SUSTAINABLE DEVELOPMENT: A NEW ZEALAND AGRI-FOOD CORPORATE BUSINESS AND COOPERATIVE RESPONSE.

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Abstract

The United Nation (UN) has commissioned a global call to action a sustainable future through the development and achievement of 17 Sustainable Development Goals (SDGs) by 2030. Corporate business and cooperative business models in the New Zealand Agri – food sector are recognised as key actors in the adoption of the sustainable development agenda to address social, environmental, and economic global challenges.

This research seeks to analyse the response to sustainable development between two different business models: Agri-Food corporate business and Agri-Food cooperatives in New Zealand. The main objectives of the study were to develop and apply a theoretical framework in response to sustainable development by two different business models: Agri-Food corporate business and cooperative models, and to compare the responses to sustainable development in these two models.

The study was conducted through a multiple case study approach of the two business models within the red meat sector in New Zealand. A qualitative research approach was adopted using a semi-structured interview approach for primary data collection and assessing business documents for secondary data. The participants were selected by purposive sampling to ensure the validity and specific information and insight were captured from relevant actors. A cross-analysis and pattern matching was used to analyse and compare the results of both entities.

The results from the study indicated that both business models are responding to economic, environmental, and social dimensions of sustainable development. The analysis revealed that the Agri-Food cooperative is responding to all dimensions but more extensively toward the social dimension of sustainable development. The Agri-Food corporate business is responding to all dimensions but more broadly, responding toward the environmental dimension of sustainable development. As both business models are responding to sustainable development, it is recognised that both firms are in the initial stages of developing a formal approach of reporting sustainability within their organisations, structuring their activities to better align to international sustainable development reporting standards.

Keywords: business models, corporate business, cooperative, sustainable development.

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I give all praise and glory to my Lord Jesus Christ

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1. CHAPTER ONE: INTRODUCTION

1.1. Background

The sustainable development agenda commissioned by the United Nations (UN) in 2015 is a call-to-action to achieve 17 Sustainable Development Goals (SDGs) (United Nations, 2015). These actionable SDGs have since been adopted by the 193 UN member states, as a commitment towards global partnership for a sustainable future by 2030 (UN, 2015). In acknowledgment of this agenda, the Member States of the United Nations (UN) has pledged to zero poverty, preserving the environment, and promoting economic and social well-being (UNSDG, 2019). To achieve these goals and their associated 169 targets, there is a level of partnership required by all stakeholders inclusive of the public sector, private sector, and civil society. Cooperatives and Corporate business are part of those called to action and organisations by their nature, have a key role to play in their response to the objectives of the agenda (UN, 2015). Their support is relevant, as the lack of transformative action given universal challenges of poverty and wellbeing, climate change, inequality, economic hardship, and natural resource scarcity, sets the world at a delayed pace in achieving a long-term sustainable future (UN,2021).

The cooperative models and corporate business models are recognised as two of the key partners in achieving the ambitious mandate (Ordonez-Ponce, 2021; ICA, 2013; UN, 2015). The corporate business model by nature promotes aspects of economic development through corporate activities related to compliance with regulations, maximisation of profit, and creation of employment around goal eight (8) “decent jobs and economic growth”. (Inigo, 2019; UNDP and GRI, 2016). Correspondingly such corporate activities of job creation and economic growth, position corporate business models to leverage the public sector in closing the financial gap in achieving sustainable development goals. As such, it has been recognised that public financing as the sole funding mechanism will not achieve the targets of the SDGs (UNDP and GRI, 2016). Additionally, the corporate business model is regarded as an agent of change based on its ability to innovate and provide solutions to global challenges in adopting sustainable measures (Alcivar, 2020).

The Agri-Food sector in New Zealand contributed NZD $9 billion to GDP, and 50 percent towards employment (Beef and Lamb, 2020).The red meat industry specifically is valued at NZD $12 billion providing 92,000 jobs (Beef and Lamb, 2020). The ownership share within the red meat subsector includes more privately owned firms, followed by cooperative (MBIE, 2019). Cooperatives and corporate business models play a valuable role in the organizational structure of the red meat sector with the top exporters organized under these business models (MBIE, 2020). Although the red meat sector is a strong revenue earner, emissions by the sector contribute over 50 percent to greenhouse gases as of 2020, with dairy cattle contributing 25 percent, sheep, and beef contributing 20.8 percent (MFE, 2020)

As a result, the government has been developing and implementing policies to guide and attain objectives for sustainable development, by adopting, implementing, and monitoring sustainable activities in firms (MFAT, 2019).The cooperative model by nature of its role and core principles, focus on values related to cooperation solidarity, and membership, positions to achieve elements of the sustainable development agenda (Birchall, 2003). As such, cooperatives cater to the needs of potentially one billion individuals worldwide, contributing to the social dimensions of development including sustaining livelihoods, enhancing job security, ensuring safe labour conditions, and providing support for the community (Wanyama, 2014). Additionally, cooperative values seek to deliver outcomes that are in the best interest of their members and stakeholders beyond profit maximisation and job creation (ICA, 2013). In New Zealand, cooperatives account for half of the share in the red meat sector, create jobs, and represent 19 percent of New Zealand's economy in terms of GDP (Garnevska et al, 2017). Their operation in various sectors allows them to play key roles in areas of socio-economic development, by responding to creating sustainable communities, provision of employment and growth of the economy, and promoting health and well-being (ICA-COOP, 2020).

These business models are being required by government regulators, investors, and society to increase their level of accountability and corporate risk management inclusive of social and environmental-related reporting (Duguid, 2017). Several recognised reporting frameworks guide and monitor the response of business activities and their link to the SDGs and sustainable development (Chang et al, 2017). The Corporate Social Responsibility (CSR) and Global Reporting Initiative (GRI) frameworks report on sustainable development activities in organisations and firms (Nunez and Nunez, 2019). Additionally, firms utilise indicators as a measure of evaluation of their activities and whether they are conforming to sustainability (Kumar - Singh et al, 2009).

The success of the sustainable development agenda is dependent on the integration of all dimensions. This is fulfilled when the firm commits to economic, environmental, and social elements and incorporate them into strategies and decision making (Pwc,2008) Accordingly, research has shown that the extent of the response by corporate business models to aspects other than economic sustainability such as social and environmental sustainability is essential in assessing their response (UN, 2015; PWC, 2018). For cooperatives, the extent of their response to other aspects other than social and economic sustainability such as environmental sustainability is also relevant in assessing their response (ICA, 2013). Furthermore, signatory state governments have begun incorporating the goals and targets of sustainable development into their national agendas. As a result, the analysis of the response and implementation of sustainable development by relevant actors in society is pertinent for successful implementation and attainment of the agenda by the set timeline of 2030.

1.2. Problem Statement

The Agri-Food sector in New Zealand plays a significant role in the economic development of the country as 77 percent of domestic production is exported contributing NZD $42 billion in revenue (Dalziel, 2018). The New Zealand government has from 2003, mandated that sustainable development to be incorporated into all government policy (Collins et al, 2010). Agri-Food leading enterprises are currently making strides towards pursuing strategies that environmental performance to suit consumer preference. Considering this, firms within the sector have begun utilising frameworks such as the Global Reporting Initiative (GRI) to present their sustainable development initiatives and activities (Dalziel et al, 2018). Collins et al, (2010) further elaborates that as firms are under pressure to show transparency in their approach to sustainability, their failure to integrate sustainability dimensions leads to regulatory intervention by the government. To counteract this, larger firms have opted to report on sustainability voluntarily; However, there is much variation in the level and nature of sustainability information reported (MBIE, 2020).

Corporate business' participation in the agenda has been recognised; however, a gap remains in recognising whether companies (PWC, 2018) are translating sustainable activities and information reported on by corporate businesses into corporate business actions. The motive towards sustainable development for corporate businesses has been toward the attractiveness of the investment and to SDGs, which present the greatest transformational change for the business (Schramade, 2017; SDGF, 2016). Additionally, these corporations are motivated to

contribute towards SDGs based on the economic incentive of achieving wider market shares and profits rather than responding to social benefits for their employees or consumers (SDGF, 2016). Corporate businesses commit to sustainable development goals by a pledge; however, their intentions towards the achievement of the goal remain uncertain (PWC, 2018).

In the same way, the cooperative model is known to be linked to social dimensions of sustainable development compared to economic and environmental dimensions, but all dimensions are present and are rooted in the operations principles and values of the cooperative model (ICA, 2013). There is a need for further exploration into the nature of response to the three dimensions of sustainability, to evaluate the extent to which cooperatives "action their practices" and sustainability reporting. (ICA, 2013).

Business models: Agri-Food corporate businesses and cooperatives in New Zealand contribute to the development of the agricultural sector and the New Zealand economy. The government has mandated sustainable development to be a part of policy and strategy, however, the sustainability information presented by business vary in consistency, accountability, and comparability. This study seeks to analyse the response by these business models: Agri-Food corporate business and Agri-Food cooperatives to the sustainable development mandate.

1.3. Research Question:

- Does the response to sustainable development differ among Agri- Food cooperative and Agri-Food and corporate business models in New Zealand?

1.4. Research Objectives:

- Develop and apply a theoretical framework, to analyse the response to sustainable development in two business models in New Zealand: Agri-Food cooperative and corporate business.
- Compare and contrast the responses to sustainable development between two business models in New Zealand: Agri-Food cooperative and the corporate business.

1.5. The organisation of the study

This study includes seven chapters. This first chapter (Introduction) includes a problem statement, the research question and the objectives of the study. Chapter Two provides the background of the study focusing on the Agri-Food corporate business and cooperatives in

New Zealand. Chapter Three provides a review of the literature on theories of the firm definition and concept of the two business models: Agri-Food corporate business and cooperatives and the concept of sustainability, the chapter also gives an overview of sustainability frameworks and theoretical framework based on the literature reviewed. Chapter Four outlines the methodology, which includes the research strategy and research methods for the study. Chapter Five presents the case descriptions and the results indicating the sustainability response by both companies categorized as Company A and company B. Chapter Six presents a discussion of the findings. Chapter seven provides a conclusion of the study based on the results and discussion.

2 CHAPTER TWO: RESEARCH BACKGROUND

2.1. New Zealand country Overview

New Zealand is an island state situated in the southwest Pacific Ocean as seen in Figure 1. It consists of a North and South Island in addition to smaller surrounding islands equating a total land area of 270,500 square kilometres and a population of approx. 5 million people as of 2020 (Warmington et al, 1996; NZ Stats 2020).

New Zealand is distant from other markets with its closest market being Australia (Scott – Kennel, 2013). The New Zealand economy is heavily centred on its Agri-Food industry with 10,614 estimated hectares of arable land with 57,000 farms, 30,000 food and beverage companies and 370,000 New Zealanders employed within the industry (PWC, 2016). The sector is dominated by dairy, red meat, fresh produce, wool, forestry, and seafood products, with a narrowed focus on land harvesting and value creation (Evans and Meade, 2006). As the primary industry accounted for 7 percent of the total contribution to GDP in 2019, New Zealand ranked 56 globally in world trade imports and exports, 72 percent of exports were Agricultural products and 12 percent of imports were agricultural products (MPI, 2019). The main export markets for New Zealand products include China, the United States of America, Australia, Japan, and the European Union (WTO, 2019). The main exported products include dairy products, sheep and goat meat, other livestock, and fresh fruit with a total value of USD 13 million. (WTO, 2019). New Zealand agribusiness currently dominates the export scene amidst government initiatives to develop other sectors to capture share in the export market (MPI, 2017).

Figure 1 Map of New Zealand

2.2. New Zealand Agriculture: evolution, policies, sectors

New Zealand engaged predominantly in trade with the UK in the 1950s with more than 50 percent of sheep meat and butter being exported. There were challenges associated with the trading system including the increase in prices of imported oil and loss of market access to the UK due to membership to the European Economic Community (EEC) (MPI 2017). To renegotiate access to the EEC, an approach was taken for a more market-driven and competitive economy amidst these issues which involved subsidy support to develop the farming sector (MPI, 2017). The removal of subsidies in the agribusiness sector was in response to unresponsiveness and ineffective use of resources within the sector. The result was the gradual increase in productivity, competitiveness and positive environmental impact and rural economy diversification (MPI, 2017). The reformation in policy resulted in a diversified rural economy predominantly within horticulture increasing export revenue from horticulture and accumulating 10 percent of New Zealand's total merchandise exports (MPI, 2017).

The structure of the agricultural sector before reforms was highly institutionalised, the Ministry of Agriculture refocused towards a market-led approach with research activities being transferred to Crown Research Institutes (CRIs) and extension services being privatised. This privatisation allowed farmers to utilise consultants for advice and have resulted in benefits in the case of profitability but also a reduction in farmers' access to information as a public good (Rhodes et al, 2000 as cited by Smith and Montgomery, 2004). The red meat sector reformation saw a reduction in the processing plants due to low stock numbers.

The slow transition in the marketing system of New Zealand post-reformation, involved a change in most agricultural and horticultural exports being facilitated through marketing boards (Smith and Montgomery, 200). Marketing boards were statutory bodies created as part of New Zealand's political tradition for agricultural industries (Jardine, 2010). Marketing boards also called producer boards to exist to control the activities between the farm gate the consumer. The activities controlled by the entities included grading, processing, quality control, packaging, sale and export. The entities also functioned as advisory, support and research arm. Marketing boards for wool, meat, dairy, fruit, hops and kiwifruit were set up from periods 1921 - 1982. (Jardine, 2010). These monopolistic marketing boards- maintained powers over stabilising prices.

In a post-reform era, the New Zealand agriculture industry comprises mainly of the dairy, meat and wool and horticulture sectors. The policy instruments that guide these sectors extend to Agri -enterprise activities, research, and bio security. The Food Act (2014) which ensures that the domestic food system is safe by measuring businesses' food safety risks supports the agribusiness subsector. Additionally, the Animal Products Act of (1999) is the legal framework that regulates the processing, slaughter, and sale of animal material into food such as meat and dairy products. It mitigates the risk of animal products being traded and used only "fit for intended purpose" as part of New Zealand standards.

2.3. New Zealand Red Meat Sector

New Zealand's red meat sector is valued economically at $12 billion and sustains livelihoods through the provision of 92,000 jobs contributing to 4.6 billion in household income (Beef and Lamb, 2020). Globally New Zealand is a top exporter of red meat products, and one of the largest exporters of sheep meat in the world whilst capturing 6.4 percent of sheep meat production (MIA, 2015). The export value for red meat products and co-products overall was $765 million in the last quarter of 2021, of which $321 million for sheep products and $292

million for beef products (MIA, 2021). This was a 20 percent increase from the previous year as shown in Figure 2.

Regarding the market share for the volume of sheep exports, the main markets included China, the United States, the United Kingdom and the Netherlands by both export volume and export value as shown in Figure 3 (MIA, 2019). Export volumes for sheep product was a total of 27, 346 tonnes, a 9 percent decrease from 2020.

Country	Volume (tonnes)	% of total	Change from same month previous year	Country	Value (NZ$m)	% of total	Change from same month previous year
China	16270	59%	-15%	China	151.5	47%	-2%
United States	2691	10%	29%	United States	47.8	15%	67%
United Kingdom	2100	8%	-17%	United Kingdom	24.8	8%	1%
Netherlands	944	3%	71%	Netherlands	17.1	5%	85%
Canada	820	3%	-25%	Canada	11.7	4%	-1%
Germany	556	2%	71%	Germany	11.1	3%	93%
Jordan	504	2%	224%	Belgium	7.1	2%	125%
France	483	2%	-15%	France	6.9	2%	-1%
Saudi Arabia	420	2%	248%	Japan	5.8	2%	-6%
Belgium	389	1%	101%	Jordan	5.3	2%	247%
Other markets	2169	8%	-9%	Other markets	31.6	10%	13%
Total	27346			Total	320.7		

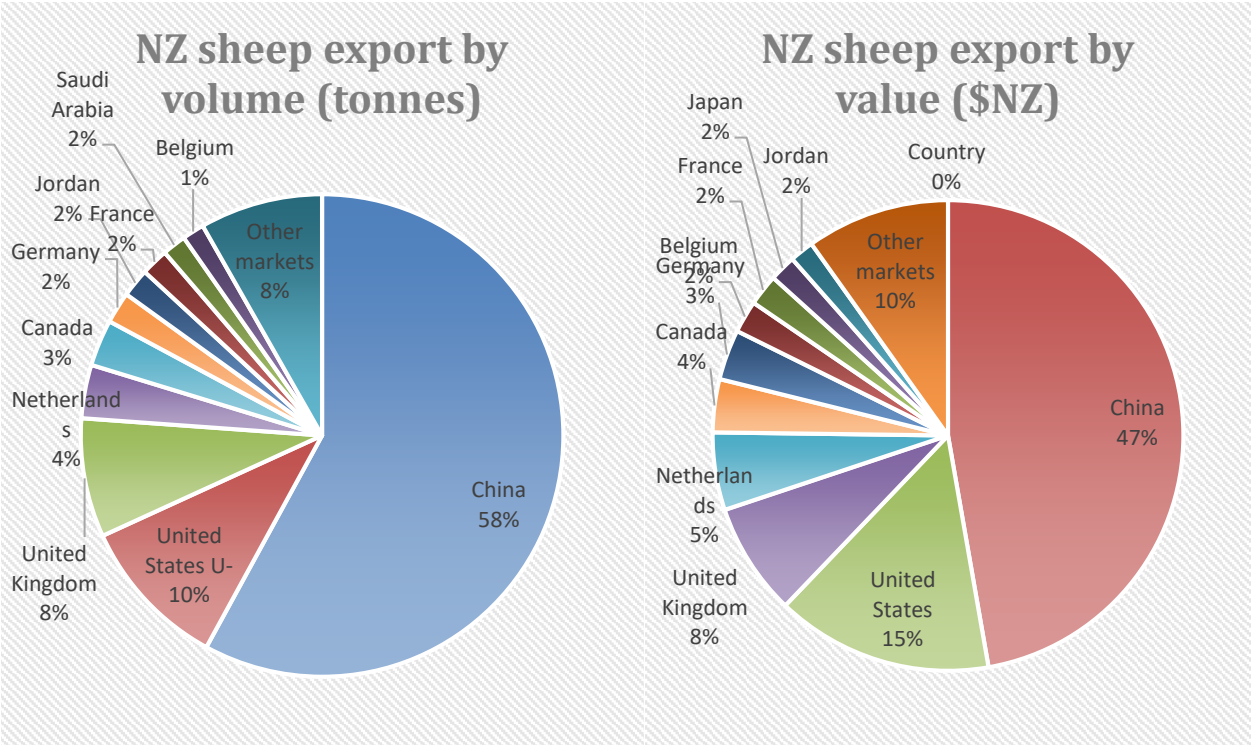

Figure 2 New Zealand sheep meat markets export volume and value 2021.Data from (MIA, 2021)

Export markets of beef products include China, the United Kingdom, the United States, the Netherlands, France and Japan. Export volumes for beef products was 33, 573 tonnes, an increase of 2 percent from the previous year as shown in Figure 3.

Country	Volume (tonnes)	% of total	Change from same month previous year		Value (NZ$m)	% of total	Change from same month previous year
China	15012	45	3%	China	123.2	42%	25%
United States	8057	24%	-11%	United States	75.3	26%	11%
Japan	2455	7	32%	Japan	21.9	7%	31%
Korea	1533	5	3%	Korea	11.6	4%	23%
Taiwan	1043	3	-4%	Taiwan	9.3	3%	13%
Indonesia	830	2	112%	UAE	5.3	2%	146%
Australia	635	2	-28%	Canada	5.3	2%	-27%
Canada	598	2	-38%	Saudi Arabia	4.6	2%	65%
Saudi Arabia	486	1	43%	Australia	4.0	1%	-54%
UAE	385	1	125%	Indonesia	3.6	1%	258%
Other markets	2538	8	2%	Other markets	28.1	10%	20%
Total	33,573			Total	292.4		

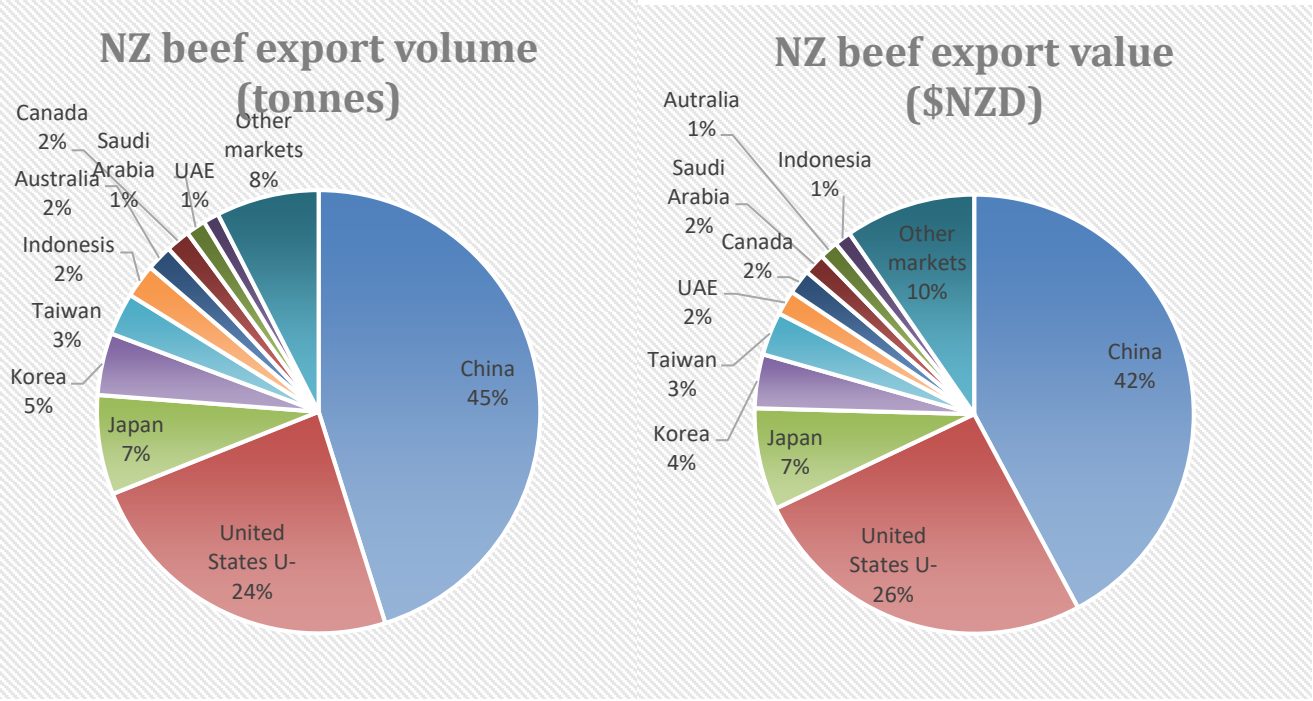

Figure 3 Beef markets by volume and value. Data from (MIA, 2021).

The main players within the industry by turnover include Silver Fern Farms Alliance Group and ANZCO Foods each capturing 18 percent, 14 percent Talley's/AFFCO, and 13 percent respectively as shown in Figure 4. The ownership share within the sector includes 55 percent private ownership, 25% foreign ownership, 17 percent farmer cooperative ownership, and 3 percent public ownership (MBIE, 2020). Silver Fern Farms is New Zealand's largest producer of grass-fed lamb, beef and venison and is 50 percent owned by a cooperative and 50 percent owned by a corporate business. Talley's AFFCO is owned by the Talley group and is a family-owned, Alliance Group is farmer owned and ANZCO Foods is foreign-owned enterprise. Additionally, the industry is represented by meat industry organisations who support and collaborate with red meat producers. They include but not limited to the Abattoirs Association of New Zealand, Beef and Lamb New Zealand, Deer Industry New Zealand and the Meat Industry Association of New Zealand Inc. (MPI, 2020).

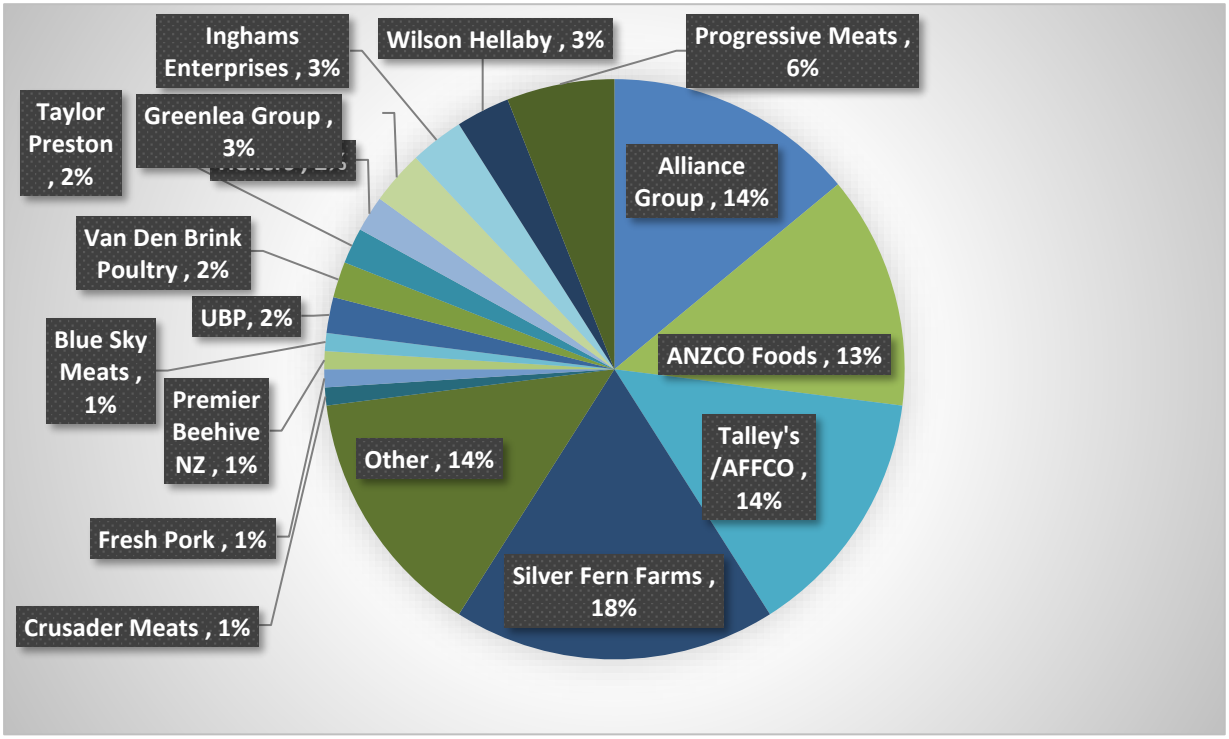

Figure 4 Total New Zealand meat industry turnover 2018/2019. Data from (MBIE , 2019).

The red meat sector caters to social aspects of sustainability. In an effort to respond to social challenges such as high unemployment rates, through training and development, investments in education and the development of a workforce development strategy (MIA, 2020).

Regarding health and safety, the industry commits to increasing welfare and safety in the workplace through training and technological development on-farm and processing facilities (MIA, 2021).

The environment is a main priority to the red meat sector as it tackles issues of carbon reductions, water policy, and preservation of biodiversity and on-farm activities. In addition, the sector voices concern around government policy and regulation toward land-use change and reduction in carbon emissions. The sector is challenged in factors such as low soil moisture levels, climate change impact, human resource scarcity and changes in global consumer demand. (PwC, 2017; MPI, 2021). Market expectations within the sector are aligned to changes in consumer expectations to a more sustainable route, use of resources and food systems climate change implications (Fitzgerald et al, 2016). Governmental and social factors impacting the sector have also been highlighted where policy changes imposed by a change in government in the form of incomes, energy prices, competition or tax policy impact the agribusiness success (Scrimgeour et al, 2006).

Consumer expectations, values and beliefs influence the decisions of all actors in a firm. The sector has projected scenarios to combat these disruptions using technology, to better utilize resources to increase productivity (PwC, 2016). International markets, trade agreements, government regulation and market behaviour (OECD, 2003) heavily influence New Zealand food supply chains. The foreign market openness by New Zealand and its focus on export are marked by a low level of producer support and facilitated by free trade agreements such as the China FTA (OECD, 2018). Farmers remain unsubsidized in trading and receive world prices for products. Competition in international markets is usually against competitors who are heavily subsidised.

2.4. Business Models in New Zealand Agricultural Sector:

2.4.1. New Zealand Agri - Food Cooperatives

The importance of the cooperative business model in the Agri-Food sector of New Zealand is captured by its dominance in the export sector and the value of the products exported by cooperatives (Evans and Meade, 2006). The main cooperatives in New Zealand attain a collective revenue of 42.3 billion and total assets of 33.5 billion. Agri-Food cooperatives

generate 65.2 percent of the total revenue figure (Garnevska et al, 2017). In New Zealand, cooperatives are classified as cooperative societies, cooperative companies, or in the case of financial cooperatives building societies and credit unions (ICA, 2020). Cooperatives account for half of the sector and are registered under the Co-operatives Companies Act 1996 (ICA, 2020; Evans and Meade, 2006).

The strength of the cooperative model is evident for the dairy industry with the Fonterra Group marketing 95 percent of production (Altman, 2017). The sector also includes lesser dominating meat cooperatives and agricultural input supply cooperatives. The evolution of cooperatives and mutuals in New Zealand involved the first established dairy cooperative in 1871 and 40 percent cooperatively owned dairy factories in 1894 to the emergence of dairy, meat, and other sectoral cooperatives from the period of 1920 – 1980 (Garnevska et al, 2017; Altman, 2017).

The removal of subsidies in the agricultural sector highlighted the need to assess the relevance of marketing boards and monopolistic powers in society. Marketing boards are state-controlled or sanctioned enterprises that are granted control over the sale and purchase of Agri products (Barrett and Mutambatsere, 2005, p2). The New Zealand Cooperative Companies Act of 1996 sought to re affirm the value of the cooperative firm as a means of facilitating its shareholders carrying on business on a mutual basis (Woodford, 2008 p 4). This Act differentiated cooperatives from investor-owned firms by allowing cooperatives the freedom to issue nominal valued shares and subjected cooperatives to similar legal requirements and restrictions as in the case of investor-owned firms (Altman, 2017).

According to the World Cooperative Monitor report for 2020, the largest cooperatives and mutuals with the highest turnover were from the agricultural and insurance sectors. The cooperatives in the agricultural sector captured 34.7 percent of turnover in USD, the insurance sector 33.7 percent, wholesale and retail trade 19 percent and financial service 7 percent (ICA, 2021). The Fonterra Cooperative Group ranked 6th globally by turnover in 2018 and increased in ranking from 8th place in 2017 among producer groups and 34th place in 2018 in largest cooperatives by turnover (ICA,2021). As the largest cooperative in New Zealand by turnover, the Fonterra Co-operative group acquired NZ$ 20 billion in revenue followed by the Zespri Group with NZ$3billion in revenue (MBIE, 2020) as seen in Figure 5. Six other cooperatives also ranked within the largest cooperatives by turnover including North Island Limited, Foodstuffs South Island, Zespri, Farmlands Trading Society, Silver Fern Farms and Alliance Group Cooperative (ICA, 2021).

Figure 5 New Zealand turnover 2021. Adapted from(MBIE, 2019).

The importance and contribution of cooperatives to the New Zealand economy is evident. However, some challenges continue to threaten the growth of the cooperative industry (Garnevska et al, 2017). This includes limitations in trading and development for consumers, members and staff of cooperatives, as well as research and development in identifying the strengths and opportunities, trends within the sector as well as undertaking analysis of cooperative and corporate performance in the New Zealand economy (Garnevska et al, 2017). Large cooperative actors such as Fonterra face challenges in striving towards sustainability being limited by socioeconomic factors and environmental protocols (Gray and Le Heron, 2010).

2.4.2. New Zealand Agri-Food Corporate Business

The Agri-Food corporate sector was mainly made of foreign corporate business. Stemming from the first shipment of red meat to Britain via the SS Dunedin in 1882 and the first export of lamb in 1922, the New Zealand number of frozen meat factories had grown. The development of the New Zealand meat producers' board and the introduction of subsidies assisted in regulating the industry. Restructuring of the industry during the 1980s to 1990s contributed to the development of overseas-owned companies such as Weddell Crown and Goodman Fielder Wattie/Waitaki (Evans and Meade, 2004). The over capacity of the industry resulted in various mergers and closures inclusive of the Waitaki split up with AFFCO and Alliance taking up Assets. The exporting of lamb to the US and maintenance of consistent supply began in the 1950s with the establishment of the Meat Export Development Company (DEVCO) as a consortium of freezing companies. The DEVCO was renamed the New Zealand Lamb Company and transitioned to the New Zealand Lamb cooperative owned by the major meat companies in New Zealand.

Agribusiness corporates in the red meat sector remain viable in the case of Auckland Farmers Freezing Company (AFFCO) and ANZCO as major processors. The 1970s saw four foreign-owned companies engaged in export and processing. New Zealand local processing companies included the Alliance Freezing Company (Cooperative) and AFFCO a farmer cooperative that shared four processing plants. By 1982, there were 17 freezing companies, 2 meat-marketing companies and 40 members of the meat exporters association (Evans and Webb, 2007).

The firm with the highest turnover of $2.3 million is the Silver Fern farms Limited under a new generation cooperative model, followed by Talley's /AFFCO under a corporate business model with$1.8 million. Alliance Group under a cooperative model with $1.7 million followed by ANZCO under a corporate business structure with $1.6 million and finally than Progressive Meats Limited under a corporate business model at $800,000. Figure 6. Shows the turnover by the firm.

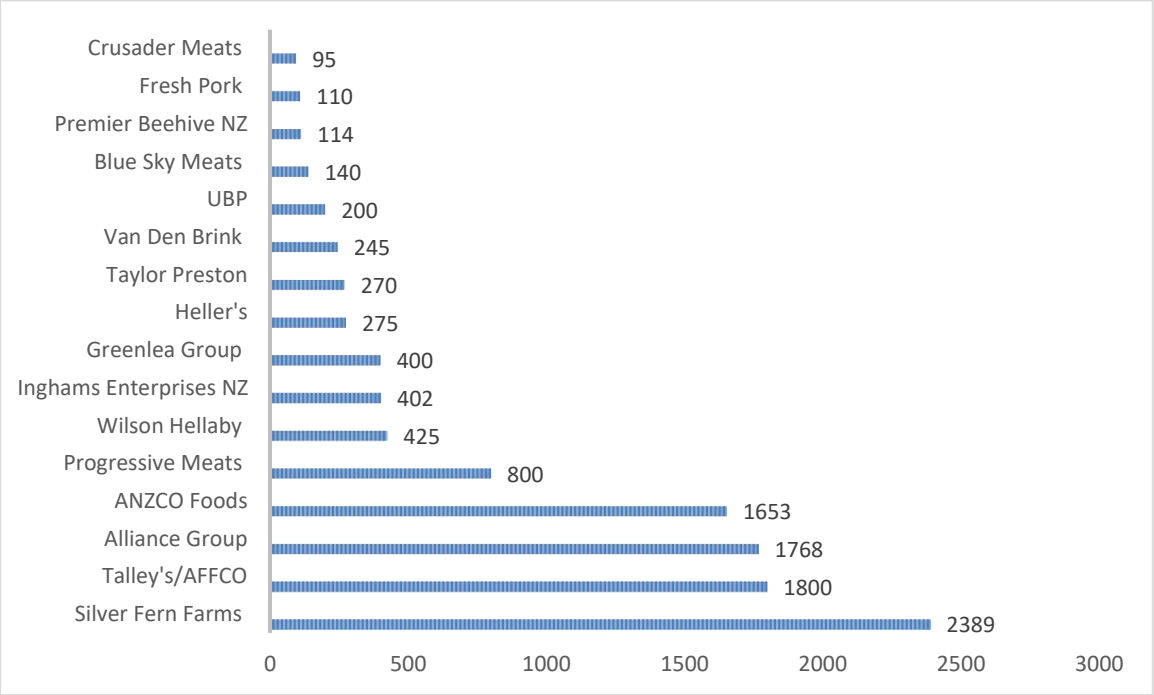

Figure 6 Annual turnover of New Zealand meat firms ($NZ ;m;2018 /2019). Data from (MBIE ,2019).

Corporate businesses within the red meat industry, like cooperative models, are faced with challenges related to government regulatory change, environmental issues and trade and tariff barriers. As a larger exporter of red meat globally, the COVID 19 pandemic created challenges in supply chains and distribution networks impacting trade volumes. Agri-Food companies have been burdened by the pandemic's impacts on workers as the increased pressure to reduce virus transmission in processing plants have created a reduction in the plant's productive capacity (Beef and Lamb and MIA, 2020). In the case of ANZCO Foods Limited, Covid lockdown challenges forced the company to develop protocols and procedures to cope with a reduction in staff at processing plants (ANZCO, 2020).

3 CHAPTER THREE: LITERATURE REVIEW

This chapter begins with the theory of firm concept to outline the existence and the nature of the firm. The firm theory is followed by literature on the corporate business model, cooperative model, and sustainable development. The chapter concludes with various sustainable development reporting frameworks utilised by the two business models and the development of a theoretical framework that seeks to analyse the cooperative and corporate business response to sustainable development.

3.1 The theory of the firm

The establishment and function of firms are built on a set of theories shown in Figure 7, which explain how companies operate (Lozano et al, 2014). The main organisational structures include sole proprietorships, partnerships, corporations, limited liability companies, cooperatives and non- profit corporations (Skripak et al, 2016). The theory is utilised in economics as a tool to study claims on the behaviour of economic agents, more specifically around the firm and consumers. These claims are based on the firm's aim, which is profit maximisation and consumers maximising their utility (Royer, 2011). The development of a model frames these assumptions and presents them as a simplified representation based on the real world (Royer, 2011). Firm theories provide perspectives and frameworks for thinking about organizational objectives and analysing important research problems (Seth and Thomas (1994) as cited by Lozano et al, 2014, *p.* 6*)*. Considering all of this, the theory of a firm encompasses models, which seek to address the firms' existence, relationship within the market and internal structure (Teece, 2016).

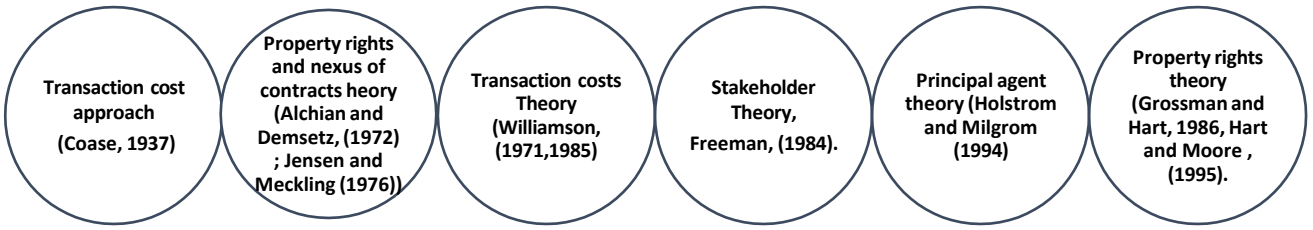

Figure 7 Theory of the firm. Adapted from Coase, (1937); Alchian and Demsetz, (1972); Jensen and Meckling, (1976); Grossman and Hart, 1986); Freeman 1984.

In the neoclassical sense, the price approach predicts that transactions facilitating production among economic agents requires coordinating institutions (the markets and the firm) whilst utilising the price mechanism. Whilst this approach does not recognise input from the firm or the entrepreneur, it suggests that the market can perform such transactions on its own. In so doing, the firm is characterised by its production function, which is to maximise profits, its consciousness and rationality (Jensen and Meckling, 1976). As a result, price theory is not considered as part of firm theory since it fails to respond adequately to the initial questions of firm existence, scope, and internal function (Kallay, 2012). Additionally, this neoclassical approach does not cater to the situation of the cooperative form, which considers maximising returns to their shareholders, patronage refunds, and minimising cost in addition to maximising profits (Royer, 2011). Consequently, the emergence of the theory of the firm from **Coase (1937) "Nature of the firm"** seeks to explain the existence, boundaries, and internal organisation of the firm by incorporating costs using the price mechanism (Jensen and Meckling, 1976). The firm exists to coordinate and reduce transaction costs in the market through contractual agreements with other parties like suppliers, employees, customers, local community, and creditors) (Lozano, 2012).

Contracts are recognised as an agreement of voluntary exchange for remuneration (actions of payment, delivery, or provision of a service) between different stakeholders each with different incentives from the arrangement (Jensen and Meckling, 1976; Hansmann, 1996). The firm is in effect classified as a bundle of contracts that adhere to the objective of the entrepreneur or associates (Coase, 1937; Alchian and Demsetz, 1972). As the contractual nature of the firm seeks to reduce transaction costs, Coase (1937) confirms that transaction costs within the firm are minimised through vertical integration and that managerial authority replaces the bargaining function of the market and thus resolves the cost of the price mechanism. However, the contractual theory is critiqued under the incomplete nature of contracts inclusive of its vagueness or generalisation of risks as well as the omission of investors, social costs and impacts, agency problems and the simplification of firms as a "black box" utilising input to produce outputs (Boatright, 1996 as cited by Lozano, 2012).

The ***Transaction cost theory*** according to (Williamson, 1975), is an extension of the work of Coase (1936) and is centred on the firm as a contractual problem (Kallay, 2012). As Coase (1936) highlighted the high costs associated with transactions, Williamson (1975) presents the idea of incomplete contractual arrangements as a more cost-effective option for firms to minimise external and internal transaction costs. In an uncertain business situation, transaction costs and incomplete contractual arrangements exist because of assumptions of **bounded rationality,** which is a situation where firms can make business decisions based on the limited information available on the results of their actions, **asset specificity**, which is the degree an asset can be used and adapted for specific purposes without a reduction in its value and **opportunism**, which is a situation where the centred self-interest of contracting parties can be vulnerable to mistrust and conflict of interest in a transaction(Kallay, 2012). In the case of such factors, Williamson (1975) suggests the approach of vertical integration to enhance firm efficiency in minimising costs due to the production of inputs internally.

In identifying the process of vertical integration and the part it plays in reducing costs, maximising profit addressing agency problems that arise from the evolution of the firm, the principal-agent / agency theory stems from contractual theory and informs literature by describing agency costs which arise from contracts between agents within the firm (Kallay,2012; Lozano, 2012). The theory seeks to address concerns of principal (the owner) and agent (management) conflict and principal and agent risk in sharing ideals and conflicting interests (Eisenhardt, 1989). The relation between the principal and the agent is defined by a contract that outlines activities to be performed on behalf of the owner and delegates decision-making power to the agent. The expansion of the firm and organisation of such activities by managers increase monitoring costs as well as commitment costs through damages for the principal and residual costs for the agent-based on losses from the decision-making process (Kallay, 2012).

Further, conflict of interest based on asymmetric information arises when one party to a transaction is more informed than the other regarding information in the firm and its operations (Hansmann, 1996). The argument then arises in the case of both contractual and agency theory where due to this asymmetric information, the agent does not always take into consideration the best interest of the principal (Lozano, 2012). In such a case, the owners may not be able to control managers' decision-making and management of funds (Kallay, 2012). A myriad of costs arises associated with monitoring management and resolving managerial

opportunism (Hansmann, 1996). Corrective actions for resolving agency conflicts may reside in the development of contractual agreements to minimise the agents' self-interest (Sykuta and Cook, 2001). Further, contractual or moral constraints are action-based and involve management activities being evaluated by owners through a system such as the stock market exchange in the case of corporations, or through alignment of incentive systems such as competition for higher managerial positions (Kallay, 2012; Sykuta and Cook, 2001).

Where transaction costs and agency theory fail to address situations where contractual imperfections occur, **Property rights theory** provide elements of residual control rights and residual rights to income to mitigate ex-ante and ex-post contractual problems (Kim and Mahoney, 2002). The property rights-based theory refers to the ownership of an enterprise as persons possessing formal rights to a firm in the form of control rights and rights to appropriate the firms' profits or residual earnings (Herbst and Prufer, 2016; Hansmann, 1996). Property *rights refer to the rights to the benefits, use of and disposal of goods and assets." (Kand and Sorenson, 1999, p5).* Ownership concepts, asset specificity and incompleteness of contracts are further addressed as property rights theory ties agency and transaction cost theory limitations (Kim and Mahoney, 2002). Additionally, property rights indicate ownership distribution in the firm and show links to agency theory by capturing the nature of owner and management relationships as vital in aligning interests and value creation (Foss and Klein, 2005).

Contract incompleteness implies that all decisions as part of a relationship concerning the firms are unspecified in the contract. As a result, the idea brought about by Grossman and Moore, 1990) presents the owner of an asset to the firm as the control of the assets not covered by a contractual arrangement. Formal rights to control are rights for decision making regarding the use of an asset that is not offset by law and is not contractually assigned to another party (Chaddad and Cook, 2004). Rights to control is necessary for defining ownership to an asset in the case of complex transactions and the need for incomplete contracts (Grossman and Hart, 1986). Chaddad and Cook, (2004) define residual claims rights as the right to net income generated by the firm (the amount left over after all commitment and are paid). The owners of the firm called residual claimants are risk bearers due to the uncertainty of the cash flow of the business. Additionally, relevant in a firm is the nature of a firms' organisational objective, which is dependent on the type of owners and their approach to decision making (Hersbst and Prufer, 2016).

The contractual theories respond to the existence and nature of the firm, which is focused on cost reduction, profit maximisation managing resources and relationships with parties. These theories contribute to the economic aspects of business operation (Kallay, 2012). Furthermore, a theory that is representative of integrating the social and economic performance of the firm has to be mandated based on the consideration that the firm must take other stakeholders such as the community in addition to their investors as part of their corporate governance (Key, 1999).

The ***stakeholder theory*** introduced by Freeman (1970) "Strategic management – A stakeholder approach", highlighted the need for firms to be aware of traditional and non- traditional groups of stakeholders in relation to their company and to understand the relationship between these groups and the firm (Chang et al, 2017). *He defines stakeholders as groups of individuals who can affect or be affected by the actions connected to value creation and trade (*Freeman, 1984, p 46). Firms constantly engage with various factors such as customers, suppliers, shareholders, and communities, with whom they establish relationships (Phan et al, 2020). The complexity of the economic market, strong competition and the increase in the base of such stakeholders, strengthen the need for a firm to communicate their initiatives to avoid the risk of being disadvantaged in favour of their competitors (Phan et al, 2020). Stakeholder theory seeks to optimise stakeholder relationships but may also address environmental issues and regulation as it pertains to the non-social stakeholders (Lozano et al, 2014; Harrison et al,2015).

The study utilises transaction cost theory and property rights theory to compare the existence and nature of corporate business models and cooperatives and how their similarities and differences influence their decision-making in strategy and policy. In addition, stakeholder theory is utilised to analyse how stakeholder groups influence the decisions and operations of the two business models.

3.2 Corporate Business model

3.2.1. Corporate Business Definition and Corporate Governance Principles.

The corporate business is classified as a collection of private interests and its existence is based on the willingness of entrepreneurs to come together under a legal structure (Schwartz, 2012). (Schwartz (2012, p 758) extends the definition further to "a legal entity which is fined by core legal attributes of limited liability, centralised management, alienable shares, and perpetual existence". The corporate business model is in effect classified as a bundle of voluntary contracts among its managers, customers, and suppliers' capital and in the bearing of risk (Jensen, 2000). As the terms Investor-Owned Firms (IOFs) and corporations are used synonymously to refer to the corporate business in literature, thus the term "corporate business" will now be used in this study. In terms of property rights in a corporation, the entrepreneur is considered as the owner of the firm and is in the best interest to manage the firm effectively due to his tie to the assets and property (Hayden and Bodie, 2011). The shareholders, select, collectively own the firm a board of directors to act as overseers to the company with a responsibility to employ managers for effective operation (Hansmann 1988; Birchall, 2012). Thus, the separation of ownership and control within the corporate business model was observed in Berle and Means (1932) foundational article of the Modern Corporation and private property. Corporate business models are represented in all sectors in society and New Zealand, the most common structures include limited liability companies, limited partnerships, partnerships, trusts and not for profit organisations (PWC,2018).

The business environment has been faced issues of corporate mismanaging and abuse on global and domestic stakeholder communities within the last century. Considering this, regulators have imposed rules-based legal systems and principles, which seek to guide corporate governance and counteract fraud and ethical abuse (Sama and Shoaf, 2005). As such, corporate governance principles influence the strategies and performance of the firm by protecting the rights of stakeholders associated with business activities. (Burak et al, 2017; Fung, 2014). Good corporate governance allows the corporate to develop and maintain relationships between managers, shareholders and stakeholders inclusive of employees, consumers, and creditors (Jesover and Kirkpatrick, 2005). Because of this, corporate governance principles seek to minimise issues in principal-agent theory creating alignment of incentives for shareholders as

well as management. Corporate governance principles of transparency, fairness, accountability, compliance, social awareness and Independence and discipline ensure the model's sustainability and market movements. (Burak et al, 2017). These corporate principles are illustrated in Figure 8.

Figure 8 Corporate business principles. Adapted from (Burak et al, 2017).

3.2.2. Corporation structural characteristics /principles

As corporate governance principles seek the interest of the stakeholders, legal corporate principles influence the firms' autonomy independent of its investors, to operate as a separate legal entity (Dari Mattiacci et al, 2017). These issues are addressed under corporate law (Armour et al, 2009). Components of Legal personality, Limited liability, transferable shares, Stocks and stock markets, board structure management and investor ownership are discussed in the following:

- Legal personality

The modern firm in its legal form is defined as a joint-stock company (JSC). The firm has distinguished the separation of its assets and the assets of its investors (shareholders). Entity shielding as a core element of separate patrimony involves the shielding of assets of the corporation from creditors of the entity's owners (Veldman et al, 2014).

- Limited liability

Creditors in a contract between firms are limited to making claims against assets owned by the firm and as such have no claim against assets held in the name of the shareholders. The term owner shielding is a legal component, which in contrast with entity shielding involves the protection of firm owners' assets from firm creditor claims (Armour et al, 2009).

- Transferrable shares

This component distinguishes corporations from alternative organisational forms like cooperatives, partnerships and mutual, where the transferability element of firms permits transactions in the case of a change in ownership (Armour et al, 2009). Tradable shares allow owners to exit from the firm without withdrawing capital and ownership can be transferred without the approval of shareholders (Dari- Mattiacci et al, 2017). Although shares are transferrable, they are limited in tradability by restrictions in public markets and are transferrable within groups of individuals and shareholder approval. Corporations with shares that are freely tradable are referred to as open or public corporations, in contrast to closed corporations, which are characterised by restricted tradability of shares (Armour et al, 2009). Shares in an opened corporation are unlisted for trade in an organized securities platform known as an exchange and the firm becomes a listed or publicly traded

corporation. The open and closed categories of corporations although commonly used, may appear different in certain jurisdictions as “closely held corporations” which have shares that are not freely tradable (Armour et al, 2009).

- **Stock exchange and stock markets**

The listing of corporate shares on the stock exchange and the open market for such securities is a significant component of the modern corporation enabling shareholders to trade control of the firm for liquidity (Weidenbaum, 1990). Stock exchanges were originally established for member-owned organisations, which have transformed into private for-profit corporations. The modern-day stock exchange is an organized form of a marketplace where shares in companies are listed in and traded on primary and secondary markets (Weinbaum, 1990). In the primary market, a portion of company shares is availed to the public and utilizes the listing to raise funds by issuing new equity shares. This situation allows investors to purchase and sell shares through secondary markets. The stock exchange also functions by laws, regulations and principles, which ensure that investors and ownership of shares are, protected (UNCTAD, 2017).

- **Board structure management**

The corporate business governance structure is delegated to a board of directors, which has separate tasks from the managers of the firm; they are elected by the shareholders of the firm to ensure that management acts in the best interest of the owners. The election of a board of directors distinguishes the corporation from alternative business forms, which may not set board structure or election by owners as a requirement. The board is also distinct from shareholders as it is from managers. This allows the board to protect the interest of all the shareholders and to take important decisions in the interest of the firm (Armour et al, 2009).

- **Investor ownership**

  Property rights within a corporation such as the right to control and rights to residual earnings are linked to the investment of capital within the firm and facilitation of corporation organisation. In this organizational for, the right to control such as the electing of the board of directors and authorisation to firm transactions in addition to the right to residual earnings in the form of profits are proportionate to the capital invested with the firm (Armour et al, 2009).

3.2.3. Challenges faced by corporate businesses.

Corporate business models face various agency problems related to asymmetric information and conflict between shareholders (principal) and managers (agent), Shareholders (principals) and debt holders (agent) and Shareholders and (Principal) and suppliers of inputs, customers, and workers (agents) (Hansmann 1996; Hussain et al, 2015). Managers in a firm may often take advantage of their knowledge of the firms' position to choose lower debt levels in the company and less risky projects. This scenario minimizes the opportunity for shareholders to receive substantial returns on investment and secures the manager's job, as the intention is to ensure their best interest and employment (Hussain et al, 2015; Monteiro and Straume, 2018). In the case of conflict between shareholders and debt holders, a scenario of leverage in a firms' accounts coupled with forecasted financial information may cause over investment by managers to serve shareholders but will cause an issue for debt holders. Contrastingly, a situation of underinvestment can also occur in the firm in a situation of financial distress where the firm is urged to undertake projects, which project a positive net present value. This situation increases the value of debt but decreases the value of firm equity (Hussain et al, 2015; Monteiro and Straume, 2018).

3.3. Cooperative Business model

3.3.1. Cooperative Definition and principles

Cooperatives are defined as an autonomous coalition of individuals voluntarily united to achieve a common economic, social, and cultural need through an approach that is joint–owned and democratically controlled (ICA, 2016). The idea of a cooperative takes another form as an organisation that is owned and controlled by individuals who are patrons and also receive benefits from transactions above benefits derived from the initial investment in the organisation (Evans and Meade, 2006).

Cooperatives are recognised as a form of business, separate from conventional business classifications of proprietorships, partnerships, and publicly owned firms (Parliament et al, 1987). Cooperatives can take the form of worker, producer, consumer, financial, purchasing, housing and social (Benos et al, 2018). Agricultural or producer cooperatives support farmers in processing and marketing produce, financial cooperatives assist in the facilitation of financial capital needs and consumer cooperatives create access to household goods at affordable prices (Benos et, al,2018).

Cooperatives operate on values of self – help, self – responsibility, equality, democracy, equity and solidarity. Based on these values and principles at the heart of cooperatives, they are specifically aligned as an organisational form to promote sustainable development (Mojo et al, 2015). Cooperatives are further guided by principles that are essential in the functioning of the cooperative model. These principles are outlined by the International Cooperative Alliance (ICA) guidelines, (2016) and are as follows in Figure 9.

Figure 9 Cooperative principles. Adapted from ICA (2016).

3.3.2. Challenges of cooperatives.

Ownership rights in cooperatives, mutual and non-profits and corporation business forms are restricted to the redeemable, non-transferable, and non-appreciable claimant rights of member patrons. Benefits under cooperative organisational forms are also distributed to members through patronage (Chaddad and Cook, 2004). The ownership, control, and benefit principles of traditional cooperatives distinguish the entities from corporations (Hardesty, 2004). Agri-Food corporations and cooperatives can co-exist utilising similar contractual agreements and similar quality standards, but in terms of ownership, cooperatives are distinct from corporations as the suppliers of raw material are also owners or members (Cechin et al, 2012). The residual rights of control and claimant rights in traditional cooperatives are poorly aligned in contrast to corporations, voting rights regarding shares and residual cash flow is relative to the number of shares owned by the shareholder (Evans and Meade, 2006). Cechin

et al (2012) refer to the relationship of suppliers in a cooperative as being transitionary, where the producer to the cooperative, ownership supplies produce, and control rights are usually held democratically through a decision-making process through voting rights and principles. The benefit distribution is proportional to usage rather than member investment. As a result of these constraints, criticisms are drawn to the traditional cooperative model in the form of the horizon problem, the free-rider problem, control problem and cost problem.

The horizon problem results from the pursuit of short-term objectives that require long-term investment. Cooperatives do not establish specific delivery terms which members should be guided by, as a result, member delivers goods that are not accepted by other buyers to their respective cooperatives (Cechin et al, 2012). Cooperatives fail to acknowledge and recruit high-quality producers in the cooperative thus causing an issue in low-quality produce or the reduction of high-quality producers in the cooperative. Many cooperatives do not exclude marginal members, which are those who do not play an active participatory role in cooperative activities. The quality and productivity of a cooperative are compromised as a result (Cechin et al, 2012). As a result of this issue, there is a reduction in investment incentives for the cooperative due to the difficulty in the value placed on the share capital with a member's departure from the cooperative (Chaddad and Cook, 2004).

The issue of the free-rider problem in traditional cooperatives is a situation where the ownership and voting rights do not facilitate the trading of ownership rights. Benefits and costs received by members and non-members, or new members and long-serving members are not aligned (Evans and Meade, 2006). A situation may arise in a traditional cooperative where new members rather than existing members stand to benefit from accumulated capital and receive the same benefit from membership. (Terreros and Gorriz, 2011). Garnevska et al, (2011) further extend problems as in the case of agricultural cooperatives, the portfolio problem results from an increase in larger producers than small producers create decision- making issues where small producers may feel dominated by larger producer influence and input in policy and cooperative activity.

The expansion in the size of cooperatives may create a control problem with communication between members and governance (Garnevska et al, 2011). The absence of an equity market for shares in a cooperative prevents monitoring of the value of the cooperative or manager's performance by members (Ortmann and King, 2007). Traditional cooperatives will therefore lack the means afforded by corporations in mitigating divergent interests between owners of the cooperatives (its members) and managers (Evans and Meade, 2006).

An influence on cost problem arises potentially when the expansion of a cooperative results in an increase in management costs, which may strain members' finances and time (Garnevska et al, 2011). Influence costs are associated with activities that interest groups engage in to influence the distribution of benefits in the organization at the expense of the owners (Chaddad and Cook, 2004; Evans and Meade, 2006). Cooperatives experience greater influence costs than a corporation due to the diversity in members' interests, which are linked more closely to production activities than the profit-maximizing interests of stockholders (Chaddad and Cook, 2004).

3.4. Comparison of business models: corporate business and cooperatives.

Inferring from the property rights theory of the firm, institutional attributes in the form of ownership rights (residual claims and control rights) and user benefits of organizational forms are assigned to various economic agents. The differences in the ownership structures of these alternative organisational forms are compared in Table 1.

Table 1 . Showing Ownership, Governance and User benefit attributes for cooperatives against other organizational forms.

Institutional attributes	Traditional Cooperatives	Corporations
Residual earnings /returns	member patrons	investors /shareholders
Separation of ownership and control	No separation	Separation
Appreciable residual claims	Non- appreciable	Appreciable
Ownership rights tradable (equity rights and delivery rights)	No	Yes (Unlimited)
Ownership rights redeemable	Yes, based on board decision.	No
Ownership rights restricted to patrons	Yes	No

Control rights	Voting rights are non-proportional. Based on one – vote –per member. Board of directors elected by members.	Voting rights are in proportion to shareholding. Based on one – vote – per – share owned. Board of Directors elected by shareholders
User– benefits	Distributed to members based on patronage	Distributed based on shares owned.

Note. Adapted from (Chaddard and Cook, 2004 p 352 – 358; Merrett, 2000; Sedik and Lerman, 2015; UWCC, 2019).

3.4.1. Corporate business model

Corporations differ from traditional cooperatives by their ownership, perpetual life, and legal status. Ownership is presented by claims (shares) in the form of common or preferred stock on equity and the profit of the firm (Robinson et al, 2020). Open corporations are characterized by unrestricted unredeemable residual claims which can be traded among investors as well as equity capital markets (Chaddad and Cook, 2004). Closed corporations contrastingly, are smaller entities with restricted residual claims to decision agents (Fama and Jensen, 1985). In the corporation, the shareholders are the owners of the firm but do not manage the affairs of the firm directly, they are involved in the election of the firms' board of directors and to vote and approve on transactions and activities guiding the firm. Therefore, the argument of separation of ownership and control comes to play in corporations (Hansmann, 2006). The corporate business is recognised as efficient and productive because of its purpose and ownership structure (Parliament, 1990).

Corporate ownership is characterized by the distribution of shareholders or investors. These investors possess ownership of the enterprise and pursue financial objectives (Connelly et al, 2010). Shareholders are individuals who own a minimum of one share in a company and are owners of the enterprise. Shareholders purchase stock within a corporation and receive economic benefits (Harvard, 2016). Regarding raising capital, corporations issue securities in the form of stock shares sold to shareholders. As the shareholders own the shares in the corporation, contrary to a widely held view they do not own the corporation or the assets within the corporation. Shares are categorized as intangible rights to receive dividends and vote on limited issues (Stout et al, 2016). Stock is acquired through primary and secondary sources issued by the corporation or purchased in the secondary market. Shareholders who purchased

stock from the primary market contribute assets and cash to the corporation whereas through the secondary market no cash is contributed (Stout et al, 2016). Shareholders in a corporation have two rights being the right to sell shares and to elect directors (Velasco, 2006). Additionally, stock share in a corporation combines residual claims of cash flow rights and residual control rights which are voting rights on a proportional basis of one-share, one–vote. The governance structure of corporations includes the allocation of rights and responsibilities among different agents (shareholders, stakeholders, a board of directors, managers) with specific procedures and rules for the arrangement of corporate affairs (Osei, 2014). Corporate governance is also describing a process and structure that an enterprise can manage corporate affairs and achieve operational, strategic, and financial objectives (Maseko, 2015).

3.4.2. The cooperative model

The cooperative model is separated from the corporate business model, which is inclusive of the business form such as sole proprietorship, partnerships, corporations, and limited liability companies (Parliament 1990). Cooperatives and corporate businesses differ in their objectives and are distinctive in their models (Parliament, 1990). The corporate business model is distinctive from the cooperative model where a cooperative objective is not based on maximization on return on investment but the provision of services and products differently than the market there by endorsing the members of the cooperatives (Dilgar; Konter; Voigt, 2017). The cooperative seeks to achieve a goal of member promotion together with minimum costs to create a balance between market orientation (market needs) and community orientation (social responsibility and values) (Dilger; Konter; Voigt, 2017). While the social responsibility of cooperatives are realised, the minimum principle that allows a cooperative to function is the presence of economic activity and promotional profit. This profit will allow the cooperative to remain stable, cover opportunity costs, and account for compensation to members resulting from losses (ICA, 2016).

This model is characterised by open membership, members are free to enter and exit the enterprise and ownership rights are restricted to these member patrons. Residual return rights are non-transferable unlike corporate stock and therefore non- appreciable. Residual control rights in the traditional model are restricted to the patrons of the organization (Chaddad and Cook, 2004). Capital is solely raised from owner patrons of the cooperative directly or through retained earnings or patronage reduction charges (Coltrain et al, 2000).

The ownership of an organization involves the right to control the enterprise and is linked to

residual claimant rights (Lund, 2013). Ownership is broken down into two categories of residual claims or returns and residual rights of control (Chaddad and Iliopoulos, 2012). Ownership rights are restricted to the members of the cooperative (Evans and Meade, 2013). Cooperatives allow members to own and democratically control the enterprise for procuring and supplying inputs and marketing products (USDA, 1990). Member ownership and operation provide a situation that contrasts with investor-owned enterprises which maximise profits for the enterprise rather than as in the case of the cooperative maximizing member profit (USDA, 1990).

Residual claims are presented as the rights to a share of a firm's operating or dissolved net income (Lund, 2013; Chaddad and Iliopoulos, 2012). The net income is referred to as the remaining amount in the accounts of a firm after payments are made to debtors, suppliers, employers, and shareholders (Chaddad and Iliopoulos, 2012). Residual rights of control are decision-making rights related to the utilization of assets legally and unassigned to other parties in the decision-making process on a contractual basis based on a one-member one-vote basis (Evans and Meade, 2013; Chaddad and Iliopoulos, 2012). Control is exercised through the democratic election of a board of members based on the cooperatives' guiding organization documents (Lund, 2013). This control feature of cooperatives restricts voting rights to the owners of the cooperative and may limit cooperatives' equity capital access (Evans and Meade, 2013). Cooperatives are guided by a democratic system of governance based on one- member-one – vote and the price of share capital in cooperatives is fixed by its articles of incorporation and its shares are not tradable on an open market (Mazzarol et al, 2011, p4).

3.5. Sustainability and sustainable development definition.

Sustainability as defined by Barbier, (1987), p. 103 is a concept, which aims "*to maximize simultaneously the biological system goals (genetic diversity), economic system goals (satisfaction of basic needs) and social system goals (social justice and participation)".* The concept has evolved to "*a participatory process that creates and pursues a vision of a community that respects and makes prudent use of all its resources"* (Gladwin, 1995, p. 877). Thomas, (2015) as cited by Mensah, 2019) combines the two definitions of sustainability to the ability to satisfy human needs through activities that do not exhaust or deplete resources they manage.

The origin of sustainability is drawn from an environmental and forestry background where sustainable yield served as a response to declining resources (Purvis et al, 2017). The idea of sustainability is regarded in the literature as an ambiguous concept that varies in its definition across sectors (Barbosa et al, 2014). (Barbosa et al, (2014) thus defines sustainability as a means by which existing resources are produced, distributed, and consumed within a system that is cohesive, economically efficient, and ecologically viable. The definition is extended to an approach to enhance and maintain a viable economic, ecological, and social system for human development (Manseh, 2019). Sustainability is recognised as a long-term goal toward achieving these systems, recognising the idea of sustainable development to achieve sustainability (UNESCO, 2019). Sustainability is presented as an alternative to the neoliberal socio-economic paradigm, which is focused on short-term profitability rather than long term social, environmental, and economic impacts (Lozano et al). Sustainability is seen as the endpoint of a process called sustainable development, where sustainability refers to a state and sustainable development refers to a process to achieve this state (Diesendorf,2000; Gray, 2010 as cited by Mensah, 2019).

The World Commission on Environmental Development, the Brundtland Commission report of 1987 under the "Our common future" defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". The concept of sustainable development under this definition is subjective in its interpretation of the needs of individuals which vary by demographic and period (Beckerman, 2001). The goal of sustainable development is "the *long-term stability of the economy and environment; achievable through integration and acknowledgment of economic, environmental and social concerns throughout the decision-making process" (*Emas, 2015*).*

3.5.1. Sustainability Dimensions

The idea of three pillars of sustainability extends this initial concept of sustainable development to include aspects of ecological, social, and economic considerations (Gladwin et al, 1995). This three-pillar concept was articulated into literature through initial efforts toward building the concept for sustainable development but was not recognized as a framework (IUCN, 1980; UN (United Nations), 1992). The social, economic, and environmental pillars of sustainability as shown in Figure 10. became acknowledged and extended in the development of the United Nations Agenda 21 and the agenda 30 Sustainable development Goals (SDGs) as a framework

to create balance and integration of objectives in pursuit of enhancing the quality of life. (UNESCAP, 2015,). The extensive use of the three dimensions in literature are common, but lack theoretical justification for the terms and are not universal (Purvis et al, 2017). Purvis et al , (2017) further mentions that in certain contexts, a cultural or institutional dimension may be considered (Purvis et al, 2017). The agenda 21 implored a need for the development and monitoring of indicators for sustainable development, which measure the change in economic, social, and environmental paradigms (Strezov et al, 2017).

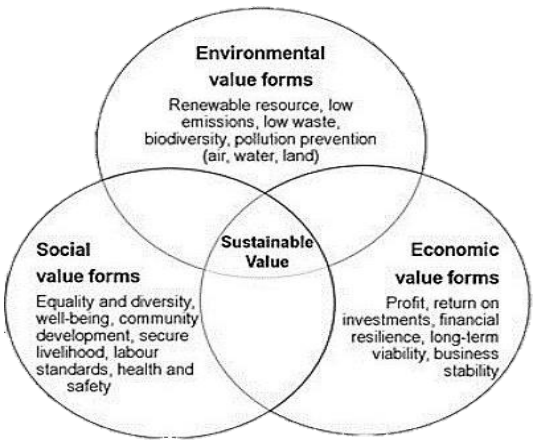

Figure 10 Sustainability dimensions. Source(Evans et al, (2017)

Economic sustainability is a system that ensures that present consumption levels do not compromise future needs. The finite nature of natural resources and exponential population growth prompts equitable and fiscally viable decisions related to sustainability to be strongly considered (Mensah, 2019). Given the source of resources, economic sustainability is aligned to creating a competitive advantage and value in improving and maintaining the financial situation (Alcivar et al, 2020). Additionally, it encompasses financial benefits and financial costs of operating sustainability activities and capital costs of setting up sustainability processes (Popovic et al, 2013).

Social Sustainability involves a system of *equity, empowerment, accessibility, participation, cultural identity, and institutional stability (*Daly, 1992, cited by Mensah, 2019 p9). Social sustainability is defined additionally as the improvement in capabilities and livelihoods through the promotion of social equity and social diversity. It is linked to environmental sustainability with regards to natural resources being a means to which well-being and improvement in the quality of human life can be promoted. Mensah (2019) also presents this idea classifying social

sustainability as a nexus between social issues and environmental issues. Social sustainability is often classified as both an asset to improve social capital and an objective to satisfy economic growth (Younis et al,2017).

Environmental Sustainability is focused on the resilience and productivity of the natural environment, and its ability to sustain future generations. It is based on the idea that the natural resource base should regenerate at a faster pace than harvested (Mensah, 2019). The macroeconomic view of sustainability involves the need to sustain stocks of natural and manufactured capital constantly over time to avail the future generation to consumption like that of the current (Reinhardt, 2000). It is determining the environmental impact the common measures include outputs related to greenhouse gases, discharge of waste and energy consumption (Popovic et al, 2013). The achievement of societal sustainability is dependent on capital stock and the relationships of these stocks, classified as natural, manufactured, human and social capital. The evaluation and interpretation of sustainability are valued in the relationship between stocks (Shi et al, 2015).

3.5.2. Sustainable Development Goals

The Sustainable Development Goals (SDGs) adopted by the United Nations in 2015 at the end of the period for the millennium development goals address and create an approach that seeks to ensure a prosperous society for future generations (Squires, 2017). The 2030 agenda for sustainable development and accompanied 17 goals as shown in Fig 11. are universal and transformative which is committed to the global community aimed at "achieving *sustainable development in its three dimensions – economic, social and environmental – in a balanced and integrated manner" (UN, 2015, p6).* The Millennium Development Goals (MDGs) preceded the SDGs and were implemented from 2000 to 2015 covering elements of poverty education, gender equality, health, and environmental sustainability (Squires, 2017). The MDGs (Millennium Development Goals) adopted in 2000 by 189 states the development of agenda 21 in the 1992 Rio Summit followed an establishment of a commission on sustainable development which were commissioned to develop indicators focused on dimensions of sustainability. The SDGs and MDGs were accompanied by targets which in the case of the MDGs were criticized for lacking in comparing performance and justification for priorities and goals (Squires, 2017).

Figure 11 United National Sustainable Development Goals. Source UN, (2019).

The UN sustainable development goals are presented as a framework that organizations and stakeholders utilize to measure and compare progress against sustainability activity (Rowlston and Dugid, 2020). The SDG (Sustainable Development Goals) targets and goals are framed at a macro and governmental level which does not cater fully to assess organizational activity level and impact. As a result, the demand from stakeholders regarding organization activities on sustainability is not being met due to a lack of reporting and measuring models (Rowlston and Duguid, 2020).

3.5.3. Global sustainability reporting standards

In response to the pressure exerted by the international environment, the need to conform to good governance in doing business, cooperative and corporate businesses models are expected to serve all stakeholders and not solely to shareholders (ICA,2016, Christensen et al 2021). This comes with an increased desire to invest sustainably and to provide disclosure to provide of the enterprise condition and influence the decisions of their shareholders and stakeholders (Schiehle and Wallin, 2014). An enterprise is recognised as sustainable when its strategy involves an increase in its total assets, or it is creating value (Reinhardt, 2000). The productive resource (human, natural, and capital) contribution by firms to society, has positioned firms as facilitators of sustainable development (Barkemeyer et al,2014). In addition to investment and disclosure, the demand for corporate social responsibility information, Environmental, Social and Governance (ESG) activities and the Global Reporting Initiative (GRI) to support firm communication on sustainability issues and impact (Chang et al,2017; Christensen et al, 2021).

3.5.3.1. Corporate Social Responsibility

The concept of Corporate Social Responsibility (CSR) from its initial appearance in literature from Bowen, (1953) has developed from a belief that firms were vital in their power and decision making, therefore, influencing society (Carroll, 1999). Further, Carroll (1999) presents a definition of CSR as "*the conduct of a business so that it is economically profitable, law-abiding, ethical and socially supportive*" (Carroll, 1999, p. 286). The goals and targets of firms are shifting from mainly the provision of goods and services to becoming more socially responsible institutions (Alvicar, 2019). This extension of their role as an organization is because operations in firms affect their communities. Therefore, the business has taken a commitment to maximising their long-term economic benefits such as profit while simultaneously catering to societal well-being through the conceptualisation of policies centred on sustainable use and management of material and human resources (Alivicar, 2019). Corporate social responsibility and stakeholder theory recognises the importance of the interests of society and the operation of the business. Stakeholder theory focuses on all business responsibilities. In contrast, CSR tends to centre on the societal aspect of business (Freeman and Dmytriyev, 2017). Organisations are being compliant and adopting CSR strategies given economic, social and financial aspects are being fulfilled by placing institutional targets. (Alvicar, 2019). Firms engage in CSR to increase consumer base, increase employee loyalty, gain investment, conform to policy and improve stakeholder relationships (Kamela and Alam, 2021). Firms have begun considering that their longevity is dependent on sustainability strategies and reporting on environmental and social governance information which is inclusive of environmental, social and governmental paradigms (Alsayegh, 2020).

3.5.3.2.Environmental and Social Governance (ESG)

Environmental and Social Governance (ESG) criteria as a concept is mentioned in Alsayegh et al, (2020) as a concept promoted through the United Nations principles for responsible investment (UN-PRI). Alsayegh et al, (2020) further mention how financial institutions are encouraged to incorporate ESG factors into their decision-making process and further increase the input of sustainability data into investment decision processes. ESG differs from CSR as it includes governance explicitly whilst CSR includes governance issues as it pertains to social and environmental aspects of the framework (Gillan et al, 2021). The three- dimension structure of ESG strengthens the monitoring of management practices with regards to

enhancing corporate sustainable performance (Alseyyah et al, 2020). Based on social information such as health and safety policies, community investments, labour relations, health and safety, environmental information takes the form of the firms' response with regards to pollution m climate change risk, and natural resource conservation (Alseyyah et al, 2020). Economically, the firm must possess a strong corporate governance structure that is inclusive of shareholder rights, board structure and auditing practices as well as macro- economic aspects concerning innovation and the market of the whole economy (Alseyyah et al, 2020).

Firms that have actively incorporated ESG in the strategies benefit from shared value for the business and society. Shared value involves the creation of policies and operating practices that result in economic value (operational efficiency, cost reduction) in the form of social benefits (waste reduction) (Alseyyah et al, 2020). Contrastingly the dilemma with this framework is the lack of universal or country-specific frameworks as well as evaluation standards in the ESG which limit firms from adopting required sustainability responses (Park and Jang, 2021).

3.5.3.3. Global Reporting Initiative (GRI)

The Global Reporting Guidelines (GRI) as voluntary guidelines for corporate sustainability reporting, discloses environmental, social and economic performance. It was launched in 1997 with an initial objective of addressing environmental performance which later included social and economic performance. The framework for sustainability reporting as part of the GRI guidelines include reporting principles and standard disclosure which establishes the topics and indicators on which firms report (GRI, 2011). The GRI reporting structure is separated into two parts. Information and guidance on reporting are mentioned in the first section. Disclosures of the management approach and performance indicators are presented in the second section. The performance indicators as part of the GRI index are divided into environmental, economic and social categories and further break down the social category into labour, human rights, society and product responsibility (GRI, 2011).

3.5.4. Application of sustainability reporting frameworks by Cooperative and corporate business models.

Firms have recognised the relevance of sustainability in their strategies and policies, in addition to utilising standards have begun monitoring dimensions of economic, social and environmental sustainability using indicators (Krajnc and Glavic, 2005). Indicators are useful in their description of the baseline, current situation, and performance of a system (Mccool and Stankey, 2004). Additionally, indicators measure whether policies and actions are effective to propel systems more towards sustainability (Mccool and Stankey, 2004). Sustainability performance indicators in addition to evaluating the performance of firms and influencing strategy also provide an indication of trends on improvement as well as information on declining trends for the various economic, social and environmental dimensions (Kumar Singh et al, 2009). These indicators translate issues relating to sustainability to measures that are quantifiable and which objective is to address sustainability issues. Sustainability reports have emerged as a collective report of corporate, financial, environmental and social performance, utilising frameworks such as the GRI and ESG (Krajnc and Glavic, 2005; Marcis et al, 2019).

3.5.4.1.Corporate business model

- **Application 1**

A method by Rahdari and Rostamy, (2015) highlights the use of main common indicators as part of an ESG assessment model, thereby extending the literature in sustainability assessment indicators for corporate business. The indicators were used to assist companies in complying with new or changes in reporting guidelines, management systems and maintain CSR and ESG sustainability indices. The model used a sustainability indicator extraction process to refine 1826 indicators into 70 indicators, 10 main criteria, and 30 sub-criteria using an ESG framework as a filter and are presented in Table 2. A frequency count and a combination of benchmarks were also used to select the main common indicators. The selected indicators were classified as general sustainability indicators and are applicable in all sectors. These indicators due to in general classification are limited in evaluating the role that industry-specific indicators play at the corporate level.

Table 2 Most common indicators for the assessment of ESG elements of corporate business.

Social	Environmental	Governance
Management systems	Nature	Board and Committees
Customers– customer privacy and data security.	Climate change - climate change mitigation or adaptation in terms of sales per metric tons of CO2 emitted.	Board composition – Disclosure and reporting.
Supply chain – Supplier assessment for labour practises and actions taken.	Biodiversity - total environmental protection expenditures and investments made.	Committees - audit committee, audit contracts, reports, auditors' selection, and remuneration.
Health and Safety –total injuries per hours worked, employee/contractor fatalities, rates of injury, lost days, absenteeism.	Emission, pollution, and waste – sales per metric tons of hazardous material produced, water consumed per sales, percentage of waste transported internationally, the weight of transported, imported and exported waste deemed hazardous.	
Community Development and Philanthropy – community investments in cash and or donations	Energy, efficiency and water – environmental management and safety adoption (ISO 14000, 26000), use of targets and monitoring,	

Note. Adapted from (Rahdari and Rostamy (2015).

- **Application 2**

Hristov and Chirico (2019) used a method of capturing key performance indicators as part of a Sustainability Balanced Scorecard (SBSC) framework. This model sought to identify sustainability issues in the development and implementation of the strategy. The indicators identified were selected based on their effect on company performance. A systematic analysis was used to select relevant literature related to sustainability and strategic management, followed by a survey allowing managers to suggest strategic goals and corresponding indicators for each goal. Further managers were asked to refine and analyse the relevance of the indicators in management strategy and value creation process in the firm. The indicators were structured as a sustainability perspective using a SBSC framework as shown in Table 3, which is a key tool in promoting the integration of sustainability paradigms in company strategy.

Table 3 The sustainability Balanced Scorecard (SBSC) framework.

Environmental		**Social**		**Economic**	
Strategic goal	**Key Performance indicator**	**Strategic goal**	**Key Performance indicator**	**Strategic goal**	**Key Performance indicator**
Improvement in the use of renewable sources	Rate of renewable sources	Societal inclusion in developing SDGs	Integration rate	Increase in return on investment	ROI related to environmental protection
Reduction in consumption of superfluous resources	Rate of efficiency resources (energy per thousand units)	Relationship with stakeholders	Stakeholder satisfaction rate	Sustainability dimension increase in revenues	Additional revenue from brand differentiation, recycling income, sustainable innovations.
Reduction in greenhouse gas emission	Total direct /indirect greenhouse gas emissions	Social initiatives participation	Local and national social initiatives	Enhanced technology process	Percentage of investments in environmental technology
Safeguarding environment	Rate of waste reduction	Enhancement of employee satisfaction	Employee satisfaction rate	Quality of business process	Environmental site certification, environmental information accuracy and availability rate.
Environmental "greenness" effort improvement	Reusable/ recycled material percentage	Social marketing policies	Customer satisfaction rate		

Note. Adapted from Hristov and Chirico, (2019).

3.5.4.2.Cooperative business model

The use of GRI in measuring sustainability performance in a South African agricultural cooperative (Agri – Com Co-operative Ltd.) by Toit and Buys (2014) revealed both difficulties in the measurement against environmental dimensions and inconsistencies in its application by the management of cooperatives. The GRI framework was analysed, evaluated and applied to the operational activities and reports of a selected cooperative. The extent of support the GRI framework guidelines would lend to cooperative objectives and business model was also analysed. According to Toit and Buys (2014) model, the main performance indicators selection ofshown in table 4. ten (10) out of eighty(80) were being reported on by the cooperative. The the indicators was based on profile disclosure categories as part of the GRI framework. The cooperative performance was the strongest in economic and social areas (training and education, community development, human rights) but faced difficulty in reporting on environmental performance (Toit and Buys, 2014).

- **Application 1**

Table 4 Agriculture cooperative performance indicators arranged into sustainability categories.

Economic category	Subcategories and indicators
EC1	Direct economic value generated and distributed. – Cooperative reserves are distributed to members as a bonus on turnover.
EC2	The financial implication, risks and distribution -
EC4	Financial assistance received from the government
Indirect economic impacts	
EC8	Development and impact of infrastructure investments
EC9	Direct economic impacts
Environmental category	
EN14	Strategies, current actions and plans
Products and services	
EN26	Initiatives to mitigate environmental impacts
Social Category	
Training and education	
LA11	Programs for skills management
Non- discrimination	
HR4	Number of incidents of discrimination
Local communities	
SO9	Operations with considerable potential or negative impacts.

Note. Adapted from Toit and Buys, (2014).

- **Application 2**

A model proposed by Rowlston and Duguid (2020) consisted of utilising cooperative principles and stratification of interests (mission, activities and goals) placed into sustainability dimensions to deliver an aligned process of impact to each stakeholder. The cooperative principles act as an operational mechanism reflecting the values of the organisation which determine activity outcomes and therefore impact stakeholders. The organisational performance was measured using a word map which identified the link between activities and needs of stakeholders by grouping elements of the GRI reporting framework, Cooperative principles and SDGs. This grouping was further delineated into social, economic and environmental categories. The aim of the process sought to utilise the principles as a tool to link SDGs to relevant outcomes in the GRI reporting format.

- **Application 3**

Marcis et al, (2019) developed a sustainability assessment for agricultural cooperatives (SAAC) model to assess the sustainability in the operations and practises of agricultural cooperatives and analyse the level of adherence to sustainability performance indicators in five agricultural cooperatives in Brazil. The model sought to further assist these entities in contributing towards sustainable development and sustainable strategies (Marcis et al,2019). This model includes a total of 78 indicators set into five categories (social, economic, environmental, cooperative specific and commercial) shown in Table 5. resulting in a feasible, practical and useful model adequate to the sustainability practises of the agricultural cooperatives (Marcis et al, 2019). The indicators were developed through the research process which refined the model and is shown in Table 5.

Table 5 Sustainability Assessment for Agricultural Cooperatives (SAAC).

Categories	Subcategory	Indicators
Economic	Financial category	ROA, ROI, ROE, cash flow control, current liquidity, general liquidity, general debt.
Environmental	Environmental management category	Gross revenue invested in preserving water sources, revenue invested in water reuse
	Subcategory – Air	Gross revenue invested in reforestation, treatment of air pollutants
	Subcategory – Water	Gross revenue in protection and preservation of water sources, water reuse, effluent treatment.
	Subcategory – Soil	Cooperative participation in environmental campaigns.
	Subcategory – energy	Renewable energy use in facilities
	Subcategory – environmental awareness	Environmental certification, environmental penalties, Environmental penalties converted to fines.
	Subcategory – participation	Participation in meetings and conferences on SD or CSR.
	Subcategory – waste management	Reduced materials in production, consumption, recycled and or reused materials used for packaging
Social	Subcategory – occupational safety	Certification in good hygiene practises occupational incidents, gross revenue invested in occupational safety.
	Subcategory – labour relations	Labour claims, staff turnover rate, employee satisfaction rate
	Subcategory – employee benefits	Gross revenue and incentives to employees, employees with medical assistance benefits
	Subcategory – Training and development	Gross revenue invested in training and development, employees' participation in technical and higher education training.
	Community category	The revenue invested in social, cultural and sports projects.
	Cooperative member service, education and benefits	Complaints resolved and the total number of complaints, members who have medical assistance and insurance, income invested in education and training for members, participation in conferences, events, training by members

Note. Adapted from Marcis et al (2019).

3.6. Theoretical Framework of the study

Based on the literature review, we recognise that the mandate to action targets and goals toward sustainable development by the United Nations is vastly approaching its deadline of 2030. The vision to cater towards positive change to counter challenges in economic, environmental and social dimensions of sustainability is dependent on collaboration between all public and private agents in all sectors. In the case of New Zealand, the agriculture sector, particularly the Agri-Food sub-sector contributes significantly to the country's GDP. In this regard, corporate business and cooperative business models are at the forefront in the production and export of Agri-Food products. These entities by nature of their business process have activities that correspond to dimensions and targets of the sustainable development agenda. As these models differ in their ownership, control and benefits, they have a social responsibility to their stakeholders which includes their owners, consumers and the wider public. This precedent sets an urge to commit to the sustainable development agenda by responding to economic, environmental and social dimensions of sustainable development.

Literature highlights that the corporate environment is accountable and transparent to their stakeholders, have adopted and utilised frameworks and standards to structure and measure their sustainable development response and respond to the sustainable development agenda. Whilst these frameworks are available and being used globally by corporate business and cooperative models, in New Zealand the lack of Environmental, Social and Governance (ESG) sustainability reporting framework creates voluntary reporting by larger new Zealand companies. Although firms in New Zealand have been utilising frameworks such as the GRI and climate-related financial disclosure frameworks, because reporting is voluntary, there is variation in the type of information captured. In addition, inconsistency in capturing data prevents comparisons of firms reporting sustainability.

Several studies have been conducted on sustainability reporting and corporate social responsibility in New Zealand (Bebbington et al, 2009; Garnevska et al, 2017; Collins et al, 2010) However, to current knowledge there are limited studies on comparing the sustainability response between different business models in New Zealand. A study by Alcivar et al (2020) recommends research on assessing the differences between the cooperative sector and the commercial sector in corporate sustainability or corporate social responsibility.

Additionally, the International Cooperative Alliance (ICA) (2016) sustainability scan suggested future research in comparison between corporate business models with cooperatives to assess their relationship to sustainability as well as research on how cooperatives actualise their communication of sustainability in their annual reports. Further, sustainable development requires the balanced integration of sustainability dimensions. The response by corporate and cooperative entities by their business activities to sustainability dimensions creates an intertwined balance in response to the sustainable development call to action. A theoretical framework is presented in Figure 12 in summary of the research process.

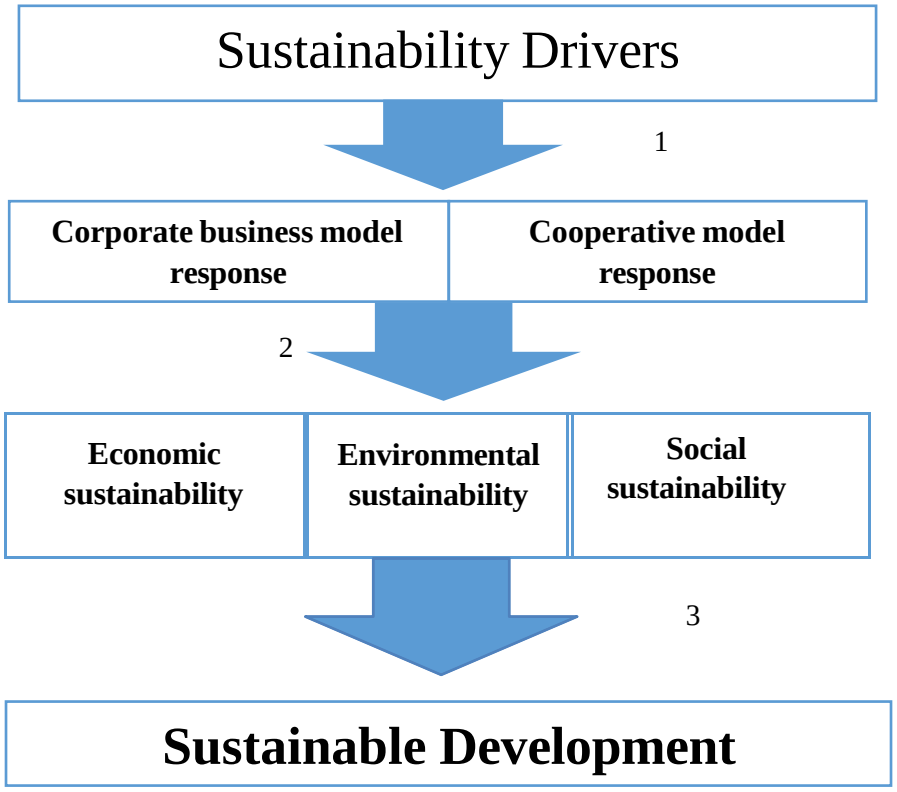

Figure 12 Theoretical Framework of this study. Source Author

The following propositions can be deduced from the framework and literature reviewed:

P1: Cooperatives and corporate businesses are driven to respond to sustainable development by different external and internal factors.
P2: Responses to sustainable development differs based on the business model.
P3: Business models respond differently to economic, environmental, and social dimensions of sustainable development.

In the theoretical framework, it can be deduced that companies respond to sustainable development because of external and internal pressures experienced in the environment as shown by Arrow 1. The two-business model respond differently to this pressure by nature of economic, environmental, and social dimensions of sustainability as indicated by Arrow 2. The integration of economic, environmental and social dimensions achieves sustainable development in the company as shown by Arrow 3.

4 CHAPTER FOUR- METHODOLOGY

This Chapter outlines the research design applied in this study provides an overview of the commonly used methodological tools for assessing corporate business and cooperatives and analysing their sustainable development responses. The selection of cases and participants, data collection and data analysis methods are described.

4.1. Research Strategy

The research question sought to analyse how cooperatives and corporate business models in New Zealand differ in their response to sustainable development. A qualitative research method was chosen for the study due to its exploratory nature. Qualitative research is defined as a broad study of social phenomena (Marshall and Rossman, 2011). Qualitative research also seeks to explain and test the key elements in each of the cases (Yin, 2009). Qualitative methods are best suited for exploratory research and involve describing and interpreting text data collected (Marshall and Rossman, 2011). The study utilizes an exploratory research design which involves an investigation into a situation that is not fully understood to identify important categories, patterns or relationships to generate further hypotheses for further research (Marshall and Rossman 2011).

Multiple case studies were used for the qualitative aspect of the research since it aims to explore differences between two or more cases to produce similar results or contrast results for predictable reasons (Yin, 2003). A case study is defined by Creswell (2003) as "a *strategy of enquiry, in which a researcher explores in depth a program, event, activity, process, or one or more individuals".* They are utilised across stages of analyses combining evidence along with the identification and refinement of concepts and variables establishing relationships between these concepts in the research study (El Sahn et al, 2016). The multiple case study design was chosen for this research since it allows for a more convincing and strong study whilst concluding a group of cases. The use of multiple case studies can produce robust and reliable results. However contrastingly, the use of multiple case studies is also time- consuming and requires resources (Yin, 2009). The use of case studies is therefore suitable for proposed research addressing a contemporary phenomenon the researcher has no control over, is exploratory and it addresses research questions (Shakir, 2002). The research questions in exploratory case studies are usually of a "how" or "do" nature as the focus is more

descriptive than normative (Rashid et al, 2019). The research question in this study draws from this basis and was formulated prior by reviewing the literature to build theory to conduct the research, permitting the selection of the cases and data collection as indicated by Eisenhardt, (1989) and Yin,(2009).

4.2. Selection of Cases

Purposive selection also known as theoretical sampling was used to reflect the selection of specific cases for this study. This form of sampling was utilised for primary data collection to produce relevant information and data. Purposive sampling in the selection of cases advances the theory-building process in addition to replicating and extending the growing body of theory (Ravenwood, 2011). Two organisational forms, one Agri-Food cooperative and corporate business were selected as suitable case studies. The two entities both operate within the red meat industry, as the industry is one of the major economic contributors to the New Zealand economy. The two firms are both major processors and exporters of red meat for local and international consumption. The two entities vary in size, institutional attributes, strategic approach and sustainability approaches.

4.3. Selection of Respondents

Purposive sampling also is utilised in the deliberate selection of participants based on their qualities. Additionally, such participants are selected after confirming the information required for the study and which participants would be able to supply that information by knowledge and experience (Etikan et al, 2016). The participants within each case were selected based on their area of expertise, knowledge and experience in the study area. The sample size of participants was also dependent on availability, knowledge of and influence in firm strategy as well as their knowledge of sustainability response in the firm. There were a total of 11 interviewees between the cooperative and the corporate business. The interviewees consisted of two strategic personnel one of each from the cooperative and corporate business, two operational personnel one of each from the firms, one key industry informant and six suppliers supplying to the firms. The total sample size was reflective of the time available to complete the interviews, which were impacted significantly by the Covid 19 pandemic restrictions. An outline of the participants' interviews is illustrated in Table 6.

Table 6 Participants Interviewed

Participants	Company A	Company B
Strategic personnel	1	1
Operational personnel	1	1
Suppliers/Members	3	3
Industry Key informant	1	

Note. Source Case study selection

4.4. Data Collection

Building of theory in research usually requires employing multiple data collection methods so that triangulation of the evidence, an outcome of the multiple data collection methods will provide stronger validity of the theory and hypotheses (Eisenhardt, 1989). An advantage of case study data collection is the opportunity for varying sources of evidence of a case, which converges lines of inquiry. The conclusion in a case study is, therefore, more accurate with multiple sources of information following a corroboratory mode (Yin, 2009). Data collection protocols adopted for the field phase of the case study included the initial contact of the participants from each company (Rashid et al 2019). Primary and secondary data collection occurred from March 2021 to September 2021 and was gathered from key informants in each firm and within the industry. The review of information on each case before the collection of empirical material ensures a smooth process and enhances rapport between the researcher and the participants (Rashid et al, 2019). The initial contact of participants was initiated by forwarding the objective of the research, an invitation letter and consent regarding confidentiality and recording of the information. An audio recording was used during the interviews, providing a more accurate version of interview data (Yin 2003). The interviews for participants within the strategic and operational tiers of the firms ran for an average of an hour and the interviews with suppliers ran for an average of 20 minutes.

Primary data was collected by the researcher through semi-structured online video/telephone interviews. Interviews are recognised as essential sources of case studies, as pursues an actual and unbiased line of inquiry (Yin, 2009). In retrospect, interviews can identify sources of variation for a specific outcome (El Sahn et al, 2016). Semi-structured interviews are common for qualitative research and utilise an interview guide built from identified themes and incorporating prompts to produce a more detailed response (Qu and Dumay, 2011). Face to Face interviews are the preferred techniques used in semi- structured interviews and in- depth interviews, whereas telephone interviews are utilised in shorter interviews and in the case where the interviewee is inaccessible (Sturges and Hanrahan, 2004) The interviewees were interviewed using these methods since the Covid 19 pandemic restricted face- to face interaction and travel. The case study protocol illustrated by Yin (2003). The semi- structured interview was conducted using a semi-structured interview guide developed in the review of the literature and presented by the theoretical framework in chapter 2. The interview guide used open-ended questions on the firms' approach to sustainability covering the firm's response to sustainability, which was inclusive of the activities, indicators and metrics of their sustainability approach. Case study interviews use open-ended questions to infer opinions and insights from respondents, which may prompt further inquiry (Yin, 2009). Further Yin (2009) characterises key informants as critical to the cases study's success in suggesting confirmatory or contrary evidence. The case study utilised information from one industry key informant who provide more in-depth insight around the topic of the case.

Primary data is commonly supported by secondary data collected usually in the form of archival records used along with other sources of information (Yin, 2003). The sources of data collected from each of the firms included annual reports, by-laws, disclosure statements and audited financial reports. Secondary data is reliable data collected and compiled by a company either annually or every five years (Sahu, 2013).

4.5. Data Analysis

Data analysis involves the examination, categorization, tabulation and testing evidence to address prepositions in a study (Yin, 2009). Semi-structured interview primary data is commonly analysed using a Qualitative Data Analysis process of description, classification and inductive coding of data into themes (Marshall and Rossman, 2011). According to the analytic strategy described by Yin (2003). Theoretical prepositions informed the focus of data and theme grouping for data. The coding process allows code clusters and outcomes to form a pattern (Marshall and Rossman, 2011). Pattern matching techniques compare a predicted theoretical pattern with that of an observed empirical pattern from the research case study (Hammond 1966; Yin 2003). If the patterns that are observed are consistent with the empirical then it is accepted and the results can strengthen the internal validity of the case study (Yin, 2014, p 143). Contrastingly, if patterns observed differ with empirical data, underlying reasons for the conflicting findings must be discovered (Eisenhardt, 1989). The analysis of each case study followed a cross-case analysis of sustainability responses between the Agri-Food cooperative and corporate business models. The findings were linked to earlier literature. (Yin, 1994).

4.6. Ethical Consideration

The ethical considerations in this study were related to potential harm being caused to participants who were judged as low risk based on the assessment and approval by the Massey University Human Ethics Committee. The guidelines and code of conduct referenced in the Massey University Human Ethical Code (MUHEC) were observed. The purpose of the research was explained to participants and verbal consent was requested before the interviews. They were also sent an invitation letter, which presented the research aims and what the research required from them. The participants were notified that their participation was voluntary and was given consent forms that ensured that they gave permission to be recorded and that confidentiality of the information they provided, and their identities would be respected.

5 CHAPTER FIVE- RESULTS

5.1. Company A Corporate Case Description

5.1.1. Company Overview

Company A is a multinational corporate business with headquarters in Christchurch New Zealand focused on the sales of meat and processed meat products. As one of New Zealand's top exporters of red meat products, Company A has average sales of 1.7 billion annually, having established a strong customer base within eighty countries. Company A is 100 % owned by an overseas meat Company, which became its shareholder in 1995 and has core business activities in the manufacturing and sale of processed meat products. Company B has seven processing sites and a major feedlot strategically placed close to its three manufacturing sites, which produce supply for international demand specifically to Asian markets. An overview of the firm is presented in Table 7.

Table 7 Overview of Company A

Corporation	Ownership	Est	Revenue (2020)	Business and products range	Shares
Company A Limited	Investor-owned– 100% Overseas shareholder company.	1989	1.5 billion	Beef, lamb, meal solutions and healthcare/ nutraceuticals/ pharmaceuticals.	59,112,784

Note. Adapted from Company A.

Company A employs over 3000 persons across New Zealand as of 2020 and has processing sites located in Eltham, Manawatu, Rangitikei, Marlborough, Kokiri, Canterbury and Rakaia its manufacturing sites are located in Waitara and Green Island as illustrated in Figure 13. Company A captures 19 percent of the beef production share locally putting them in second place amongst local competitors.

Company A has international offices in Europe, Australia, Japan, Taiwan, the United Kingdom, an investment of 11.4 percent in associate companies in the USA and Canada and 60 percent investments in other local meat and beef extract companies. Additionally, subsidiaries of Company A include companies with core business activities related to farming, investment (financial services), healthcare, meat slaughtering, packaging, procurement feed-lotting, manufacturing, and marketing of meat products.

Figure 13 Company A processing plants in the Northland and South Island. Data from Company A.

5.1.2. Historical development of Company A

Company A was established in 1984 as a Meat Company, marketing beef and lamb to the Asia region. Initially, Company A was owned through a statutory meat Board by individual farmers under the leadership of the company's founder under an initial investment of $350,000. To expand the capacity of the firm, Company A in 1989 partnered with an overseas shareholder established New Zealand's largest feedlot to cater to demand in Japan. A change in ownership from the statutory board to a private investment company in 1995 included the company's founder and initial management gaining majority shares and two overseas shareholders owning the remaining shares. This new structure turned an initial $350,000 investment generating a return of $40 million.

By 1999, the company had established itself as a multinational trading Company with four processing plants, increasing its scale of operation. Further companies were acquired, and additional processing sites were established from 2001-2005. The restructuring of shareholding in the company in 2015 included the departure of its founder and a 65 percent increase in shares by the overseas shareholder meat company. As a then subsidiary of this overseas company, this restructuring sought to secure meat supply to the middle-income customer base as the demand for meat in Asia had increased. The overseas shareholder acquired 100 percent ownership in Company A in 2018 and a sustainability strategy was developed for the firm in 2019. Figure14 illustrates the key milestones in the timeline of Company A.

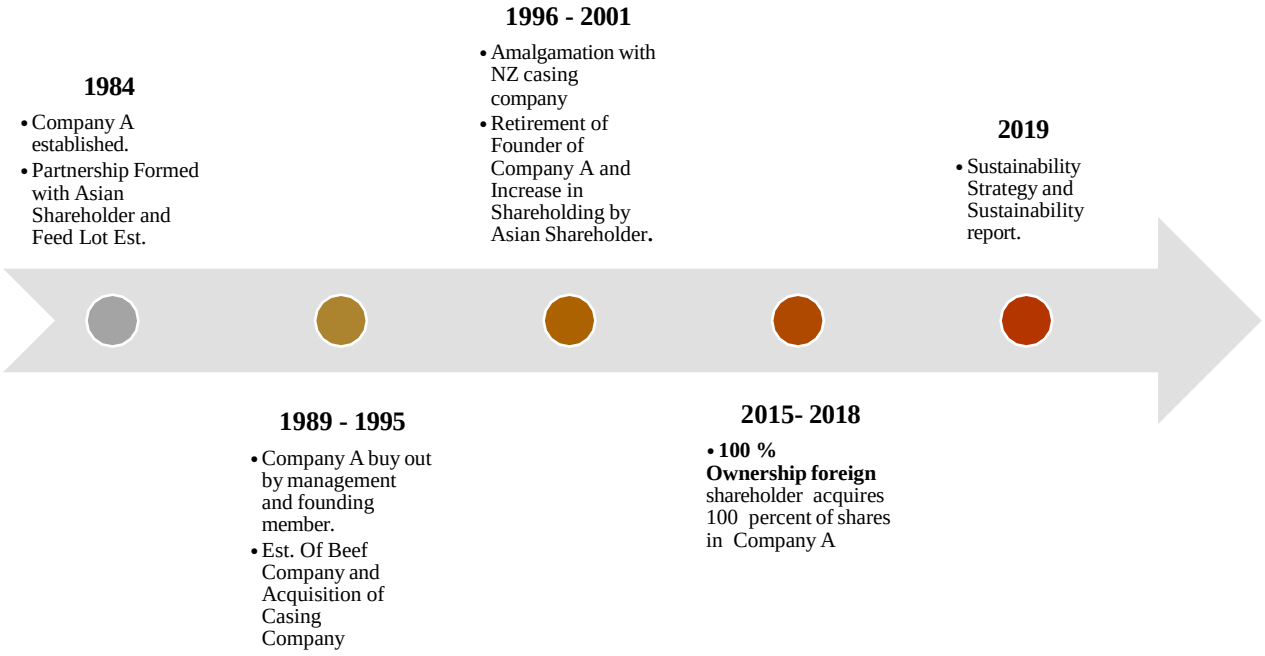

Figure 14 Timeline of Company A Events. Data from Company A

5.1.3. Objective and Core Business

Company A as part of its core business commits to producing the highest quality of beef, lamb and health products through innovation, health and safety standards, animal welfare and market standards. Additionally, they manage their supply chain by controlling the process from procurement to distribution and marketing. Company A engages with its suppliers through supply contracts. These contracts outline specific requirements for acceptance, processing and delivery of stock. The price as per the contract includes a price paid per unit of stock 14 days after the slaughter date. Incentives to suppliers of Company A include competitive rates for stock, prompt payment arrangements, availability of livestock representatives nationwide, access to processing facilities and seven-day processing during peak kill weeks.

5.1.4. Product brands

Company A has a wide range of beef, lamb, meal solutions and healthcare products. Company A's beef product range is marketed under premium - grass-fed grain- finished and handpicked aged beef branding. All of which are signature to New Zealand's natural environment.

Premium grain-finished New Zealand beef includes two major brands. The features include raising cattle for an18-month period on a GMO-free diet. Hand-selected and aged beef Company A Meal solutions product include a range under a gourmet brand, which includes retailed and exported home-style meal solution products. Additionally, their healthcare products deliver on solutions of wellbeing in the areas of bio culture, nutrition, bio tissues and animal components (glands, organs). Other co-products by Company A include offals, pelts, skins, casings, wool, meat, and bone meal.

5.1.5. Company A Financial performance

Company A's balance sheet showed a great performance in the before-tax profit from 2019 to 2020 despite a reduction in their revenue from the previous year. This result was particularly pleasing as the firm attributed it to the retention of the employee via the wage subsidy and enhancing their online platform all processes and policies to manage the Covid 19 pandemic.

Company A‘s performance during the period leading up to 2019 included a significant profit of 17 million in 2016 due to its value-added and enhanced processing. The reduction in 2018 was mainly due to the rebranding of the firms’ strategy and investments into capital. The firm experienced increased increases in revenue with a decrease in 2020 due to the challenges and setbacks faced by the Covid 19 pandemic. Table 8. shows the financial performance of company A.

Table 8 Company A financial performance

Year	**2016**	**2017**	**2018**	**2019**	**2020**
Before tax profit/loss	**17 million**	**1.8 million**	**(37.9) million**	**30.5 million**	**35.7 million**
Revenue	**1.4 billion**	**1.46 billion**	**1.6 billion**	**1.69 billion**	**1.52 billion**

5.1.6. Ownership and Governance

The governance of Company A is coordinated by a board that includes the Chairperson, directors of the board and associated committees. The directors of the board elect the chairperson. The chairperson presides over every general meeting of the firm and the board of directors, which according to the constitution should not be less than five or more than nine. Company A had six directors during the period of study. The directors of the board are elected by the shareholders of company A by the voting majority or by written notice through most shareholders. Directors may also be independent directors under the constitution; as such, independent directors cannot be shareholders of the Company, employed in an executive-level capacity, an advisor to the Company or have any associations with the executive, suppliers or customers and cannot be a supplier or a customer of Company A or any of its subsidiaries. The governance of Company A is illustrated in Figure 15.

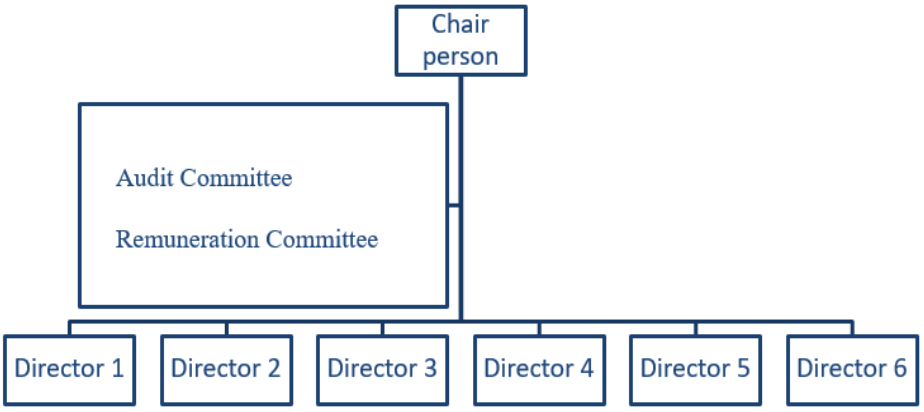

Figure 15 Company A board structure. Adapted from Company A

- Audit committee

The board has attached to it an audit committee that provides support of the board in compliance with financial responsibilities, policies, and practices. The committee also has to respond to inquiries as needed to Company A's financial statements and audits. The committee comprises the Chairman of the board, the executive officer of the Company, directors of Company A and its subsidiaries.

- Remuneration Committee

This Committee also attaches to the board and provides oversight to management options for succession planning and decision relating to compensation of the chairperson of the board, the senior management team and board directors. The executive leadership of Company A provides direction and sets the vision for Company A's long-term strategy. The executive leadership team in Company A comprises the Chief Executive Officer supported by the senior management team as illustrated in figure 16.

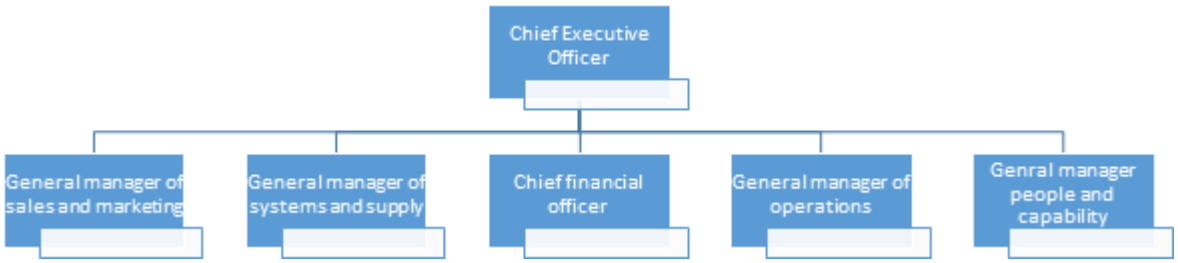

Figure 16 Organisational structure of Company A.Adapted from Company A

5.1.7. Share Capital Structure

Company A maintains its share capital structure of ordinary shares, retained earnings and reserves. The board can offer any class of shares including redeemable, preferential voting rights or capital distribution, non-voting rights and limited transferability shares. Ordinary shares in Company are sold at $1 per share. All shares have equal voting rights and share equally in dividends and surplus. The firm commits to ensuring the operation of the entity and for optimal returns to its shareholders and benefits to stakeholders. According to the constitution, different classes of shares may be issued in the Company and be:

- Redeemable.
- Grant preferential rights to capital distribution, income or limited or conditional voting rights.
- Not grant voting rights or have a limitation on transferability.

5.1.8. Shareholder Features

- The right to one vote on a poll at a meeting to appoint directors, appoint or remove an auditor, alter the constitution, approve a major transaction, approve amalgamation or put the Company to liquidation.
- The right to an equal share in any dividends authorised by the board.
- The right to an equal share in the distribution of assets including surplus assets of the Company.

- **Rebates and distribution of shares**

Company A authorises distribution to its shareholders at any time and within any amount up to the satisfaction of directors on the board after the solvency test. The board of directors also may authorise distributions differing in amounts to shareholders. A dividend is paid to the registered holders of shares in Company A at a time fixed by the board or a time the dividend is declared payable.

5.2. Sustainability strategy for Company A

At the time of the study, the firm's sustainability strategy was in its initial stages, beginning the conceptualisation of its definition of sustainability in 2019 and producing its first strategy report in 2020. Before developing and presenting a sustainability report, the firm focused on measuring and monitoring their environmental impact in relation to water, waste and effluent within their various processing sites to show compliance as well as some social activities in their communities.

Company A seeks to align itself with the most sustainable production and action within the red meat sector. The firm maintained that goal by developing a three-year strategy which they believe will positively influence their impact on the environment as well as support people and communities. The sustainability report sets the framework for their sustainability, having key elements aligned to global GRI standards and UN sustainable development goals. Respondent 1 sums up the stage of sustainability of the firm:

… "We are at the stage we call embedding, so we are looking to have our sustainability activities strategy embedded into the likes of our audit and risk programme".

Company A conforms to frameworks such as the United Nations (UN) Sustainable Development Goals (SDGs) out of the pressure of committing to doing "the right thing". This was evident in their response to their reporting under the UN SDG format in their sustainability report:

… "We did that because we felt we had to. I think what learned in our journey was that they are not particularly relevant at a company level, they are very much at a country level".

The firm sees the United Nations SDGs as playing a major part in guiding the delivery of their sustainability agenda in terms of the targets set out under the overarching goals. As an overall framework, the firm believes that the goals are better suited to a national context rather than the firm. The major driver to conform to the goals was based on their perception of catering to business ethics as "the right thing to do". The firm views the SDGs as being relevant to their reporting and the targets in providing a reference in aligning their reporting with other businesses.

5.2.1 External Pressures for Sustainable development in Company A

The analysis of results revealed five external pressures driving the corporate response to sustainable development as illustrated in Figure 17. Government regulation was considered the main influence of 28 %, Good corporate citizenship and stakeholder perceptions each with 24 %, Securing long term opportunities for the firm was recognised as a lower influence of 14%. Finally, the firm's social license to operate captured 10%.

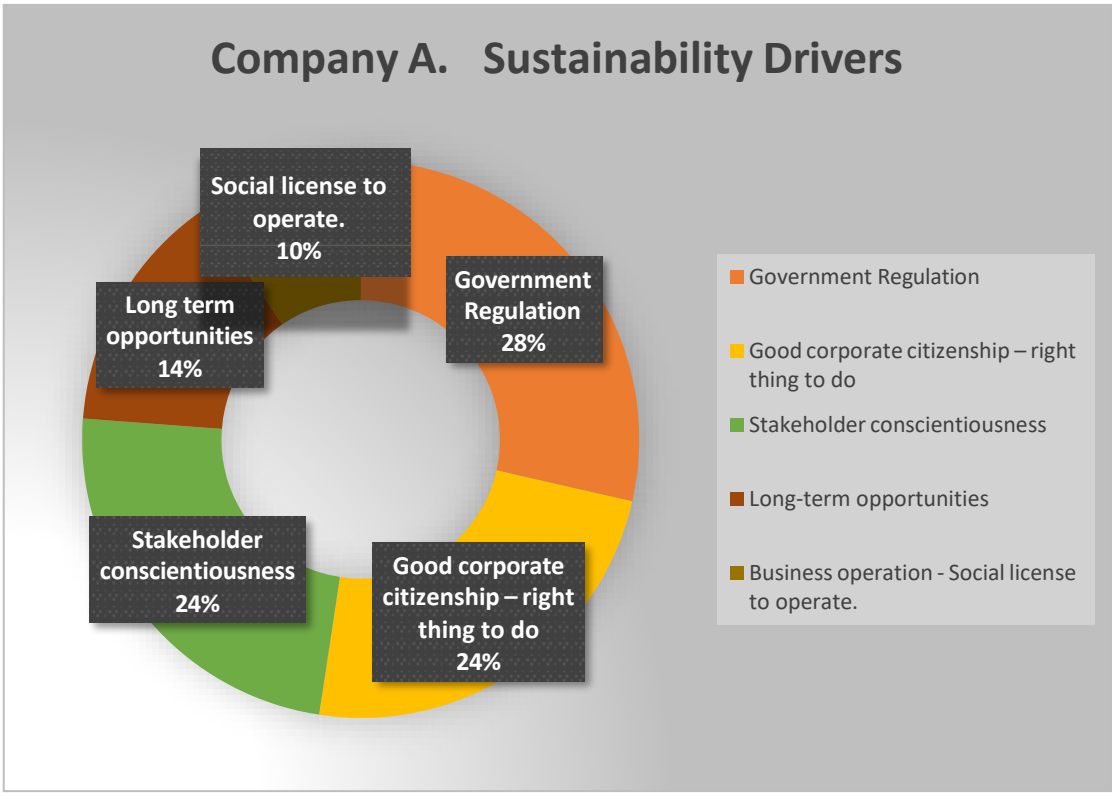

Figure 17 Interview results of external sustainability pressure.

5.2.1.1 Government regulation

Government regulation was the main driver in the corporate response to sustainability. This was particularly apparent in the responses to questions related to drivers for sustainability in the firm and areas of focus for sustainability within the firm. Company A recognises that sustainability is what is being demanded by the market; however, they believe that for the firm, the more evident driver is the implications from government regulation. The expectations in the market are not currently being translated for the firm where consumers are paying extra for sustainable products. Consequently, the focus is to get ahead of regulatory stipulations within environmental contexts such as the effects of not conforming to targets set out by the zero-carbon bill. The Zero carbon bill provides a framework for the implementation of climate change policies in accordance with the global effort towards the Paris climate change agreement.

Company A has signed unto several sustainability programmes which strive to reduce environmental impact in several areas. As a member of the Climate Leader's Coalition, the

Sustainability Council of New Zealand and as a founding member of the Round Table for Sustainable Beef, Company A credits government regulation as more of a driver in delivering environmental sustainability objectives more predominately in reducing carbon emissions. Company A recognises that policy and programmes set by the government set the momentum for how the firm will respond to sustainability and to which areas they respond. Accordingly, Company A has aligned its sustainability practises especially in environmental sustainability with policy requirements, by responding to activities such as the government's call to reduce carbon emissions to continue operation.

5.2.1.2 Good Corporate citizenship – The right thing to do.

Good corporate citizenship is another driver for sustainability in the firm, with good corporate citizenship being recognised as "**the right thing to do**". The business classifies this as being involved in activities that reflect the welfare and management of their environmental, social, and economic activities and balancing those with their stakeholder needs. This view was observed mainly in response to questions on the drivers of sustainability, sustainability focal areas and measuring sustainability in the firm.

Company A distinguishes between the views that the pressure to conform to government regulation is becoming more superseded in the context of their firm with conforming to the "right thing to do". Drawing from this concept of the "right thing to do", Company A recognises its responsibility to commit to sustainability especially in relation to its operations in an environmentally sustainable context. Company A acknowledges that being proactive in their approach to tackle reductions in carbon emissions, water use, coal use, protection of biodiversity and waste disposal is pertinent in their drive towards doing the right thing. This also translates to supplier and farm impact where suppliers of company A have indicated that their perception of sustainability is based on their concept of "doing the right thing" which is having a high regard for land tenure and management and ensuring that resources are available long term. This aspect is translated into the market where the suppliers believe that the consumers are highly influenced by what is reflected sustainably on the farm.

The firm also aligns this aspect of "the right thing to do" around their economic sustainability. The level of capital investment and management of resources directed to the environmental space is linked to what the firm deems as contributing to sustainability through its ethics.

The measure of their environmental sustainability is based less on an idea of cost implications of that activity and more towards being a good corporate citizen. Environmental activities such as the restoration of wetlands and other habitats position the firm to a better standing with their stakeholders since they can cater to their environment as well as enhance their corporate citizenship with their stakeholder interactions. On the social side, the firm addresses good corporate citizenship through enhancing their interaction with local councils and the community in managing issues related to environmental sustainability. The focus for the firm is centred on performing those activities but also on how to measure the success of such activities for their stakeholders.

5.2.1.3 Stakeholder Perception

Stakeholder perception is observed as one of the main drivers for Company A in the delivery of their sustainability priorities. Their commitment to their stakeholders includes operating to create value through their sustainability activities to their customers, suppliers, employees, investors, shareholders, communities, and the environment deemed as their stakeholder base. The firm operates with the view that they are offering value to all their stakeholders. This response is particularly apparent in their response to questions related to drivers of sustainability in the firm, environmental sustainability objectives, social sustainability objectives, key players of sustainability in the firm, and sustainable opportunities for the firm in the following:

… "We need to be contemplating this on the basis of the fact that we remain relevant, we are not doing it in the anticipation of reward may be recognition. We would like our staff and our customers and stakeholders to recognise our efforts".

(Respondent, Company A)

Company A views their sustainability journey as part of a commitment to their stakeholders and how their satisfaction and approval of the firms' sustainability efforts will trigger endorsement of their social license to operate. The other side of stakeholder satisfaction, which includes the supplier side, is quite evident in how the firm is choosing to incorporate

sustainability practices along the supply chain. In the firm, suppliers towards sustainability outline sustainability requirements and priorities in procurement contracts translating to a specific consideration. By signing onto the initiative, the firm will work with its suppliers to influence their value chain through developing a sustainable procurement strategy. The strategy includes engaging suppliers and understanding their view on sustainability, performance and commitment, code of conduct in supplying and establishing reporting and inspection practices through such contracts.

Stakeholders are demanding sustainability and as a result, the firm has made it a pertinent part of its corporate strategy to achieve and conform to elements of sustainability. In the area of environmental sustainability, a large part of Company A's commitment to stewardship of the environment and their impact is related to their stakeholders and how they are delivering on this regarding sustainability. The way stakeholders view the firm is very relevant to how the firm sets up its sustainability strategy as the firm is already addressing how its suppliers see them and work with its values and commitment to sustainability. The firm is expecting to reach a point where the market demand will influence consumers' willingness to pay for a more sustainable product. The firm does not view market expectations as translating to demand to a point where there is a willingness to pay. Consequently, the focus is taking responsibility as part of the red meat sector for its impact on the environment and addressing such an impact.

The company holds to this focus by their obligation to look after their employees' health and safety and remuneration, to disclose their activities and provide a return to their investors and shareholders, to adhere to all regulations and to operate ethically as a contribution to the public and the environment.

5.2.1.4 Long term opportunities and social license to operate

The final driver for sustainability in Company A is future opportunities being actualised from sustainability. These future opportunities for the firm are mainly translated as improving business productivity, operating capacity, and maintaining stakeholder relationships.

As part of the company's social license, the firm operates with the confidence the society places on them to be held accountable socially, economically, and environmentally. By conforming to doing the right thing, the firm positions themselves to protect and build their social license by developing and maintaining approval of their social community through the management of sustainable activities within their supply chain, environmental space, human resource base and compliance. Sustainability provides long-term opportunities for the firm given that the firm can maintain its social license to operate. The firms' focus is responding to sustainability activities across social, environmental, and economic dimensions. These responses in the firm are consistently being monitored and evaluated by several metrics in the firm to ensure that the firm can carry on operations.

5.2.2 Environmental Response

As the sustainability programme and focus on Company A is relatively new, the firm's commitment to environmental sustainability includes an approach focused predominantly on carbon emissions reduction, protection of water sources, alternative sources of fuel and managing energy, protection of diversity and activities in managing the supply chain. Company A's programmes and activities prior to their sustainability strategy included an environmental focus which included measuring and monitoring water quality, water use, energy, and carbon emissions. The development of their strategy now outlines specific elements of environmental sustainability intending to reduce their natural input and their impact on carbon emissions as mitigating against climate change.

From the analysis, it was observed that there were seven categories of responses to environmental sustainability. Environmental risk and impact with 31%, activities related to reducing carbon emissions 23%, their response to fuel and energy consumption of 15% as

well as an equal 15 % in response to biodiversity issues and the remainder narrowed to water use with 8 %, environmental training and education also with 8%. In monitoring and safeguarding the development and success of sustainability activities, the firms outline several indicators as illustrated in tables 9-13.

5.2.2.1 Environmental Risk and Impact

Primary efforts towards environmental sustainability involve the assessment of environmental risk and impact within the firm. This overall risk and impact include an overlap of several areas of environmental sustainability initiatives by the firm. In this regard, indicators concerning the areas of environmental risk and assessment are captured in the subsequent sections. Environmental impact and risk assessment were evident in their response to the areas of sustainability they place their focus. Company A commits in their response to this area particularly when it comes to their production process and supply chain. They highlight in their strategy that the nature of the red meat industry forces firms to realise the impact that their production has on the environment. Additionally, the firm's commitment to environmental stewardship, allows them to maintain their social license to operate and assess their social impact.

The firm seeks to align to good environmental stewardship and practices especially in reducing their carbon emissions. The constant engagement of stakeholders and scrutiny of the sector by stakeholders drives the firm the place several measures, frameworks, and partnerships in place. These methods assist the firm in quantifying their environmental impact related to carbon as well as water use, water quality and energy management. Recognising the firm's commitment to climate change mitigation through their carbon response, the firm also seeks to reduce their environmental impact on ecosystems. The firm has developed and implemented several projects, which target restoration of habitats and conservation of biodiversity. There is also a social element recognised within this space beyond stakeholder approval, and more towards community engagement, which will be expounded on more in the social sustainability section.

In further assessing risk and impact the company has partnered with and developed frameworks that provide baseline information on their processing sites. Further, a joint venture partnership with AGRI magic has followed the development of a dashboard to assess land stewardship in their processing and production sites. This dashboard indicates the environmental status of farms which include the stewardship of the ecosystem, gaseous contributions, and compliance. In terms of climate change risk impact, the firm developed initiatives that seek to measure emissions and make improvements throughout the firm. To respond to biodiversity the firm is partnering with local community groups to work together on the restoration and conservation of habitats and biodiversity.

5.2.2.2 Decarbonisation

The firms' response to carbon emissions and climate change mitigation as mentioned previously, stems from a need to respond to government regulation and reduce implications from the zero-carbon bill and policy reforms. Company A commits to reducing emissions rates by establishing systems and frameworks, which assess and monitor carbon emissions in the firm. The firm can quantify, audit, and certify its carbon footprint from two of its processing sites. The monitoring of these sites will set the base standard against which the other sites in the future will be monitored. The formation of partnerships through memberships to the Sustainability Round Table and the Sustainable Business council serves to mitigate the impact. The Sustainability Round Table includes sectoral participants in the New Zealand beef industry who strive to produce beef sustainably by aligning their process to global principles and standards, identifying gaps and opportunities and indicators and metrics for progress in their sustainability outcome. The Sustainable Business Council provides a support system that promotes a positive impact on shareholders and communities by commitment, adhering principles and practices to champion alignment with reducing carbon emissions and contributing towards economic growth and social development in the industry. The relevance of this partnership is reflected in the following:

… "I think we want to and committed both to the Sustainable Business Council and to ourselves to mitigate the impact in terms of emissions so we would want to see evidence that we are not getting any worse not getting better".

(Respondent, Company A)

The firm's response to environmental impact includes strong positioning around emissions and climate change activities. The firm is committed to managing its emissions as mandated by the zero-carbon bill. The firms' operations in its Canterbury and subsidiary sites and farms include the development of projects like trialling natural feed supplements (Mootral) at beef processing sites, which seeks to reduce methane emissions from livestock. The firm is also signed onto the Toitu Carbon Reduce Certification. This New Zealand programme ensures that business reduces their carbon and manage their climate impacts through measuring and reducing those impacts against international standards. Accordingly, the reduction of carbon emissions for the firm actualises economic sustainability in the form of reducing energy costs and allowing the firm to operate better in its environment. The carbon footprint within sites like Canterbury and subsidiary companies which carbon reduction activities are being implemented has had a reduction plan and instituted projects in that regard to control and maintain positive change. The firm is also signed onto the "He Waka Eke Noa" partnership aimed at reducing primary sector emissions. The partnership serves to reduce on-farm greenhouse gas emissions by equipping producers to measure and manage their emissions and adapt to climate change. The firm as illustrated in Table 9 have identified indicators to measure their carbon emissions levels across the firm sites.

Table 9 Reduction in emissions response and indicators Company A.

Response	Indicators
Greenhouse gas emissions and Climate change mitigation.	Processing sites ton of carbon dioxide (T Co2) emissions rate. Reducing emission in processing sites
	Environmental status of farms and gaseous contribution. Reducing emissions on the farm by trialling Mootral feed supplement

5.2.2.3 Fuel and energy efficiency

Company A is committed to addressing their impact as it pertains to their fuel and energy consumption at their processing sites. The firm recognises their reliance and use of conventional forms of energy in their South Island plants. The limited life of this form of fuel and the impacts associated with its use, allows the firm to consider alternative sources of fuel to manage their heat production in the plants and are contributing significant capital towards this area. This idea is endorsed further below:

.. "We are positioning ourselves to take a view of alternative sources of fuel and can we be more efficient in the use of our internal process heat, so those things would be uppermost in our mind and probably two examples by which we are investing capital in accordance with that".

(Respondent, Company A)

The firm has been able to implement systems that reduce its energy demand. The installation of high-temperature heat pump technology and upgrading of refrigeration systems in specific plants seek to expand efforts to reduce energy use and optimise the performance in the plants. In addition to systems, the Toitu reduce carbon certification process also assist the firm in tracking its fuel and energy since they are emissions sources of carbon. The firm can track electricity and coal use in two of their sites and strives to expand this tracking across all their sites within 2021.

The firm is striving towards upgrading their equipment and technology, which contribute to their unsustainable fuel and energy use to optimise performance like the high-temperature heat pump and refrigeration. The firm is also forming partnerships that reduce its energy consumption and reduce its carbon emissions. The partnership and programme trialled between Meridian Energy and the firm commit to reducing tonnes of carbon emissions annually. The incentive to this programme is the provision of competitively priced electricity contracts to coerce firms to utilise electricity to fossil-fired boilers. This partnership is especially advantageous as the firm mentions its challenge in upgrading its plant and energy management due to low industry margins and lack of access to capital for required timely investment. As a result, table 10 illustrates indicators utilised by the corporate to monitor, assess and manage

fuel and energy consumption.

Table 10 Fuel and energy consumption response and indicators Company A

Response	Indicators
Fuel and energy	Energy consumption. Electricity consumption.
	Investment of coal in processing plants.

5.2.2.4 Biodiversity

The management of biodiversity for Company A as part of their commitment to reducing their environmental impact is observed in their site management. The partnership built with local Forest and bird QEII trust in their Wakanui site has made it possible to allocate a land area to be utilised for the protection and conservation of rare and threatened plants like the Kowhai, Craspedia. The firm also seeks to do more work in this area by partnering with local group councils, which will expand their work in the conservation and protection of these species. The position the firm holds in relation to its commitment to biodiversity is outlined in the following:

… "and of course, the other one is biodiversity, so where we have our land holdings, we are looking at what we can do in particular to one of our operations at restoring our wetland". **(Respondent, Company A)**

The firm is expanding its vision of biodiversity and looking at the restoration of ecosystems such as wetland areas by partnering with local groups in this regard. The firm observes these activities as contributing towards their business ethics translating into their license to operate. The firm also is involved in projects, which look at seed regeneration and propagation to support sustaining the indigenous elements of the ecosystem. The metrics and indicators are shown in table 11 which monitor, assess, and manage the firm's response to biodiversity.

Table 11 Biodiversity response and indicators for Company A

Response	Indicators
Biodiversity	Increased land acreage for conservation and protection. Number increase of species. Protection of water bodies. Interaction with local (Runanga) councils

5.2.2.5 Water use and water quality

Company A's commitment to the protection of their water bodies as outlined in their strategy involves improving their water use and water quality at their processing sites and regulating their use of water. The firm recognises upgrading and monitoring water as a challenge within the firm and the industry because of the capital investment needed in a low margin industry. In response to questions on the sustainability focus for the firm, water use was brought up in the following.

… "*We are looking at our externalities in terms of water so are we doing more than what's just required by way of our consented activity when it comes to disposal of waste or utilisation of water so there's a quality and quantity argument to that".*

(Respondent, Company A)

Company A monitor's water quality and wastewater at specific sites and calculates emission rates based on water treatment and wastewater. This is in the realisation that reducing the water use in the firm causes an associated effect in lowering carbon emissions. Company A has developed systems for tracking their water use and have incorporated practices and processes to decrease the pressure on their water processing system. The firms at different processing sites produce an environmental report, which specifically outlines water management in the firm. The indicators used to measure and monitor water use and water quality in the firm are shown in table 12.

Table 12 Water and Water Quality response and indicators for Company A.

Response	Indicators
Water use and water quality	Water quality. Water consumption rate. Wastewater treatment

5.2.2.6 Environmental training and education

Training and education in environmental sustainability for Company A was a lower commitment but still key in the management of sustainability in the firm. Training and education are observed as a pathway in the firms' reduction of environmental impact specifically in reducing carbon emissions and mitigating against climate change impacts. In response to a question on the next phase of sustainability within the firm, management responded in the following way:

"With that in mind we have got a training for executives and directors to promote awareness in that space. I think we are embedding the right behaviours to ensure that nets the platform for mitigation and we will just continue with our awareness and education".

(Respondent, Company A)

Training and development especially on environmental sustainability in the firm are critical since it ensures that all tiers within the business both strategic and operational are clear and knowledgeable when it comes to how the firm is seeking to reduce its environmental impact and how the firm is contributing to sustainability in the long term. The firm plans to organise training sessions such as sustainability governance training for their Board of Directors and their executive team in their next phase of sustainability activities under sustainability governance in the firm. The measurement and monitoring of training activities in the firm are done through indicators listed in Table 13.

Table 13 Environmental training response and indicators for Company A

Response	Indicators
Environmental Training and awareness	Carbon training. Sustainable governance training. Sustainability executive leaders group training. Increase education and awareness of governance and team on sustainability issues

5.2.3 Social Response

The social response by Company A takes the form of engagement in the communities they operate and the workplace regarding the wellbeing and safety of employees. The main drivers for the social response in the firm were to cater toward stakeholder satisfaction and maintain the firm's social license to operate. This can be observed in the following excerpt from their sustainability strategy.

… *"We recognise the impact Company A, and the wider Red meat industry has on the environment; and that this impact is coming under Increasing focus for consumers, the public, regulators, politicians, and investors. We take the responsibility of addressing our impact seriously".*

From the analysis, it was observed that there were four categories of responses from the firm. Community engagement 32 %, health and safety in the workplace 28%, stakeholder satisfaction 28% and finally social equity 12 %. Table 14 -18. shows the activities performed by Company A under these goals and the associated indicators and metrics to monitor these activities.

5.2.3.1 Community Engagement

The semi-structured interviews revealed that community engagement is at the core of the scope that Company A recognises as its focus on social sustainability. The firm categorises community engagement across its stakeholder groups, which includes its employees, members of the communities they operate in, management, suppliers, and consumers. Company A recognises the creation of employment as an activity that creates a positive change

in addition, imparts development for its employees whilst sustaining the community. The strategy outlines the following:

"As a significant employer in New Zealand's regions, Company A seeks to make a positive contribution to the communities where our sites are located".
(Sustainability Report 2020, Company A)

The firm contributes towards community activities through economic investments and donations. Initiatives such as programmes supporting health care and response, the firm was able to donate an ambulance to the to St John's service as part of a community initiative response to the Mosque shootings in 2019. This action is also seen as a response in creating customer satisfaction and maintaining good corporate citizenship, as this response was initiated by the firms' stakeholders.

The firms' holistic response to their communities can effect change and benefit different groups of their stakeholders. As a response to the COVID pandemic, the "Make ends meet programme" was initiated through the provision of cash donations to food banks to benefit the immediate needs of the community. This initiative translated into an extension of the programme, where $100,000 worth of mince was donated to communities during the last half of the year 2020. The firm associates its increased community engagement activities and projects with its need to commit to social sustainability. The need to conform to social sustainability driven by good corporate citizenship and the approval of stakeholders have presented an opportunity for the firm to realise the benefit and positive impact they can have on communities and that is translated to enhancing their Good corporate Citizenship and influencing their social license to operate.

As a commitment to farmers, Company A's donations to local rural schools and communities are seen as a way of expressing gratitude to farmers and farming communities. The firm provides learning, building, and sporting equipment to the upkeep of rural schools. They recognise that the strategic locations of their processing sites in proximity to rural communities present an opportunity to make a positive influence on these communities. Company A also sees the engagement of local councils in the community as a major contributing factor to the sustainability of the firm. Although the firm's engagement with local councils is directly related to reducing their environmental impact, this engagement translates socially and influences the social sustainability of the firm. In the achievement of the goal of engaging communities,

table 14 Shows that for Company A these engagement activities are delivered and monitored through indicators.

Table 14 Community engagement response and indicators for Company A.

Response	Indicators
Community Engagement	In-kind and cash donations. Interaction with the local councils (Runanga).

5.2.3.2 Health and safety in the workplace

Health and safety are seen as particularly high in the firm. The firm acknowledges that there has been a challenge in the implementation and process, where they are at with health and safety not only as a Company A but also as an industry. The firm was particularly responsive about health and safety regarding where they place their sustainability focus. The view on health and safety in the workplace is presented in the following:

.. "New Zealand's situation with health and safety, we have got a very evolved health and safety framework now, but I recall a number of years ago when the country took on the goal of trying to reduce workplace incidents harm and safety".

(Respondent, Company A)

The firm described its initial response towards regulation for health and safety standards in the firm as difficult given the nature of its operations. The challenge was evident in how to incorporate the proposed health and safety framework into traditional operative functions actions of sales and supply chain in the business.

The firm promotes health and safety in their team and includes implementing blade and stopband saw technology in all their sites. This technology can reduce and avoid work injury by alerting employees of proximity to the blade while processing cuts. The introduction of the technology has reduced the number of on-site and work-related injuries.

The firm also has developed and implemented a safety management system. This system incorporates all the health safety systems at all sites and reviews the implementation of such a process throughout sites, covering workers and contractors. The firm also maintains specific standard eye and hearing safety equipment in the sites. Health and safety also permeate into production where contractors working with the firm must adhere to pre-qualification

assessment and training to enhance and ensure health and safety are maintained within the firm. Contractors also must go through inductions that outline site and requirements as part of the firm's processes. The firm is also looking at implementing a health and safety change programme; developing health and safety training across the business and forums for health and safety representatives in the firm as part of enhancing the health and safety education and awareness in their firm. The firm measures and monitors their response to health and safety in the workplace as referenced in table 15 through indicators.

Table 15 Health and Safety response and indicators for Company A

Response	Indicators
Health and Safety	Total recordable rate Injury rates. Positive safety observation. Lost time injury. Amount of capital Investment in safety technology. The number of employees' participation in the training programme.

5.2.3.3 Stakeholder satisfaction and engagement (employee, farm, management, consumer, supplier).

Stakeholder satisfaction is recognised in the firm as the benefits and perceptions of stakeholders based on the implementation of certain activities in the firm for their welfare. The firm distinguishes its stakeholders like their employees, suppliers, community and environment, investors and consumers. The firm can transfer information on their activities and projects to their stakeholders through several interactions.

Employee engagement is achieved through internal interactions within the firm. The firm engages with its employees digitally through devices in the firm such as updates on screens but also social media emails and Facebook groups. The firm utilises internal conferences, fundraising and volunteering, inductions, and face-to-face meetings to generate information related to health and safety and wellbeing, to discuss market trends and customer requirements performance and community engagement by the firm. The management of the firm discusses their view on stakeholder satisfaction and engagement in the following:

.. "We have 3000 odd staff, and I would suggest their obligation for them in the first instance is to make sure they are well looked after, and they can look after their wider family and dependents".

(Respondent, Company A)

The firm realises various streams of benefits for its stakeholders. Their employee's main obligation would be to ensure that they are benefitting from health and safety provided by the firm as well as other employment benefits. This will then translate to them being able to support their wider family. Their investors' obligation is to receive a return on their shares in the company, which is an economic benefit as well as a social one.

The firm engages with its suppliers with the intention that the development of the relationship will increase access to livestock products and increase supply to meet consumer demand. The firm conducts farmer meetings and engages with farmers via email, through their livestock representatives and newsletters, keeping them informed on business developments.

"Sustainability means to us, being able to hand our generational farm down to the next generation in better condition than we received it and being able to support not just our family but the families that work in the business with us. What is a better condition? It is water, pastoral land asset and animals, making sure that all of these are improving. We hope one day soon when our business shows that it is carbon neutral and non-polluting of our environment and that we are true guardians of our little piece on New Zealand that the marketplace will reward us for this in the value of product we produce".

(Supplier, Company A)

Company A has a global customer base to which their level of engagement and customer satisfaction must be at a positive level. Company A engages with its customer base through electronic communications, collaborative efforts and events, which ensure the most effective level of operation. In keeping with delivering towards the satisfaction of their stakeholders, Table16 illustrates indicators of their response.

Table 16 Stakeholder satisfaction response and indicators for Company A.

Response	Indicators
Stakeholder satisfaction and engagement	Number of meetings. Attendance of participants. Donation expenditure. Increase in number of suppliers. Salaries and wages.

5.2.3.4 Social equity

The firm recognises social equity as inclusion and accommodating the needs of stakeholders based on different social demographics such as gender, ethnicity, income, and age. In embracing and improving workplace social equity, the firm realises that there is a major challenge when it comes to balancing and engaging all social groups in the workplace. In this regard, the firm has set up systems to record data and set benchmarks for reporting on social equity in the firm. The firm reports on the age, ethnicity, gender, and salaries of its employees. The firm highlights how social equity is currently presented and what the vision is for the firm: *…. We are also contemplating just what it might mean in terms of diversity whether that is in relation to generational factors or gender or race".*

(Respondent, Company A)

The firm currently has challenges when it comes to balancing the ratios within different social demographics. The firm is particularly dominated by a higher male representation of 69 percent in the workplace around an age range of (21-30 yrs.) and (31-40 yrs.). Ethnic background is represented with the majority New Zealand and Pacific ethnic backgrounds. The board has an all-male presentation as well as the executive leadership team. The management has a 20 % female inclusion and overall operational female inclusion of 30 %. The firm also is looking to broaden its scope of social equity to increase the inclusion of local Iwi groups into their operations and their sustainability strategy. The indication of measure and change within this area is shown in Table17.

Table 17 Social equity response and indicators for Company A.

Response	Indicators
Social equity	Employee gender. Employee race Employee age. Employee turnover.

5.2.4 Economic Response

In terms of economic aspects to the business, economic investment was the main economic response to sustainability. This investment was mainly related to the investment of capital towards sustainability initiatives. The firm placed a great focus on investing in environmental and social sustainability, through technology and programmes within the firm. This investment for the corporate has more to do with enhancing the firm's good corporate citizenship and less to do with financial commercial gain. The economic costs associated with sustainability in the firm is mainly linked to investments for sustainability and as part of their focus on their social license to operate, disclosure and transparency and analysis of risk are relevant to the firm in maintaining good standing with their stakeholders. This idea can best be illustrated in the following.

… "we invest in some of the other things like our restoration of the wetlands and the likes and there's a measurement to that extent and it's not one we probably wish to measure by way of cost because in essence. What we are suggesting is that we are not doing it because we have to, we are not doing it with a mind on the cost implications, we are doing it because it's the right thing to do".

(Respondent, Company A)

From the analysis, it was observed that there were four categories of responses from the firm. Economic investment with 45%, disclosure transparency and risk with 32%, business profitability of 13% and finally economic cost with 10%. Tables 18 -21. shows the activities performed by the firm under these objectives and the associated indicators and metrics to monitor these activities.

5.2.4.1 Economic investment

Company A mentioned its delivery and contribution towards economic sustainability by way of investments throughout all aspects of sustainability in the business. Investment is made particularly in environmental technology and social programmes. These investments were perceived as a major influence on their decision-making process towards their sustainability programmes. The vision behind this idea can be seen in the following:

.. we are positioning ourselves to take a view of alternative sources of fuel and can we be more efficient in the use of our internal process heat, so those things would be uppermost in our mind and probably two examples by which we are investing capital in accordance with that".

(Respondent, Company A)

Company A's focus on environmental programmes and initiatives for managing their carbon emissions, water, and waste as discussed previously require significant capital investments. Social programmes such as their response and contribution towards biodiversity in restoration and conservation projects are also areas in which the company is investing capital. The firm often recognises the basis for investment in these social activities as contributing towards their social license to operate and good corporate citizenship. Social community engagement activities such as donations and community programmes are other significant investments made by the firm.

Apart from managing the firm and providing the greatest benefit for stakeholders, the firm utilises a system that assesses the initiatives and programmes for sustainability in terms of governance and financial risk. The firm has an internal dashboard that allows them to monitor and track sustainability activities throughout the firm and adjust. All sustainability initiatives go through the head of sustainability who makes a recommendation to the board of the firm. This system ensures that the investments made are consistent with the strategy and objectives of the firm. This system ensures that the firm also does not make decisions as it relates to sustainability in isolation, it is also a way to manage trade-offs in the firm. These indicators are monitored through audit and code of ethics reports as shown in table 18.

Table 18 Economic investment response and indicators for Company A.

Response	Indicators
Economic investment	Board of Directors review. Return on investment. Increased productivity. Increased health and safety. Increased number of stakeholders
	Donation and sponsorship expenditure.

5.2.4.2 Disclosure, transparency, compliance, risk, supply chain

In relation to disclosure, compliance and risk, the firm manages these aspects with the analysis of risk as it relates to the different operations of the business, compliance as per their license to

operate, disclosure in terms of their farm impact, environmental sustainability and carbon emissions and responsibility to the number of partnership and programmes.

"With the compliance lens on because we have food production by default, we have always been very focused on compliance we are subject to a number of regulatory requirements as a manufacturer exporter".

(Respondent, Company A)

Company A has developed an assessment framework that supports the firm in managing all associated risk areas allowing the firm to be more compliant in their activities, disclosure, and reporting throughout the business. The Agri magic dashboard specifically measures farm impact and output and covers the firm in compliance in that area. The health and safety management system employed by the firm manages the health and safety across the firm. All Company A sites are assessed by the Technical Engineering Group (TEG). TEG completes machinery assessment to meet the AS/NZS 4024 Standard. The firm has also signed onto the task force on climate-related financial disclosure reporting, the climate leader's coalition pledge, Toitu accreditation, sustainable council initiative, these audit and disclosure reports track the success of the firm in this area as shown in table19.

Table 19 Disclosure and transparency response and indicators for Company A.

Response	Indicators
Disclosure, transparency, compliance, risk, supply chain	Response and feedback from stakeholders. Financial statements. Carbon emission disclosure reports

5.2.4.3 Business profitability

The analysis of profitability as the commercial gain was not seen from a viewpoint of benefiting from the market but rather as an expectation of sustainability being a product of the market. This is from the perspective of stakeholder satisfaction and social license to operate. A company respondent presents this idea in the following:

.." I'm not sure that the market expectations are quite translating to demand yet, certainly not to the point where there is a willingness to pay anything".

(Respondent, Company A)

The firm recognises profitability from sustainability as creating opportunities for them in respect to upholding their reputation amongst their stakeholders, which include customers, suppliers and staff. Company A is uncertain of whether catering to sustainability will produce a tangible monetary benefit or an intangible benefit of maintaining their relevance. As a result, conforming to sustainability is done based on doing the right thing. This idea is captured and illustrated in the following:

… "We need to be contemplating this based on the fact that we remain relevant; we are not doing it in the anticipation of reward maybe recognition".
(Respondent, Company A)

In this regard, the profitability of the firm as it pertains to sustainability can be measured by the response to the business with the increase in suppliers or partnerships. The profitability can be tracked through indicators as illustrated in table 20.

Table 20 Business profitability response and indicators for Company A

Response	Indicators
Business profitability	New suppliers. Positive feedback from stakeholders. Increase in revenue. Increase investment. Increased access to markets.

5.2.4.4 Economic costs

Company A has highlighted costs associated with sustainability more related to investments. There are several costs associated with aspects of environmental and social sustainability initiatives in the firm. The firm mentions that since opportunities coming out of sustainability is mainly around their license to operate and not translating into market demand, their sustainability initiatives are being done with a reduced focus on cost implications and more towards good corporate citizenship. The company mentioned costs related mainly to technology and their initiatives in the community however, it is apparent that there are costs associated with each of these investments. The firm measures these costs through their

expenditure figures and measures the success through the savings of each element in illustrated in table 21.

Table 21 Economic cost response and indicators for Company A.

Response	Indicators
Economic costs	Savings in costs of unsustainable activities. Social and environmentally sustainable technology and initiatives costs.

A Summary of Company A results showing the sustainability drivers, the corporate response to economic, environmental and social sustainable development dimensions is illustrated in Figure 18 below.

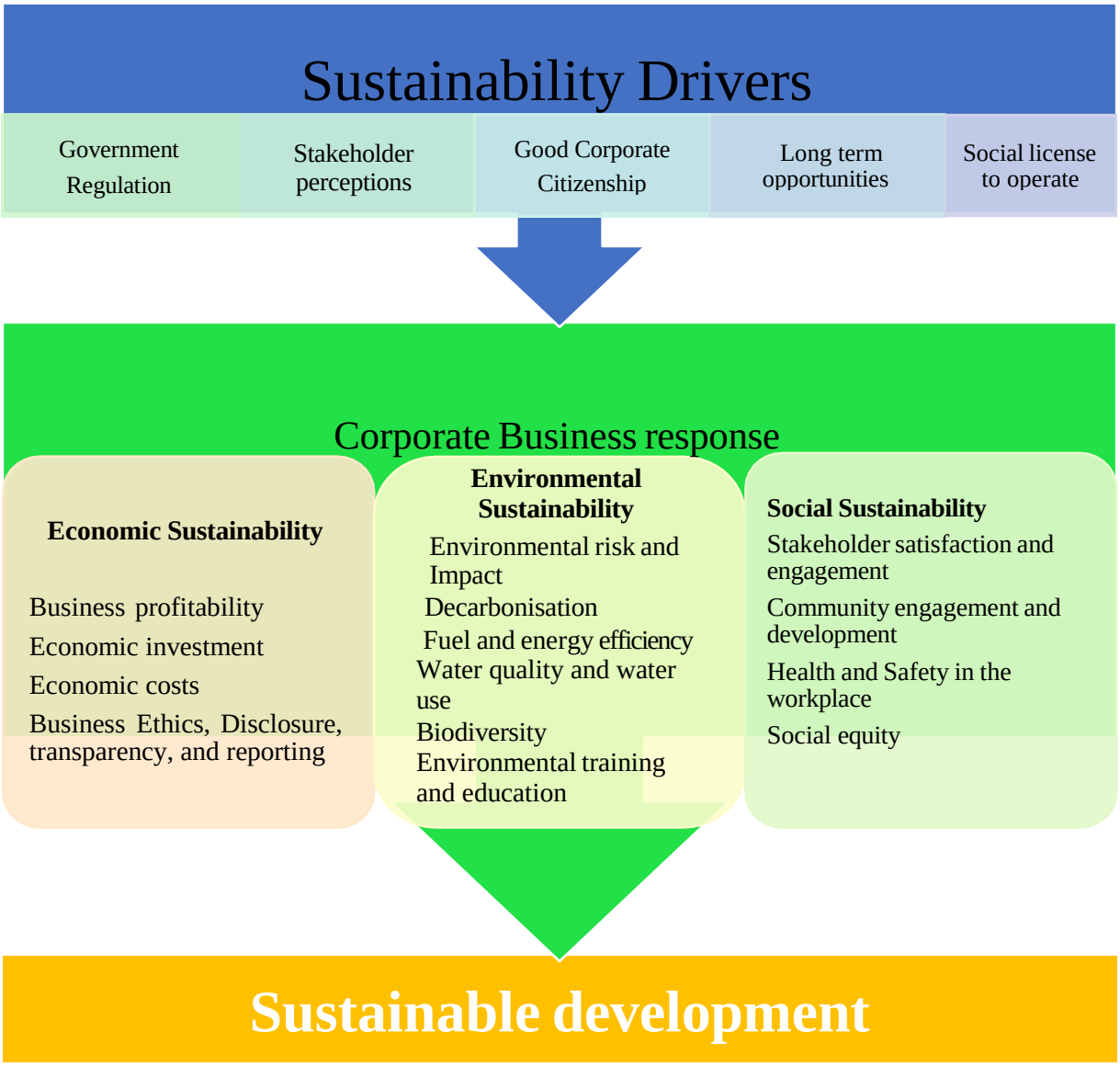

Figure 18 Company A sustainable Development Agenda. Source (Author)

5.3 Company B case description

5.3.1 Company Overview

Company B is a New Zealand based, 100 percent New Zealand farmer-owned, global procurement, processing, and marketing red meat cooperative. The cooperative's range includes beef, lamb and venison products, generating a record turnover of $1.8 billion for the firm in 2020. As of 2020, 4300 farmer shareholders owned the cooperative and 5000 persons were employed across New Zealand. An overview of Company B is presented in Table 22.

Table 22 Overview of Company B

Cooperative	Ownership	Est.	Revenue (2020) (NZD)	Business and products range	Shares
Company B	100% farmer owned cooperative	1948	$1.8 billion	Beef, lamb, venison products and co products.	88,848

Note. Adapted from Company B annual report

Company B has its corporate headquarters in Mataura, South Island and its processing plants strategically spread out over the lower Northland and throughout the South Island, near prime stock producing areas of livestock (sheep and lamb, beef, bobby calves and venison) for processing as illustrated by Figure 19. Company B is the largest producer of lamb in New Zealand, capturing 27 percent of lamb and mutton production share locally and 15 percent of world exported sheep meat

Figure 19 Company B processing plants North and South Island. Adapted from Company B

5.3.2 Historical development of Company B

Company B originally was established by a cohort of Southland farmers in 1948 as a freezing company, which functioned as an alternative processing facility for farmers processing and marketing of high-quality meat products to international markets. Given that ease of trade and marketing of meat to the United Kingdom was facilitated by adoption into the GATT (General Agreement on Tariffs and Trade) in 1947, this facilitated ease of trade and marketing of meat externally.

To accommodate the opportunity, the company expanded, establishing its first plant in Lorneville Southland in 1960. The company was able to comply with standards, techniques, and requirements necessary to supply external markets. This growth led to a change in the company's ownership structure to a farmer-owned and run co-operative in 1980. The establishment of four additional plants in Southland and the acquisition of a local meat processing company in 1987, sustained growth for the company inclusive of a name change.

Subsequently, the removal of government agricultural subsidy support resulted in a reduction in livestock numbers. The company was then able to rationalise its plant operations with a newly elected chairperson to facilitate this rationalisation, recapitalisation, and reconfiguration of the cooperative.

This restructuring marked by an effective capital-raising plan that included venison as part of the product range. By the 2000s, Company B had further increased their processing facilities and their capacity within the northland. Coincidently this period marked the exporting of meat cuts rather than whole carcasses, minimising shipping space and reducing transport costs. This expansion in assets and capacity in Company B from 2003 to 2008 included acquisitions of Northland meat companies. The periods 2012 to 2013 marked change for the group with a reduction in the number of livestock due to wide conversions to dairy farming. Company B managed this change with a consolidation of processing operations.

A revitalisation of the Group occurred from 2013 to 2014, with the consolidation of several red meat brands into an international brand. This new branding promotes environmental diversity and the welfare of the production system. The periods from 2015 to 2020 realised growth for the cooperative by nature of its five-year transformation strategy, outlining the actions recognised by the firm in addressing the global market and Covid 19 challenges. Table 8 shows key milestones in the Company B Group timeline.

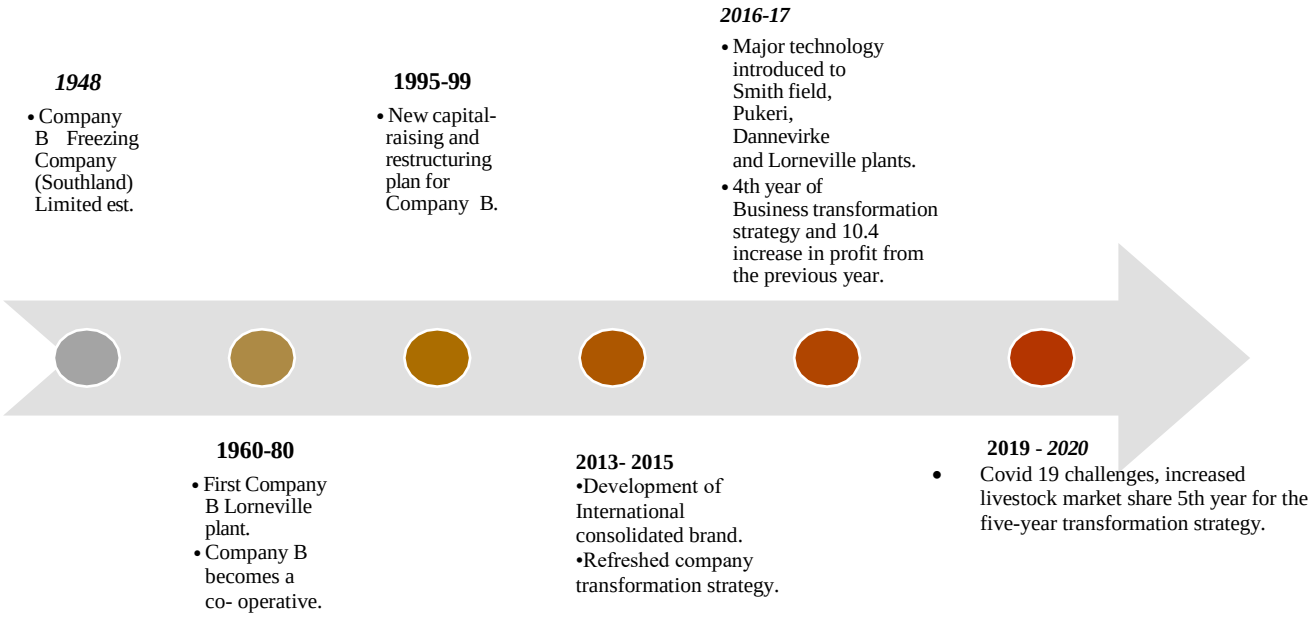

Figure 20 Company B Group timeline. Adapted from Company B.

5.3.3 Objective and Core Business

As a major leader in the procurement, processing, and marketing of quality red meat products in New Zealand, the firm is guided by cooperative principles as it seeks to uphold farmer shareholders as the heart of its operations. As such, at the core is the commitment to secure a supply of livestock products based on market requirements and to deliver high returns to shareholders. Additionally, as part of their core business, Company B has subsidiary and joint venture companies engaged in both trading and non-trading activities.

5.3.4 Company B Transformation strategy

Considering supply and returns are at the core of Company B's objectives, the focus of their transformation strategy seeks to achieve high-profit margins by maximizing market value and increasing efficiency in operations and includes a two-loop system focused on maximised operational efficiency and capturing additional market value. The company committed to achieving this strategy in five years and monitoring and refining outcomes after the first cycle of the implemented strategy. The transformation strategy is illustrated in Figure 21.

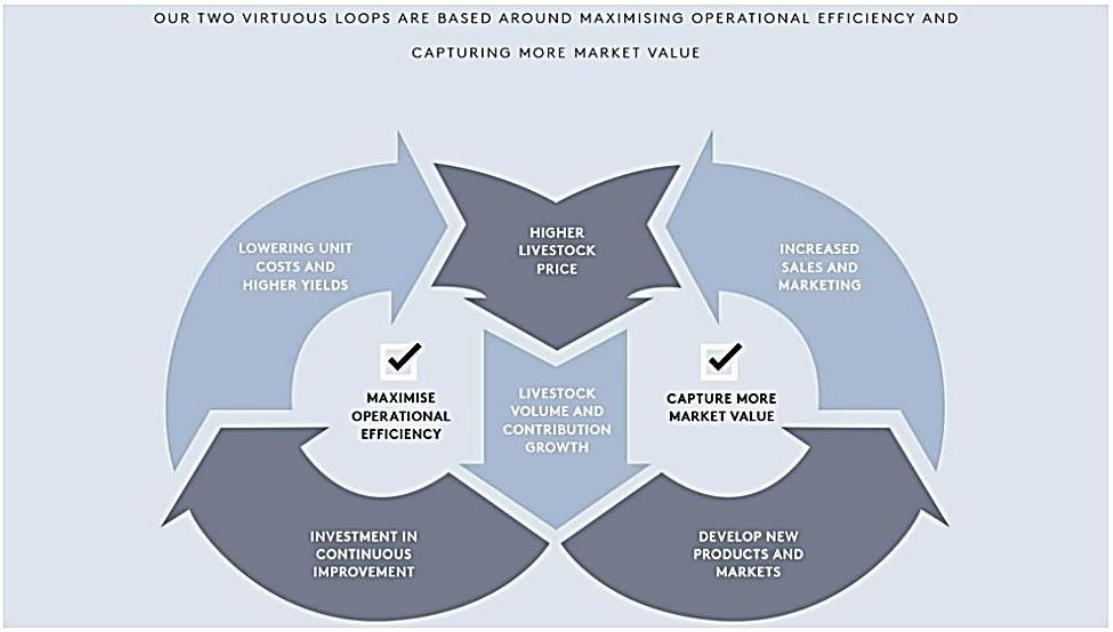

Figure 21 Company B Group Transformation Strategy; Source: Company B website

5.3.5 Product brands

Company B features two major brands under which they market beef, lamb and venison. Brand A is marketed under natural production systems, innovation, and technology for beef, lamb, and venison products. Brand B focused on grass-fed feed management and markets beef, lamb and venison for export predominantly to European markets.

Company B's premium products include its first range of omega-rich bred lamb developed through a combination of pasture and feed management, breeding techniques and high land environments for the sheep. The second premium product range is marketed through its taste and flavour influenced by its alpine region reared livestock. The third beef product range is derived from processed aged meat high in quality, and flavour high in demand from food service and high-end restaurant communities. Co-products include pharmaceuticals, wool, hides, sheep pelts, casings for small goods manufacturing, meat offal and rendered products for the pet food industry and protein meals.

5.3.6 Company B Group Financial performance

The financial performance of the Group had grown steadily over six years from the initial implementation of the transformation's strategy to 2020 during the Covid 19 pandemic as illustrated in Table 23. The 2018 period showed an NZ $6.4 million decrease in profit due to a payout distribution to farmers by the cooperative in that year. The group achieved a 10.4 million increase in profit to $20 million before tax in 2019 and a $9 million profit distribution to shareholders. In the 2020 period, $27million profit was generated despite the non-trading and trading issues due to the Covid- 19 pandemic. This performance is attributed to the increased market share achieved by the Group in the last five years as well as the level of investment by the cooperative as part of their transformation strategy. The revenue of the firm fluctuated between 2016 to 2018 and increased by half from 2018 to 2019 crediting the increase to good operational gains, sales, marketing as well as training and investment in their human resources. Company B also realised increasing revenue from 2016 to 2020. The firm paid a distribution of 9.7 million to its shareholders in 2016 as well as removing $88 million from their debt. Company B has had a good but declining shareholders equity ratio accessing more funding from equity than debt.

Table 23 Company B profit before tax for the 2015 to 2020 period.

Year	2016	2017	2018	2019	2020
Before tax /distribution profit/loss (NZD $ million)	0.316	16.7	10.3	20	27
Revenue (NZD $ billion)	1.3	1.5	1.7	1.7	1.8

Note. Adapted from Company B Annual Report

5.3.7 Ownership and governance

Company B according to their constitution, is governed by a board of directors, of which the structure is a maximum of ten (10) directors. Within this structure, no less than six (6) directors, no more than eight can be elected by shareholders. Considering this, the board is at liberty to appoint four directors to provide support services to the company affairs. Currently, the structure of the board of directors for company B sits at nine (9) directors with three (3) independent directors selected based on desired skills and experience to contribute to the affairs of the cooperative. Additionally, all representatives on the board should possess skills related to sheep and beef farming or the cooperative sector. The board is responsible for the affairs and company B activities, approves long-term strategic plans and budgets. The board also handles the regulatory obligation, ethical standards, corporate citizenship, and overall sustainability of the organisation, the board ensures that management identifies and manages risks within the firm and monitors the operational performance and financial position of the company.

As part of the governance of Company B, specific committees are attached to the structure including an audit and risk committee, people committee and enterprise resource committee. These committees all operate under their terms of reference and report back to the board. Additionally, they mitigate against potential threats, which may affect the cooperative. Figure 22 illustrates the organisational structure of Company B.

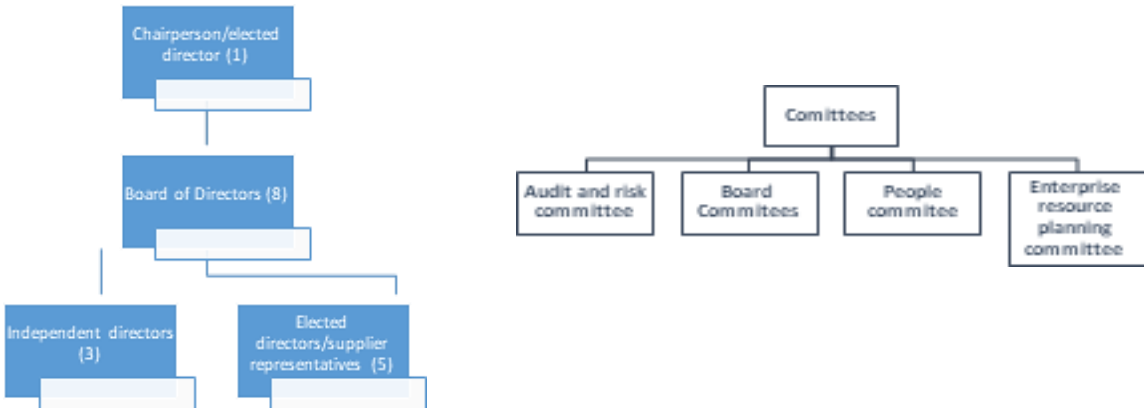

Figure 22 Organizational structure of Company B Cooperative (Board of Directors composition). Adapted from Company B disclosure agreement

In the firm, the board appoints the Chief Executive Officer (CEO) and other key executives. The CEO has delegated management responsibilities of Company B and is supported by the senior management team to deliver strategic objectives and administer the day-to-day operations of the cooperative. The board of directors, chief executive officer and senior management according to the constitution, possess no material interest in the company or its subsidiaries but only their capacity of transacting shareholders in Company B. The structure of the senior management for Company B is illustrated in Figure 23.

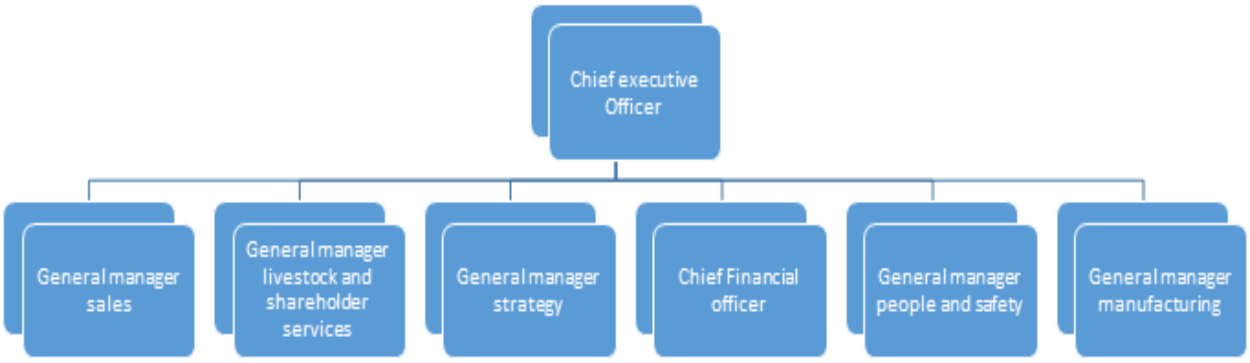

Figure 23 Organisational structure of Company B cooperative (Senior Management team). Adapted from Company B disclosure agreement

5.3.8 Share capital structure

Company B maintains its capital structure through its share capital, retained earnings and reserves. The development of a rich capital base, positions the firm to invest in opportunities, generating value for their farmer – shareholders. The cooperative has one form of an equity offering in the form of ordinary shares. Ordinary shares give a stake in the ownership of Company B and are priced at $1 per share based on nominal value and have equal voting rights based on one vote per share. The return received based on shareholding is dependent on the performance of Company B and its subsidiaries. Benefits include rebates, refunds and bonuses including pool payments and dividends declared by the board.

- Ordinary shares features

    - The right to attend and vote and shareholder meetings.
    - Share in distributions which include rebates and bonuses according to their supply of livestock to the cooperative.
    - The right to cooperative information such as reports and meeting notices.
    - Right to an equal share in surplus asset distribution on liquidation of the cooperative.

Shareholders in Company B according to the constitution can be registered as a holder of shares in company B and or be a transacting shareholder. Transacting shareholders are shareholders who supply or intend to supply goods to the cooperative, purchase or acquire services or intend to do so, and engage in commercial activity or anticipate engaging in the activity. Transacting shareholders are mandated to have standard shareholding, which is a minimum of 1000 or a maximum of 1,600,000 ordinary shares. Additionally, a producer, however, does not need to be a transacting shareholder to supply livestock to Company B. Company B takes a supply of livestock from non- transacting shareholders on commercial terms.

Standard shareholding is determined by the amount of livestock supplied in the past or is expected for supply by the transacting shareholder. The standard shareholding ceiling is 1000 ordinary shares minimum and 1,600,000 ordinary shares maximum. Standard shareholding distribution is calculated on a basis of 12 ordinary shares for each stock unit supplied with each livestock equating to one stock unit. This distribution is illustrated as follows:

- One lamb – one stock unit
- One sheep – one stock unit
- One calf – one stock unit
- One deer – four stock units
- One cattle – twelve stock units

The stock supply of each transacting shareholder is calculated at the discretion of the firm and is based on three previous years' average supplies.

- **Rebates, distributions and other rewards of Standard Shares**

Shareholders receive distributions firstly based on livestock supply in the form of rebates refunds, bonuses and secondly based on profit from shareholding by payment of dividends.

- **Based on livestock supply**

Shareholders may receive returns in connection with their ordinary shares based on their supply of livestock to the cooperative and their shareholding in Company B. Farmers may receive returns on their investment in the cooperative including pool payments or bonus payments are being paid in addition to livestock payments based on supply.

- **Based on shareholding**

Shareholders can receive returns on their investment in the cooperative through dividend payment based on shareholding. These dividends are paid in addition to that received based on supply calculated based on profitability, liquidity, and capital requirements at the end of the fiscal year.

- **Other shareholder rewards**

Company B further supports farmer shareholders by ensuring that they receive the best prices for the livestock supplied. In addition, farmers are provided with services to accommodate their production, including free stock service to transport livestock from farm to farm in challenging situations as in the case of the drought period in the Tasman region of New Zealand at the start of 2019.

Gold and Platinum members are suppliers who supply 100 percent of their livestock to the enterprise, are paid an additional 10 cents/kg for lamb, 8.5 cents /kg for beef and 10 cents for deer. These loyalty payments are distributed quarterly to reward consistency and commitment in supply. Additional rewards offered to this group is an advance payment system providing cash flow at a normal low processing season to 80% of farmers who commit their livestock for processing and export to global markets. Company B also provides minimum price visibility through minimum price contracts, assuring farmers that all their meat will be processed at their convenience and in certain periods, above market price. This provides certainty to the farmer during periods of price volatility, drought, or any other industry challenges.

5.4 Sustainability Approach for Company B.

At the time of the study, Company B had defined in detail their definition and approach to sustainability in their annual report for 2020. The firm summarises its sustainability journey under themes of environment, customers, community, workplace, and farm sourcing.

The cooperative define their sustainability goal as follows:

"*To be recognised as an organisation that delivers our vision of being a world-class global food and solutions company while creating prosperity for our farming families, respecting our people, delivering quality product solutions for our customers and operating a sustainable and commercially successful co-operative."*
(***Company B Group Annual report 2020.)***

Company A's current focus is mainly within environmental and social paradigms. To accommodate this objective, their approach shadows objectives of the United Nations Sustainable Development agenda, under the definition of sustainability as "contributing towards an uncompromising future.

5.4.1 External pressures for sustainable development in the Agri- cooperative.

The results show four external drivers of sustainable development in Company B as shown in Figure 20. Government regulation, the highest factor of 43 %, Good corporate citizenship 20% stakeholder conscientiousness 20% finally, management involvement with 17%. These are outlined in Figure 24.

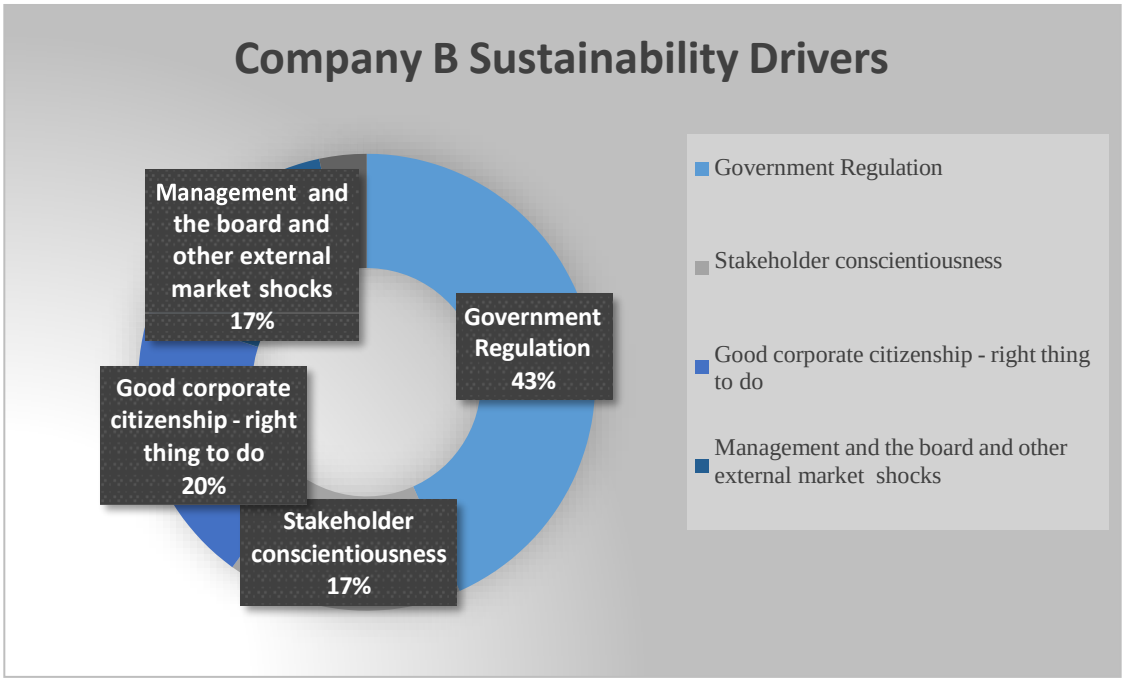

Figure 24 Company B sustainability drivers.

5.4.1.1 Government Regulation

Government regulation was the main driver in the cooperative's response to sustainability in the firm. Company B has been responding in support of their farmers/shareholders to the New Zealand Government's zero-carbon bill for a reduction in carbon emissions. Company B's response especially in a carbon reduction is driven by the fulfilment of targets of the government's zero-carbon bill and commits to supporting the reduction of carbon emissions. The Government regulatory response is also seen in their concern for the change in land use from dairy and lamb to forestry. This is the basis of Company A submission to parliament as part of the zero-carbon bill to ensure that the government also considers how these targets adversely affect the economic sustainability of farmers through the accelerated of land out of food production into forestry.

In the attempt to balance the cost and benefit of sustainability, the cooperative makes decisions based on the interest of the shareholders, however, the cooperative does not discredit the importance of managing trade-offs in their attempt at sustainability in the firm. Government regulation is also seen as a driver in this regard where the business must address concerns that are regulatory first as they are non-negotiable. Subsequently, recognising that sustainability creates an economic gain for the cooperative in terms of return on investment, this also translates to environmental benefits since the enhanced financial situation translates to enhance technology for the firm due to investment can actualize to contribute towards environmental targets.

Company B responds to government regulatory pressure additionally in their social sustainability, where regulation drives the approach taken by the firm in response to employee social benefits. The creation of social regulation which ensures that employees are compensated while absent from work, as in the case of Company A, may result in an increase in absenteeism and accordingly, increased investment in technology to substitute that loss. Therefore, the cooperative acknowledges that a contribution to enhancing social sustainability on the part of the government may threaten the longevity of employment and create a reduction in productivity. The firm then increases its investment to manage this additional trade-off.

5.4.1.2 Stakeholder conscientiousness

The commitment to farmer shareholders by the firm ensures that quality is also at the top of the cooperative's focus. This focus on quality is supported by the need to maintain a sustainable environment. This approach drives consumer decisions to purchase the product even at a higher price level, which creates economic opportunities for the cooperative but also ensures that Company B maintains its commitment to the environment for sustainable production. The cooperative greatly relies on the support of their local and international customers, as communication of the approaches towards sustainability within farming and processing systems safeguards their social licence to operate.

5.4.1.3 Good corporate citizenship

Sustainability in the cooperative is driven by stakeholders who ensure that the cooperative conforms to good corporate citizenship within the environment they operate. The ethical and moral standards upheld by the cooperative and their interaction with stakeholders and the impact on the business environment are partly demonstrated employment opportunities. Recognising the value of employment to stakeholders, the cooperative also outlines that the focus on achieving sustainability and benefitting all parties relies on the partnership between dimensions of sustainability, which includes community groups, conservation groups and employee organisations. Catering to social sustainability makes it easier to conform to other elements of sustainability like environmental targets. The cooperative recognises that creating an impact amongst stakeholders by providing employment may be more of a priority in some cases.

5.4.1.4 Management commitment

Sustainability response is driven by the level of commitment of the governance structure of the firm. The board acts as a buffer between the external pressures (Government regulation, consumer consciousness and being a good corporate citizen) and on the management's short-term strategic priorities related to sustainability. The board and management work in partnership to ensure that both short- and long-term goals are being sought after to ensure consistent upkeep of their customer base. The change in the executive and board members influence strategies and priorities in how sustainability is tackled. The firm considers where the response to external business environment forces will impact their firm. The organization also encounters pressure related to changes in the internal structure of the firm such as management and board members and which may constitute changes among consumers and competitors. The decisions made by the board and management concerning sustainability address the impacts of external shocks. The unpredictable nature of the business environment puts pressure on the organisation to develop strategies that have a minimised impact on the business operations. The chairperson addresses these external shocks in the following statement.

5.4.2 Environmental Response

The commitment to environmental sustainability by Company B prior to 2019 was focused on managing energy use, water quality use, carbon emissions and conservation efforts. The current approach involves aligning UN SDG targets to their response. The pressure to conform to environmental sustainability for Company B stems from both a government regulatory perspective as well as upholding good corporate citizenship.

From the analysis, it was observed that there were six categories of responses from the cooperative participants. Managing fuel and energy efficiency with 30 %, Climate change and decarbonisation efforts with 25 %, water use and water quality with 23 %, followed by farm impact with 10 %, utilising sustainable technology with 7% and finally recycling and packaging 5%. Tables 5 - 10. Summarise the response performed by the cooperative and the associated indicators.

5.4.2.1 Fuel and energy efficiency

Company B is committed to addressing fuel (coal, gas, and diesel) and energy (electricity) issues by setting targets for consumption at all seven of its processing sites. The cooperative manages its energy use through an energy transition roadmap that tracks consumption to achieve improvements in energy efficiency. In addition, the firm utilises indicators through a tracking system to measure energy use per tonne produced. This allows the company to measure their performance and make recommendations. Respondent 4 outlines the focus in this area with the following:

"*Things like carbon we are cleverly working trying to measure what our carbon footprint is and then beyond carbon we also measure our overall energy use and tracking that to essentially achieve reductions overtime."*

(Respondent 4, Company B)

Additional activities to increase energy efficiency include the installation of efficient LED lighting, pressure regulated, and energy-efficient heating pumps and biomass-fired boilers in processing plants. Future endeavours include the utilisation of sustainable technology and renewable energy in the supply chain to reduce the carbon footprint. Additionally, recycling

and biodegradable packaging have the potential to reduce water, electricity, emissions and solid wastes for the firm. The firm works in partnership with the Energy Efficiency Conservation Authority (ECCA) to improve energy efficiency in the plants and manage carbon emissions. The cooperative measures their response to fuel and energy efficiency through specific indicators as illustrated in table 24.

Table 24 Energy efficiency response and indicators.

Response	Indicators
Energy Efficiency (Fuel, electricity, and coal)	Energy efficiency rate. Electricity consumption rate.
	Diesel consumption rate. Fuel consumption rate.
	Heat and temperature consumption rate.

5.4.2.2 Decarbonisation

The reduction in carbon emissions in the processing plants and on-farm was the main response to environmental sustainability in the firm. Farm impact although illustrated separately in responses will be explained under this heading. The response by the firm to decarbonisation was evident in their activities to reduce the amount of heat, odour and air emissions produced by the various plants:

"When you look at the carbon one and that we have some customers groups around the world that are focused on that there's a whole heap of others that are behind, whereas if you look at a New Zealand context we are under a real pressure to get out of coal-fired boilers".
(Respondent 5, Company B)

Big parts of Company B's dedication to decarbonisation efforts are due to the influence on their consumer base and community. Customers value businesses that take initiative in reducing their environmental impact and effects caused by their carbon emissions. Members of the community are also affected by carbon emissions. Company B has set a goal over the next 10 years to reduce its carbon levels. The firm's hot water reticulation initiatives, installation of heat pumps at plants, commitment to replacing or filtering coal-fired boilers and energy-saving lighting systems are decarbonisation efforts taken by the firm.

The firm as part of its goal in decarbonisation commits to reducing farm impact at the lower end of the supply chain. The firm measures and monitors on farm carbon footprint and ensures that standards for farm assurance are adhered to. This is done through a partnership with the Beef and Lamb New Zealand environmental programme targeted at reducing greenhouse gas and maintaining outputs as part of the ISO 140001 certification. Thus, table 25 shows how the cooperative can monitor its responses to decarbonisation through its use of indicators.

Table 25 Decarbonisation response and indicators

Response	Indicators
Decarbonisation	Energy use Odour discharge rate. Fuel use.
	Transport emissions monitors.

5.4.2.3 Water quality and water use

Company B has a goal of reducing its water use and enhancing its water quality in processing plants. The reduction in water use was more associated with economic sustainability where heavy use of water and achieving the best quality incurs a greater cost to the cooperative. The reduction in water uses and cost of treatment realises significant commercial gains. In addition to economic benefits in reducing water use, the cooperative also realises that the reduction of water can actualise further reduction in decarbonisation for the firm.

The company has invested in disinfecting and reducing nutrients from its processing plants prior to river discharge as part of its commitment to enhancing its water quality. This investment includes wastewater treatment upgrade systems for plants, as well as a disinfection system and biological treatment plant. The company utilises solids from wastewater treatment in operating its biomass boilers. To further reduce water use, the firm has installed automated water regulators in addition to water meters at plants. The firm has a quality assurance programme, effects and options assessments and wastewater assessments to support their goals of water quality and use. In committing to their environmental practice of reducing water use and increasing water quality, the company has developed indicators highlighted in table 26.

Table 26 Water use and water quality response and indicators.

Response	Indicators
Water use and water quality	Water use rate. Water quality rate. Reduction in phosphorous.
	Hot water consumption rate. Water treatment rate. Water treatment costs.
	Waste reduction rate. Pollution indicators.

5.4.2.4 Sustainable technology

The cooperative's use of technology throughout their plant processes seeks to increase energy efficiency, regulate water use and reduce carbon emissions. The increase in automation within the firm is linked to the operational efficiency targets set by the Company's transformation strategy in Figure 21. In addition, sustainable technology flows into social sustainability in addressing health and safety challenges in the workplace and increasing efficiency and productivity. The firm has implemented machine-safeguarding technology, the company intends to utilise technology in responding directly to environmental sustainability with their future approach towards reducing heavy carbon emissions from transportation by incorporating renewable energy powered transportation. The firm considers the possibility of utilising hydrogen-powered vehicles in their distribution and logistics.

I'm certain we will move out of coal boilers in 7 - 10 years or earlier and I think you are going to see this huge change in the natural gas market with electric vehicles, but hydrogen is going to be a really major factor we have got we are shipping stuff all around the world and even though shipping is a very efficient way of sending produce there's also a carbon footprint as well. So, I think new technology is coming in the transport sector.

(Respondent 5, Company B)

The firm can monitor the effect of sustainable technology in their processes through their asset management plant maintenance programme and manufacturing excellence programme. These programmes seek to optimise production, standardise processes and build the capacity of the company in responding to sustainability efforts. The firm is anticipating monitoring their response in utilising sustainable technology as table 27. illustrates through indicators.

Table 27 Sustainable technology responses and indicators.

Response	Indicators
Sustainable technology	Rate of injury recorded. Capital investment in technology. Performance productivity output. Animal status processing entries.

5.4.2.5 Recycling and packaging

Packaging and recycling are part of Company B's future sustainability approach. The cooperative is looking at their increased use of sustainable technology to provide opportunities around biodegradable packaging and recyclable goods. Company B also recognises that incorporating sustainable packaging and recycling as part of their sustainability efforts is highly appealing to their wealthier customer segment but also requires investment in the technology to allow expansion into other customer segments and other operating markets. The approach is explained in the following statement by Respondent 3:

"If you look at biodegradable packaging that comes at a cost. It will be the wealthiest markets paying for that first and the lowered valued markets later down".

The company invests in packaging technology at some of their processing plants, which increases the shelf life of the product and inhibits bacterial growth. These options create more flexibility in retail and wholesaling and reduce processing costs and wastes from the company. The firm is considering by-products made from wool and additional alternatives to plastic packaging. The investment in recycling and packaging is measured in the firm through indicators listed in Table 28.

Table 28 Recycling and packaging response and indicators.

Response	Indicators
Recycling and packaging	Reduction in plastic packaging. Long-life packaging Controlled atmosphere-packaging capacity. Vacuum packaging in processing and retail

5.4.3 Social Response

Company B's response to social sustainability includes a focus on their farm shareholders, their welfare and inclusion in the business, engaging the wider community, the health and safety in the workplace and maintaining a standard in product quality for consumers.

From the analysis of Company, A data, it was observed that there were six categories of social responses from the cooperative. Stakeholder satisfaction and perception 33 %, community engagement and development 24 %, health and safety management 19%, employee mental health and work-life balance 12%, Employee compensation and benefits, 3% and finally social equity 2%. Table 10 - 16. summarise the response performed by the cooperative and the associated indicators.

5.4.3.1 Stakeholder satisfaction

Social sustainability is driven by the cooperative's response to stakeholder satisfaction. The firm's stakeholders include government, consumers, employees, and members/shareholders. These stakeholders ensure that the cooperative conforms to good corporate behaviour in the environment they operate. The satisfaction level of consumers ensures that the cooperative conforms to aspects of environmental sustainability as mentioned in the previous section. In guaranteeing that this level is maintained, farmers and shareholders of Company B must conform to producing a sustainable product, which also influences the consumer's willingness to continue investing in the cooperative.

Company B run activities that enhance member involvement in the cooperative. Shareholder meetings, field days, hospitality events and shareholder surveys ensure that the cooperative maintains quality relationships with its shareholders and that their input is valued and incorporated into the strategy. The "Know your cooperative programme" allows for information sharing amongst suppliers and allows gaining insight into the direction of the company. The firm is also developing a programme called Farmer Assurance Plus as part of its next phase of sustainability. This programme will create more value for suppliers by marketing their products under a premium label once they subscribe to specific environmental standards. This is expected to maximise supplier satisfaction since suppliers will receive more value from their products and consumers will have the option to pay for a more sustainable produced product.

Stakeholders are also supported outside of a production context, they benefit from the Ronald McDonald House Foundation. This approach takes into consideration a more holistic concept of a wider sponsorship not limited to one location or one group. The initiative involves the provision of accommodation and support to families of children seeking medication attention in specific cities in New Zealand. As a partner of this charity, Company B organizes fundraisers to provide financially and supplies products to specific events. This initiative allows their employees and shareholder families to be supported and provides an opportunity for their stakeholders to also volunteer. Regarding information on stakeholders, the company has utilised the net promoter score to analyse the business relationship between them and their customers and assess expectations. The cooperatives have also been developing their net supplier score to analyse their relationship with suppliers. These indicators allow the firm to measure and track its relationship with its stakeholders and understand how the business is perceived by these stakeholders. The information will guide the firm strategically on how to improve their activities to generate the best possible outcome for their productivity and sustainability. Suppliers in the firm recognise their input in sustainability.

"Sustainability is a concept which includes maintaining guardianship of the land through managing resources efficiently for future generations. Consequently, as a supplier I would engage in farm practises which I believe commit to sustainability".

(Respondent 6, Company B)

As a measure of how the cooperative's response to their stakeholders impacts sustainability through indicators are included in table 29.

Table 29 Stakeholder satisfaction response and indicators.

Response	Indicators
Stakeholder satisfaction and perception	Number of meetings. Attendance of stakeholders. Net supplier/customer promoter score. Number of customer complaints and value. Suppliers signed onto Farm assurance plus programme. Increase in number of shareholders Ronald mc Donald beneficiaries Shareholder feedback responses.

5.4.3.2 Community engagement and development

In support of community development, Company B's social community activities included contributions to local sporting and culinary events, providing scholarships engaging with community groups and philanthropy efforts. The cooperative engages with the local indigenous groups to improve conservation efforts and provide jobs.

"We have BBQs with the Iwi groups when we have planting days, it's sort of a communal activity as well as working to develop a plan to make improvements to the river system, so it provides jobs for them and helps address our environmental issues.

(Respondent 4, Company B)

The current approach in aligning social support extends into a more comprehensive approach to support various stakeholders across different demographics. The integrated approach through the "Ronald Mc Donald house foundation seeks to create a wider support of the community where the firm reaches a wider demographic contributing to sustainable livelihoods and sustainable futures. Respondent 3 mentions this concept in the following:

"Our company has a strong presence in the community we contribute to Ronald Mc Donald house and our work with different community groups that's one thing."

(Respondent 5, Company B)

Company B recognises the importance of community engagement as part of its social sustainability response. The provisions of all these activities seek to achieve a wider communal benefit and enhance the firms' reputation as well as to commit to the fulfilment of their supplier shareholders. In the achievement of the goal of community engagement, Table 30 Shows how Company B responds and measures with indicators.

Table 30 Community engagement response and indicators.

Response	Indicators
Community engagement and development	In-kind and cash donations. Donations financial statement figures. Scholarship and bursaries Communication with Iwi for habitat restoration Number and demographic of employees.

5.4.3.3 Health and Safety in the workplace

Employee health and safety is another major response to social sustainability in Company B. Physical health and safety is an area that the cooperative recognises the need for improvement. Their strategy to enhance this area is both within strategic and operational processes. In this regard, measures have been put in place to ensure that the threat of injury is reduced, and productivity is enhanced. Training and development in processing and proper health and safety practises in the processing plants and the workplace, has formed a major part of their plan of action.

.. "You probably through what you have read know that we were terrible at health and safety and though we are still not good but and one of the reason we recruit our current chief executive is that we wanted someone that got health and safety and so we are really thrilled with the progress we made".

(Respondent 5, Company B)

In addition to activities to enhance safety in the workplace and tackle the issues of mental health and wellness, the firm has launched a mental health programme to educate and provide a pathway for employees to seek mental health support. The issue of employee suicides that have occurred within the industry is a great concern for the cooperative. Coincidently, training and support groups seek to broaden life skills in employees for productivity in operations but also that it will impact their community, sustain their families, and create change in mind-set and learned behaviour. The **"mates at the gate"** initiative trains staff on the nature of mental health and support, which can be given to workmates. Employees are trained as "connectors" voluntarily, and they become the buffer between colleagues experiencing issues and the best source of professional help.

Company B considered mental health and safety a major part of their response to sustainability in the workplace. These activities ensure that employees have the best environment possible to function and be productive. Additionally, there is a focus on reducing bullying and maintaining a positive attitude in the workplace. The cooperative recognises this as part of the right thing to do, based on society's perception of fairness in the workplace. Company B has indicators that seek to measure physical health and safety in the workplace.

Company B also has metrics in place to monitor the rate of injury like traffic light systems in processing plans and streamlined the plant process with automation such as machine guarding equipment. There was also significant training and development in this area, getting the employees to recognize the importance of adhering to the protocol in the plant. The cooperative measures of health and safety in outlined in the form of indicators shown in table 31.

Table 31 Health and safety response and indicators.

Response	Indicators
Health and Safety in the workplace	Injury rates Amount of capital Investment in safe technology. Reduction in expressed signs of mental issues Awards from recognised health boards. Participation in the training programme.
	Increase in the use of the employee assistance programme. Number of employees participating in workshops.

5.4.3.4 Employee social satisfaction /work-life balance

Company B seeks to maintain as part of their social sustainability, by ensuring that employees in the cooperative have a work-life balance at the executive and operation levels. However, the cooperative does make it known that they face challenges in ensuring that these activities are implemented at the most effective level. The firm recognises that to create a better work-life balance, the cooperative must consider improving on current activities such as mandatory vacation days, encouraging interactions through social clubs and events, and engaging in employment policy. The social culture of the business is further explained:

The firm ensures that the availability of these programmes will encourage employee interaction and enhance the wellbeing of those employees. This is pertinent to their delivery of social sustainability. Employee health work-life balance increases productivity in the business which translates to greater returns and increases stakeholder more importantly shareholder satisfaction. The cooperative measures the success of employee work-life balance with indicators as illustrated in table 32.

Table 32 Employee satisfaction/work-life balance response and indicators.

Response	Indicators
Employee satisfaction/work-life balance	Employees working past retirement age. Increase in participation. Increase in number of workers. Mandatory vacation days Social clubs Short-term employment for migrant workers.

5.4.3.5 Employment benefits

Company B is a major contributor to employment being such a large employer with the red meat industry. In addition to employment benefits, Company B commits to social benefits above the living wage in commitment to ongoing discussions with trade unions and the ministry of social development to preserve employment as part of the government Covid 19 wage subsidy programme. The chairperson of the board indicates the nature of this assistance in the following statement:

"if you are looking at the wider ESG (Environmental Social Governance) type space, we don't have anyone in our business that's below the living wage for example part of that is because the sort of nature of the industry we are in ***we want to be a good member of the community we live in and so where a lot of the accounts we operate in NZ, we are the single largest employer in town****".*

(Respondent 5, Company B)

The adherence to employee welfare policies and reforms as well as engagement with trade unions positions the firm in good standing with the wider community regarding their cooperation and willingness to improve challenges with employment in the red meat industry. The firm also as part of influencing employee benefits organise several training opportunities which seek to enhance the skills and welfare of employees and their communities. The firm provides various training in meat processing, electrical and engineering training, and sustainable governance training for its employees. The cooperative measures their response to employee social benefits in the form of wages as shown in table 33 through financial indicators.

Table 33 Employee Benefits response and indicators.

Response	Indicators
Employment benefits	Number of employees trained. Number of people trained per year. Number of certificates and qualifications. Wages and salaries. No employee below the living wage Employment for local community groups

5.4.3.6 Social equity

Company B is responding to social sustainability around social equity. This action is driven in part by government regulation and through the wider business community a part of good corporate behaviour. The cooperative looks at their response to pay equity and diversity within the business. The management team does site walks and ensure that the plant reflects an environment that is fair and is conducive to working.

"*We also do a bit of work around pay equity and measuring our pay equity and diversity within the business. Because at the end of the day we want to be a great employer we want to make sure that we do provide equal opportunity whether its gender or whether its race".*

(Respondent 5, Company B)

Although the firm is providing support around pay equity, this activity is not expressed to the extent of other social activities in their reports. The group also does not provide targets or measures for this response. The indication of the success of the cooperative in social equity and diversity is shown in table 34.

Table 34 Social equity response and indicators.

Response	Indicators
Social equity	Equity rate. Diversity rates.

5.4.4 Economic Response

Economically, Company B is investing in all aspects of sustainability to enhance its approach to incorporating a greater level of integration across business activities. In their current sustainability approach, Company B extends their investment in environmental sustainability to drive reductions in emissions and manage energy and fuel. Socially, the firm caters to activities in training and development, health and safety and welfare of their stakeholders. These investments come at costs, which the cooperative needs to assess how to manage trade-offs and what lies at the core of their strategies and processes.

Analysis showed four categories of responses from the cooperative. Predominant categories of economic activities included profitability 34%, economic investment 20%, costs of these investments 23% and disclosure, transparency and reporting 20%. Table 16 – 19 showing economic sustainability response and indicators.

5.4.4.1 Business profitability

Profitability as a main response by the cooperative is captured in the cooperative standing to gain commercially through catering to sustainability. These gains are realised in the value, which is added to the business because of contributions to environmental, social, and economic sustainability. In creating value, the firm relies on the perception of customers in certain segments mostly the wealthier customer segment, who are focused on sustainable production .A firm that can commit to sustainability would receive patronage from a wealthy consumer base in the market.

..“every project you undertake should have a commercial benefit as well, so if you are using less water, you are emitting less carbon if you really try hard enough there’s usually a commercial gain you can get out of these projects”.

(Respondent 4, Company B)

The cooperative incurs pressure to conform to aspects of sustainability in environmental sustainability. Although there is a cost associated with conforming to these targets, the cooperative recognises the pressure as an opportunity for growth in investment and profit but also provides environmental benefits. As a challenge, they also see this added pressure that may threaten the productivity of the firm. The regulatory pressure and the technology

advancement to deliver alternatives require substantial investments. The cooperative faces an additional challenge around profitability with regulation and policy directed subsidising land change from sheep and beef farming to forestry. As part of the zero-carbon bill, this effort seeks to reduce the number of emissions from the agricultural sector. The cooperative recognises this as a threat to profitability and their livestock flows. Additionally, a decreasing profit from that pressure and an increase in cost to invest in sustainability impacts the long- term success of the business. The profitability of the cooperative is measured through financial indicators as illustrated in table 35.

Table 35 Business profitability response and indicators

Response	Indicators
Business profitability	Increase in sales of produce in sustainable packaging. Increased transactions with sustainably conscious consumers. Savings in electricity costs. Net customer score. Net supplier score. Increase in product yield. Branding/value added investment.

5.4.4.2 Economic investment

The cooperative realises economic investment in sustainability across all areas. In a question on the delivery of economic sustainability by the cooperative, the company respondent mentioned that the firm delivers on this aspect through the numerous markets of capital expenditure it has available to invest in the future. There is economic pressure to disclose business practices and maintain transparency around compliance. The compliance with these practices places the firm in a position to focus on whether they should invest in long term sustainability initiatives or short term. The short-term investment can potentially give a good pay back and the long term can contribute to longer-term environmental and social sustainability growth.

"The cost to decreasing its carbon footprint and some of the air discharge and water discharge that are coming in that quite frankly are not backed by science apparently, you add all those together its questionable whether economically you should continue running that plant".
(Respondent 4, Company B)

Company B also considers their members as a big part of their decisions around economic investments, activities that seek to enhance stakeholder satisfaction as indicated in social sustainability also influence the economic investment of the firm. The information gathered from shareholders and other stakeholder meetings and initiatives provide insight into the success of the cooperatives' strategies and initiatives but also provide an opportunity to cater to the shareholder need through investments and improve business practices. These indicators are monitored through audit and code of ethics reports as shown in table 36.

Table 36 Economic investment response and indicators.

Response	Indicators
Economic investment	Shareholder ideas and input. Return on investment. Return on assets. Innovative technology and increase in products.

5.4.4.3 Economic costs

Company B in its effort to respond to elements of sustainability has associated costs tied to its investments. The increased pressure to dedicate activities towards creating social and environmental sustainability gives rise to costs associated environmentally with decarbonisation, fuel, and energy efficiency, maintaining water quality, recycling, and sustainable packaging. On the social side, initiatives associated with activities to promote stakeholder satisfaction, maintain business ethics and transparency, invest in health and safety, employee wages and assistance, donations and contributions towards community and catering to social inclusivity come at a cost to the business. The cooperative responds to all these costs and associated activities by responding to how they achieve the integration of the aspects of sustainability. In response to how this integration ensures that each aspect does not work in isolation.

"You get change is external forces and that causes you to really revisit, and you've got your planning session where you know if there is a new trend developing, we like every year the board sets like a couple of days for a strategic planning session".

(Respondent 4, Company B)

Company B ensures that they manage trade-offs in sustainability by ensuring that capital

investments align with their strategic priorities and that their board and management lay out all the options to provide a solution to any issue in the firm or any initiative which is expected to enhance the sustainability of the firm. The firm tracks data for their social and environmental activities and present the findings at the monthly meeting with management heads and the board. Therefore, the firm ensures that their resources are being utilised fully and efficiently to produce the best outcome for their objectives. The cooperative measures these costs through their expenditure figures and measures the success through the savings of each element in illustrated in table 37.

Table 37 Economic costs response and indicators.

Response	Indicators
Economic costs	Recycling and packaging cost Water use cost Carbon emissions cost Energy cost Fuel costs Regulatory costs Environmental costs

5.4.4.4 Business ethics, Disclosure, transparency, and reporting

Company B realises that they have a responsibility to commit to appropriate policies and to combat ethical issues, which arise in the business environment. They are expected to uphold the highest level of compliance and transparency in their business operations. They also recognise that there are non-negotiables as part of the business process as in their compliance of processing plants. The firm has a commitment and responsibility to their shareholders in maintaining inclusivity in the cooperative and providing a safe and fair environment.

Regarding disclosure, transparency and reporting, Company B is open to its activities, especially regarding the nature of its sustainability approach and inclusion of its stakeholders. The cooperative carried out meetings and road shows with the opportunity for shareholders to ask questions related to activities and receive feedback on their investments. This ensures that the cooperative is open with their shareholders on their initiatives and plans but also that their input is valuable strategically in the firm moving forward. As a cooperative, the firm is also mandated to make its financial and operational activities available to its shareholders through its annual reports and disclosures. These reports are easily accessible from the company's website and are distributed to their shareholders in the form of correspondence. The

cooperative's progress and good standing in this area are reflected by feedback received from members as well as through their audits done on their operations. The indicators in which Company B commits to this goals as shown in table 38.

Table 38 Business ethics, disclosure, transparency and reporting response and indicators

Response	Indicators
Business Ethics, Disclosure, transparency, and reporting.	Attendance and feedback from members. Business ethics, code of conduct and shareholder activism. Financial ratios. Asset failure rate. Disclosure and reporting statements Ensure that plants adhere to business compliance codes Asset equipment availability.

A Summary of Company A results showing the sustainability drivers, the corporate response to economic, environmental and social sustainable development dimensions is illustrated in Figure 25 below.

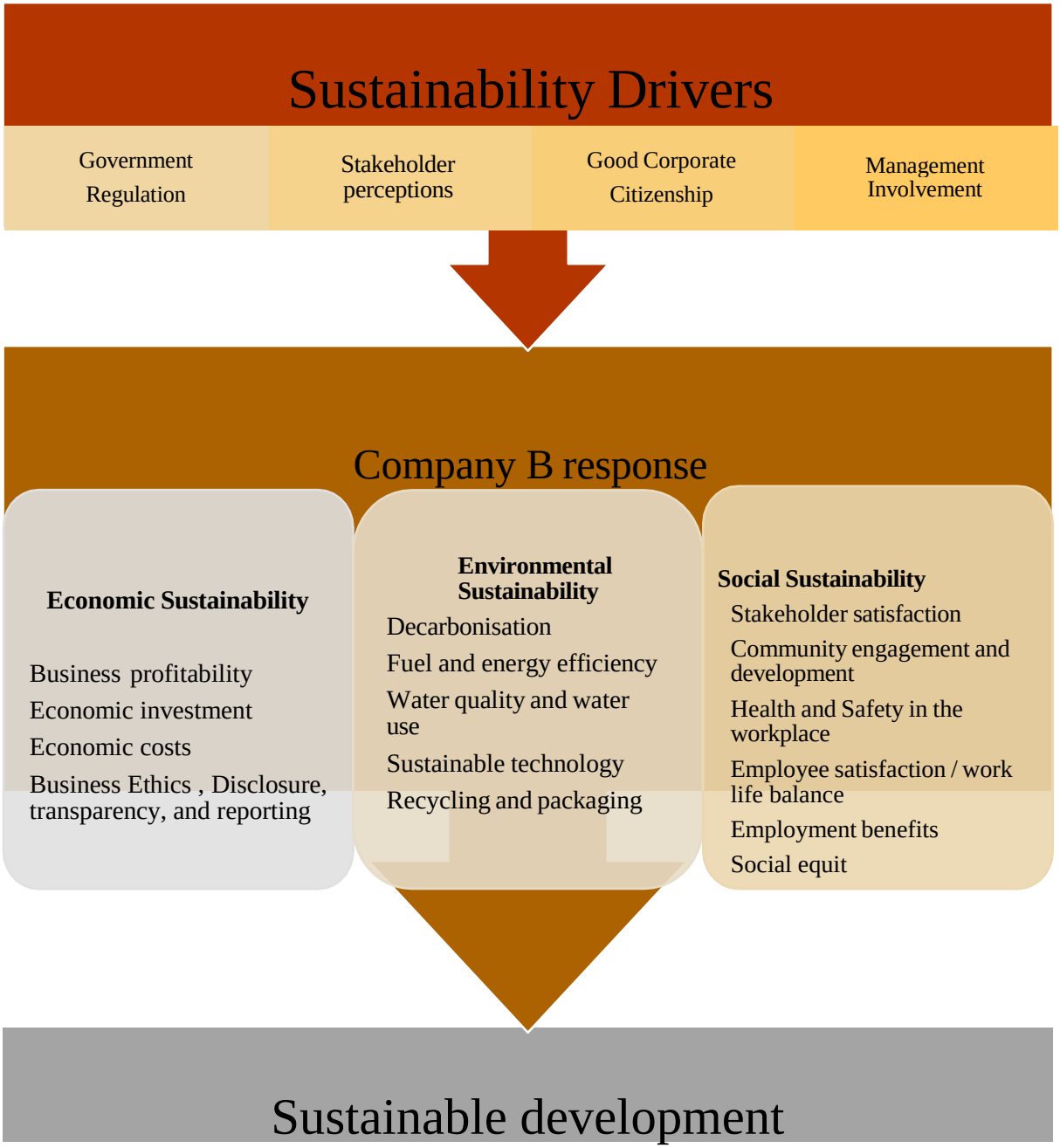

Figure 25 Company B Sustainable Development Agenda. Source (Author)

CHAPTER SIX – DISCUSSION

6.1 Introduction

This study sought to analyse sustainable development in Agri-Food cooperative and corporate business models. This discussion chapter draws information from the previous results chapter and is supported by the theoretical framework identified in chapter 2. The main objectives of the chapter are to present the comparative analysis of the results and the discussion of the results in relation to existing literature. The structure of the comparative analysis is presented with the contextual similarities and differences between the firms and the firms' responses to sustainable development.

6.2 Classification of cases

The theoretical framework developed in Chapter 2 of this research guides the comparison and contrast of sustainable development by the two firms. This theoretical framework identifies the drivers, sustainability indicators and sustainability responses by the firms. The firm similarities and differences are presented next.

6.3 Sustainability Drivers

Company A and Company B are motivated to conform to sustainability by several factors. Government regulation was a driver across social and environmental dimensions for both firms, through the push on the zero-carbon bill by the government. This non-negotiable would allow the businesses to remain in operation. Literature confirms that government regulation acts as a coercive pressure that forces companies to adopt and implement new actions, standards, and behaviours, especially around environmental dimensions of sustainability (DiMaggio and Powell, 1983; Misopoulos et al, 2018; Latif et al, 2020). Company A and Company B's sustainability responses were both driven by stakeholder perceptions and their trust in the operations of the business. Company A was slightly more driven by this factor since stakeholders are a major player in partnering with the firm based on reputation which impacts profitability. Good corporate

citizenship was a driving force between the two firms with Company A being more motivated by this than company acknowledging that sound policy regarding sustainability impacts the reputation of the business. Stakeholder perceptions also influence business response to sustainability. Literature shows that as companies enhance their sustainability performance, they achieve longer-term stakeholder value (Zumente and Bistrova, 2021).

Company B differed concerning the influence that management and the board had on the business sustainability responses. Company A differed in terms of being motivated slightly by the long-term opportunities created by sustainability in the firm. The literature recognises that the human and social capital of directors as well as the values held by the members of the board is essential in a firm's response to sustainability (Fama and Jensen, 1983; Galbreath, 2012). Social license to operate in literature is described as the alignment of stakeholder values with that industry and recognises it as an important part of sustainability (Edwards and Trafford, 2015). Table 39 summarises the sustainability drivers of Company A and B.

Table 39 Summary of sustainability drivers of Company A and Company B

Sustainability Drivers	Company A	Company B
Government regulation	★★★	★★★
Stakeholder Perception	★★★	★★
Good corporate citizenship	★★★	★★
Social license to operate	★★	
Long term opportunities	★	
Management and the board influence		★★

Note: (★★★) as the most influencing factor and (★) as the least influencing for each driver.

6.4 Sustainability Indicators

The use of indicators in their response to sustainable development was captured and presented. In company A, there were a total of 53 indicators for Company B, including 22 environmental 15 social and 16 economic indicators. Sustainability indicators act as tools that support decision making in the firm and assist in the transition of their sustainability response from an "action–

guided" approach to an action delivery" approach (Abdul et al, 2018; Waas, et al, 2014). The data collected through interviews with strategic, management, suppliers, and industry key informants, as well as strategic reports, revealed a total of 83 indicators captured for Company B. There were 27 environmental, 32 social and 24 economic indicators. Company B is utilising more indicators in evaluating all dimensions of their sustainability than company A. Additionally Company B is 129 responding more broadly socially in addition to responding economically and environmentally. Company A is responding more broadly environmentally in addition to responding socially and economically. The cooperative response is in keeping with its mandate, being in pursuit of socio-economic goals in partnership with stakeholders (Abdul et al, 2018; Lauermann, 2020). The corporate response is unexpected as literature points out that traditionally corporates were only seen to contribute towards profit maximisation or job creation (Schramade, 2017; Abdul et al,2018). Furthermore, assessments of general corporate indicators reveal that the use of environmental indicators were more apparent than that of social and economic indicators (Radahri and Rostamy, 2015).

Company A and Company B utilised indicators in their environmental response to evaluate climate change and decarbonisation, energy efficiency (fuel, electricity, and coal) and water use and water quality. Company B had slightly more environmental indicators than Company A. Additionally, Company B utilised indicators to evaluate their response to sustainable technology and recycling and packaging. Contrastingly, Company A utilised indicators to evaluate environmental assessment and impact, environmental training, and awareness and biodiversity responses. In the evaluation of their social responsibility, both companies utilised indicators for their community engagement, health and safety in the workplace, Stakeholder satisfaction and social equity. Company B had significantly higher use of indicators for their social response than Company A as shown in Figure 27. Company B utilised indicators for employee mental health and work-life balance and employee benefits and compensation. Contrastingly Company A did not utilise indicators for these areas. Company B utilised more indicators to measure their economic response than Company A. To evaluate their economic response, Company A and Company B utilised indicators similarly to evaluate profitability, investment, cost and disclosure and transparency. Literature suggests that for firms to conform to sustainable development that is more action-based, they incorporate sustainability indicators act as tools to support decision making. These tools

address challenges of communicating information, operationalisation and demonstrating accountability around sustainability (Waas et al, 2014; Dizdaroglu,2017).

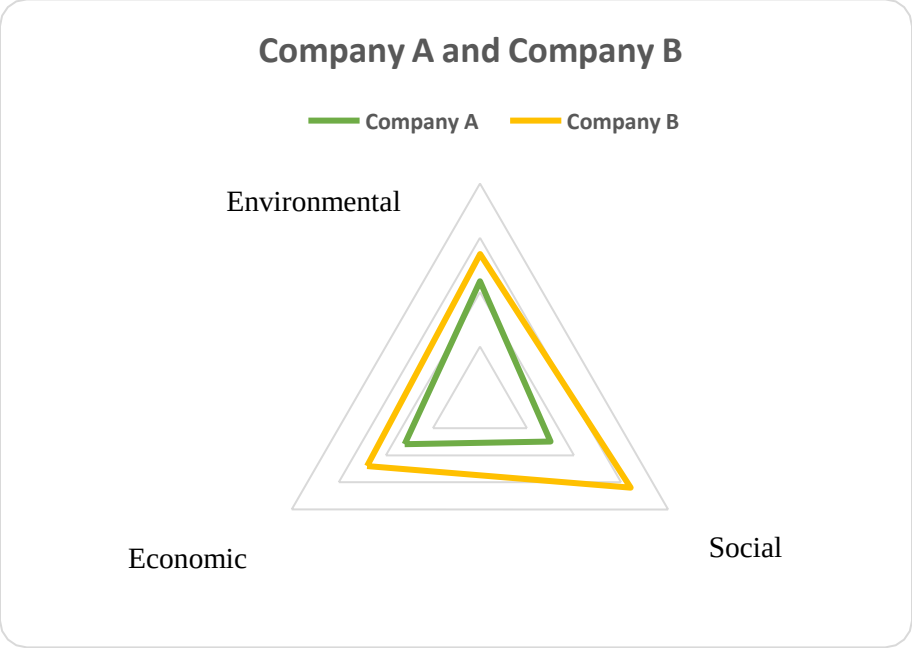

Figure 26 Model showing the reporting of environmental, social, and economic indicators used by for Company A and Company B.

6.5 Sustainability responses

The third objective which compares the sustainable development agendas in the Agri - food cooperative and corporate business was achieved and revealed that both Company A and Company B are motivated to conform to sustainability by external pressures in the form of governmental regulation, upholding positive stakeholder perceptions and maintaining good corporate governance. Company B was also motivated by the internal pressure of their board and management influence, whereas Company A was additionally motivated by long-term opportunities from sustainability mostly to do with a market perspective. In terms of sustainability responses, socially both companies are responding to aspects of community engagement, workplace health and safety, social equity, and stakeholder satisfaction. Additionally, Company B is responding to work-life balance and employee mental health as well as providing employee benefits and compensation. Environmentally both firms are responding to climate change and decarbonisation, managing energy efficiency and water use and water quality. Company B is

responding additionally by utilising sustainable technology and recycling and packaging. Company A is assessing their overall environmental impact and risk, which is inclusive of carbon emission, biodiversity elements and energy/fuel elements. Economically, both firms are responding to economic investment, profitability, economic costs and disclosure and transparency. In terms of risks and challenges in responding to sustainability, both companies mentioned limited capital and resources to fully cater to sustainability as well as how regulation threatens the productivity of the business and how it influences their response to sustainability, especially concerning change in land use, carbon emissions targets as well as minimum wage regulation. The firms manage these risks through risk management metrics that direct their decision making towards sustainable development activities and initiatives in the companies.

6.5.1 Social Sustainability

Company A and Company B are catering to social sustainability mostly within their activities in education and training, health, and safety, employment benefits and community engagement inclusive of indigenous engagement. According to literature, companies have environmental and economic dimensions of sustainability on their agenda, with social sustainability being introduced more broadly with increasing societal perceptions and pressures (Ajmal et al, 2017). Company A and Company B has highlighted social sustainability challenges within areas of social equity and health and safety in the workplace. Stakeholders are prompting these companies to give more attention to social sustainability, especially in the processing and manufacturing operation of their business (Misopoulos et al, 2018). Regarding challenges in social equity, the literature confirms that equal opportunity, cultural diversity, intergenerational equity is not being reflected adequately at the strategic level of corporate companies, especially on the boards of those companies (Casey and Pringle, 2011).

In Company B, the expectation to cater towards social responsibilities is typical of cooperatives by nature of their self-help and user benefit characteristics, and is influenced by internal and external stakeholders (Lund, (2013); Tang et al, 2020). By fulfilling social obligations, the stability of the cooperative is improved as well as their reputation. Social responsibility in Company B is characterised by their response being directed towards the benefit of the stakeholders. For their members, this takes the form of providing them with information and technology assurance. For

consumers, providing sustainable and high-quality products and services. For the government, it complies with laws and regulations. For the community, charity and community development and employees, training, and the benefits of employment. . The reputation of the company is enhanced through good corporate governance and customer satisfaction and competitive advantage creating a profit for the firm (Latif et al, 2020). Furthermore, Company B as part of their contribution to social sustainability incorporates initiatives to improve the mental health of employees, their work-life balance, and its support for health care. This is commensurate with the literature where it was found that physical, emotional, and healthcare support plays an important role in reducing employee turnover, enhancing employee wellbeing, satisfaction, appreciation, and loyalty by employees (Hegyes et al, 2020; Rogers et al,2012; Vitaliano, 2010).

For company A their tendency to overlay the environmental with the social and their concept of "the right thing to do" is the basis of their good corporate governance and compliance. For Company A, catering to social paradigms can be observed as an act of doing good business, which will translate to greater long-term profitability. Company A recognises that understanding stakeholder needs and expectations will capitalise opportunities of maximising returns and that will create a benefit in gaining information to take advantage of capital markets. Given the profit maximising nature of corporate, companies were deterred from participating in societal responsibilities recognised as governments' responsibility and utilising profit in contribution to such societal objectives were deemed as going against the best interest of the corporation (Friedman, 1970). Literature confirms that reputation sustains competitive advantage by attracting resources for economic growth and performance (Khuong et al, 2021). It can be observed that for company A, the firm is moving out of the space of contributing solely to short-term profitability and their decision-making seems to be moving into a longer-term value. Companies that conform to sustainability practices enhance their reputations, public image, can retain their stakeholders, receive higher customer loyalty, and increase their long-term value (Zumente and Bistrova, 2021). Table 40 shows the social response between Company A and B.

Table 40 Comparison of Company A and Company B social responses.

Social Response	Company A	Company B
Health and Safety in the workplace	★★★	★★★
Stakeholder satisfaction and engagement	★★★	★★★
Social equity	★★	★
Employee mental health and work – life balance		★★
Employee benefits and compensation		★

Note: (★★★) as the most influencing factor and (★) as the least influencing for each response.

6.5.2 Environmental Responses

Company A and Company B respond substantially to the reduction of their greenhouse gas emissions by the nature and scale of their operations as mandated by government regulation. The literature identifies business motivations for reducing emissions as a response to both government regulation and as part of maintaining their brand and reputation. This will provide the business access and increase in capable employees and green-conscious consumers (Di Giacomo et al, 2017) Company A and Company B are also both responding to energy efficiency and water use and water quality to reduce their carbon emissions and energy consumption in their operation. Company B is responding largely to water use and energy efficiency through their activities. Both firms have adopted certification such as the ISO 14001 -environmental certification used by Company B and the Toitu reduction in carbon certification used by Company A. Literature credits this action to stakeholder pressures forcing firms to develop environmental management programmes. These programmes include the adoption of standards and certification, managing inputs such as energy and water and outputs such as reduction in carbon emissions and waste. This positions these companies to effectively address environmental challenges, enhance their corporate reputation and manage their resources, which reflect positively on their value and profit (Alsayegh et al, 2020). Company A and Company B's response to environmental sustainability boost better

quality products as suppliers are also on board and at the forefront in the implementation of their strategy. As both companies recognise the creation of different opportunities like premium pricing through committing to sustainable actions, Company B is in the process of developing a farmer assurance plus programme, where products will be sold at a premium price through adherence to environmental standards. Company A recognises the potential opportunity in the market from sustainability but has mentioned that it is not being translated yet for the firm. The literature points out that by taking advantage of the "green market" firms stand to gain competitive advantage and improve their economic sustainability (Naidoo and Gasparatos, 2018).

Company B has been contributing to environmental aspects as part of their cooperative nature. Prior to defining their sustainability approach, their focus was mainly on carbon emissions, energy efficiency and water use. Company B additionally emphasizes utilising sustainable technology, recycling, and packaging as part of their sustainability approach Contrastingly Company A has an emphasis on assessing their environmental impact and risk impact and carbon emissions through the development of strategies as a response to initially beginning their sustainability strategy and journey. Company A responded to aspects of compliance before developing their sustainability strategy, mainly around water quality and energy consumption. The focus extended to responding to additional aspects of environmental sustainability in the business and incorporating these aspects into sustainability strategy for the firm. Literature mentions that the traditional view of environmental compliance recognised as a cost to doing business has shifted beyond compliance (Aigner et al, 2003; Harrington et al, 2005). Activities such as waste treatment, recycling and reducing pollution now represent direct cost savings and competitive advantage. Environmental challenges are being recognised as strategic opportunities translated in the market with "green consumerism" (Rosen, 2001). Table 41 shows the environmental responses of Company A and B.

Table 41 Comparison of Company A and Company B environmental responses.

Environmental Responses	Company A	Company B
Environmental risk and impact	★★★	
Decarbonisation	★★★	★★★
Energy Efficiency (Fuel ,electricity and coal)	★★	★★★
Biodiversity		★★★
Water use and water quality	★	★★★
Sustainable technology		★
Recycling and packaging		★
Environmental training and awareness	★	

Note: (★★★) as the most influencing factor and (★) as the least influencing for each response.

6.5.3 Economic Responses

As Company A and Company B conform to various sustainability programmes, they are confronted with either reduced costs that contribute positively to economic sustainability or increased costs where their financial capital is at risk. According to literature the adoption of environmental sustainability practices increases economic sustainability by decreasing costs but also the investment enhances economic gain and profit through the company image and market share that may be realised as a result (Adebanjo, 2016; Wang et al,2017). The disclosure of financial audits by Company A and Company B enhances the economic performance of the firms as transparency and accountability enhances stakeholder perceptions, boosts value, and provides reward through market forces. Literature classifies disclosure and transparency as a rectification for agency and asymmetry problems reducing the company's exposure to risks (Alsayegh et al, 2020). In Company B, the situation of information symmetry was mentioned as a foreseen risk as in firm theory, whereby cooperatives seek to minimise members transacting their product to other organisations by providing them with information on their actions and incentivising them. Company B does not want to risk loss in supply and membership. The literature points out those stakeholder engagement activities provide a transfer of information to suppliers thus catering also to their mandate of being socially responsible (Seibert and Macagnan 2021). Company A is

expectant that acknowledging sustainability in the firm will translate to an increase in their brand value and will consequently increase sales. Company B has always exhibited sustainability in their firm due to the nature of their business and has taken the approach to communicate sustainability in their annual report and ensure their social license to operate. The literature suggests that companies that integrate a sustainability strategy into their corporate strategy become profitable in the long term (Hristov and Chirico, 2019). Table 42 summarises the economic sustainability responses of the two firms.

Table 42 Comparison of Company A and Company B economic responses.

Economic Response	Company A	Company B
Economic Investment	★★★	★★
Disclosure, transparency and compliance	★★★	★★
Business profitability	★★	★★★
Economic costs	★	★★★

Note: (★★★) as the most influencing factor and (★) as the least influencing for each response.

6.6 Risks and challenges of Sustainability for Company A and Company B.

Both company A and Company B evaluate risks and challenges at all tiers of their business- related to sustainability and respond to these challenges using various models and strategies. Both companies mentioned their challenges with limited capital and resources in implementing aspects of sustainability. Company B had challenges with regulation and markets associated with land-use change out of sheep and beef farming and into dairy and forestry. There were also challenges in carbon emissions and the effect these regulations would have on their supplier's production levels. Both companies also highlighted the issue of absenteeism, reduced labour participation rates and health and safety within the red meat sector. As a result of these perceived risks from conforming to sustainable development, Company A and Company B have frameworks in place to assess risks and opportunities from implementing sustainability in the firm. In recognising that the sustainable operation of a business and corporate strategy is affected by sustainability responses, companies constantly evaluate challenges and risks in the business and respond by lessening these threats and risks in the expectation of opportunity arising out of these issues (Schulte and Hallstedt, 2018).

Company B has held sustainability principles as part of their strategy as a cooperative. According to the literature, the structure of a cooperative makes it easier to create value amongst their stakeholders and communities (Khuong et al, 2021). Khuong et al, 2021 further elaborates creating value means maintaining their reputation for their suppliers and other stakeholders and being financially sustainable to continue their operations and provide returns for their shareholders Company A manages sustainability risks through assessment and metrics, which inform their decision making and their strategy. Literature reveals that this risk management process engages stakeholders across the business and presents these risks and opportunities to the board of directors for decision-making (Fraser, 2016). The indicators presented in the results of this research under social, environmental, and economic dimensions, provides information on managing these activities and alignment of goals in the firm. This information provides opportunity for the firm to create more value whether by reputation amongst stakeholders or competitive advantage (Taghian et al, 2015). As Company A has voluntarily adopted a sustainability strategy, literature regards this approach as the firm going beyond regulatory pressures and requirements and having a better understanding of risk since their integration of sustainability responses allow more frequent monitoring and analysis by management (Peters and Simaens, 2020).

6.7 Integration of sustainability dimensions

Company B weighs outs trade-offs from sustainability pressures through the concept of a risk plan to offset costs and benefits. Additionally, Company B manages trade-offs through a system which incorporates community engagement, and stakeholder satisfaction, economic investment, and environmental practices. In the research, firms were observed to respond to managing trade-offs in different ways. The common response by Company B and Company A is to employ a framework that will allow the firm to manage trade-offs by weighing out the cost and benefit of activities. In both firms, proposed initiatives go through a process of risk management. For Company B, the best balance is sought through combining activities pursuing environmental sustainability, social sustainability, and economic sustainability. Literature affirms this by recognising that the need for trade-offs is therefore reduced when firms balance activities across sustainability dimensions (Alsayegh et al, 2020). The integration of sustainability paradigms in company strategy delivers on the expected investment and opportunities realised by firms to operate more efficiently and enhance the reliability of their supply chain (PWC, 2018) Sustainable development requires an

integration of economic, social, and environmental dimensions. This integration requires interactions between investments in social economic and environmental capital (Weinberger et al, 2015). The common perception of firms contributing to sustainable development is often presented as a trade-off being made by the firm in favour of economic growth or environmental sustainability or vice versa. This is because the pressure of regulation to conform to elements of sustainability may exert a cost pressure on firms inhibiting their growth. The companies, therefore, analysed the benefits against the costs and develop a "win-win" system to counter this situation (Adebanjo, 2016).

7. CHAPTER SEVEN - CONCLUSION

7.1. Conclusions

The overall aim of this research was to analyse the sustainable development in an agricultural cooperative and an Agri-food corporate. The research aims and research objectives have been achieved as the theoretical framework developed as the first objective was able to retrieve data through a multiple case study. Company A and Company B were selected, and interviews were conducted with key personnel at the operational and strategic levels of the company in addition to their supplier. Subsequently, document collection, as well as an interview with multiple industry key informant, was conducted to support primary data collection. The study was able to show that:

- Both companies are engaging in sustainable development, responding to environmental, social, and economic dimensions.

- The Agri-food corporate (Company A) is responding more broadly towards environmental elements, particularly around reduction in carbon as well as energy efficiency. This is contrary to literature around corporate purpose and their response to sustainability. Corporates have been known to be concerned with profitability, maximising returns to their shareholders and job creation. Additionally, these corporates are also responding to social sustainability mainly towards community engagement, workplace health and safety and stakeholder satisfaction. According to the literature, this builds on their reputation, reduces employee turnover, and adds overall value to the business (Zumente and Bistrova, 2021) and lastly economic aspects investments and disclosure building on their need to be transparent to stakeholders and to uphold their reputation and good corporate citizenship.

- The Agri-Food cooperative (Company B) is responding more broadly towards social elements as expected by the nature of their principles but are also responding environmentally and economically. Company B's social aspect is targeted towards their stakeholders and engaging their communities. Environmentally their focus is reducing their carbon emissions and energy consumption to comply with governmental regulation and

stakeholder pressure and economically they are considering more of their profit and costs to better manage their risk and investments.

- Both companies are at the beginning of developing their formal approach to reporting sustainability and its dimensions in the firm. Although company B has been catering to aspects of social, environmental, and economic in their firm activities, they have only recently defined their sustainability approach and structured their activities to align with international sustainability in their reporting. Company A has recently developed its sustainability strategy, which outlines its targets and activities catered to sustainable development in the firm.

7.2 Limitations of the Study

The theoretical limitations to the research were firstly the lack of prior research on the topic concerning the comparison of sustainability in different organisational forms. The study was limited due to time constraints and the distance of participants from the researcher. All participants were contacted via zoom and telephone due to the schedules and constraints of the participants. This was also the preferred medium for communication since the incidence of lockdowns due to the Covid 19 pandemic made it difficult to meet participants in person. The timeline of this research was also delayed due to the duration taken to receive a confirmation of participation from the firms and to schedule meeting dates with all participants separately. Since the research sought information from all the tiers of the business, the delay in timing and distance was the same in contacting and arranging with the firms' suppliers/farmers. The research was also limited to the subjectivity of the experts consulted in interviews. However, the study was able to analyse the sustainable development agendas of both an Agri-food cooperative and an Agri-Food corporate business. The focus on the red meat industry as a representation of Agri-Food companies in New Zealand also presented a limitation for the study. Although the red meat sector is credited as being a large contributor to New Zealand's economy, extending into more sectors can enhance the study.

7.3 Contributions to the Literature.

This study contributes to the literature on the topics of sustainable development in different organisational forms, specifically in the comparison between cooperatives and corporate business, which is still limited. This contributes towards the needs and gaps identified in the literature review and therefore extend the literature. The study also contributes by highlighting the cooperative model and its broad contribution to sustainable development. The study shows that corporate businesses are moving from a traditional shareholder value focused on short-term profit maximisation, to a more stakeholder value for their firm focus on a long-term return. This research also compares the sustainability agenda between corporate business and cooperatives, highlighting how these two different organisational forms respond to sustainability and how their response may influence their policy and decision-making moving forward. The development of the sustainable development agendas of both organizational forms can provide information and guidance to companies relating to how responding to sustainable development can improve their competitive advantage. The research is useful for organisations involved in assessing and implementing sustainability in their strategies or adjusting their activities to better cater to sustainable development in their firms. It may also be useful to other supplier groups.

This study captures evidence of the similarities and differences in the sustainable development agenda of an Agri-Food corporate and cooperative; there are some recommendations for further study. Specific to the Agri-Food sector, the research provides a basis for the analysis of sustainable development response between corporate and cooperative business models. Such information can inform strategies and decision making within these entities, since the indicators identified are a representation of various areas of the firm and allows for assessment of operations. On a societal basis, the research points out that both organisational forms cooperatives and corporate businesses are responding to sustainable development and these firms, as well as their stakeholders, have an idea of what it means to develop sustainably. The research showed how cooperatives are actively incorporating sustainability into their operations especially socially which is in nature of their cooperative principles but how they also respond to environmental and economic dimensions.

7.4 Recommendation for further study

To obtain a greater perception of how New Zealand Agri-Food cooperatives and Agri-Food corporate businesses compare in their sustainable development agendas further research is recommended in the following areas:

- The inclusion of a larger number of cases/companies one Agri-Food cooperative and corporate businesses may be included in the study to analyse and compare their sustainable development and response.

- The inclusion of smaller scaled Agri-Food cooperatives and corporate business to analyse their response, as well as the inclusion of other sectors such as dairy or horticulture.

- Identifying sustainability indicators that can be used to assess the actual contribution and performance of Agri-Food cooperatives and corporate businesses in sustainability.

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Appendix

Appendix 1: Interview Questions

1. It is evident that the global context for business is changing and looking at the journey of the firm amidst this change, what would you say initiated your sustainability process?

2. What areas or groups do you place your sustainability focus?

3. How does the firm measure their efforts toward sustainability?

4. How does the focus on sustainability, provide future opportunities for your firm?

5. Who are the key players that drive the sustainability agenda in the firm?

6. How does the firm contribute to economic sustainability? If not, why?

7. How does the firm contribute to social sustainability? If not, why?

8. How does the firm contribute to environmental sustainability? If not, why?

9. At the core of achieving sustainable development involves an integration of all dimensions of sustainability, how do you manage this to ensure that each aspect measured does not Work in isolation?

10. What current challenges do you face in implementing sustainability in the firm?

11. What does the next phase of corporate sustainability look like in your business?

Appendix 2: Information Sheet

MASSEY UNIVERSITY
COLLEGE OF SCIENCES
TE WĀHANGA PŪTAIAO

Dear

My name is Apral Deterville, I am a postgraduate student in agribusiness at Massey University and would really appreciate your assistance with my research as it is in a topic very relevant to New Zealand's competitive advantage in global markets.

My research is aimed at analysing how Agri-food corporate and cooperative businesses respond to the economic, social, and environmental dimensions of sustainable development. The research area is relevant as it highlights how the integration of the sustainable development goals (SDGs) in corporate strategy creates new revenue opportunities, optimises stakeholder relationships and fosters environmental stewardship.

In light of this, I am kindly requesting the participation of your organization in my study. Should you decide to participate, your time involvement will take around two hours.

The data collected will remain within the strictest level of confidentiality. The research topic has also received ethics approval, which involves providing you with choice around answering questions and how we present the results. If you would like to receive information about the results of the study, please let me know and it will be forwarded at the end of the study.

If you have questions or queries regarding your rights as a participant in thesis research or would like confirmation, you may contact me or my supervisors using our details below.

Looking forward to your response and receiving your help with my research.

Best Regards

Apral Deterville

Appendix 3: Consent form

MASSEY UNIVERSITY
COLLEGE OF SCIENCES
TE WĀHANGA PŪTAIAO

Analyzing sustainable development in different organizational forms

PARTICIPANT CONSENT FORM - INDIVIDUAL

I have read, or have had read to me in my first language, and I understand the Information Sheet attached as Appendix I. I have had the details of the study explained to me, any questions I had have been answered to my satisfaction, and I understand that I may ask further questions at any time. I have been given sufficient time to consider whether to participate in this study and I understand participation is voluntary and that I may withdraw from the study at any time.

1. I agree/do not agree to the interview being sound recorded. (if applicable include this statement)
2. I agree/do not agree to the interview being image recorded. (if applicable include this statement)
3. I wish/do not wish to have my recordings returned to me. (if applicable include this statement)
4. I wish/do not wish to have data placed in an official archive. (if applicable include this statement)
5. I agree to participate in this study under the conditions set out in the Information Sheet.

Declaration by Participant:

I _____ hereby consent to take part in this study.

Signature: _____ Date: _____

Te Kunenga
ki Pūrehuroa

School of Agriculture and Environment (PN 433) Private Bag 11222, Palmerston North 4442, New Zealand **T** +64 356 9099 F +64 6 350 5680 H**ttp://sciences.massey.ac.nz**

Appendix 4: Company A environmental, social and economic sustainability response summary

Environmental Sustainability			
Response	Activities	Indicators	Metrics
Environmental Risk and Impact	Develop a framework to measure and monitor environmental risk and impact	The baseline of emissions, energy, gas, fuel	Expansion of impact assessment
Decarbonisation	Reducing emission in processing sites	Processing sites top T Co2 emissions rate Carbon footprint at processing sites	Toitu reduce carbon certification Sustainable council imitative reporting GRI reporting UN SDG target reporting Taskforce climate-related disclosure reporting Agri magic dashboard
	Reducing emissions on farm by trialling Mootral feed supplement	Environmental status of farms and gaseous contribution	
Fuel and energy efficiency	High temperature heat pump technology	Energy consumption Electricity consumption	Emissions assessment
	Invest in alternative fuel options	Investment of coal in processing plants	Capital investment
Biodiversity	Increased land for conservation protection for rare species	Increased land acreage for conservation and protection Number increase of species and protection of water bodies	Interaction with local (Runanga) councils
Water use and water quality	Protection of water bodies Reduction of water use.	Water quality Water consumption Wastewater treatment	Processing site monitoring reports
Environmental Training and awareness	Increase education and awareness of governance and team on sustainability issues	Carbon training Sustainable governance training Sustainability executive leaders group training	Environmental training programme

Social Sustainability			
Response	Activity	Indicators	Metrices
Community Engagement	Donations and sponsorships to community groups. Support to the rural communities Interaction with the local (Runanga) councils.	In kind and cash donations. Interaction with local councils (Runanga).	Donations financial statement figures
Stakeholder satisfaction and engagement	Interaction with employees Reporting and disclosure to investors Develop quality relationships with suppliers Maintain quality to customers Support to families of employees and shareholders	Number of meetings Attendance of participants Donation expenditure. Increase in number of suppliers. Salaries and wages	Community meeting insights Social media insights Surveys
Health and Safety in the workplace	Health and safety culture change training programme Health and safety technology Health and safety equipment Forum for health and safety representatives in the firm	Reduction in Injury rates. Positive safety observation. Lost time injuries. Amount of capital Investment in safe technology. Number of employees' participation in the training programme.	Health and safety management system Report.
Social equity	Enhancing workplace Equity and diversity	Gender, race, age, and salary in relation to equity rates.	Pay equity report

Economic Sustainability			
Response	Activities	Indicators	Metrices
Economic investment	Certification for reduction in carbon emissions Environmentally sustainable technology	Board of Directors review. Return on investment Increased productivity Increased health and safety. Increased number of stakeholders	Audit reports Financial statements
	Donations and sponsorship	Donation and sponsorship expenditure	Financial statements
Disclosure, transparency, and compliance, risk, supply chain	Carbon emissions disclosure	Response and feedback from stakeholders	Financial statements. Carbon emission disclosure reports.
	Water, fuel, energy consumption and impact disclosure		
Business profitability	Enhanced recognition of sustainability by stakeholders. Enhanced sustainability impact and responsibility initiatives.	New suppliers Positive feedback from stakeholders. Increase in revenue Increase investment Increased access to markets	Stakeholder survey
Economic costs	Social and environmentally sustainable technology and initiatives costs	Capital expenditure Savings in costs of unsustainable activities	Corporate roadmap and assessment. Financial reports

Appendix 5: Company B environmental, social and economic sustainability response summary.

Environmental Sustainability			
Response	Activities	Indicators	Metrices
Decarbonisation	Transitioning from the use of coal fired boilers in processing plants.	Energy use Fuel use Odour discharge rate.	Energy transition pathway at processing facilities. Transition roadmap Research carbon footprint. Current operation assessment. ISO14001 – Environmental management. Beef and lamb environmental programme. Internal utility KPI (key performance indicators) report.
	Lowering the carbon footprint farming systems.	Transport emissions monitors. Farmer carbon emissions rate.	Assessment for air emissions. Farming emissions framework. Company A submission to parliament in support of the zero-carbon bill. ISO14001– Environmental management. Farm Assurance Programme manual.
Energy Efficiency (Fuel, electricity, and coal)	Installation of led lights	Energy efficiency rate. Performance targets for fuel and electricity use. Electricity consumption rate. Greenhouse gas	Energy tracking targets on weekly basis. Energy plant reports. Air and land travel emissions assessment.

		emissions rate.	Energy vs product output Internal utility KPI report. ISO14001– Environmental management. EECA (Energy Efficiency Conservation Authority partnership. Monthly manufacturing performance managers meeting
	Energy-saving heat pump.	Heat and temperature consumption rate. Diesel consumption rate.	
	Installation of a biomass fired boiler.	Electricity consumption rate. Heat and temperature consumption rate.	
Water quality and water use	Increasing the quality of water use in the processing plants.	Water use rate. Water quality rate. Reduction in phosphorous.	Quality assurance programme. Overseas market access regulation water temperature checks. Effects and options assessment. ISO14001 – Environmental management.
	Reduce hot water use	Hot water consumption rate. Water treatment rate. Water treatment costs.	Hot water reticulation project. ISO14001– Environmental management.
	Wastewater treatment plan upgrade	Waste reduction rate. Pollution indicators.	Wastewater assessments for consent renewals ISO14001 – Environmental management.
Utilisation of sustainable technology	Processing plant automation Hydrogen vehicle for transport Extending processing technology in pants Safe technology	Rate of injury recorded. Capital investment figures. Animal performance status processing entries productivity output.	Manufacturing excellence program monitoring performance of plant operations. Asset management plant maintenance programme.
Recycling and packaging	Wool by products Biodegradable packaging	Reduction in plastic packaging. Long life packaging. Controlled atmosphere packaging capacity Reduction in vacuum bags to recyclable material.	Products and sales Expenditure.

Social Sustainability			
Response	Activity	Indicators	Metrics
Stakeholder satisfaction and perception	Run shareholder meetings Run field days Run hospitality events for shareholders Develop quality relationships with suppliers Maintain quality to customers through surveys Support to families of employees and shareholders Reducing farm impact and promoting food safety through farm assurance programme	Number of meetings Attendance of members Net supplier promoter score Net customer promoter score Number of customer complaints and value Donation expenditure. Suppliers signed onto Farm assurance programme Beneficiaries of foundation. Increase in shareholder numbers	Insight reports Know your cooperative programme. Stakeholder survey response analysis. Shareholder feedback responses Handpicked lamb programme quality assessment system. Ronald mc Donald house charity. Farm Assurance Programme manual.
Community engagement and development	Donations to community groups. Health and support through Ronald mc Donald house Scholarship and bursaries Covid 19 processing of stock and provision to communities Communication with Iwi for habitat restoration	In kind and cash donations. Community activities financial investment Interaction with IWI groups for habitat restoration. Number and demographic of employees	Donations financial statement figures
Health and Safety in the workplace	Health and safety officer at executive level Enhanced technology in processing areas.	Injury rates Amount of capital Investment in safe technology. Number of employees' participation in the training programme.	Injury tracking system reports Financial records Awards from recognised health boards

Employee social satisfaction /work-life balance	Mandatory vacation days Social clubs Short term employment for migrant workers. Mates at the gate mental health programme	Employees working past retirement age Increase in participation ‘increase in number of workers. Reduction in expresses signs of mental issues.	Meat Industry Association workforce strategy. Employment system. Mates at the gate handbook.
Employment benefits	Training in meat processing, electrical, mechanical, and general engineering training apprenticeships. Training in sustainable governance and environmental priorities. No employee below the living wage Largest employer in communities of operation Employment for local community groups	Number of employees trained. Number of people trained per year. Number of certificates and qualifications. Wages and salaries. Employees below the living wage Employment for local community groups	Staff training programme Government wage subsidy scheme.
Social equity	Equity and diversity opportunities	Equity and diversity rates.	Pay equity report

Economic Sustainability			
Response	Activity	Indicators	Metrics
Business profitability	Sustainable packaging to wealthier customers. Commercial benefit in reducing water. Commercial benefit in reducing carbon Commercial benefit in reducing energy Commercial benefit in transitioning to sustainable fuel Sustainable production to equal commercial gains to wealth customer segment Business activities with suppliers due to sustainability	Increase in sales of produce in sustainable packaging Increased transactions with sustainably conscious consumers Savings in electricity costs Increased sales net customer score Net supplier score Financial ratios	Financial statements
Economic investment	Shareholders briefing on investment. Investment and expenditure disclosure. Technology and research investment Social education and support investment	Shareholder ideas and input Return on investment Return on assets Innovative technology and increase in products	Audit reports Code of ethics report
Economic costs	Recycling and packaging cost Water use cost Carbon emissions cost Energy cost Fuel costs Regulatory costs Environmental costs	Capital expenditure. Saving in water treatment costs in the plant. Savings in fuel treatment costs in the plant.	Transition roadmap identifying investments for low emissions.
Business Ethics, Disclosure, transparency, and reporting	Member activities Ensure that plants adhere to business compliance codes.	Attendance and feedback from members Business ethics, code of conduct and shareholder activism	Disclosure and reporting statements Ensure that plants adhere to business compliance codes.