, this was successfully introduced in the proposal part based on the analytical part. The solutions were considering that the company wants to keep competitive also in the future and will do everything necessary to thrive once again.

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