



# Impacts of Covid-19 on Cooperatives in Sweden

## A Case Study of Arla Foods

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Farhana Sultana & Nourhan Abdelsalam

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# Impacts of Covid-19 on Cooperatives in Sweden - A Case Study of Arla Foods

Farhana Sultana & Nourhan Abdelsalam

**Supervisor:** Karin Hakelius, Swedish University of Agricultural Sciences, Department of Economics

**Examiner:** Richard Ferguson, Swedish University of Agricultural Sciences, Department of Economics

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## Abstract

Different organizations face diverse challenges to survive during Covid-19. Rare external disruptions due to natural causes such as pandemics affect a company's ability to continue operations, from obtaining raw materials from suppliers to delivering finished products directly to the market. Such as short-term or long-term closings, decreased job opportunities, failed projects with financial effects, and challenges in executing new strategies etc. Various authors argue that member-centric cooperatives are more resilient in times of crisis compared to traditional enterprises. Because cooperatives are owned and controlled by their owners to maximize the value of members' goods, services, or savings rather than profit as a financial organization, this thesis aims to examine and finds out how Covid-19 effects Swedish dairy cooperative Arla economically and how they are coping with the pandemic crisis through a qualitative case study methodology. The purpose of this thesis is to examine how Arla as a cooperative remains economically viable during covid. The results of empirical data from semi-structured interviews suggest that the appropriate application of crisis decision-making framework practices strengthens this organization's workflow and withstands environmental disturbances like covid to achieve business continuity.

Arla's existing organizational structure, diversified business portfolio, supply chain design, and combination of global and local business strategies gave them an edge to better manage their operations and helped its management to be quick in decisions and adopt reactive measures to adjust to the new situation of the pandemic. This thesis illustrates how appropriate practice of crisis decision-making framework consisting of four elements (cognition, communication, coordination, and control) of a leading dairy industry in Sweden increased the ability to act even in unprecedented events such as the corona pandemic.

*Keywords:* Cooperatives, Covid-19, Covid-19 pandemic, resilience, strategy, internal governance, decision making, economic Impact, crisis management, crisis decision-making framework

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# Abbreviations

Covid-19	Coronavirus disease of 2019
ERM	Enterprise Risk Management
ILO	International Labour Organization
SARS	Severe acute respiratory syndrome
SLU	Swedish University of Agricultural Sciences
UNIDO	United Nations Industrial Development Organization

# 1. Introduction

This thesis aims to comprehend the most suitable resilience strategy and business model for cooperatives in response to a pandemic. This chapter introduces the general background for expressing the problem statement. Based on the problem, the purpose and research questions of this argument were formulated. Further delimitations and the outline of this thesis are presented and illustrated.

## 1.1 Problem background

The year 2019 came to a close with the discovery of an unusual coronavirus in Wuhan, China, which led to an epidemic of a rare form of viral pneumonia (Hu et al. 2021). On March 11, 2020, the World Health Organization designated the Covid-19 outbreak as a pandemic (ibid.). Which eventually produced enormous and catastrophic problems for the health of people all over the world (ibid.). To prevent the epidemic, some areas have been placed under quarantine<sup>1</sup>, along with other limitations, while others have been forced to function at a reduced capacity (Breier et al. 2021). Just like any other pandemic, the Covid-19 outbreak has had direct, indirect, collateral, short-term, and long-term effects on the agricultural and food production system on both a local and international scale (ibid.). Some of the pandemic's effects on agriculture and food are likely to become routine, and this should be the reason for any adjustments to the strategies and policies that have been implemented to this point (Phillipson et al. 2020). As a result of the epidemic, we have shifted our attention to the crucial part that the production and distribution of food play in the environment and the climate, and this has made a substantial contribution to the Common Agricultural Policy (Mastronardi et al. 2020).

In addition, the Covid-19 shutdown has definitively shown pressures and tensions that have been produced all around the world as a direct result of the Covid-19 outbreak. The global economy is once again beginning to slide back into a recession Covid-19 (De et al. 2021). According to economists, the novel corona pandemic has already negatively impacted all sectors of the global economy, especially the travel, tourism, fashion, retail, and food industries (ibid.). As a result of the lockdowns that were imposed on many countries, almost all of the food was consumed inside homes (ibid.). Also, the Covid-19 virus has had significant adverse effects on the economies of several different nations, including the economy of Sweden (Holdo et al. 2022). The effects of the Covid-19 epidemic on agricultural and forestry practices, as well as fisheries, are expected to be unpredictable.

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<sup>1</sup> Quarantine is the social distancing practice of maintaining a certain physical distance between people and keeping them away from others for a specified period of time to prevent the spread of disease (Breier et al. 2021).

Similarly, this pandemic impacted the agriculture and food sector as well. As we know, the agricultural sector plays an important strategic role in the economy with its large dependent labour force including people involved in the entire food supply chain in European countries, as well as Sweden (Pawlak & Kołodziejczak 2020). Besides, the presence of cooperatives in the agriculture industry contributes to the general well-being of society as well as the members of the cooperative (Majee & Hoyt 2011). A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise (Hirwa et al. 2021). Furthermore, agricultural cooperatives are the main actors in shaping the rural reality and with 40-60% account of agribusiness in European agriculture (Ajates 2020). To work toward this objective, the cooperative makes an effort to carry out activities that are appropriate for the kind of cooperative it is, i.e., dairy, consumer, retail store chains, or retailer (Tortia et al. 2013).

Cooperatives play a non-negligible role in the economic sustainability of agriculture by holding the majority of the agricultural market share and practicing farmer-friendly external factors such as supply chain types, market prices, and government intervention in public policy (Candemir et al. 2021). Economic sustainability refers to business strategies that help a community's economy expand over the long term without having a detrimental effect on the community's social, environmental, or cultural components (Kumar et al. 2020). Agricultural cooperatives allow farmers to pool and use their resources in specific areas of interest for communal economic benefit (Milovanovic & Smutka 2018). Cooperatives account for around 32% of the worldwide market share in the agricultural industry, meaning that most of the agricultural sectors are where the cooperative model is most widely applied (ibid.). It also plays an important role in social integration, poverty reduction, economic growth, and stabilization of regional economic cycles (ibid.).

As we know the importance of agricultural cooperatives in the agricultural sector, we started to investigate to see how the pandemic has impacted this sector in Sweden. During our initial investigation, we have found some research materials which have been produced in different countries. All these research publications have shown different types of impacts of the pandemic on different types of cooperatives. However, we could not find enough literature to illustrate the picture of Swedish agricultural cooperatives in the post-pandemic situation. Several studies have been conducted to explore the challenges related to cooperatives arising due to the Covid-19 pandemic and economic collapse, but there is still much unmet need to investigate cooperatives from different perspectives especially here in Sweden (ibid.).

## 1.2 Problem Statement

As said earlier, the whole world has experienced that the Covid-19 pandemic has had significant repercussions all around the world, both in terms of health and the economy (Secrest et al. 2022). The Covid-19 pandemic and its restrictions measures such as disruptions in factory and logistics operations due to lockdowns, travel bans, or border closures for seasonal workers did not come during the pandemic, which led to problems. In agriculture, forestry and horticulture have added a significant shock to the agricultural system (Meuwissen et al. 2021). As a consequence of a global decline in demand from hotels and restaurants, agricultural product prices have plummeted by 20 percent (Nicola et al. 2020).

Various papers contribute to the rapidly growing literature on the impact of the Covid-19 pandemic on different parts related to agricultural systems and markets. Some papers pictured the impact of Covid-19 on farming systems in specific countries or areas such as Europe (e.g., Meuwissen et al. 2021), while some have reflected on food system resilience considering Covid-19 (e.g., Béné 2020; Orden 2020). Some literature focuses on the impact of epidemics on food value chains, trading channels, marketing patterns, and food security (e.g., Barichello 2020; Deaton & Deaton 2020; Hobbs 2020; Mahajan & Tomar 2021). One article presents how cooperatives play an important role in transforming sustainable and resilient societies in the post-Covid-19 pandemic (e.g., Dave 2021). Some of this literature illustrated an outline of the impacts of this pandemic on agricultural cooperatives in developing or least-developed countries (Chang & Meyerhoefer 2021). However, the literature on a systematic assessment of how cooperatives, particularly in the agriculture or food sector in Sweden, themselves enabled or constrained their responses to the Covid-19 crisis is almost nil or missing.

According to Ames (1955) and Moraru (2018), Swedish agriculture is a cooperative enterprise as the majority of agricultural production here is collected, processed, and traded by cooperatives, especially milk cooperatives control an almost 95% large market share in the case of processing and trading. This indicates dairy cooperatives play an important role here in the Swedish economy. Swedish cooperative has vital importance in the Swedish economy and its impact on the lives and businesses of Swedish citizens. That makes the researchers interested in examining this area and trying to find out more. Little is known about the impact of this Covid-19 on the economic part of cooperatives in Sweden. Which researchers considered an empirical problem in this area. That's encouraged researchers to investigate the economic impacts of the covid-19 on a dairy cooperative in Sweden.

Until this project, a few comprehensive sets of national-level statistics had been compiled on Swedish cooperative businesses. There is a lack of relevant literature that individually focus on corroborating how Covid-19 economically impacted the cooperatives in Sweden. As mentioned above, there is a lack of knowledge on how cooperatives survived or managed these economic impacts during the Covid crisis. Theoretically, we know that various crisis or risk management theories have been applied in the crisis managing movement. Very little is known about practices to mitigate or avoid, which theory can help a cooperative handle the economic impacts of the covid crisis in advanced economies like Sweden. The theoretical problem becomes very clear that it needs more research about the impact of covid-19 on cooperatives because very little is known in the literature about this topic. This thesis begins to address this gap in knowledge and focuses on the practices for handling the struggles that arise from the covid crisis.

### 1.3 Aim and research questions

Based on the problem background discussed above, this thesis is going to investigate how Covid-19 economically affected a cooperative in Sweden and how the cooperative handled these economic impacts. When a crisis occurs, an organization struggles to manage what is happening and the result is either it survives, or it does not survive. Economical struggles are the biggest issue for any business during a crisis when income flows are suddenly challenged

due to uncertainty. The aim of this thesis is to develop an understanding of the resilience system of other similar cooperative's economical struggle from our case cooperative in response to a pandemic and try to fill the theoretical gap in this area. This thesis focuses mainly on the economic part because the authors find this part interesting, as economy is one of the main foundations of any business and depending on the economic status either one organisation survives or fails. Also, researchers are familiar with business economic issues with their business background knowledge. To understand "how" and "why" the interventions need to be taken to strengthen an agricultural cooperative's economic benefit. It can also explore how operational, or production characteristics or issues affect these economic impacts, especially during any crisis. For in-depth analysis, the researchers choose Arla Foods, one of Sweden's largest agricultural and producer cooperatives. Arla is Northern Europe's one influential dairy cooperative, owned by the farmers who produce milk, which has members in almost 7 countries (Box et al. 2021). Here this thesis particularly focuses on the Swedish part as described in the problem statement.

### 1.3.1 Research questions

Hence, based on the problem background and aim of the thesis constructing research questions out of identified limitations in literature and overlooked areas of the thesis as gap-spotting referred to by Sandberg and Alvesson (2011), the research questions of this thesis are below:

1. *How did Covid-19 economically impact Arla in Sweden?*
2. *How did Arla handle these economic impacts?*

## 1.4 Scope and delimitations

Based on the primary investigation, the researchers of this thesis found that the literature on this phenomenon in the research field is very poor in assessing the impact of the Covid-19 pandemic from a functional or economic perspective on cooperatives in both developed and developing countries. This thesis is focused on understanding the present resilience process of Arla, a Swedish dairy cooperative, as a case during Covid-19 and hopes it has utilized this window of opportunity. It takes the empirical data from the cooperative Arla as it is a large and dominant actor in their value chain. Arla is Europe's largest dairy cooperative; it was formed in 2000 by merging the Swedish dairy cooperative with the Danish MD Food cooperative (Moraru 2018). By living through the pandemic situation, the researchers emphasize that exploring the current operational or economic adaptation processes of a Swedish cooperative can be helpful research to know how these industries digest the shock of the corona crisis and keep continuing their business. The context of this thesis is conducted through a single case study approach in the field of business administration and is limited geographically, theoretically, and temporally interims of time. Geographically, the thesis focuses on one Swedish agricultural cooperative and a specific representative cooperative selected as case studies where the project is implemented. Regarding the number of case studies selected for this thesis, out of several possible cooperative projects, only one project was selected for empirical research.

Considering the widespread impact of epidemics on society in the long term, this thesis can be considered a departure point for future research to gain more resilient knowledge about cooperative functions during future crises. The socio-economic impact of this ongoing pandemic is yet to be measured and realized as some businesses are still reeling from the crisis. So, this qualitative thesis will be a useful introduction to researchers who want to research this aspect. Also, this study can contribute to the generation of new knowledge to develop more effective resilience measures in economic risk management. Based on the results, according to Presthus and Munkvold (2016), the theoretical contribution of this study can affect existing theory in any of the following ways, such as replication (that it will work in a different setting), elimination (that parts of the theory indicate that they are obsolete or entirely applicable in the selected setting), etc.

## 1.5 Outline of the thesis

The structure of the thesis is presented below (Figure 1). This thesis will follow the chapters as structured below. This thesis first introduces the background of the problem, based on that aim, and presents the research questions of this thesis. In chapter 2, a literature review is conducted, followed by a literature search to develop a theoretical framework. Then the methods followed here in this thesis are presented and discussed in chapter 3. The empirical background and case illustrations of our case company are presented and discussed in Chapter 4. In chapter 5, doing analysis & discussion when enough data has been collected. After this, the findings and conclusions are drawn in Chapter 6.

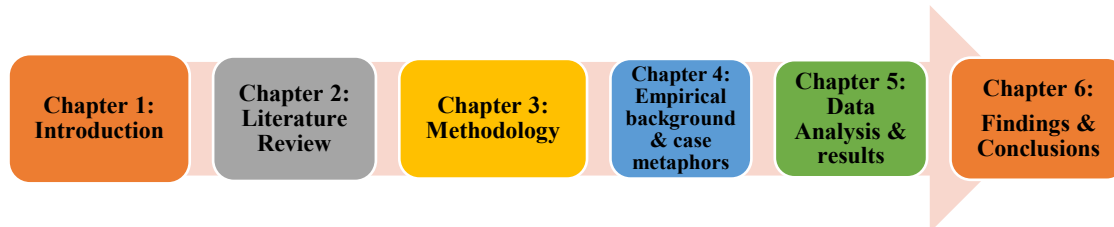


Figure 1. Outline of the thesis (own illustration)

## 2. Literature review and theoretical framework

This chapter begins with a review of the literature about how organizations were affected by the Covid-19 and how they handled the situation. Based on the literature review, the theoretical framework of this thesis is constructed. Then describe decision-making theory, crisis management, and crisis decision-making framework and its components that authors find suitable as the theoretical framework to answer the 2<sup>nd</sup> research question.

### 2.1 Literature review

According to Rocco and Plakhotnik (2009), a literature review is an overview of previously published academic literature on a specific topic that is contextualized to explore the topic to demonstrate current understanding, demonstrate knowledge, and establish the need for further study. "Literature" here refers to academic publications where theories are formulated and debated. Several kinds of literature have been reviewed at the beginning of this thesis, chosen to know more about the cooperatives of Sweden and their condition during the pandemic. But as there was not enough literature found regarding the topic, the researchers tried to search for literature on the impact of Covid-19 on cooperatives in different countries. Also, the researchers tried to find related literature about how Covid-19 impacted other organizations in Sweden to understand the issue deeply and gain more knowledge that can link it with this research.

This thesis begins with a systematic literature review and its perspective on cooperatives in the context of the Covid-19 pandemic. Research experts refer to a systematic literature review as searching, selecting, and critically evaluating previous studies to define and answer systematically formulated research questions (Dewey & Drahota 2016). The researchers also suggest that systematic reviews should be conducted by a pre-defined protocol or a strategy where criteria are acknowledged before the review is conducted. Therefore, we started with the primary keywords 'Covid-19', 'epidemic', 'cooperative' etc. We used these keywords when searching for recent peer-reviewed articles and selected approximately 20 articles to conduct the literature review. To create the theoretical basis for the thesis, the researchers reviewed the academic literature to find out the current understanding of factors related to the economic impact of cooperatives.

#### 2.1.1 How organizations affected by the epidemic

The outbreak of the worldwide coronavirus Covid-19 pandemic posed a significant risk to human health and had implications in several domains that affected the standard of human living. In addition to rapidly spreading over the world and having an impact on the economy,

the virus caused inefficiencies in both the agricultural and industrial sectors, which ultimately led to a lack of food (Jámbor et al. 2020). The worldwide spread of the Covid-19 outbreak has had a substantial impact on a variety of agricultural sectors (Stephens et al. 2020). Because dairy products have a short shelf life and are heavily dependent on integrated supply chains that are sensitive to the passage of time, the dairy industry is one of the industries that has been hit the worst (Weersink et al. 2020).

According to a study conducted by the ILO (International Labor Organization) in (2020), roughly 2.7 billion workers, approximately 81% of the total workforce worldwide, are impacted by lockdowns that are either partial or full. As a result of this, the crisis will also put the goal of sustainable development set by the United Nations in jeopardy because it will cause a large number of people who are employed by small and medium-sized businesses to lose their jobs and the opportunities to earn a living that they had previously. People who work for daily wages, self-employed people, migrant laborers, and refugees have mostly been unscathed by the Covid-19 pandemic that has been going on around the globe (ibid.).

Brodeur et al. (2020) emphasize the necessity of first understanding the economic transmission channels through which the pandemic is causing negative shocks to the economy to understand the potential negative impact that the Covid-19 pandemic could have on the economy. This is necessary to understand the potential negative impact of the pandemic on the economy. According to Carlsson-Szlezak et al. (2020), there are three primary transmission channels at play in the Covid-19 case: firstly, the direct impact, which is related to the decreased consumption of goods and services due to government regulations to maintain social distancing, study and work at home, as well as the closure of all businesses not considered to be in strategic sectors; secondly, indirect impacts through financial markets; and thirdly, a combination of both direct and indirect impacts.

The rapid spread of news during the lockdown led to a frenzy of last-minute shopping and replenishing of supplies (Mengoub 2020). This increased the amount of food that was consumed. Some commodities essential to human existence, such as beans and grains, as well as packaged items, were in high demand since they had a longer shelf life (ibid.). Consumption of pasta, wheat, rice, and canned goods increased by more than 150% at the beginning of March. This increase can be attributed to the prolonged shelf life of these products (ibid.).

A study by Baldwin (2020) examined the effect that the Covid-19 outbreak had on various income sources as part of his research on the economic impacts of the disease. The research sheds light on a great deal of important information. To begin, the massive number of laid-off workers is going to harm both spending and savings. Additionally, a decline in savings reduces the amount of credit made available by banks, which in turn influences investment and, eventually, the capital stock of businesses. Second, the consequence of a reduction in income because of a rise in unemployment will be a reduction in imports, which will result in a reduction in exports and the money exporting countries get. Thirdly, domestic, and global supply chain disruptions are caused when demand and output fall. According to Carlsson-Szlezak et al. (2020) research, the economy has seen a "V-shaped" recovery means quick, improvement after a sharp decline in the years after previous pandemics. These pandemics include the Spanish Influenza in 1918, the Asian Influenza in 1958, the Hong Kong influenza in 1968, and the SARS (severe acute respiratory syndrome) outbreak in 2002. On the other



hand, it is not predicted that the economic comeback from the Covid-19 outbreak would occur instantly. This is a result of the fact that it is projected that the direct influence that social distance and lockdown restrictions will have on the economy will be far more substantial (ibid.).

Because of the pandemic crisis brought on by the Covid-19 virus, many businesses of varying sizes have been forced to suspend their operations. As a direct consequence, the pace of economic growth has slowed or even grown adversely, and the number of people without jobs has risen. In the end, more people were living in poverty. This trend continued. The effects of Covid-19 on poverty in Indonesia were analyzed and assessed by Suryahadi et al. (2020). According to one of their projections, there would be 1.2 million persons sick in the nation by the end of the year. The effect of Covid-19 on manufacturing in the UNIDO (United Nations Industrial Development Organization) world manufacturing production (2021), report stated that during the first and second quarters of 2020, the global industrial output decreased by 20% owing to decreased production and uncertainty about job prospects induced by protective measures. The industrialized economies saw a lower drop, but additional lockdowns constrained production growth in the last quarter of 2020 and the first quarter of 2021. Road transport was 20% lower in North America, while truck trips were on average 24% lower in European nations during the second quarter of the year 2020 (ibid.). The worst losses were seen in Europe and Latin America, where air cargo capacity dropped by 80%. In addition, decreased output led to decreased pricing of consumer products, which resulted in a twenty percent decrease year-on-year in Europe (ibid.).

### 2.1.2 How organizations responded to the epidemic

Several research studies have presented various strategies and policies that cooperatives have followed in dealing with the various impacts and obstacles due to the Covid-19 situation. Different organizations have followed different approaches that have helped them to be resilient even after this pandemic, based on the nature of the market, business, products, and services. From the personal experience and realization of the researchers, the world needed to prepare for the Covid-19 pandemic. The researchers wanted to know how Covid-19 had affected the overall cooperative sector, to understand the current situation when the pandemic started, how they managed it, and whether they are prepared for future disasters.

Some literature shows that organizations mostly changed their existing business strategy trends and supply chain especially by increasing stock independence into local suppliers instead of exporting (Zou et al. 2020; Kayikci et al. 2021). Before Covid-19, some cooperatives focused on the short-term resilience of agricultural systems (ibid.). Many organizations have reduced their number of employees, office space, warehouses, buying and selling regular quantities of goods or services, etc. (ibid.).

According to many research studies, the most significant adaptation for almost all organizations has shifted towards digitalization of their business instead of manual or low-tech based business models and the working flexibility that allows workers to work from anywhere. Especially in innovative countries, most organizations have adopted Industry 4.0 technologies to address and cope with overall global value chain disruption (Kumar et al. 2020; Bhakat & Arif 2021; Song et al. 2021; Sun et al. 2021; Paul & Chowdhury 2021). Industry 4.0 is a combination of physical assets and advanced technologies that transform manufacturing and supply chain processes through connectivity (ibid.). It enables

organizations to deliver quick real-time decision-making specifically beneath risk management and helps customers to be more flexible and responsive (ibid.). There are several examples of successful implementation of the industry 4.0 strategy in both goods and service sectors (e.g., food supply chain, pharmaceutical supplies, airline industry, automobile sector, electrical industry, readymade garments sector, etc.) (ibid.).

Several other studies have presented numerous other frameworks to handle this situation. For example, Qingbin et al. (2020) discussed how dairy cooperatives in China and the United States had developed supply management processes for moderate overproduction and rapid market adjustment, mainly through online sales or quick-dry milk. Regarding operations to reduce milk production during epidemics, early milk drying was the main action to reduce milk production. Due to their difficulty in selling milk, other actions include reformulating feed, limiting feeding, early culling, etc. (ibid.). In many agricultural systems, cooperatives become active by keeping farm-gate prices at reasonable levels by stimulating national consumption and developing new markets (Meuwissen et al. 2021). Cooperatives from developed areas encourage farmers to start buying inputs online and selling online, employing cost-saving strategies to cover financial consequences, switching to less labour-intensive vegetables, and replacing human labour with machines, transferring to online communication (meetings, negotiations, orders, etc.) (ibid.). Farmers started selling fresh vegetables, fruits, eggs, and dairy products online, and home delivery increased locally, especially in urban areas (ibid.). Particularly organic food sector, such as the dairy sector was positively impacted by that in some countries (ibid.).

In contrast, several other studies have presented numerous examples of different cooperatives that did not handle the situation or survive due to organizational immaturity, a general lack of working capital, large membership, elite capture, and limited business orientation (Francesconi et al. 2021). For cooperatives, collective decision-making is essential, and it was greatly affected by the ban on assembly in developing countries (ibid.). It is hard or quite impossible for cooperatives from developing regions to switch instantly to online communication, shopping, or replacing human labour with machines (ibid.). But also, this crisis helps generate new insights through a process of co-learning to link crisis resilience enhancement with increased knowledge sharing among these farmers (Habiyaemye et al. 2021).

Various governments have declared the food industry as an essential sector (Meuwissen et al. 2021). The governments offer various subsidies such as 'bridging loans' (applicable to farmers and middlemen) to mitigate the financial consequences and encourage workers to continue working in processing plants (ibid.). Also, several countries' governments provided additional financial aid to support the different organizations, particularly for farmers and permitted the banks to agree on delayed repayments (ibid.). By deferring credit instalments for long months, banks have increased financial opportunities for working capital or investment to support different organizations (ibid.).

Critical institutional and cultural determinants of national response strategies also influence the various policy choices involved in these strategies (Yan. et al. 2020). Various findings show that different responses to the same threat depend on each country's unique institutional arrangements and cultural orientations, and thus, there is no one-size-fits-all strategy (ibid.). To understand the various Covid-19 responses, institutional arrangements refer to systems

and processes that use authority, attention, information flow, and relationship building to resolve policy issues centered on formal government organizational structures or informal rules (ibid.). Asian countries are mostly associated with a tight-knit culture, so there has been a general social consensus to adhere to containment and lockdown measures during the Covid-19 crisis (ibid.). In contrast, people from countries with open cultures, such as European countries show less tolerance for behavioral interference, value individuals' own choices, and preserve themselves through self-control and self-responsibility (ibid.).

Sweden's Covid-19 response is a good example of these nudge strategies, which encourage people to follow the government's chosen path, but does not limit the individual's freedom of choice or decisively change behavior (ibid.). That is why Sweden's Covid-19 response was imposing a temporary ban instead of a full lockdown to contain the pandemic, as seen in most of Europe (ibid.). The Swedish authorities have developed policies at a level that will be acceptable to the public for a long time, as predicted that managing the Covid-19 pandemic will be a long-term undertaking that will help keep the distribution networks functional and essential businesses in operation (ibid.). The Swedish Public Health Agency provides its citizens with daily briefings and guidance on self-protection strategies containing Covid-19, relying on voluntary social distancing and self-restraint (ibid.). But still, in many instances, existing continuity of operations plans, or business continuity plans have failed to provide the appropriate guidance and direction needed to respond to the pandemic (Roberts 2020).

There was additional literature from different countries that presented almost similar information about the nature of disruptions in the cooperative sector and the various strategies adopted by cooperatives to manage these disruptions. As business researchers, we have seen that many untouched areas in the cooperative sector have been greatly affected by the Covid-19 situation. Since it was almost two years ago, the Covid-19 pandemic situation started and has had a massive impact on the entire planet, and there is a huge scope for research and analysis on this topic. In particular, a limited number of studies have focused primarily on the economic impact of the cooperative sector in developed countries. Therefore, in this thesis, we mainly focus on the economic impact of cooperatives in developed countries. More specifically, we chose a cooperative in Sweden as our empirical case study to understand the economic obstacles cooperatives faced in their business due to the Covid-19 situation and what strategies were mainly followed to overcome these obstacles.

## 2.2 Theoretical framework

The theoretical framework defines the core beliefs of any research. It intends to identify relationships between different sequences of the presentation and discusses relevant theories based on the literature review (Gentner 1983). In our case, we have used theoretical frameworks to analyse our data. A conceptual framework was not used here because it does not always provide specific guidelines, such as recognition, measurement, and disclosure, and sometimes it requires judgment by users, which can lead to inconsistencies (Bryman 2016). A solid theoretical framework gives our research a clear direction, allowing us to robustly interpret, explain, and simplify our findings (Gentner 1983).

The research gap in this thesis seeks to identify the impact of Covid-19 and how to overcome the impact of the Covid-19 crisis on the crisis decision-making framework followed. In our

thesis, the research questions cover two different considerations. The first question is mostly descriptive, where we chose to collect data from semi-structured interviews. But, in the second research question, the researchers tried to analyse the empirical results using these theoretical lenses. Researchers used this theoretical lens to discuss and analysed the empirical data and answered the research questions at the end of this thesis. These concepts are abstracted as themes so that researchers can connect primary data to themes during analysis.

### 2.2.1 Decision-making theory

Decision-making theory is the thesis of understanding human choices under risk and uncertainty through specific concepts and techniques that help determine how regular people behave at that moment (Antonius 2021). It argues that making a decision is choosing between alternative courses and the highest expected value (ibid.). It is not defined as a single theory but rather as a collection and synthesis of psychological theories, which are mostly used in qualitative research (ibid.). Narrowing its broad perspective, normative decision theory studies guide corrective action at an abstract level and discuss the implications of these principles for specific types of decision situations (Fishburn 1988). An example of this normative decision theory is how various business managers try to find the best solution to a complex problem like the Covid-19 pandemic (Al-Dabbagh 2020). Natural disasters or crisis have wide-ranging implications for decision-making that require precise planning, rapid implementation, and efficient accountability through understanding risks and their vulnerabilities (Patterson et al. 2010). Decision-making in times of crisis, considering that the process of quick action on such decisions helps the organization to make risk-based decisions (Al-Dabbagh 2020). A crisis is an event with an unknown outcome, an unavoidable reality that affects all levels of society, such as the outbreak of the Covid-19 pandemic (ibid.).

Decision Making in Crisis creates a comprehensive theoretical framework that highlights the strategies, roles, and skills of crisis decision-makers in crisis management (ibid.). Sometimes decision-makers prefer a satisfactory outcome over a maximal outcome during a crisis, so researchers are very interested in how people make decisions when faced with choices (ibid.). Research has shown that decision-makers tend to choose alternatives based on their experience, sorting first through the information that contains the most important aspects of the various alternatives (ibid.). Various researchers believe that in most cases managers focus on which option will provide the most utility, and the most favourable economic dimension is considered the most important decision (ibid.). In short, managers use fluency, experience, and justification for the economic aspect that dictates a firm's profitability (ibid.).

### 2.2.2 Crisis management

Different research experts have given different definitions of crisis management. Crisis management may be defined as an administrative framework for responding to and recovering from a crisis (Al-Dabbagh 2020). It is an organizational approach that helps organizations prepare and plan to deal with crises (ibid.). Crisis management is a managerial practice that focuses specifically on administrative units that make decisions and closely monitor vulnerabilities in various parts of the organization (ibid.). Crisis management largely depends on the roles and efforts made by decision-makers (ibid.). Unsupported environmental crisis and lack of expertise are the main reasons why decision-makers are unable to make critical decisions and inconsistencies in making them in times of crisis (ibid.).

Findings from various studies on the role of decision-makers in crises like the Covid-19 pandemic show how decision-makers manage a crisis when such decisions in a crisis are a concern that can cause massive damage (ibid.). Various research about analysing the effects of the Covid-19 pandemic crisis indicates that the role of the decision-maker in managing the crisis requires confidence, experience, courage, and adequate information about the crisis (ibid.). Al-Dabbagh (2020) clarifies crisis decision-making processes, strategies, and techniques for decision-makers that can benefit others in making the necessary decisions to deal with a crisis such as the Covid-19 pandemic. According to his research, the crisis decision-making process is influenced by five factors (Figure 2).



Figure 2. Factors influencing the decision-making process in crisis (Al-Dabbagh 2020:5)

### 2.2.3 Crisis decision-making framework

Various studies dealing with decision-makers role in crises such as the Covid-19 pandemic have attempted to build a framework under crisis management with the help of decision-making theory (Al-Dabbagh 2020). According to Comfort et al. (2020), the theory of decision-making under crisis management requires a clear concept, proper understanding, and exact activeness of the four basic organizational functions: cognition (knowledge), communication, coordination, and control. This study's theoretical framework was used to answer the research questions. Table 1 briefly describes this theoretical framework.

Table 1. Outline of Crisis decision-making framework standards

Cognition	Cognition refers to an organization's ability to recognize the level of risk and transform that information into action (Comfort et al. 2020:617). In crisis management, it assumes that action taken may help oneself, but inaction may harm others (ibid.). A key component of cognitive empathy is encouraging collective action to benefit the organization as a whole and building a human connection with others who share risk (ibid.).
Communication	Communication is specified as a process of information exchange that links the sender and receiver with a shared understanding (Comfort et al. 2020:617). Here in crisis management, it is utilized to inform all organizational actors about potential risks, evidence-based mitigation actions (e.g., developing a disaster response knowledge), and the need for a coordinated response (ibid.).
Coordination	Coordination is defined as how organizations combine their resources, duties, and time to achieve a shared goal engaged in interdependent functions (Comfort et al. 2020:617). Within crisis management, good coordination requires transparency of shared goals and consequences among different actors of any organization during a crisis when the environment is complex (ibid.).
Control	Control is characterized in the organization as the ability to respond during a crisis to internal and external threats while still capable to operate in an orderly manner (Comfort et al. 2020:617). In crisis management, control involves achieving a reasonable balance between maintaining a safe level of economic and social activity while mitigating the impact of the crisis on business and sales (ibid.).

According to this framework courageous leadership, timely and accurate cognition, trained personnel with valid communication, and proper controls enable the coordinated action needed to bring a large-scale global crisis like Covid-19 under control (Comfort et al., 2020). Different country's public (central government) and private officials who worked with the decision processes deal with this framework to understand how to recognize, respond to, and recover from this serious, invisible threat Covid-19 (ibid.). During a crisis when the management of any organization takes urgent decisions, they need to consider carefully these four elementary structural functions appropriate for using this crisis decision-making framework for beneficial results (ibid.). This encouraged the researchers to use this theoretical framework here in this thesis as this study examines how Arla was economically affected by the response to Covid-19 and how it responded or took decisions back then to handle the situation. All four basic functions of crisis decision-making are highly dependent on each other and need to be circulated continuously during the operations (Figure 3).



Figure 3. Crisis decision-making theoretical framework components (own illustration)

In the context of Covid-19, when managers are faced with unknown risks, decision-making becomes fraught with uncertainty and four distinct components that have proven helpful are an adaptive process in different organizations (ibid.). In response to the threat of Covid-19, various organizations were briefed on policy actions based on this framework that focuses on combining these four functions to manage the pandemic situation (ibid.). The decision-making process is divided into various stages under the presented above four stages. Besides organizations also need to follow each stage that has several same circular procedures and steps to reach the right decision (ibid.). Such as,

- Hazard analysis- realizing and predicting what can happen
- Capability assessment- available resources for an actual emergency
- Emergency planning-operations are conducted following plans
- Capability maintenance-continuous plans updating, equipment servicing, personnel training, procedures, and systems exercise
- Emergency response-always prepare to adapt to the situation
- Recovery efforts-returning regularly functions
- Mitigation-planning and orderly efforts to avoid preventable hazards (ibid.).

In summary, the crisis decision-making framework lens was chosen to create a theoretical framework for this thesis to interpret empirical data on how the cooperative made strategic decisions to balance economic impacts in pandemic and post-pandemic situations. This is due to the fact that organizations need holistic cognitive skills of analysis for the decision-making process, effective communication with parties, the ability to compare and choose between available options to deal with the crisis, which is best described by the crisis decision-making framework. This will lead to an understanding of how the cooperative dealt with the Covid-19 pandemic, which is the second research question of this thesis.

## 2.2.4 The economic impact of cooperatives

The impact of an organization's economic activity can be measured from the difference between total overall sales and revenue (Deller et al. 2009). Detailed measures include income from the sale of output, wages paid to workers, or the total money spent on other variable inputs (ibid.). Cooperatives are formed as a business to maintain sufficient profits for their operations and focus on ensuring the benefits of members as a democratic entity organization (ibid.). The functions of cooperatives are divided into two broad categories, marketing, and supply as they perform different functions, both in production and market (ibid.). The main objective of a cooperative is to provide goods or services to its members and surplus share holdings are distributed according to members' patronage and capital (ibid.).

Cooperatives are business enterprises that, being controlled by members, serve a different purpose of benefiting their members and maximizing profits than investor-owned companies (ibid.). Although like other business performance measurement of cooperatives also focus on their financial dimensions and financial stability that strives to maximize its profits (ibid.). The financial statement is a map of understanding and measuring the financial wellbeing of a cooperative that is practically prepared for cooperative members (ibid.). Cooperative economic performance measurement practice covers all aspects related to the interest and welfare of members (ibid.). To understand and identify the economic impact of cooperative this thesis focuses on two main factors of economic measurement of any business organization which are total revenue or production and sales (ibid.). Their overall increase or decrease during the crisis will lead to how the organization is affected economically, which is the first research question of this thesis.



## 3. Methodology

In this chapter, the research methodology which was used in this study to achieve the study aim and answer the research questions is presented and discussed. This chapter begins with the research philosophy and research design to provide a detailed explanation of the research approach. It then presents the literature review, describing how the data was collected and analysed. Finally, data quality criteria and ethical considerations are reviewed.

### 3.1 Research philosophy

Research design starts with defining a paradigm<sup>2</sup> and research philosophy plays an essential role during paradigm selection for understanding which approach and methodology will be appropriate to achieve the researcher's objectives (Guba & Lincoln 1994; Denzin et al. 2011; Rashid et al. 2019). A research philosophy refers to a system of beliefs and assumptions about the development of knowledge (Saunders et al. 2009). In this paradigm selection, two essential elements are ontology and epistemology (ibid).

Ontology refers to the nature of reality that primarily describes what kind of relationships exists between fundamental entities such as nature and reality, classified based on its two essential aspects objectivism and subjectivism (Guba & Lincoln, 1994). Objectivism may portray the position that asserts “...*Social phenomena and its categories have an existence that is independent of or separate from its social actors*” (Bryman 2012:29). In contrast subjectivism or constructionism may be illustrated as “...*Social phenomena and its categories are produced by social actors within a constant state of improvement*” (Bryman 2012:29).

On the other hand, epistemology focuses on the understandable knowledge of a particular area of study to hypothesis, how to learn, what is considered, what kind of contribution can be made, and the construction of knowledge classified as positivism, and interpretivism (ibid). Here positivism refers to “...*knowledge is something definite aim for objectivity and ‘real’ knowledge is acquired only through observation where the researcher must focus on the facts.*” (Bryman 2012:26). In compares the interpretivism capable of as stated here “...*understanding the goals and motivations behind the behavior being studied and how the phenomenon occurred*” (Bryman 2012:27).

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<sup>2</sup> Paradigms refer to theoretical and methodological models that guide a particular discipline at a particular time (Bryman 2012)

From these philosophical considerations, the authors adopt the subjective view of the ontological perspective of this thesis to interpret the epidemic phenomenon (socially constructed reality) through contextual meanings from human practices to understand the impact of economic structures on agricultural cooperatives. Here the researchers are interested in finding each respondent's own subjective opinions or perceptions regarding the impacts. In favour of an in-depth case study approach and qualitative research, researchers see this thesis from the lens of the interpretive paradigm because the thesis explains how people organize themselves and correspond within their organizational culture surrounded by a special social situation, specifying here the corona situation in agricultural cooperatives. Positivism is not adopted here because usually its research proceeds based on hypotheses and deductions (Bryman 2012). In brief, this research has been conducted with a subjective approach based on interpretive and constructionist paradigms, which has influenced the research in the selection of research strategy, data collection, and data analysis.

According to Edmondson and Mcmanus (2007:1160), methodological fit appears to be a nascent archetype along with theoretical contribution based on limited theoretical knowledge of this topic from previous research and the state of understanding of these studies. The Nascent archetype refers to little or no prior research work on the concepts and the development under investigation such as the point of economic impacts of corona on Swedish cooperative (ibid). Here fit follow internal consistency among elements of a research project on this research's design choosing open-end research questions, selecting interviews as an illustrative method for data collection from qualitative method, the data analysis methods that are chosen here are the thematic content analysis coding.

Bell and Bryman (2007) stated that, the unit of analysis defines the object being studied as a whole or what is being studied, for this research project it is the cooperative Arla in Sweden, and its business structures, strategies, approaches, and impacts will be analysed here. The unit-of-observation is where the data comes from, here Arla related all individuals who will be the respondents or interviewees of this project (ibid.) Goddard and Melville (2004) define inductive reasoning, which starts with the observations and empirical regularities observed in the premises used to formulate conclusions or theories. Theories are proposed as a result of observations to conclude the research process.

To study valid reasoning for logic the inductive reasoning is used here as the study investigating the impact of Covid-19 on Arla which has not been investigated before, particularly from an economic perspective (Bryman 2012). Therefore, inductive methods were found suitable to investigate these concepts in depth while identifies the economic impacts on a cooperative in Sweden during Covid-19 as the background of the problem and the economic repercussions of the pandemic as the holistic problem (ibid.). Another reason for using an inductive approach is that it allows researchers to analyse descriptive narratives. The idea of deductive reasoning is not chosen because usually, this method turns general ideas into specific conclusions.

## 3.2 Qualitative research design

According to Bell and Bryman (2007), there are two options for researchers to conduct a business study: A quantitative or qualitative research strategy. In this thesis, a qualitative

approach was used to understand the Corona phenomena in cooperative models. Furthermore, Denzin et. al. (2011) state that the qualitative method focuses on the researcher's understanding of social structures and human-made definitions based on real-world non-controlling situations to gain a deeper understanding of the nature of phenomena or research problems. Qualitative approaches focus on the "how" and "why" of research questions of social phenomena to be addressed and solved rather than the "what", facilitating a deeper understanding of experiences, phenomena, and contexts (ibid.). Since the purpose of this thesis is to explore questions that address how selected Swedish cooperative address the economic and social challenges during the pandemic so qualitative research approach fits this thesis. A limitation of this approach is the difficulty in interpreting differences in the quality and quantity of information obtained from different respondents (ibid.).

### 3.3 Case Study Approach

As Eisenhardt (1989) indicated, the case study design is suitable for fields where an investigation is lacking, which applies to this thesis because there is little research on the way how a Swedish cooperative manage these economic impacts against the Covid-19 pandemic. An in-depth case study is chosen here which is needed to achieve its objective, to answer the research questions of how Covid-19 affected a cooperative in Sweden economically and how that cooperative managed these economic impacts for food supply continuity and response to the pandemic. A case study is a research design that is a detailed and intensive analysis of a single case, sometimes extended to include only two or three case studies for comparative purposes (Bell & Bryman 2007). Furthermore, case studies are abundant because empirical narratives are collected from a variety of data sources, including interviews, survey data, archival data, and observations (Eisenhardt & Graebner 2007). It is important to note that case studies are not very supportive of a theory-building method because the results of a particular object in a particular place in a particular place usually do not allow for generalization (Bryman & Bell 2011).

### 3.4 Case selection

This research was intended to identify the current understanding of the resilience process of the economic impacts of a cooperative in Sweden. Therefore, this thesis has been investigated how that cooperative in Sweden economically impacted and the mechanism of how it handled those economic impacts. The company is chosen based on the criteria developed by the authors Scheibe and Blackhurst (2017). First, the company should be a part of a recognized cooperative business in the cooperative industry, and then it should have experienced turbulence for both the upstream (production) and downstream (delivering products to consumers) stages of the financial chain due to the Corona outbreak. And finally, it represents different types of products, services, portfolios, or markets that have different customer bases. In this thesis, the authors look at large cooperative business chains and choose to investigate Arla, a Swedish-Danish multinational cooperative in the dairy industry that is a large and influential actor in its supply chain. Arla connects with both wholesale and

local markets connected to household and outdoor dairy product supply areas which are affected differently by Covid-19 as explained later.

### 3.5 Literature review

The literature review helps the researcher to develop more comprehensive theoretical insights and an understanding of different perspectives from existing literature (Bryman & Bell 2011). Here, the goal of a literature review is to gain an understanding of what is already known about a topic, what theories and concepts are used, what methods are chosen and how they are applied (ibid). It supports one's opinion or argument with the theories and perspectives of other scholars which opens the possibility of finding an area of empirical data that is in focus to fill the gap that has not been explored before or referred to as gap spotting (ibid). For this thesis, an extensive literature review has been conducted to figure out the theoretical framework by reviewing recent empirical studies and providing different standpoints on the problem to identify gaps in academic knowledge.

When conducting a literature review, systematic or narrative these two different ways are often referred to (Bryman & Bell 2015). The narrative review is found appropriate for this assessment as it was desirable to enrich the knowledge within the research field as this thesis developed. Compared to a systematic literature review, using a conducting narrative method is less strict in its form which allows the possibility of finding a new and more in-depth understanding of the topic (ibid). Secondary data used during the thesis project was collected from peer-reviewed and well-cited journal articles which provides reliability, and trustworthiness. To ensure the source and high quality of data, references are collected from the academic literature, newspaper articles, and publications on the pandemic through publicly available databases such as Google Scholar, Scopus, Web of Science, ScienceDirect, and the SLU (Swedish University of Agricultural Sciences) Library database – Primo. Also, supporting materials such as annual reports of the case organization supported data triangulation for supplementary information. To find relevant articles, books, and reports the keywords have been developed from the aim and research questions such as cooperatives and corona pandemic. More keywords are found using the reference lists to find more literature of interest for the thesis can be described as a snowball sampling method which refers to selecting data for a research study through referrals (Bryman & Bell 2015).

### 3.6 Sampling

Sampling can be described as a specific principle used to select members of a population to including in a study that enables readers to gain a deeper understanding of whatever phenomenon they are studying (Bryman & Bell 2015). In a qualitative approach, sampling can be considered within individuals, organizations, documents, or categories (ibid.). As the researchers aim to distinguish the factual picture of managing economical change against the coronavirus crisis in a cooperative from Sweden, Arla is considered here as a sample representative of the similar cooperative sector in Sweden.

Probability selection and non-probability selection are the two main methods of selecting respondents or sampling in qualitative research (Bryman & Bell 2015). In non-probability sampling methods, not every member of the population has a chance to be included because researchers randomly select members for the study based on their relative ease of access (ibid.). It is a rapid, informal, and reasonable way of obtaining data as it does not require a broad survey frame, used for real-time statistics and faster decision-making (ibid.). This meant that stakeholder representatives were selected who were related to the system and had a clear understanding of the practices of managing economic change against the coronavirus crisis in this cooperative. However, data was used with extra caution as there are some challenges from non-probability sources such as selection bias (ibid.). There are different types or techniques used for non-probability sampling by researchers depending on the context, here this thesis used convenience or haphazard sampling (ibid.). Convenience sampling units are chosen subjectively with little or no planning, assuming that the population units are all the same, then any unit can be chosen for sampling (ibid.).

### 3.7 Data collection method

As Bryman & Bell (2011) suggested, primary data for business research is mainly collected through questionnaires, surveys, interviews, document records, and observations. Interviews are the main source of qualitative research and are frequently used as an effective and valid way to understand someone's perspective (ibid.). A semi-structured interview consists of a list of questions, often referred to as an interview guide, although the interview does not need to be conducted precisely according to a guide and schedule, giving the researcher more freedom than a structured interview (ibid.). The guide here helps to keep interview subjects always on the topic to get desired results as compared to unstructured interviews (see appendix 1 for the interview guide). Bryman and Bell (2015) described that semi-structured interviews come with numerous advantages, including flexibility and versatility, allowing the interviewer to explore specific themes or responses further. The authors have chosen semi-structured interviews with a satisfactory number of three respondents in selected Swedish areas to gather empirical data for a broader understanding of the phenomenon through perceived reality. Here the primary data are defined in the interviews of the cooperative concern to get the actual situation which will help to understand the internal monitoring system and its impact on the economy of the cooperative.

According to Bryman and Bell (2011) and Yin (2013), first-hand or primary data collected directly from the source can easily be influenced by the researcher's subjective factors, especially from interviews although first-hand data is more reliable than second-hand data (collected from literature search). Secondary data can enhance the authenticity of primary data, but it can also suffer from interpretation errors (ibid.). Under the case-study method, the researchers tried to formulate open-ended questions based on the theoretical framework of this thesis to answer the research questions. Open-ended questions (questions that prompt discussion) used for this study allow respondents to answer in their own words rather than stock answers and detailing their points can help readers see things from the respondents' point of view (ibid.).

This thesis pursues to learn from participants' view, how their previous resilience practices work in the pandemic and how they are perceiving the economical chain situation out of this prolonged turbulence. Interviews were conducted via Zoom due to the respondent's busy schedule. Interviewing via Zoom turned out to be more convenient because it's timesaving, simply allowed to read the respondent's body language and the most opportune option was to record and transcribe each interview effortlessly with their permission. Recording the interviews allows the researchers to go back to find relevant data that was previously overlooked, minimizes the risk of missing out or losing sufficient data, and analyses specific points in the interview for data analysis (Bryman & Bell 2015).

To conduct in-depth interviews, the authors invited three responsible concerns such as managers or department heads from the sales, operations, and financial departments of Arla by sending emails explaining the purpose of the research. After receiving their appointments for interviews, interviews were performed that took approximately 30 to 45 minutes for each interview session, depending on the situation. The researchers believe that for this thesis it was essential to interview three key persons to develop a comprehensive understanding of phenomena from the triangulation view. The triangulation view refers to a qualitative research technique that examines the information's validity by combining data from various sources and different views (Bryman & Bell 2015). Therefore, in this case, the approach of interviewing three different people at three different levels of the organizational hierarchy of this cooperative to verify their responses through the same questions increases the reliability of the results. The interview was conducted in English to avoid translation misunderstandings. They also ensured ethical clearances like confidentiality, conflict of interest, data protection, etc. from all concerned to conduct this thesis and interviews. The rest of the empirical data has been gathered from the case company's websites, and annual reports. During the interviews, the researchers changed or adjusted some of the questions along with the interpretive approach because some unexpected themes emerged during data collection as directed by Gioia et al. (2013). The details of the interviewees have been provided in Table 2.

*Table 2. Conducted interviews with Arla Sweden's concerns*

<b>Name</b>	<b>Position</b>	<b>Responsible</b>	<b>Date of interview</b>	<b>Interview length (Minutes)</b>	<b>Years in the company</b>	<b>Interview method</b>
Mr. "X"	Vice President of Sales, Arla Sweden	Sales	30 <sup>th</sup> November	35 minutes	7 years	Zoom
Ms. "Y"	Sr Logistics Director, Arla Sweden	Logistics	07 <sup>th</sup> December	30 minutes	5 years	Microsoft Teams
Ms. "Z"	Head of yogurt & fermented, Arla Sweden	Consumer Marketing (Sr. Mang)	09 <sup>th</sup> December	30 minutes	15 years	Microsoft Teams

### 3.8 Data analysis

The analyse of the data is one of the most critical tasks in qualitative research design, as stated by Bryman & Bell (2015). In this study was applied the technique of thematizing. As Bryman (2016) points out, thematic analysis is a bottom-up analysis that obtains patterns or themes from the text instead of categorizing the text within qualitative data. Generally, it is applied to analysing non-numerical data such as audio, video, text, etc., collected from interviews or transcripts from which a researcher looks for meaningful patterns in themes across the data. Then are combined similar words with themes and organized in an easy way for people to review and understand. Regarding this thesis, the researchers collected data through audio and video recording from interviews, so this analytical method was found appropriate here. Clarke and Braun (2013) suggested a six-phase framework for doing a thematic analysis which has been followed in this study, which are illustrated in Figure 4.



Figure 4. Thematic analysis framework (own illustrations)

First, after the interviews, the collected data such as all recordings and interview notes were transcribed into a document by the researchers. Data transcribing reduces the risk of incorrect interpretation of the data, which was significant to clarify the interviewee’s point of view. The researchers here closely examined all data to identify common themes from recurring topics, concepts, and meaning patterns that are repeated, and were highlighted for use in the coding process. Researchers executed data triangulation which combines information obtained from interviews, meeting notes, and documents with their observations. These common themes collected from outline the data that are relevant to the purpose and useful to the research questions answer. To identify the necessary epidemiological impact practices, researchers attempted to specify which primary codes were most relevant to understand the results. The collected data was analysed with the help of theories and tools shown in the theoretical framework.

### 3.9 Quality assurance issues & ethical considerations

This thesis uses a qualitative methodology and a case study method to gain an in-depth understanding of a phenomenon as the authors find the most appropriate to achieve the aim of this thesis. However, many researchers criticise that no single approach can fully assure academia that it stands without limitations or has no quality issues. During data collection, qualitative research can be influenced by the subjective circumstances of the researchers (Walsham 1995). The case study method can be challenging to generalize findings even if based on a specific context although it was exceptionally suitable for new research because of past empirical observations and independence from previous literature (Bryman & Bell 2015).

### 3.9.1 Quality assurance

Bryman and Bell (2015) suggest two general criteria known as reliability and validity to ensure trustworthiness, transferability, reliability, and confirmability in qualitative paradigms. Reliability is a term commonly used in an academic text to refer to the repeatability of results and to describe the measurement's consistency with developed concepts and concerns (ibid). The validity, another important standard refers to how reliable the results of a study are in the context of the integrity of the researcher means whether the results do represent what they are supposed to evaluated (ibid). For evaluating the trustworthiness and quality issues of an academic text, this thesis gives the readers an accurate picture of the quality assurance (Table 3).

Table 3. Overview of quality assurance criteria

Trustworthiness & Authenticity criteria	Samples of suggested techniques	Functional in this thesis
Reliability	Internal reliability assesses the consistency of results between components within a study (e.g., inter-observer reliability) while external reliability refers to the extent to which a measure varies from one use to another (e.g., an external environment that is constantly changing)	Internal reliability is ensured by recorded and stored interviews so that what the researcher notes and what is revealed by the interviewee are consistent. External reliability here improved by detailing the respondent's social role and social environment.
Credibility	Interviewees authentication & persistent observation-reduces the possibility of mistake.	Informed the interviewees about the conclusions of the interviews for validation & referring to multiple highly cited literature, to systematically examine the academic literature to establish the foundation of the thesis.
Validity	External validity concerns whether research findings are generalizable while internal validity is concerned with empirical findings that match the theoretical framework.	Selecting a diversified portfolio representative of Swedish cooperative as case study provides multiple perspectives to improve external validity. Using the triangulation method means more than one data source (3 interviewees) of social phenomena ensures internal validity.
Transferability	Thick explanation of a sufficient adequate number of details of culture to allow readers to judge the applicability of results in other contexts.	Providing a thick picture of the case Project (Arla) & empirical data with details that allow readers to review & examine background data.
Dependability	Description of the research process or requirement of access to data that reflects the emergence of hypotheses and changes in understanding.	The method chapter aims to give the reader a detailed description of this thesis research process that allows replication of the thesis for future research.
Confirmability & objectivity	Clearly shown that personal assessments or theoretical orientation influenced the conduct of the research	The authors have acted in good faith and outline the limitations of the research work to meet the standard of confirmation.
Fairness & truthfulness	Present different viewpoints from the interviewees to provide a decent picture.	Interviewees authentication has been made to erase misunderstandings & ensure a fair picture of the interviewees



### 3.9.2 Ethical consideration

According to The Sage Handbook of qualitative research by Denzin et. al. (2011), qualitative data collection brings complicated ethical issues to the surface due to the individual nature of these actions. During the research, researchers should be aware of how they conduct themselves ethically (ibid.). Especially during data collection where there are complexities involved because of cultural standards, opinions, morals, and behaviours (ibid.). Normally, the complexity of ethics arises when qualitative data is collected from several viewpoints such as philosophical, institutional, and methodological (ibid.). Bell et al. (2018), “divided and explained the principles of ethical aspects of business research into four main areas or perceptions as below,

- Whether there is harm to contributors from this research
- Whether there is an assault on confidentiality or privacy from this research
- Whether there is a deficiency of informed authority from this research
- Whether there is cheating, or fraud involved in this research”

In this thesis, the researchers make an effort to follow a transparent data collection and analysis procedure to verify ethical clarification and quality assurance during all sample selection, data collection, transcription, and analysis processes. Standard research methodology and data collection protocols are followed during the standard data collection and analysis processes. Various ethical issues such as procedural ethics or practice ethics followed according to the law. Here procedural ethics refer to informed consent while in practice ethics refer to data protection, social responsibility, etc.

This research includes the following factors to meet or fulfill ethical conduct criteria for quality research, which are related to enhancing the quality of research at each stage of the thesis (see appendix 2 for the detailed ethical conducted criteria followed for this thesis).

## 4. Empirical background and case metaphors

In this section, we provide an in-depth analysis of the empirical data derived from our case study. The presentation begins with the fundamentals of our case organisation, Arla. The last portion of this chapter concentrates on presenting the findings obtained from interviews conducted with representatives from Arla both during and after the Covid-19 period.

### 4.1 The case firm Arla Foods

Arla Foods is an international dairy company known for world's largest manufacturer of organic dairy products owned by more than approximately 2,500 dairy farmers in Sweden and a total of approximately 8,900 farmers in Northern Europe in seven countries (Arla annual report 2020). They are Denmark, Sweden, the UK, Germany, Belgium, Luxembourg and the Netherlands (ibid). It has 8,956 dairy farmers and 20,617 employees (ibid). 8956 farmer-owners are responsible for more than one and half million cows (ibid). In 1881, what has sometimes been called Sweden's first cooperative dairy association was formed was named Arla Dairy Association. In 1975, the new organization of Mjölkcentralen was ready and the new Arla Milk Center was presented after a merger between several dairy associations. In 1980, Mjölkcentralen dissolved, and the association was then known only as Arla. In 2000, Arla merged with Danish dairy company MD Foods and has since been called Arla Foods (ibid). According to Arla's official website, Arla is built by its own farmers and has a long practice of procuring milk from its members. Arla is a democratic membership organization where every farmer, each have voting rights through which the cooperative elect's representatives to represent Arla. With well-known strategic brands like Lurpak, Pak and Castello Arla Foods, Arla is one leading players in the international dairy sector. According to the Swedish Arla website, total milk collected by Arla from its farmers are divided roughly into the following products:

- Drinking milk - 20 percent
- Filet and yogurt - 10 percent
- Cream and cooking products - 10 percent
- Fat - 5 percent
- Cheese - 20 percent
- Powder - 30 percent

#### 4.1.1 Organizational structure

Arla's highest decision-making body is the Council of Representatives, which is made up of over 180 farmers from Arla's seven owner nations (Arla annual report 2020). The Board of Directors meets three times a year on average to establish Arla's overall strategy and direction (ibid). The Arla board is likewise elected by the representative body, with 15 of the 18

members being Arla farmers (ibid). Each litter of milk supplied by the farmers receives an equal proportion of the money, and Arla reinvests a portion of the proceeds each year to help the business grow (ibid). Because Arla farmers are both owners and suppliers, they got money in two ways:

- As Arla owners, they are entitled to a portion of the group's income each year.
- Selling milk every two weeks at the greatest feasible price (ibid).

Arla's organisation structure is depicted in Figure 5 below.

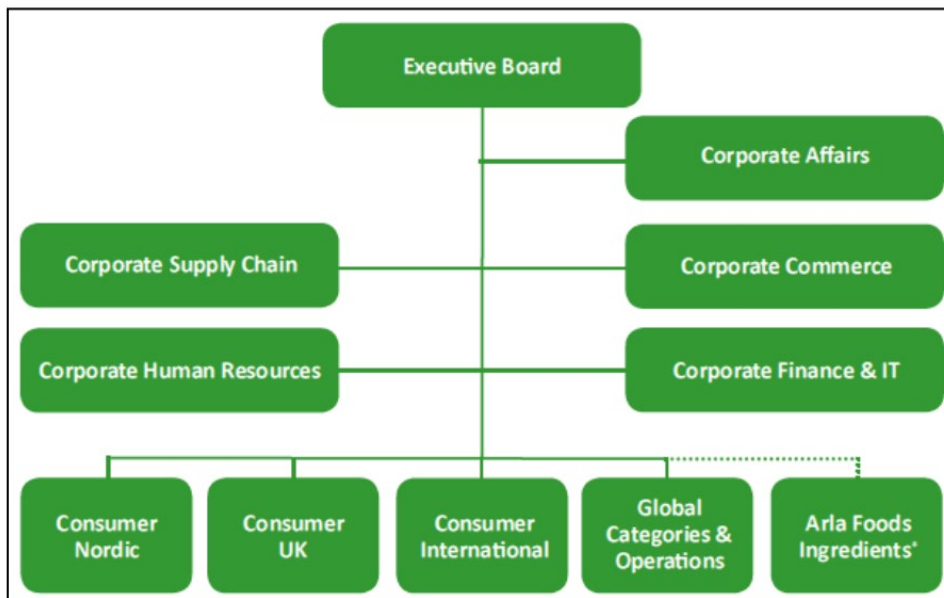


Figure 5. Organisation structure of Arla (own illustration from Arla Consolidated Annual Report 2021:47)

#### 4.1.2 Business operations

Arla is a supplier of milk and other dairy products to the supermarkets that are part of the retail sector. In most cases, Arla maintains complete control of the value chain, starting with procuring fresh milk from local farmers and ending with the distribution of the company's final offering to consumers. (Al-Mudimigh et. al. 2004). Management focus changed to emphasize building a process-oriented organization whose primary objective was always to provide better quality service to the customer with faster response, lower costs, and improved adaptability. (ibid). Arla concentrates its attention and energy on the following three propositions. The customer always comes first, and the second component is the level of quality (ibid). The third factor is people on their own, completed by channelling the energies of the people into the corporation, which in turn gave the business more power (ibid). The concept of value management in Arla is presented in Figure 6.

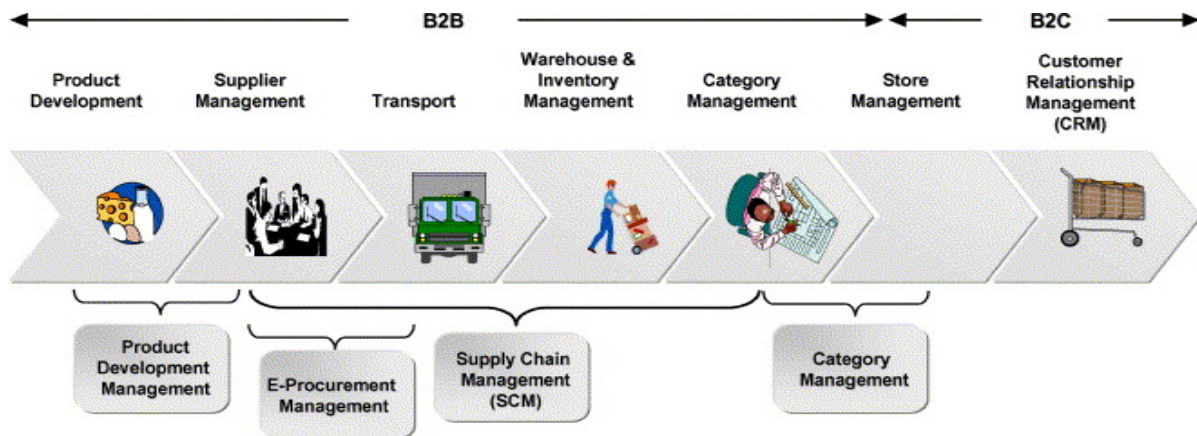


Figure 6. The concept of value management in Arla (from Arla Consolidated Annual Report 2021)

Arla's farmers, sales units and customers all play a vital role in the company's ability to forecast demand and maintain a sufficient supply of products accurately (Al-Mudimigh et al. 2004). To make the most accurate forecast of milk demand possible, Arla analyses the market, its competitors' activities, product categories, market shares, and underlying market trends. (ibid). The company's supply chain aims to deliver products to the end user in the shortest possible time and at the lowest possible cost (ibid). Both sales and product marketing determine which items they can market and which ones they would want to market (ibid). Arla has a supply network that is both efficient and flexible (ibid). It delays the production of the finished product until the actual need for the product can be assessed, which is part of their wait-and-see strategy regarding client needs (ibid). They can respond to current demand and use data as a partial inventory replacement for coordination and integration with key customers and suppliers (ibid). A representation of Arla's business plan is depicted in Figure 7.



Figure 7. Business model of Arla (own illustration from Arla Consolidated Annual Report 2021:13)

## 4.2 Background before empirical data presentation

The following is a rundown of Arla's business activities, as deduced from data gleaned from the company's website, annual reports, and interviews with employees and customers respectively. During Covid-19, there was a great deal of unpredictability and instability all

over the world; as a result, the farmer-owned European dairy cooperative Arla has swiftly reorganised and revised its business practises (Arla annual report 2020). They came to the conclusion that they needed to continually assess and handle any potential risks (ibid). Arla, the popular brand with a strong market position and a global portfolio of cooperatives, increased global branded sales by 7.7 percent in 2020 during the pandemic (ibid). Despite revenue losses in different food services and other global industrial sales, Arla's total group revenue was 10.6 billion euros in 2020 which was higher compared to 10.5 billion euros before pandemic in 2019 (ibid). From Arla annual report (2020), here are several reasons for handling this economic impact against the Covid-19 crisis.

- Popular brand image helps Arla in this situation, as customers always have high demand and dependence on household food or dairy products from trusted businesses including times of crisis or emergency as per regular consumer behavior. Also, everywhere dairy products are recommended as an important part of a daily diet for all age groups.
- Due to its strong financial position, Arla's board of directors was able to propose to the board of representatives a supplementary payment of 1.75 eurocents per kg of milk, which is 0.75 eurocents higher than the standard 1.00 eurocents per kg of milk.
- Its strong financial position also allowed Arla were kept pre-paid milk prices relatively stable to its farmer owners compared to the volatility seen across the global dairy industry.
- As consumers were forced to stay at home most of the time due to Prohibition laws, the number of family meals increased significantly, and many consumers turned to cooking and baking which boosted sales of Arla's.
- Over 90 percent of everything Arla sells in Sweden is made with Swedish milk from farms owned by Swedish Arla farmers. The data shows that Arla is highly dependent on local suppliers which means that travel or transport restrictions during Covid-19 have not affected that much its operations as much like other business.

Comparing the key figures based on strategic brands according to complete group Arla performance comparison during Covid-19 from annual report 2019 – 2020 (Table 4):

*Table 4. Arla performance comparison from annual report 2019 - 2020*

<b>Brands Name</b>	<b>The business performance during Covid-19</b>	<b>Decisions helped to handle the situation</b>
Lurpak	Increased 14.6 per cent volume growth and revenue to EUR 638 million compared to 588 million in 2019.	Introducing new products such as carbon compensated milk, recyclable packaging solutions across markets etc.
Arla	Increased 3.0 per cent volume growth and revenue to EUR 3,116 million compared to 3,033 million in 2019.	Offered a diverse products portfolio.
Puck	increased revenue to EUR 427 million compared to EUR 363 million in 2019.	Its marketing and communications were quickly adjusted to inspire home cooking.
Castello	Due to lower prices revenue decreased slightly to EUR 177 million compared to EUR 179 million in 2019.	Increases its digital content by focusing on millennials or age groups.

The key figures according to annual report (2020) results (Table 5):

Table 5. Arla key performance figures from Annual Results 2020

Data	2020
Group revenue:	10.6 billion/EUR
Performance price:	36.9 eurocent/kg
Milk volume:	13.7 billion/ kg
Net profit share:	3.2 per cent
Calcium savings:	130 million/ EUR
Leverage:	2.7

### 4.3 The Empirical Data from the Interviews

In-depth information on a Swedish cooperative and the impact of Covid-19 on the organisation was obtained through interviews with three different positions holding persons at Arla Sweden. The interviews were conducted in such a manner that a questionnaire was first set by the interviewers, then they both interviewed Zoom and Microsoft Teams based on the choice or preference of each interviewee. One of the interviewers mainly focused on asking questions while the second was observing the discussion and keeping a focused point and took some bullet points regarding the discussion. The interviews were conducted in a group of similar position holders, making it a much more conversational type of interview. Below all the data obtained from these interviews is discussed in the form of discussions and add quotes by the respective personnel for a clearer view of the reader. Under crisis decision making framework the four main elements which connected with the basic organizational functions are dependent on each other and circulated continuously during the operations. All three of our interviewees dealt with the decision-making process of dealing with the Covid-19 situation, and from their comments, the researchers tried to have structured them under the four elements of this crisis decision making framework.

#### 4.3.1 Interview with a sales professional

The researchers arranged an interview with a concerned professional person from Arla food's marketing and sales section. The interviewee's total experience in this field totalled approximately seven years and two months, as a vice president of sales indicated he held a management position in their company. Researchers have tried to structure the comments under the four elements of this crisis decision-making framework for easy understanding,

#### Cognition:

The interviewee stated that like all other businesses their cooperative was also largely pressured by the Covid-19 situation. The pandemic has affected the performance of organizations from various perspectives. Their normal daily plans and routines have been disrupted. The main challenge was the uncertainty of the situation, which spread unwanted fear while making decisions. Since crises require relatively different decisions from normal decisions, decision-makers need to move quickly to find alternatives while avoiding improvisation and randomness. Mentioned to the interviewee, *“As an organization, we started quickly like real things through the ramifications of how to beat the first”*.

Arla's main business structures are managed or decided overall common operations under group management. But Arla's business is spread across several European markets, so the casual decisions are led by or operated by individual countries under individual countries' leadership. During the pandemic, different countries have managed the crisis in different ways through country officials based on their country's Covid-19 situation. Hence, it was very challenging for them to take overall decisions as a single organization, but it did it well.

As an organic food supplier cooperative, they need regular workers in their field, such as farmers are needed to collect the milk, drivers to pick up the milk, factory workers are still needed to process the milk, people to take orders, and salespeople to ensure that customers can continue to buy products. Office workers who must perform their duties remotely based on their work requirements, as manufacturing and supply facilities have to perform on-site, have had to perform their duties under strict conditions such as social distancing, frequent hand washing, and staying home when sick. So, the priority decision Arla took was to ensure safe working conditions for all, with clear safety guidance by following the advice and recommendations of the Public Health Agency and the government. As stated, *“The decision was very complicated like how to guide every single individual who works in a different environment like a sales outlet, how to construct drivers to manage the collection of the milk from farmers, and how do we give the farmers guidance on how to handle and so on.”*

The second but most important decision was very quickly to prioritize the portfolio products that must need to be produced and what they didn't need to produce. Because of a chance of a 50% reduction in workforce, the factory had to change plans of how they were doing production. They made the priority code how they manage scenarios when there is a high possibility that they may have to work with half their manpower when others are sick. They made sure to maximize value performance for all farmers' milk and produced as much food as physically possible based on the priority code. As he said, *“We quickly must prioritize what would we need to must produce or what we don't need to produce up the priority code.”*

Another biggest challenge they faced was to be taken decisions on how to be on top of demand because to produce the right product, they need proper prediction. Online shopping exploded suddenly as people started to buy products online instead of from stores. So, Arla had to take an assessment about proper prediction about online products supply, because based on that forecast they had to buy production materials or plan their shipment structure. The interviewee mentioned, *“The forecast was difficult because online shopping exploded, and based on any forecast, we plan all shipments processed such as buying packaging materials, in the dairy how much milk production needed, etc.”*

Additional most obvious effect or difficulty Arla faced during Covid-19 was that customers' food consumption patterns changed. For example, due to restrictions in restaurants, schools, and so on, customers eating consumption habits from outside of the home decreased significantly. That why Arla's delivering fresh food products to these organizations was also decreased. In contrast, the domestic consumption habit of people increased dramatically. It's due to the work-from-home policy and restrictions on going out for outside food options. That's why the Arla team decided to increase the volume of home foods production on balancing the negative impact on their outside food sales, but this prediction was tough in a time of crisis as they didn't have much data for that. The interviewee mentioned, *“The toughest part of the beginning was to plan how do we pull the cost of the products that*

*consumers are going to want to buy and make sure that we have enough of them to meet them, so it was extremely difficult to predict where the volumes were going to high.”*

### Communication:

Managing the workforce was the most significant operating difficulty Arla faced throughout Covid-19, which was technically shifting from office to home. They had to learn how to work and communicate fast, effectively, and remotely. Their team was in constant contact with each other, mostly with the production team, and Arla had rapidly transformed the business to quickly reshaped its operation. As the interviewee said, *“I think it's the first one was just learning to work and collaborate mostly from home. Because when we were in the office, we were easily managed by simple things like getting enough accessories which were not simple from home.*

### Coordination:

The interviewee also indicated the potential beneficial effects of the pandemic or the positive side of the crisis moments that it helped to link them together and learn to collaborate with most. The pandemic brought them together as an organization and forced them to work collaborated better than they didn't do in the past. As the interviewee stated, *“This pandemic forced us to deeper, stronger, foster collaboration between all of the different parts of the business because it was, we need everyone needed to pull together here because this was affecting every single corner of all of our company.”*

Another obvious consequence of pre-pandemic is giving working flexibility for employees like now. Arla has a policy about flexibility built it in for its workers to work from home if it suits their work preference. The interviewee also stated that Arla is now more well-prepared for future crises like the pandemic than before. *“We now know how to handle something of this magnitude because we work hard to figure out how to manage the situation. We're more digitally advanced, figuring out how to work effectively remotely and flexible to work from home.”*

### Control:

The interviewee said that their sales increased in total, and business grew faster than expected. And their control over production support to handle that challenge. One main reason here is the high demand for domestic dairy products, such as the increased selling of yoghurts, which are considered a popular Swedish home snack or butter, as people started to be baked more as being home expanded their opportunities. From their fundamental business perspective, these rising expenses at home and loss of external business outlays appear to be largely balanced in terms of Arla's net income. He also mentioned that on their organisation's recruitment, there's no specific impact of the epidemic. It means that because of the Covid-19 pandemic crisis, Arla didn't decrease or increase its employees. *“It was good for our business, although it was a bad experience for many other businesses. from a net volume of revenue perspective, our business grew. The business has grown faster than we expected during the Covid-19 period.”*



### 4.3.2 Interview with logistics professional

The researchers arranged an interview with a concerned professional person from Arla logistics. The interviewee's total experience in this field is approximately five years and five months as a senior logistics Director in Sweden. The researchers structured the comments under the four elements of this crisis decision-making framework for systematic understanding,

#### Cognition:

The interviewee stated that the company's biggest problem was the high number of sick days. Between 15 and 20% of employees at some of their sites were out sick, but they still had to make the same amount or even pick, pack, and deliver the same amount. In rare cases, they had to decide what to do first, but that didn't happen very often. They were able to produce a full portfolio almost the whole time, which is something they are proud of, but it took a lot of extra work to figure out how to use the resources best. Do they need to bring in short-term help? Are they there and have they been trained? While from a commercial viewpoint, they also saw that they sent the least amount of food service products to restaurants, schools, university canteens, etc., the number of these types of clients decreased since fewer people were dining out; thus, retail volumes increased. Consequently, they saw some changes in the locations where their items were offered. Which was difficult to forecast, yet they controlled the epidemic exceptionally effectively.

According to the respondent, their culture of proactive risk management includes identifying a variety of sources, making preparations in advance, being aware of what to do, and modifying assortments based on the availability of raw materials. Enterprise Risk Management (ERM) rules have been put into place so that the company can respond appropriately to all risks that it may face. Arla's pre-existing culture of risk management is functioning to its full potential in the face of the pandemic catastrophe. Throughout the entirety of the pandemic situation, the essential strategies that they use for managing their personnel, production, and consumers have done very well. Because every country possesses its own set of regulations and ideas, the local management team is responsible for adhering to and carrying out the local suggestions and guidelines in addition to Arla's standards.

#### Communication:

The interviewee claimed that the most noticeable effect of the pandemic on her firm was a shift to a more team-oriented, streamlined approach to work. Employees are more accustomed to hybrid modes of operation and their good digital communication help them a lot. She believes this is the most significant difference. They are now more accustomed to handling volatility. Workers have been compelled to deal with variances in volume or variety. Consequently, they are now in a position where they can more quickly adapt to shifting settings, which has aided them in the present day. As said, *“I think the whole ways of working, we're more used to teams, smooth things. People are more used to a hybrid way. I think we're also more used to handling volatility.”*

According to the interviewee, the potential beneficial effects of the epidemic occurred when they hired people they had only met online. The first time they saw them was when they started working. The fact that they are now more accustomed to cooperating with individuals

when they do not meet in person is a significant advantage. They can better control volatility and must adapt to shifting situations. As said, *“I think that's a great benefit. I mean during the pandemic when I recruited people that I only met through digital and the first time I saw them was basically when they started in the job, I think we've got to use to changing conditions.”*

### Coordination:

According to the respondent, they adapted to new ways of working, and the everyone's right coordination mindset made it possible. Workers at the office were required to do their duties remotely, while those at the production and logistical facilities were required to perform their duties under tight conditions (keeping their distance, washing their hands often, and staying home if they were ill). Furthermore, if someone is confirmed infected, they had to do tracing abilities to see if they affected others. Even today, some of these practices are still in use, and even employees in office-based now can split their time between working from home and in the office. According to the interviewee, it is the most significant shift in terms of operations or methods of work.

And when asked about the biggest challenges her company is facing right now, the interviewee said that Covid-19 is still around, and they must continue to monitor it to determine whether it will evolve into another variation that it is necessary to monitor. On the other hand, there are not any obvious difficulties associated with it at this time. As stated, *“I think it's tricky to tell out what's linked to Covid-19 and maybe what's linked to the overall dynamics of the industries right now.”*

### Control:

Per the interviewee, the company did not decline or disappear, and in certain locations, they even controlled a 20% absence rate. One day was allotted for focused assortment reduction. Consequently, one day out of two years was not even a substantial drop in accuracy, and there was therefore none. It was handled extremely effectively, and even though it took a while to get the crisis meetings up and running, there were no actual issues or consumer impacts. As, *“It managed very well, and even though took a bit of time to get the crisis meetings running and all of that, we never had any problems or customer impact as such.”*

When it comes to the influence of Covid-19 on recruiting, the pandemic has not had any discernible effect. However, people may be switching employment more often following the outbreak than they did during the pandemic's two-year duration. In the past six months, they have observed an increase in volatility, with employees moving either inside or to other organizations. During the epidemic, they grew accustomed to this, but it has continued owing to other circumstances. They face a great deal more volatility. As mentioned, *“I think the big thing that has also happened, which is not only the pandemic, but the Russian invasion in Ukraine and has led to a lot of Supply chains.”*

Additionally, regarding whether the company is prepared for any potential future crisis the interviewee stated that they are now better prepared than they were at the beginning of the epidemic when they were just getting up and running. In the beginning, they must ensure that they assemble crisis teams with a variety of KPIs to ensure that they make the correct

judgments. In addition, they are now more able to manage the situation; they were competent at it before, but they have become accustomed to it in a different way. And when such occurrences occur, it is evident that individuals focus on the present a great deal more, ensuring that they make the necessary judgments to keep operations going, while also retaining lessons for future crises and so on.

### 4.3.3 Interview with consumer marketing professional

The researchers arranged an interview with a concerned professional person from Arla food's Sales department. The interviewee's total experience in this field is approximately fifteen years as a Sr. Mang manger in Sweden. The researchers organized the comments under the four elements of this crisis decision-making framework as below,

#### Cognition:

According to the interviewee, they were efficient and focused on the whole process. They eliminate a few operations for manufacturing to concentrate on the core business. Likewise, they were no longer allowed to visit consumers, and there needed to be more individuals in the companies. Consequently, they attended daily crisis management sessions many times. There was undoubtedly a tremendous advantage to what they are doing today, as they have become much better at holding efficient meetings across teams and operating in a firm with cross-functional cooperation across various geographical locations. As stated, *“We work in a company with cross-functional collaboration between different geographical regions.”*

As she mentioned, they have been confronted with a new manner of functioning that is hybrid. And about how is the production, if it increased or decreased, the interviewee stated that they are a corporation that produces primarily essential items. They also manufacture speciality products, but milk, yoghurt, butter, and cheese, staples in every family and consumed many times per day, are their primary offerings. From a retail viewpoint, they consume far more since they only eat at home rather than at restaurants. Therefore, it had a highly favourable influence on their retail operations. In addition, they are a provider of food service for restaurants, cafés, lunch eateries, etc. Sales to these units declined significantly during Covid-19. As stated, *“We are a company that produces a base product that mainly has some niche products as well, but the base products of milk, yoghurt, butter, and cheese which is in every household and on the table several times a day.”*

#### Communication:

The interviewee said that a challenge arises when they are unable to interact with other individuals. But still, they had regular meetings in various forums to plan day-to-day operations. Especially for Salesmen need to establish new routines for that, and they are efficient in how they do so. The interviewee claimed that they had one positive and one negative effect of the pandemic on her firm. One advantage is that they make things faster, even though all these digital tools and everything else has always been accessible. Yet, they did develop extremely rapidly because they had to. They felt a feeling of urgency to get things done, and as a result, they did. That is the advantageous long-term consequence, and another short-term result is that they will state that, even though they are a vast and complicated firm, they were able to respond to the crisis in a very effective and expeditious

manner because of their crisis management. As said, *“One positive is that we speed it up; all the digital tools and everything have been available before, but we improved very quickly we had to.”*



#### Coordination:

According to the interviewee, the potential beneficial effects of the epidemic occurred in being able to conduct quick digital meetings that are efficient instead of having to locate a space to have them. And go to a specific location, among other things. All staffs were very aware of their responsibilities. As a result, they have reduced the amount of travelling they undertake and become more productive. Per the interviewee, it is tough to determine what is expected since they moved from covid to a brief time when it would be typical, but where we struggle to comprehend, which is our historical standard. Consequently, there was a massive inflationary scenario. In a relatively short period, the pot has been aggressively stirred, which has altered consumer behavior and necessitated a thorough understanding.



#### Control:

She stated as, having a base business that had 100% market penetration and is accessible to service that market had a good influence, in the end, on the company's whole business over those years, allowed to control the market. Regarding the influence of Covid-19 on recruiting, the interviewee claimed that they always had control over the workforce. As for the current state of the interviewee's company's operations, she believes that, as with many other businesses, this one operates as a hybrid organization—at least for white-collar workers. This means that they have the option of either sitting in the office or somewhere else. Additionally, regarding whether the company is prepared for any potential future crisis, the interviewee stated that crisis management was rapid and exceptionally skilled. However, they came up with a satisfactory solution since they are proficient in crisis management. As mentioned, *“I would say we were extremely fast and extremely good at it, and all the employees were very impressed with it. So, I think it's several and linked to.”*

## 5. Data analysis & results

The purpose of this chapter is to analyse the findings from the previous empirical chapter and address the findings using the theoretical framework from the second chapter. The first part of this chapter will describe how the researchers analysed the empirical data and the thematic data analysis method from conducted interviews. The rest of this chapter provides a synopsis of the interview data and an analysis of it from the standpoint of the Crisis Decision-Making theory to gain an understanding of the response to and the impact that the Corona outbreak had on the economy of the selected instance. The data are analysed so that the participants may provide feedback on how effective their actions have been in combating the disease.

### 5.1 Data analysis using thematic analysis

In this section, the collected empirical data are coded from transcribing the data and organized according to thematic categorization to develop and discuss themes. A code is not an explanation. It is a way of organizing the data into meaningful groups and a summary of what is being said in the interview (Bryman & Bell 2015). The researchers then visualized the relationships between the various codes and compared the most relevant themes to the empirical data to see if they supported the main theme. The whole data analysis part is described in Table 6.

Table 6. Thematic Analysis of Empirical Data from conducted interview

Participants	Data from the Interview	Coding	Thematic Categorizing	Theme
Logistics representative	<ul style="list-style-type: none"> <li>• Managing high numbers of sick absent employees through continuous <b>communication</b></li> <li>• Proactively <b>control</b> customers' sudden changes in food consumption patterns</li> <li>• Productively adapted shift to a more team-oriented and <b>coordinated</b> approach to hybrid</li> <li>• Ensured crisis team aligned with various KPIs to ensure made the right decisions (<b>Cognition</b>)</li> <li>• Safeguarding to keep operations and sales ongoing (<b>control</b>)</li> </ul>	<ul style="list-style-type: none"> <li>• Msaw (Managing sick absent workers)</li> <li>• Hcscfcp (handled customers' suddenly changed food consumption patterns)</li> <li>• Pahw (productively adapted hybrid work)</li> <li>• Gpl (good prediction ability)</li> <li>• Cpm (control over production and market)</li> <li>• Ecaw(effective communication among workers)</li> </ul>	<ul style="list-style-type: none"> <li>• Coordination</li> <li>• Cognition</li> <li>• Communication</li> <li>• Control</li> </ul>	<ul style="list-style-type: none"> <li>• Crisis decision-making framework</li> </ul>
Sales representative	<ul style="list-style-type: none"> <li>• Effectively adapted pandemic situation to shifting settings (<b>coordination</b>)</li> <li>• With the right prediction remains on top of demand to produce the right product (<b>cognition</b>)</li> <li>• Quickly prioritize the portfolio products (<b>cognition</b>)</li> <li>• Handle the challenge of taking overall decisions as a single organization (<b>communication</b>)</li> <li>• Better control of volatility (<b>control</b>)</li> <li>• Ensure safe working conditions (<b>communication</b>)</li> <li>• Maximize production (<b>control</b>)</li> </ul>	<ul style="list-style-type: none"> <li>• ess (effectively shifting situation)</li> <li>• rprp (right prediction for right product)</li> <li>• qppp (quickly prioritize the portfolio products)</li> <li>• bcv (better control volatility)</li> <li>• mp (maximize production)</li> </ul>	<ul style="list-style-type: none"> <li>• Cognition</li> <li>• Coordination</li> <li>• Communication</li> <li>• Control</li> </ul>	<ul style="list-style-type: none"> <li>• Crisis decision-making framework</li> </ul>
Consumer marketing representative	<ul style="list-style-type: none"> <li>• Working flexibility for employees (<b>Coordination</b>)</li> <li>• Well-prepared for crises with an identifiable prediction (<b>cognition</b>)</li> <li>• Crisis helped to link them together and learn to collaborate with most (<b>Communication</b>)</li> <li>• Effectively adapted hybrid work (<b>Coordination</b>)</li> <li>• Ensured safe working conditions (<b>Control</b>)</li> </ul>	<ul style="list-style-type: none"> <li>• ewf (employees working flexibility)</li> <li>• ipc (identifiable prediction for crisis)</li> <li>• chl (Crisis helped to link)</li> <li>• eahw (Effectively adapted hybrid work)</li> <li>• esw(Ensured safe working)</li> </ul>	<ul style="list-style-type: none"> <li>• Coordination</li> <li>• Cognition</li> <li>• Communication</li> <li>• Control</li> </ul>	<ul style="list-style-type: none"> <li>• Crisis decision-making framework</li> </ul>

## 5.2 How Covid-19 economically impacted Arla

As we stated in the problem background, the Covid-19 pandemic has impacted every sector of business and organizations worldwide. Through the research questions, we tried here to investigate the real picture of the impacts of this pandemic particularly on the Swedish agricultural cooperative Arla's economy and operation, and how this Swedish cooperative have handled this crisis. Hence, through the literature review and empirical data presentation, we have collected the data from our case company for investigating and finding out the answer to our research questions.

As the first part of our research question is, 'How did Covid-19 economically impact Arla?' our findings from the literature reviews and empirical data present the answer to this question. From the secondary data collected from Arla's website, annual reports, and empirical data from our interviewees it has been proved that the main factors of economic measurement of any business organization like total sales and production have increased in Arla so that Arla is not negatively affected economically during the pandemic. According to interviewees' response, Arla's sales have increased overall, and the business has grown faster than their expectations, mainly because of the high demand for domestic dairy products during the Covid-19 crisis. Since the first month of the pandemic, their business has seen an increase in sales which has ultimately brought more efficiency in their production process, management capacity, and productivity and their control over production support to handle that challenge efficiently. From their fundamental business perspective, the explosion of dairy income from domestic dairy products and the loss of external sales due to public restrictive policies seem to balance out Earle's net income. Conferring to interviewees and annual report records, Arla's management's appropriate crisis decision process helps the business chain remains functional and practical despite the pandemic situation.

## 5.3 How Arla handled the economic impacts during Covid

As described in the second part of our research question is, 'How did Arla handle these economic impacts?'. To answer the question the researchers used the lens of the theoretical framework to analyse the empirical data to understand how Arla has handled the economic impacts of Covid-19. All interviewees answered this question based on their experiences. We have detailed all the strategies that have been followed by Arla as per the opinions of the interviewees. During discussing this question, the interviewees mentioned several strategies that they have adapted to address the overall impact of Covid-19 disruption. From the perspective of a crisis decision-making framework during this pandemic time, the researchers found that the decisions taken by Arla during Covid-19 were the satisfactory combination of the four factors of the crisis decision-making framework. Along with different policy development and implementation, Arla management has also implemented the crisis time decision-making approach to address the overall business disruption issue.

As we have discussed in the theoretical framework, crisis decision theory is consisting of four elements: cognition, communication, coordination, and control (Comfort et al. 2020). From the data from our interviewees, we have observed that the strategies, that Arla followed during the pandemic time, are mostly fit these framework elements. Here we have illustrated the strategies from the crisis decision-making theoretical lens elaborately.

### 5.3.1 Cognition

Empirical data and interview responses here indicate that uncertain fears about Covid-19 and appropriate preparedness are factors in awareness which in turn have led to new strategies for Arla. As refers to crisis management, cognition is the ability to identify the level of emerging risk to which an organization is exposed and act effectively on that information (Comfort et al. 2020). As the sales interviewee remarked, fearing loss of manpower approximately 50% of management decided to produce as much of the key products (e.g., yoghurt, butter, etc.) as physically possible, according to production estimates. Earlier their team worked day and night to gather data to understand key product inventory and make decisions based on consumer behavioral predictions. This includes exploring new potential markets, including yoghurt or butter.

The first step of the crisis decision-making framework, cognition explains here that due to the fear of running out of raw materials and losing the workforce, the managerial department was heavily influenced to develop a new strategy that would not be the case in a normal situation. Based on information about Swedish common individuals' food habits (e.g., yoghurt is one of the favourite dairy snacks, and staying home will increase butter consumption for cooking purposes)—capacity planning by determining the production capacity required to meet the changing demands of Covid-19. The decision, as it turns out, is based on fear which ultimately leads to the "what if" question. As the interviewees informed the decision makers from Arla first identified and analysed the challenges and calculated possible solutions for its respective risk category. From various interview comments, we can see that mainly flexibility and adaptability during the business process helped Arla to deal effectively with the crisis. Based on the comments of various interviewees and the collected data, Arla's pre-Covid-19 cognition plan based on the crisis decision-making framework is shown in Figure 8.





Figure 8. Arla's pre-Covid-19 cognition plan based on crisis decision-making framework (own illustration)

According to Arla's interviewees, their decision-making authorities always rely on the local management of different business units in different countries, which helps them with the ability to make quick decisions. Furthermore, as the interviewees pointed out, being in the food business Arla must maintain a high level of health and safety measures normally, which was kind of the same as the suggestions advised by governments to avoid the infection of the Covid-19.

Although according to the Arla Annual Report (2019), 2020 was a challenging year for many Arla farmers as they faced rising production costs and additional requirements. Despite the disruptions associated with the corona pandemic, Arla's collaborative approach with stakeholders to focus on producing what was most efficient kept them stable and viable. Arla already had an existing setup that could adjust supplementary requirements without gaining additional budgets, installing new equipment, or hiring a new workforce who needed to train. Many other companies, due to their poor cognition of the crisis, however, failed to adjust to the increased volume as they had to hire more people and take additional measures to cope with demand.

### 5.3.2 Communication

According to the crisis decision-making framework, communication involves connecting the sender and receiver to a shared understanding of the message (Comfort et al. 2020). All interviewees mentioned how effective communication was always between Arla team members so that everyone was aware of their responsibilities. Digital communication modules (such as Zoom, Microsoft Teams, etc.) support them to continue, and all individuals are connected to their team through accurate and effective communication from anywhere in any condition. During a crisis, senior management looks for appropriate strategies and possible series of actions by analysing its merits and demerits and potential approaches. Meanwhile, middle management adheres to all requirements to ensure effective design and chooses the organization's operational risk exposure between appetite and tolerance. And all was connected and depended on effective communication procedures.

According to both sales and logistics interviewees, Arla had adapted very quickly to the new hybrid method of performing their duties remotely. Moreover, it is linked to other actions as all decisions were well communicated to the relevant stakeholders and regularly reviewed and monitored by the concerns. Besides, the interviewees indicated that Arla had strong relationships with customers and suppliers that had been consolidated over the years through continuous and effective communication and collaboration with all the business-chain actors. Based on the comments of various interviewees and the collected data, Arla's effective communication cycle based on the crisis decision-making framework during Covid-19 plan is depicted in Figure 9.



Figure 9. Arla's effective communication cycle during Covid-19 based on crisis decision-making framework (own illustration)

### 5.3.3 Coordination

When organizations are actively engaged in their interdependent tasks, they align their resources, tasks, and time to achieve a shared goal, defined as coordination under the crisis decision-making framework (Comfort et al. 2020). From the information obtained from the interviewees, researchers found that Arla maintains a high level of efficient communication and cooperation with their farmers, employees, stakeholders, and customers. As the sales concern stated, their business characteristics demand constant updating to adapt to market demands. Consequently, their milk supply units actively interact with farmers, factory concerns, and transport companies to know their capabilities and requirements to supply the export market. Therefore, Arla's supply chain's actors are always highly interdependent and integrated with systems. Thus, active coordination between their productions and delivering actors was crucial and helpful for Arla during Covid-19 to handle the crisis. The logistics interviewee claimed that Arla was shifted towards a more team-based, streamlined approach and more accustomed to hybrid modes of operation. Besides, Arla has an active chain of command with enough convenient resources such as a trained workforce, capital etc.

According to the sales interview, moments of the pandemic crisis brought them together as an organization and forced them to learn how to collaborate better than they had in the past. In the early months of the pandemic, when they faced capacity issues with meeting the growing demand for some of their products due to panic in the retail market, their level of collaboration with distributing and delivering actors increased manifold. Sales departments and their employees interacted digitally with customers on a daily basis to understand the growing demand for products in stores. Close collaboration with their wholesale and retail customers helps them prioritize production. If they decided to reduce or increase the general range of products, they offered without consulting their customers, their business and relationship with them suffered. Based on the comments of various interviewees and the collected data, Arla's coordination cycle based on the crisis decision-making framework during Covid-19 is shown in Figure 10.

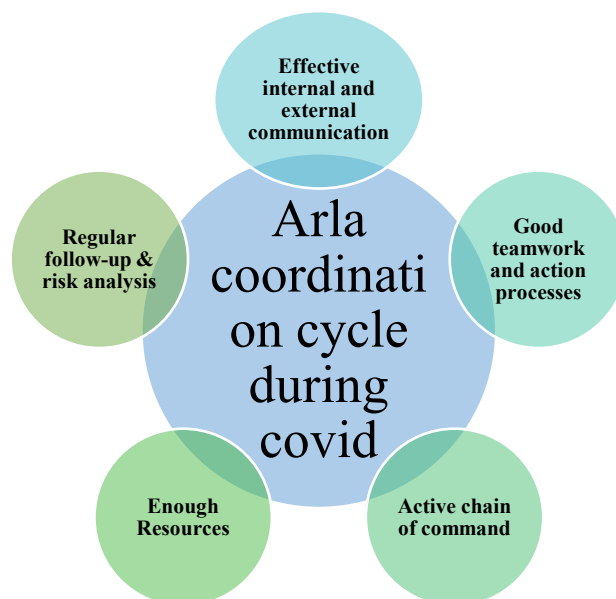


Figure 10. Arla's coordination cycle during Covid-19 based on crisis decision-making framework (own illustration)

### 5.3.4 Control

Control is specified as achieving a reasonable balance between mitigating the impact of the crisis on business and maintaining a safe level of economic activity in a crisis decision-making framework (Comfort et al. 2020). Arla's main strength is the nature of its business and the design of its supply chain, active field team & suitable planning which has made it more resilient to continue operations despite disruptions from the pandemic. As the interviewees mentioned that the farmers who own the company are Arla's suppliers which indicates that Arla has entire control over the actions of their suppliers which helped them to manage excess production during the crisis. The first thing they did during the pandemic was to check their stocks, the shipments coming in and contracts with farmers to make sure how they could handle the uninterrupted flow of raw materials. Also, Arla has manufacturing units in every country where it operates, a key factor that makes Arla's business chain less vulnerable to disruption. Their local manufacturing base business and reliance on local sourcing with short lead and transportation times have made their logistics flow seamless.

The consumer marketing representative revealed that as an organization, Arla has a good control structure, suitable planning, processes, and resilient practices, which increases its ability to manage the unexpected and flexibility in dealing with adverse situations. They have prepared their organizations in a way that makes them resilient with responsive leadership teams and good control structure to environmental disasters like the Corona pandemic. The most important benefit of working for Arla is their business sector which has increased demand due to the pandemic. The total Arla brand product range grew by 9.6% in 2021 including Arla Cravendale (6.7%), Arla Skyr (12.5%), and the yoghurt brand Arla Protein (38%), following record-branded growth in 2020 due to increased home cooking during the lockdown phases of the pandemic (Jim, 2022). Based on the comments of various interviewees and the collected data, Arla's control over the business during Covid-19 based on the crisis decision-making framework is shown in Figure 11.

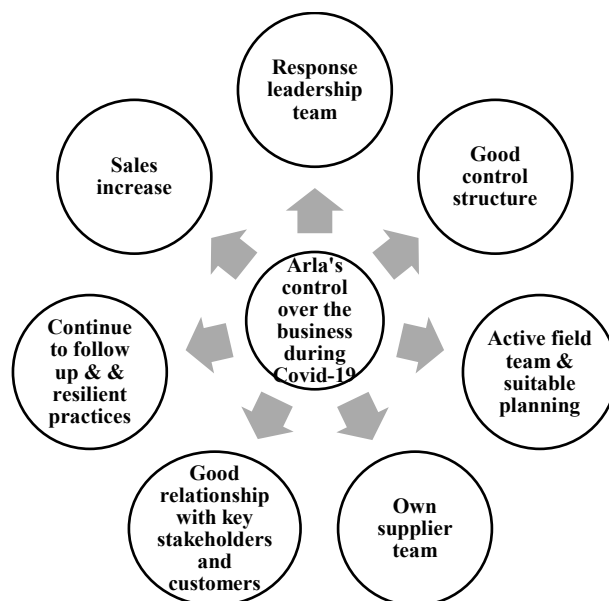


Figure 11. Arla's control over the business during Covid-19 based on crisis decision-making framework (own illustration)

## 5.4 Synopsis of the analysis

The results of the analysis provide an interesting insight into how proper crisis decision-making framework practices strengthened an organization's ability to resist, adapt and even grow in turbulent situations like the corona pandemic. After elaborating on all the strategies followed by Arla as per the opinion of the interviewees, the situation points out the appropriate combination of the four elements of the crisis decision-making framework during Covid-19. The results suggest that Arla's top management follows strategies that are based on a comprehensive understanding of the crisis decision-making framework discovered appropriate to the organization and its economic chain stabilizing. Arla's management's reactive approach to making the right crisis decisions for business continuity focuses more on how it can continue to operate while protecting its people and producing key products on demand. The results of this thesis guide that the crisis decision-making framework helps Arla to create a fine balance of management capabilities with the unique characteristics of its economic chain and the environment in which it operates by knowing its strength and vulnerabilities.

## 5.5 Discuss results with previous studies

According to the study by Weersink et al. (2020), the dairy industry is one of the industries that has been hit the worst during Covid-19 because dairy products have a short shelf life and are heavily dependent on integrated supply chains that are sensitive to the passage of time. But from the data collected from our case company Arla, we find that; Arla overcame this challenge with their efficient and quick local supply chain here in Sweden that supports it to continue the business profitably. In addition, being in the dairy sector as a reliable brand and diversified business portfolio that made enabled them to balance their business channels shifting. Arla's local management team is responsible for adhering to and carrying out the local suggestions and guidelines. According to interviewees and annual report data, from the first month of the pandemic, Arla's sales of domestic dairy products had boosted. That happened as their productivity remained functional and effective through utilizing the full capacity of the operation. Arla's continuous collaboration with upstream (production) and downstream (delivering) business chain actors help maintain a continuous flow of products and services to end customers despite disruptions. According to many research studies discussed in the literature review, the most significant adaptation for almost all organizations has shifted towards communication digitalization of their business as we found that Arla not only shifted towards communication digitalization but also executed effectively as all their staff coordinated with this hybrid system efficiently.

According to Francesconi et al. (2021), different cooperatives did not handle the situation or survive during the Covid-19 due to organizational immaturity, lack of working capital, and limited business positioning. From our empirical data, we found that Arla's overall control over the business with a proactive organizational structure and both diverse dairy business helps it to cope with the damage. In addition, Arla's operative cognition capabilities identify different sources, prepare in advance, know what to do, and change inventory based on the availability of working capital and raw materials to survive. Zou et al. (2020) also reveal that some organizations mostly changed their existing business strategy trends, and here the

empirical data from this study also indicates that Arla changed its business strategy by increasing home dairy production while outdoor business faced challenges during the Covid-19 crisis. Besides, Arla's prevailing culture of flexibility and adaptability to changing conditions in its operations and supply chain increased overall revenue during the pandemic, as described in the interview section. As Qingbin et al. (2020) discussed how dairy cooperatives in China and the United States had made a market adjustment by reducing milk production with early milk drying. Here we see in Sweden Arla had to do the opposite due to consumer overdemand of household dairy products.

## 6. Findings & Conclusions

This chapter aims to clarify the findings of the thesis from the previous chapters and to answer the research questions stated in the first chapter, and at the end of this chapter, the authors mention future research that could be undertaken.

### 6.1 Results of the research

This study aimed to investigate how Covid-19 economically affected the cooperative in Sweden and how the cooperative handled these economic impacts. According to the stated aim, after investigating and analysing all the empirical data, the researchers came up with answers to the research questions. To answer the first research question, which is mostly descriptive, the researchers have preferred to collect data from semi-structured interviews.

#### *1. How did Covid-19 economically impact Arla?*

From the first question of how Covid-19 economically impacted the cooperative, Arla specifically in Sweden, the researchers found that the case representative cooperative Arla had a positive economic impact, i.e., increased their sales and profitability during the pandemic. Thus, it observed that although many companies were negatively affected by Covid-19, Arla still had high sales and profits due to changing consumer habits during Covid-19. Arla's overall revenue has increased because the increase in household consumption of dairy products has outweighed the loss of dairy outlets (e.g., restaurants, school canteens, etc.). To stay in the market, they balanced both consumption areas' opportunities and continued. Arla's timely and appropriate crisis decision structure, especially accurate cognition planning and strong control over production to sales was largely supported here.

#### *2. How did Arla handle these economic impacts?*

And to answer the second question, which was how the cooperative, Arla handled these economic impacts, researchers found the result from the interview data. This second question aims to understand cooperative resilience measures in the Swedish food supply chain in response to the pandemic. The framework of crisis decision-making presented in the theoretical framework chapter is used to answer this question. According to interview data from the professionals who were at the front line of making decisions, the decisions followed by Arla's management during the Covid-19 period were essentially a proper adjustment of the crisis decision-making framework that helped Arla remain financially stable during the crisis. Empirical data collected from the interviewees indicate that the approaches Arla used to survive and continue the business during Covid-19 are significantly influenced by the crisis decision-making framework components explained in the literature, such as 'cognition', 'communication', 'coordination', and 'control'. This thesis realizes that Sweden's leading dairy

industry has improved its management decision-making even during unprecedented events such as the corona pandemic with sound crisis decision-making practices. By investigating Arla's business practices and output for the period of Covid-19, this thesis concludes that the proper usage and practice of effective crisis decision-making concepts can strengthen organizations' management decision-making practices. According to Arla's business results, it can justify and validate the impact of time-crunch crisis decisions for any other organization. While it cannot be said that a crisis decision-making framework is a solution to all the crisis problems related to the cooperative industry, it has been found that a crisis decision-making framework is very relevant for management responsible for decision-making to maintain business continuity in crises like Covid-19. It can also help prevent similar environmental disturbances to achieve other business continuity.

## 6.2 Further research

In this thesis, using a case study, an attempt is made to examine cooperatives in depth in the Swedish agri-food sector to understand how cooperatives are economically impacted during Covid-19. This case study has shown how the crisis decision-making framework works effectively in a cooperative business in Sweden during an uncertain crisis like Covid-19. Covid-19 is an ongoing threat, and organizations are still facing many challenges and opportunities that have to be considered along with other regular crises. Due to a lack of resources, this thesis has not researched the impacts on other views or perspectives like social or environmental. Further studies in this sector could address the overall impact of crisis decision factors on other perspectives as well. In short, it may be more useful to undertake more time, experience, and research needed to decide and more precisely implement crisis decision-making frameworks for cooperatives. In the end, since the literature on the impact of a pandemic on agricultural cooperatives in Sweden or similar developed economies areas is exceptionally weak, the results of this thesis literature will help researchers to add knowledge contribution in the future.



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## Popular science summary

Covid-19 has been a major cause of business closures or losses in various countries. In particular, industries with a short shelf life and very time-sensitive products, such as dairy products have been hit the hardest during Covid-19. This thesis studies how a leading dairy cooperative in Sweden was economically affected by Covid-19 and how it managed to survive the situation. Covid-19 is still an ongoing threat, and this knowledge can be helpful to other similar organizations in how to recognize, respond to, and recover from this serious invisible threat. Arla, Sweden's largest dairy cooperative, used a crisis decision-making framework that combined efficient coordination of four basic organizational elements that managed the Covid-19 challenges. The components are cognition or knowledge, communication, coordination, and control. First, Arla has ensured timely and accurate cognition planning with sufficient consumer consumption information. Effective communication with the internal active production team and external supportive stakeholders helps a lot. Besides, its coordinated workforce assisted Arla in continuing the plan of action. Additionally, proper control over production (as its owners are the main suppliers) and markets enable Arla to manage large-scale global crises like Covid-19.



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Thank you!

Farhana Sultana & Nourhan Abdelsalam

# Appendix 1

## Interview Guide

Semi-structured Interview Questions for the Case Study Interviewees:

1. To what extent has this epidemic affected the functioning of your firm?
2. What were the most significant operating difficulties your firm faced throughout Covid-19?
3. What is the most obvious effect of the epidemic on your firm?
4. Did your organization intend to decrease or increase its employees? What impact has the epidemic had on recruitment?
5. As a consequence of the Covid-19 pandemic, how long did your firm impose travel restrictions on its staff?
6. What is the present situation of your company's operations?
7. How well-prepared is your organization for future crises?
8. In your opinion, what are the potential beneficial effects of the pandemic?
9. What are the main challenges your firm currently faces resulting from Covid-19?
10. How long did it take for your firm to fully restore operations?
11. What is the selling or production situation during the pandemic? Whether it's good or bad, how your organisation took the decision to handle the situation?

## Appendix 2

### Ethical conduct criteria guide

- a) Potential harm to participants is considered unacceptable by most people, where harm to participants includes not only physical damage but also a loss to participants' professional life, emotional harm, participants' self-esteem development, stress, etc. (Bell et al. 2018). In this thesis, the researchers decided to keep the participants anonymous due to this fact if there was any request. The researchers believe it is important to consider confidentiality when dealing with personal information such as identity if requests for privacy are to be respected.
- b) Lack of informed consent occurs when information about the author or research is withheld from participants (Bell et al. 2018). To avoid this, an endeavor has been made to clarify the author's academic background, the purpose of the study, and how the participants' data are used.
- c) Participants have privacy rights that should be respected, and invasion of privacy is closely related to lack of informed consent (Bell et al. 2018). The intention of the study does not entitle the authors to interfere with this type of confidentiality of contributors. Participants were allowed to withdraw any sensitive issues or questions (from their perspective) that arose during the interview to avoid invasion of privacy in this thesis. Also, the questionnaire was designed in such a way that the participants do not feel uncomfortable or pressured to answer the questions.
- d) Deception can occur when researchers misrepresent their study to participants imperfectly (Bell et al. 2018). Here, such problems were avoided by clearly informing participants about the study, providing them with options on how to use the material, and validating their answers.
- e) Here, the authenticity of information is ensured by the provision of a balanced and fair view of multiple opinions. Also, properly referencing to acknowledge the contribution of other authors is used in this thesis.

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